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REPORT ON A PHASE 1 HERITAGE ASSESSMENT FOR THE PROPOSED COPPER SPP DEVELOPMENT ON VARIOUS FARMS AND FARM PORTIONS NEAR NORTHAM, IN THE WATERBERG DISTRICT MUNICIPALITY THABAZIMBI LOCAL MUNICIPALITY OF THE LIMPOPO PROVINCE

For:

ENVIRONAMICS

REPORT: **APAC023/49B**

by:

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DISCLAIMER:

Although all efforts are made to identify all sites of cultural heritage (archaeological and historical) significance during an assessment of study areas, the nature of archaeological and historical sites are as such that it is always possible that hidden or subterranean sites, features or objects could be overlooked during the study. APELSER Archaeological Consulting can't be held liable for such oversights or for costs incurred as a result thereof.

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

SUMMARY

APelser Archaeological Consulting (APAC) was appointed by Environamics to undertake a Phase 1 HIA for the proposed Copper SPP development on portions of various farms near Northam in the Waterberg District Municipality and Thabazimbi Local Municipality of the Limpopo Province.

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 sites in the specific study and development area footprint, and two were identified & recorded in the study area during the field 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 proposed development actions can continue, taking into consideration the mitigation measures proposed in the report.

CONTENTS

1. INTRODUCTION

APelser Archaeological Consulting (APAC) was appointed by Environamics to undertake a Phase 1 HIA for the proposed Copper SPP development on portions of various farms near Northam in the Waterberg District Municipality and Thabazimbi Local Municipality of the Limpopo Province.

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 sites in the specific study and development area footprint, and two were identified & recorded in the study area during the field assessment.

The client indicated the location and boundaries of the study and development area, and the assessment focused on this land parcel.

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 are dealt with mainly in the National Heritage Resources Act (Act 25 of 1999) and the National Environmental Management Act (Act 107 of 1998) are the two main legislations concerning the conservation of cultural resources, used as guidelines when conducting the Heritage Impact Assessment.

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

According to the National Heritage Resources Act (Act 25 of 1999) (NHRA), 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 paleontological importance
g. Graves and burial grounds
h. Sites of significance relating to the history of slavery
i. Movable objects (e.g., archaeological, paleontological, meteorites, geological specimens, military, ethnographic, books etc.)

The Heritage Impact Assessment (HIA) process is done to determine whether there are any heritage resources located within the area to be developed as well as to determine the possible impacts of the proposed development. An Archaeological Impact Assessment (AIA) only looks at archaeological resources, such as material remains of human life or activities which are at least 100 years of age, and which are of archaeological interest. A 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^2 or involve three or more existing erven or subdivisions thereof
d. Re-zoning of a site exceeding 10 000m^2
e. Any other category provided for in the regulations of SAHRA or a provincial heritage authority

Structures

Section 34(1) of the Act state that no person may demolish any structure or part thereof that is older than 60 years without a permit issued by the relevant provincial heritage resources authority.
A structure refers to 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.

To alter means any action taken that affects 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 paleontological site or any meteorite;
b. destroy, damage, excavate, remove from its original position, collect or own any archaeological or paleontological 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 paleontological material or object, or any meteorite; or
d. bring onto or use at an archaeological or paleontological site any excavation equipment or any equipment that assists in the detection or recovery of metals or archaeological and paleontological 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:

i. 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;

ii. 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

iii. 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**).

3.1. The National Environmental Management Act (No. 107 of 1998)

The National Environmental Management Act (NEMA) 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 recommendations for the mitigation thereof are made in the Discussion and Conclusions & Recommendations sections of the Report.

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. The report is drafted and developed in line with the requirements of Appendix 3 of the EIA regulations.

4. METHODOLOGY

4.1. Review of literature

A review 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 component of the study was conducted in May 2023, 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. 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. PROJECT DESCRIPTION

Copper Solar Power Plant (RF)[Pty] Ltd is planning to develop the Palladium Solar Power facility. This facility will be connected to existing ESKOM Powerlines & infrastructure. The Copper SPP study and development area is located on Portion 5 & the Remaining Extent of Portion 1 of the farm Zwartdoorns 421KQ near Northam in the Waterberg District Municipality, Thabazimbi Local Municipality, of the Limpopo Province. The grid connection (using existing powerlines and substations and road access as well) is located on portions of the farms Nooitgedacht 11KQ, De Put 412KQ, Tusschenkomst 15KQ, Spitskop 410KQ, Makayskraal 18KQ, Grootkuil 409KQ, Wildebeestlaagte 411KQ & Zwartdoorns 421KQ.

The development is approximately 2km north of Northam and the development will include not only the Solar Panels, but also supporting infrastructure. Connecting the Solar array to the electrical grid requires transformation of the voltage from 480V to 33kV to 132kV. The normal components and dimensions of a distribution rated electrical substation will be required. Output voltage from the inverter is 480V and this is fed into step up transformers to 132kV. An onsite substation will be required on the site to step the voltage up to 132kV, after which the power will be evacuated into the national grid. Generation from the facility will tie in with a newly proposed collector substation to be connected to the national grid via one of the existing Eskom 275kV or 400kV lines from Spitskop 400/275/88/kV MTS Substation or directly to the Spitskop 400/275/88/kV MTS Substation. The connection power line will be constructed within the limits of the grid connection corridor. The Project will inject up to 250MW into the National Grid.

6. DESCRIPTION OF THE AREA

The study & proposed development area is located close to the town of Northam in the Limpopo Province (in the Waterberg District Municipality & Thabazimbi Local Municipality)

The topography of the study & proposed development area is mostly flat and open, with no rocky outcrops, ridges or hills present. The area is also characterized by red sandy soils in some sections. The study & development area has been impacted in the recent past by agricultural activities that included ploughing and crop growing, as well as livestock (cattle) breeding/herding and grazing. The related farmsteads/homesteads also had an impact, but to a lesser degree. No large-scale development has taken place in the Copper Solar Power Plant footprint area, while the grid connection sections (existing Powerlines and servitudes and roads) had impacted to a larger degree on the larger study and development area.

With no rocky ridges, outcrops and hills located in or close to the area, the likelihood of Late Iron Age stone-walled settlements being present here is low. None were identified during the field assessment, and none are visible on aerial images (Google Earth) of the area. However, some typical Late Iron Age pottery was found in the Copper SPP study area, on a dirt road section between the Copper SPP study areas and the section assessed for the Palladium SPP Development.

Dense vegetation in sections of the study area did limit visibility on the ground, and it is always possible that some sites, features or material of cultural heritage (archaeological and/or historical) origin could have been missed as a result.

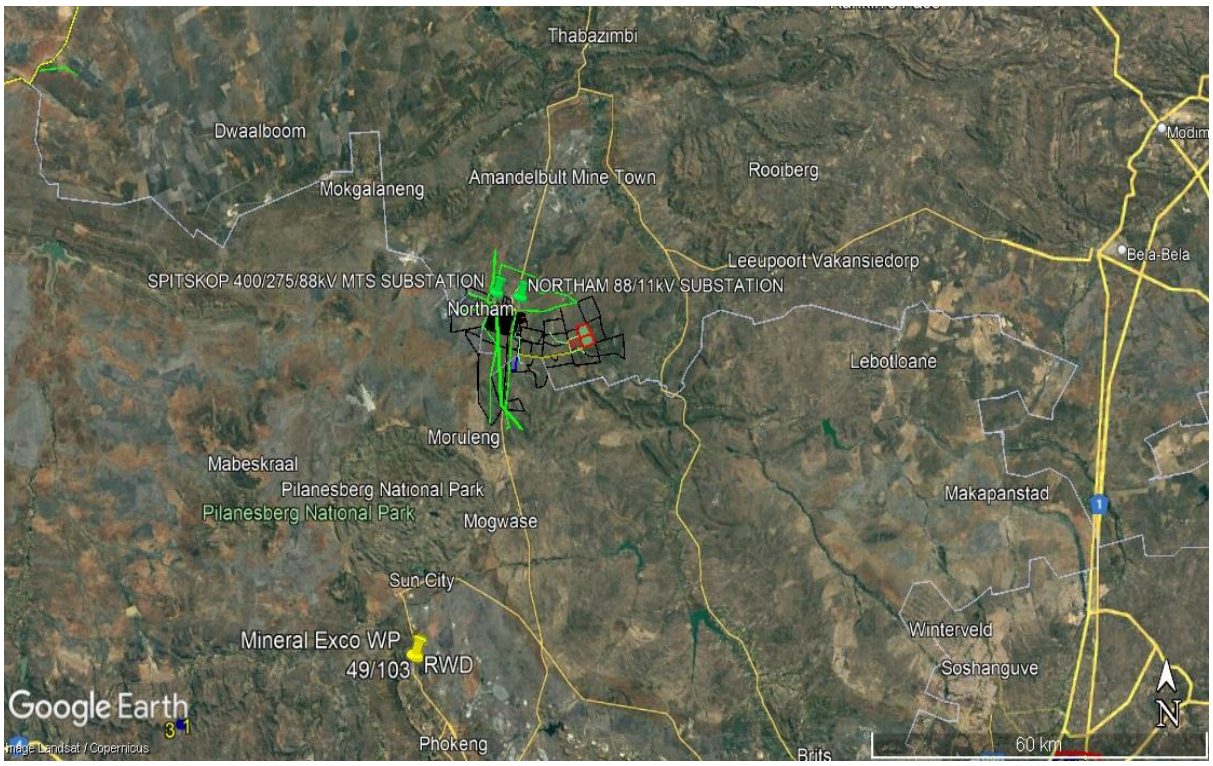

Figure 1: General location of the study and proposed development area (Google Earth 2023).

Figure 2: Closer view of the study and proposed development area footprint in green (Google Earth 2023).

7. DISCUSSION

7.1. Stone age

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 into three periods as listed below.

It is 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 & Olieboomspoort (Bergh 1999: 5).

No Stone Age sites and scatters of Stone Age material (stone tools) were identified in the study area during the May 2023 field assessment. One site with a scatter of MSA/LSA stone tools were identified during a recent HIA on the farm Haakdoornfontein 12JQ (Pelser 2021: 26-27).

7.2. **Iron age**

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 (Bergh1999: 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 Olifantspoort & Madikwe facies of the Urewe tradition both dating t 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 May 2023 assessment. With no rocky ridges or hills present in the area, and therefore little or no building material available for the construction of the typical Late Iron Age stone-walled settlements, it is unlikely that LIA sites would be present here. Areas like these could rather have been favored for livestock grazing & agricultural purposes as is the case in recent historical times. However, during earlier assessments in the larger area, and again on the farm Haakdoornfontein 12JQ, some Iron Age-related material (mostly pottery and grinding stones) were identified (Pelser 2021: 26-30). Some typical Late Iron Age pottery was found in the Copper SPP study area, on a dirt road section between the Copper SPP and neighbouring Palladium SPP development areas.

7.3. **Historical age**

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 were 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) was scrutinized for old maps of the various farms. For Zwartdoorns 421KQ the oldest map that could be obtained dates to 1956 (CSG Document 10F2KM01). The farm was then numbered as No.1019 and was then located in the District of Rustenburg in the Province of Transvaal. The specific map shows that it was surveyed for an electrical servitude/line between July & August 1956.

No historical sites or features are indicated on this map.

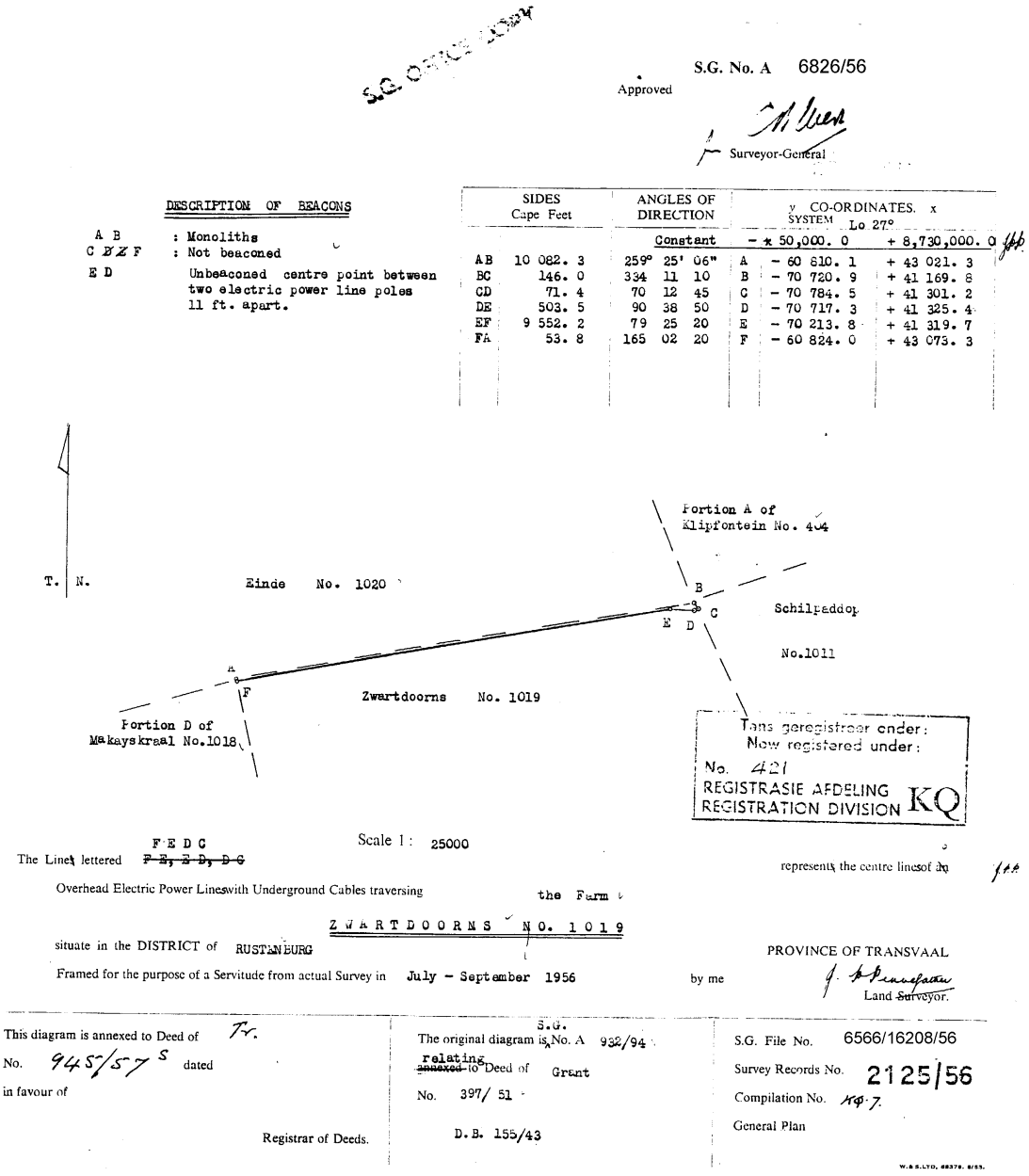

Figure 3: 1956 map of Zwartdoorns 421JQ (www.csg.dla.gov.za).

One recent historical site was identified and recorded in the study & development area in May 2023.

Results of the June 2023 Field Assessment

Dense vegetation cover at the time of the assessment limited visibility on the ground in some sections, while some parts were more open. The field assessment focused on these sections, and also on areas with clumps of trees that could possibly indicate the location of man-made structures and features. The fact that the study and development area is also mostly flat (with no real rocky outcrops, ridges or prominent hills present), as well as the mostly red sandy soils

and some turf characterizing the topography and natural stratigraphy of the area would mean that Late Iron Age stone-walled settlement remains are unlikely to occur in the area. These settlements typically tend to concentrate on and around rocky ridges and prominent hills. Landscapes such as these would also have been utilized mainly for cattle/livestock grazing and limited crop raising and growing in pre-historical times.

Although no stone-walled Iron Age settlement features were identified in the study area (similar to the situation on neighbouring study areas), two scatters of undecorated ceramics (typical Iron Age pottery) were identified in close proximity to each other. The site is located on a dirt road on the western boundary of the Copper SPP area. One other feature – a recent historical one - was identified in the Copper SPP study area during the field assessment, although it is possible that other sites, features and material (such as unmarked or low stone-packed graves), that are not visible due to dense grass cover and the fact that these are covered by soil, could be present.

Figure 4: General view of a section of the area with relatively dense vegetation cover.

Figure 5: Another view of a section with some open patches. Note the typical red soils of the area.

Figure 6: Another section of the area with a small section of a low rocky outcrop.

Figure 7: Various dirt roads traverse the area and assisted in the field assessment.

Figure 8: Another section of the area.

Site 1 – Iron Age pottery scatters

This site is located on a dirt road section on the western boundary of the study and proposed development area. The pottery fragments are undecorated and have no diagnostic features such as rims or necks, making identifying their relative age and cultural affinity difficult. The material has no archaeological context, with no typical LIA stone-walled features present, diminishing its Archaeological/Cultural Significance. No other scatters were also identified in the area on any of the other dirt road sections or in some of the open patches focused on during the assessment.

The site and pottery fragments are deemed as Low Significance from a Cultural Heritage point of view, and no further mitigation is required. The Phase 1 documentation is seen as sufficient.

GPS Location of Site: S25 01 20.10 E27 22 59.40
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 sites)
Mitigation: See above

Site 2 – Water Reservoir/dam

The 2nd site is represented by a cement/concrete water reservoir or dam. It is covered by corrugated iron sheeting on top. The age of the feature is not known, but is more than likely less than 60 years of age.

It is deemed as Low Significance from a Cultural Heritage point of view, and no further mitigation is required. The Phase 1 documentation is seen as sufficient.

GPS Location of Site: S25 01 14.10 E27 22 58.30
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 sites)
Mitigation: See above

Figure 9: The 1st pottery scatter at Site 1.

Figure 10: The 2nd small scatter of pottery fragments at Site 1.

Figure 11: The Water Reservoir/dam at Site 2.

Figure 12: Aerial view showing the location of the sites recorded (Google Earth 2023).

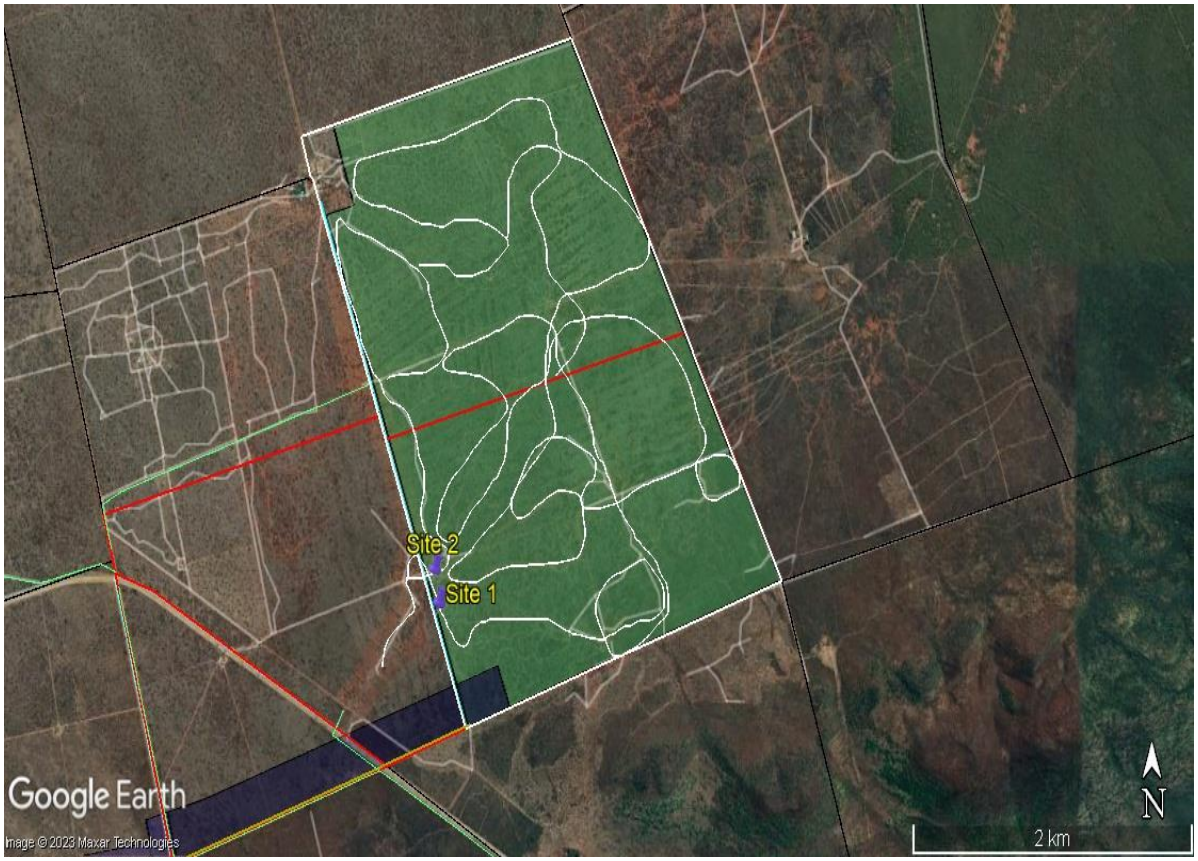

Figure 13: Aerial view showing the tracks followed during the assessment (Google Earth 2023).

Impact Assessment and Mitigation Measures

The significance of impacts is determined using the following criteria:

Probability: describes the likelihood of the impact actually occurring

- **Improbable:** the possibility of the impact occurring is very low, due to the circumstances, design or experience.
- **Probable:** there is a probability that the impact will occur to the extent that provision must be made therefore.
- **Highly probable:** it is most likely that the impact will occur at some stage of the development.
- **Definite:** the impact will take place regardless of any prevention plans and there can only be relied on mitigation measures or contingency plans to contain the effect.

Duration: the lifetime of the impact

- **Short Term**: the impact will either disappear with mitigation or will be mitigated through natural processes in a time span shorter than any of the phases.
- **Medium Term:** the impact will last up to the end of the phases, where after it will be negated.

- **Long Term:** the impact will last for the entire operational phase of the project but will be mitigated by direct human action or by natural processes thereafter.
- **Permanent:** the impact is non-transitory. Mitigation either by man or natural processes will not occur in such a way or in such a time span that the impact can be considered transient.

Scale: the physical and spatial size of the impact

- **Local:** the impacted area extends only as far as the activity, e.g. footprint
- **Site:** the impact could affect the whole or measurable portion of the abovementioned property.
- **Regional:** the impact could affect the area including the neighboring residential areas.

Magnitude/Severity: Does the impact destroy the environment, or alter its function

- **Low:** the impact alters the affected environment in such a way that natural processes are not affected.
- **Medium:** the affected environment is altered, but functions and processes continue in a modified way.
- **High:** function or process of the affected environment is disturbed to the extent where it temporarily or permanently ceases.

Significance: This is an indication of the importance of the impact in terms of both physical extent and time scale, and therefore indicates the level of mitigation required.

- **Negligible:** the impact is non-existent or unsubstantial and is of no or little importance to any stakeholder and can be ignored.
- **Low:** the impact is limited in extent, has low to medium intensity; whatever its probability of occurrence is, the impact will not have a material effect on the decision and is likely to require management intervention with increased costs.
- **Moderate:** the impact is of importance to one or more stakeholders, and its intensity will be medium or high; therefore, the impact may materially affect the decision, and management intervention will be required.
- **High:** The impact could render development options controversial or the project unacceptable if it cannot be reduced to acceptable levels; and/or the cost of management intervention will be a significant factor in mitigation.

The significance is calculated by combining the criteria in the following formula:

Sum (Duration, Scale, Magnitude) x Probability
S = Significance weighting; Sc = Scale; D = Duration; M = Magnitude; P = Probability

With some sites, features or material of cultural heritage origin or significance found in the area during the assessment, there will be some impact by the proposed development, although the impact will be Neglible.

Aspect	Description	Weight
Probability	Improbable	1
	Probable	**2**
	Highly Probable	4
	Definite	5
Duration	Short Term	1
	Medium Term	3
	Long Term	4
	Permanent	**5**
Scale	Local	1
	Site	**2**
	Regional	3
Magnitude/Severity	**Low**	**2**
	Medium	6
	High	8
Significance	**Sum (Duration, Scale, Magnitude)**	**x Probability**
	Neglible	**≤20**
	Low	>20≤40
	Moderate	>40≤60
	High	>60

Results: 5+2+2×2 = 18 i.e., ≤20

The impact of the proposed development on the cultural heritage in the area is therefore deemed as Low based on the Impact Assessment criteria used.

Finally it should also be noted that although all efforts are made to locate, identify and record all possible cultural heritage sites and features (including archaeological remains) in an area that there is always a possibility that some might have been missed as a result of grass cover and other factors.

8. CONCLUSIONS AND RECOMMENDATIONS

APelser Archaeological Consulting (APAC) was appointed by Environamics to undertake a Phase 1 HIA for the proposed Copper SPP development on portions of various farms near Northam in the Waterberg District Municipality and Thabazimbi Local Municipality of the Limpopo Province.

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 sites in the specific study and development area footprint. Two sites were identified and recorded in the area during the assessment. The 1st was two scatters of undecorated Iron Age pottery, and the 2nd a recent historical cement/concrete water reservoir. Both sites were given a Low Significance rating from a Cultural Heritage point of view and no further mitigation measures are required.

Although no other cultural heritage (archaeological and/or historical) sites, features and material were recorded in the study and proposed development area, there is always the possibility that something could have been missed as a result of various factors. For these reasons it is recommended that a Chance Find Protocol be drafted and implemented for the development. This will ensure that, should any previously unknown and unrecorded sites, features and cultural material deposits be exposed during any development activities, that these could be investigated by a Heritage Specialist in order to provide recommendations on their significance and on the way forward in terms of possible mitigation measures.

From a Cultural Heritage point of view, it can be recommended that the proposed Copper SPP Development close to Northam in the Limpopo Province should be allowed to continue taking into consideration the recommendations provided above.

Finally, the often-subterranean nature of cultural heritage resources (including low stone-packed or unmarked graves) should always 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.

9. 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, paleontological, 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, paleontology 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.