HERITAGE SCOPING REPORT

For the Proposed Camden I Green Hydrogen and Ammonia Facility, Mpumalanga Province, South Africa

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EXECUTIVE SUMMARY

Camden Green Energy RF (Pty) Ltd is proposing the development of the proposed Camden 1 green hydrogen and ammonia facility and associated infrastructure. Two options are being considered with Option One on Welgelegen 322 Portion 1 and Option Two on Welgelegen 322 Portion 2. The Facility will encompass approximately 25 hectares of land. WSP has been appointed as the independent Environmental Assessment Practitioner (EAP) to undertake the requisite Environmental Impact Assessment (EIA) process for the Project. Beyond Heritage was appointed to assess the potential impact to heritage resources by the Project. This report is for the scoping phase of the Project and is based on a desktop study. Key findings include:

- Heritage assessments in the larger geographical area recorded historical features (farmsteads, ruins and agricultural infrastructure) as well as burial sites (Fourie 2008, Gaigher 2011, Van der Walt 2015).
- No Stone Age or Iron Age archaeological sites are on record within the immediate study area (outlined in Section 4 of this report) but this could be due to a lack of focused research in the area.
- No grave sites are indicated on archival maps or the genealogical society database within the impact areas, but burial sites can occur across the landscape and can be expected.
- The study area is of insignificant to very high paleontological sensitivity and according to the SAHRIS palaeontological sensitivity map must be subjected to a palaeontological assessment in the impact assessment phase.
- The study area forms part of a landscape characterised by wide scale cultivation and industrial facilities. like power plants and mines.
- The project area has been cultivated from prior to 1968 as indicated on historical maps and has remained under cultivation until present these activities would have impacted on surface indicators of heritage sites if any were ever present in the area.

The scoping study did not identify any fatal flaws in either Option One or Option Two and both are acceptable from a heritage point of view. It is expected that if any sites are identified within the development footprint during the field visit, the sites can be mitigated, either by avoidance or by a Phase 2 assessment. To comply with the National Heritage Resources Act (NHRA) and with cognisance of known heritage resources in the greater area it is recommended that the study area should be subjected to field-based Heritage Impact Assessment (HIA). During this study the potential impact on heritage resources will be determined as well as levels of significance of recorded heritage resources. The HIA should also provide management and mitigation measures should any significant sites be impacted upon, ensuring that all the requirements of the SAHRA are met.

Contents

Figures

Tables

ABBREVIATIONS

AIA: Archaeological Impact Assessment
ASAPA: Association of South African Professional Archaeologists
BIA: Basic Impact Assessment
CRM: Cultural Resource Management
ECO: Environmental Control Officer
EIA: Environmental Impact Assessment*
EIA: Early Iron Age*
EIA Practitioner: Environmental Impact Assessment Practitioner
EMP: Environmental Management Plan
ESA: Early Stone Age
GPS: Global Positioning System
HIA: Heritage Impact Assessment
LIA: Late Iron Age
LSA: Late Stone Age
MEC: Member of the Executive Council
MIA: Middle Iron Age
MPRDA: Mineral and Petroleum Resources Development Act
MSA: Middle Stone Age
NEMA: National Environmental Management Act
PRHA: Provincial Heritage Resource Agency
SADC: Southern African Development Community
SAHRA: South African Heritage Resources Agency

**Although EIA refers to both Environmental Impact Assessment and the Early Iron Age both are internationally accepted abbreviations and must be read and interpreted in the context it is used.*

GLOSSARY

Archaeological site (remains of human activity over 100 years old)

Early Stone Age (2 million to 300 000 years ago)

Middle Stone Age (300 000 to 30 000 years ago)

Late Stone Age (30 000 years ago until recent)

Historic (approximately AD 1840 to 1950)

Historic building (over 60 years old)

Lithics: Stone Age artefacts

1. INTRODUCTION

Beyond Heritage was contracted by WSP to conduct a heritage scoping study for the proposed Camden 1 Green Hydrogen and Ammonia Facility. The project includes a Water Reservoir, a Water Treatment Unit, an Electrolyser Unit, an Air Separation Unit, an Ammonia Processing Unit, a Liquid Air Storage System (LAES), a Liquid Ammonia Storage Tank, and a Hydrogen Storage Tank. Two options are being considered with Option One on Welgelegen 322 Portion 1 and Option Two on Welgelegen 322 Portion 2, Mpumalanga Province. The Facility will encompass approximately 25 hectares of land (Figure 1.1 to 1.3). The heritage scoping report forms part of the EIA for the proposed project.

The aim of the scoping report is to identify possible heritage resources within the project area and to submit appropriate recommendations with regards to the responsible cultural resources management measures that might be required within the framework provided by Heritage legislation.

The report outlines the approach and methodology utilized for the scoping phase of the Project. The report includes information collected from various sources and consultations. Possible impacts are identified, and mitigation measures are proposed in the following report.

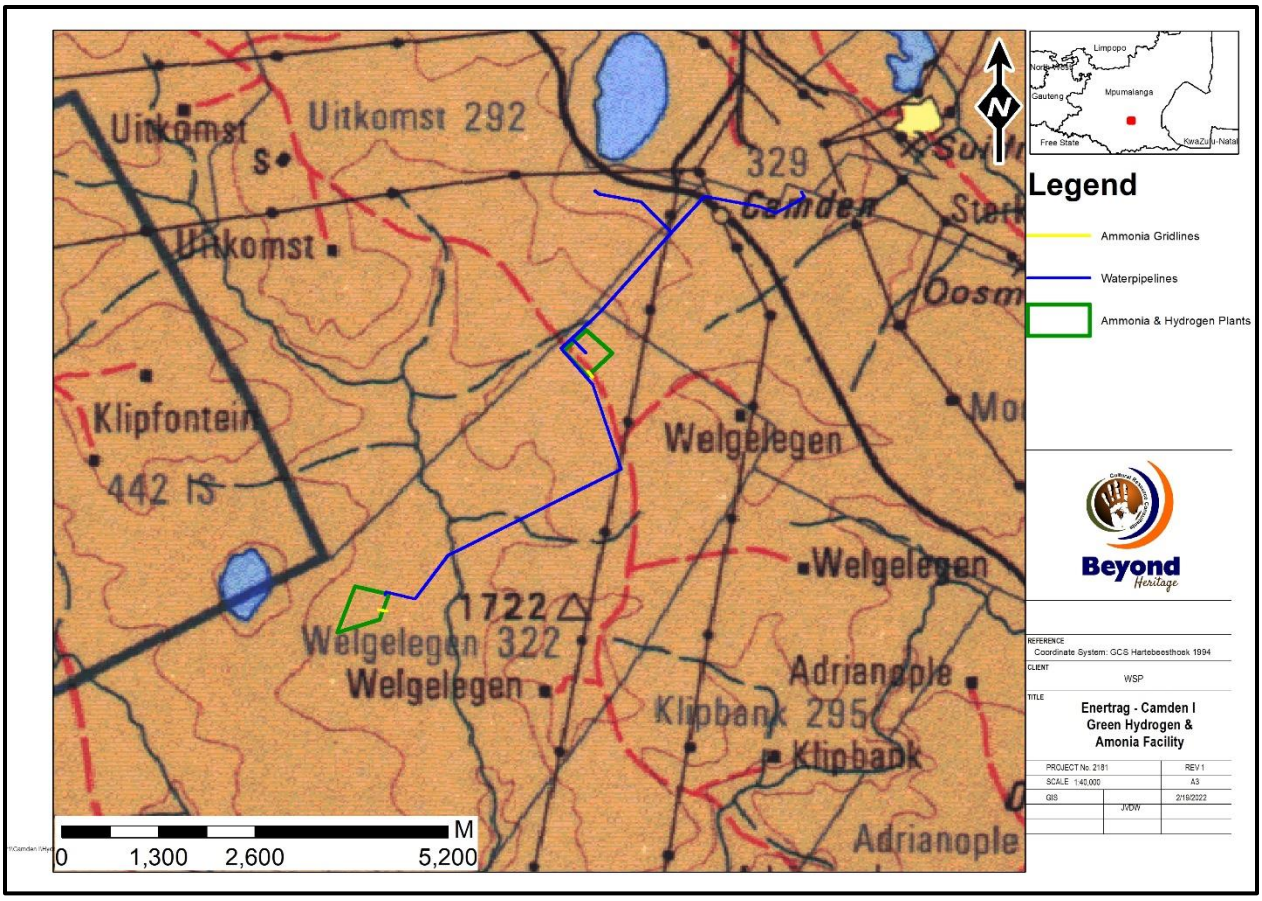


Figure 1.1. Regional setting of the study area.

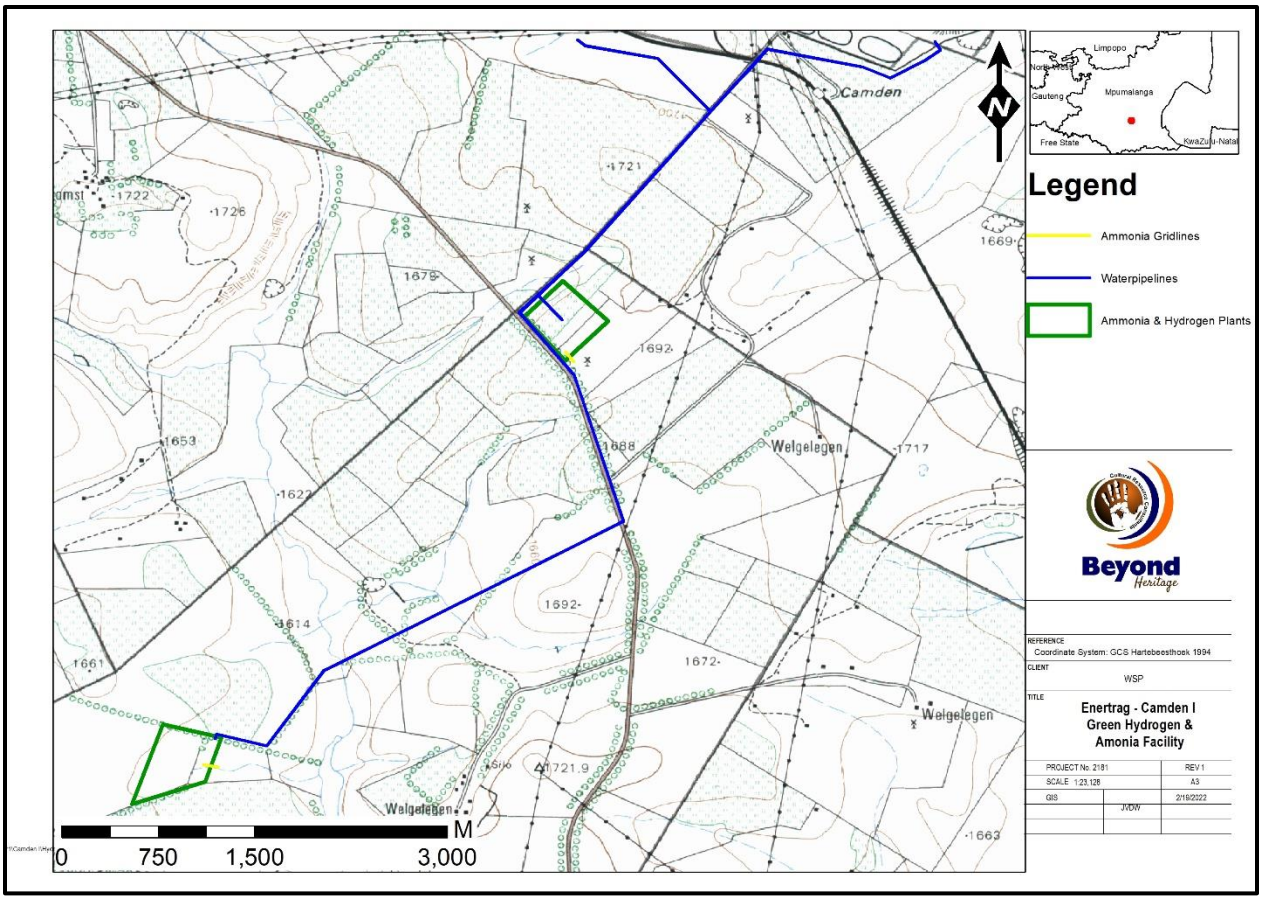


Figure 1.2. Local setting of the Project.

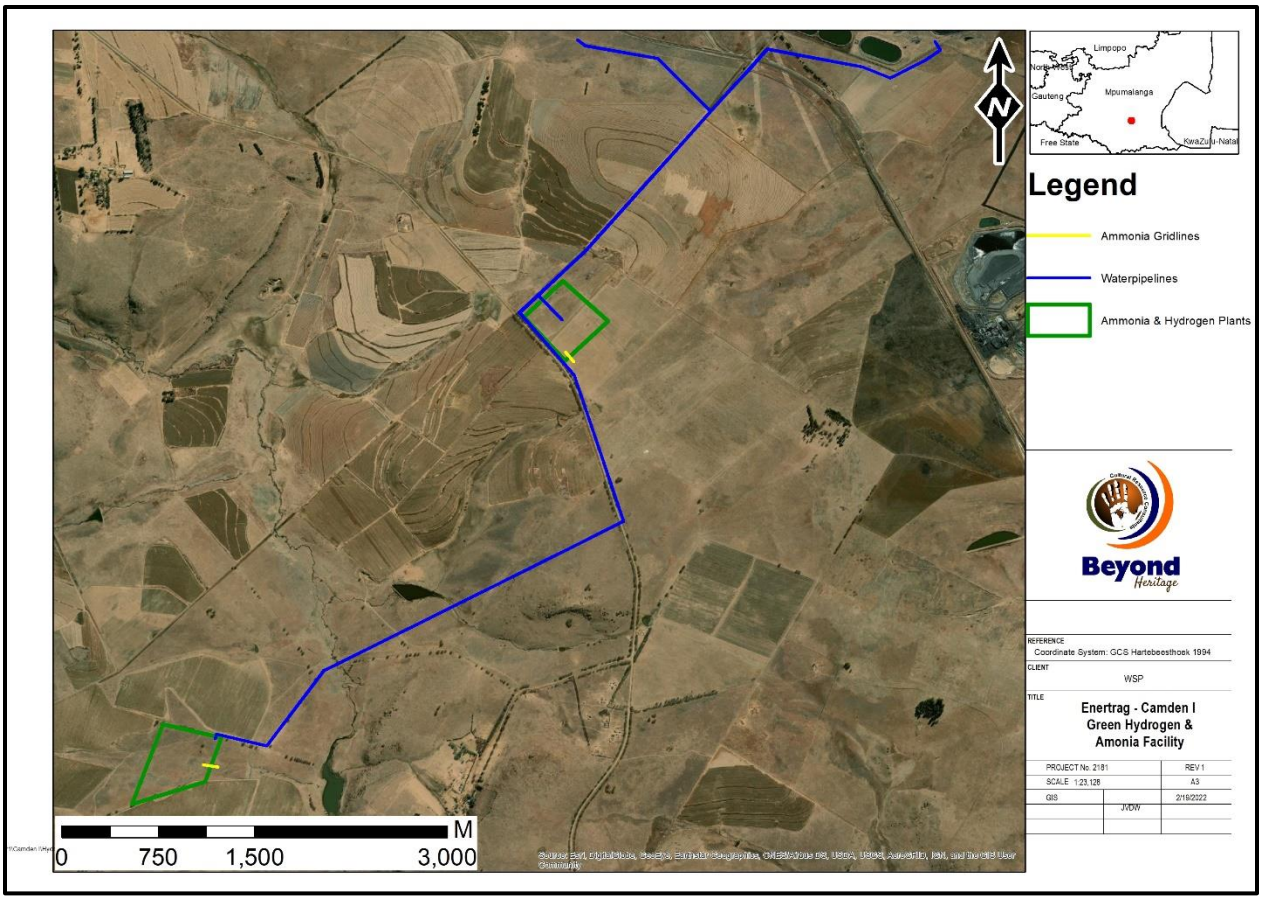


Figure 1.3. Aerial setting of the Project.

1.1 Terms of Reference

The main aim of this scoping report is to determine if any known heritage resources occur within the study area and to predict the occurrence of any possible heritage significant sites that might present a fatal flaw to the proposed project. The objectives of the scoping report were to:

- Conduct a desktop study:
    - Review available literature, previous heritage studies and other relevant information sources to obtain a thorough understanding of the archaeological and cultural heritage conditions of the area;
    - Gather data and compile a background history of the area;
    - Identify known and recorded archaeological and cultural sites;
    - Determine whether the area is renowned for any cultural and heritage resources, such as Stone Age sites, Iron Age sites, informal graveyards or historical homesteads.
- Report

The reporting of the scoping component is based on the results and findings of the desktop study, wherein potential issues associated with the proposed project will be identified, and those issues requiring further investigation through the EIA Phase highlighted. Reporting will aim to identify the potential impacts of the proposed project activity on heritage resources. Reporting will also consider alternatives should any significant sites be impacted on by the proposed project. This is done to assist the developer in managing heritage resources in a responsible manner, in order to protect, preserve and develop them within the framework provided by Heritage Legislation.

1.2 Nature of the development

“Green” hydrogen and ammonia production differs from traditional production technologies in that the process relies exclusively on renewable resources (renewable energy) and for input air and water (feedstock), to produce commercially usable green hydrogen and ammonia. The only solid waste stream is the production of brine from the water treatment plant. Ammonia spillages may occur however these will be accidental and mitigation measures will be developed and implemented, including amongst others suitable containment related to storage and emergency response measures.

A gaseous ‘waste’ (oxygen) is generated from the electrolyses process. Another source of gaseous ‘wastes’ is from the Air Separation Unit. This is where nitrogen is removed from the air and the other natural gases as expelled back to the environment.

Traditional hydrogen and ammonia are produced thought the burning of fossil fuels (coal or natural gas) to provide the required energy needed for their production. This method of production results in ‘brown’ hydrogen as fossil fuels are used and therefore carbon forms an integral part of such traditional hydrogen production.

Commercially, hydrogen is used as a fuel for transport in hydrogen fuel cells. Alternatively, hydrogen is used for welding and in the production of other chemicals such as methanol and hydrochloric acid and also has other commercial uses like the filling of balloons. It is also a primary input to the production of ammonia. Ammonia in turn is primarily used in the production of ammonium nitrate (fertiliser) and is also used as refrigerant gas and the manufacture of plastics, explosives, textiles, pesticides and other chemicals.

Ammonia can also be used as a stable 'carrier' of hydrogen, allowing hydrogen to be readily stored and transported.

The production, storage and transport of hydrogen and ammonia is an industry undergoing in-depth research and developments. Consequently, technological solutions are constantly being improved and changing. Thus, the below Facility description is based on available technological solutions, however, the underlying fundamentals will remain.

The facility comprises the following components. These components are detailed further below, but comprise the following general components:

- Water treatment.
- Electrolyser.
- Air separator.
- Ammonia processing unit.
- Liquid air energy system (LAES) for nitrogen storage.
- Feedstock and product storage.
- Utilities.
- Gantry and loading bay.

Associated infrastructure further include:

- Electrical infrastructure required for power supply to the facility.
- Temporary and permanent laydown areas required for temporary storage and assembly of components and materials.
- Access road/s to the site and internal roads between project components, with a width of up to up to 6m wide respectively.
- A temporary concrete batching plant (if necessary).
- Temporary staff accommodation.
- Fencing and lighting.
- Lightning protection.
- Telecommunication infrastructure.
- Stormwater channels.
- Water pipelines.
- Offices.
- Operational control centre.
- Operation and Maintenance Area / Warehouse / workshop.
- Ablution facilities.
- A gate house.
- Control centre, offices, warehouses.
- Security building.

Access to the site is possible primarily via an unnamed gravel road immediately off the N11 (south of Ermelo town). Existing roads will be used where feasible and practical.

Table 1 Facility Components

No.	Component	Footprint (Ha)	Note
1	Water Reservoir	2	Process and utilities water
2	Water Treatment Unit	1.5	Process and utilities water
3	Electrolyser Unit	1	Hydrogen Output Oxygen Output
4	Air Separation Unit	0.5	Air Input
5	Ammonia Processing Unit	2	Ammonia Output
6	Liquid Air Storage System (LAES)	1	Nitrogen Storage
7	Liquid Ammonia Storage Tank	2	
8	Hydrogen and Oxygen Storage Tank Farm	12	Hydrogen and Oxygen storage (combined tank farm), i.e. feedstock storage
9	Ancillary infrastructure	3	Includes temporary and permanent laydown areas, parking, offices and other related infrastructure.
	Total Footprint	**25**	

1.3 The receiving environment

The study area is largely cultivated with no focal points such as water sources or topographical features that would have attracted occupation in antiquity.

2. APPROACH AND METHODOLOGY

The assessment is to be undertaken in two phases, a scoping phase and an HIA phase as part of the Environmental Impact Assessment process, this report concerns the scoping phase. The aim of the scoping phase is to assess the study area at a desktop level to compile a background history of the study area, to identify possible heritage issues or fatal flaws that should be avoided during development.

This was accomplished by means of the following phases (the results are represented in section 7 of this report):

2.1 Literature search

A literature search was conducted utilising data from published articles on the archaeology and history of the area. The aim of this is to extract data and information on the area in question, looking at archaeological sites, historical sites and graves of the area.

2.2 Information collection

SAHRIS was consulted to collect data from CRM practitioners who undertook work in the area to provide the most comprehensive account of the history of the area where possible.

2.3 Public consultation

A full public consultation process will be facilitated by WSP. Any heritage concerns raised during this process will be addressed in the HIA.

2.4 Google Earth and mapping survey

Google Earth and 1:50 000 maps of the area were utilised to identify possible places where archaeological sites might be located.

2.5 Genealogical Society of South Africa

The database of the genealogical society was consulted to collect data on any known graves in the area.

3. LEGISLATION

For this project the National Heritage Resources Act, 1999 (Act No. 25 of 1999) is of importance and the following sites and features are protected:

a. Archaeological artefacts, 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 or 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. 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.)

Section 34 (1) of the act deals with structures which is older than 60 years. Section 35(4) of this act deals with archaeology, palaeontology and meteorites. Section 36(3) of the National Heritage Resources Act, deals with human remains older than 60 years. Unidentified/unknown graves are also handled as older than 60 until proven otherwise.

3.1 Heritage Site Significance and Mitigation Measures

The presence and distribution of heritage resources define a Heritage Landscape. In this landscape, every site is relevant. In addition, because heritage resources are non-renewable, heritage surveys need to investigate an entire project area. In all initial investigations, however, the specialists are responsible only for the identification of resources visible on the surface.

This section describes the evaluation criteria used for determining the significance of archaeological and heritage sites. National and Provincial Monuments are recognised for conservation purposes. The following interrelated criteria were used to establish site significance:

- The unique nature of a site;
- The integrity of the archaeological/cultural heritage deposit;
- The wider historic, archaeological and geographic context of the site;
- The location of the site in relation to other similar sites or features;
- The depth of the archaeological deposit (when it can be determined or is known);
- The preservation condition of the site;
- Potential to answer present research questions.

The criteria above will be used to place identified sites with in SAHRA's (2006) system of grading of places and objects which form part of the national estate. This system is approved by ASAPA for the SADC region. The recommendations for each site should be read in conjunction with section 9 of this report.

Table 2. Heritage significance and field ratings

FIELD RATING	GRADE	SIGNIFICANCE	RECOMMENDED MITIGATION
National Significance (NS)	Grade 1	-	Conservation; national site nomination
Provincial Significance (PS)	Grade 2	-	Conservation; provincial site nomination
Local Significance (LS)	Grade 3A	High significance	Conservation; mitigation not advised
Local Significance (LS)	Grade 3B	High significance	Mitigation (part of site should be retained)
Generally Protected A (GP. A)	-	High/medium significance	Mitigation before destruction
Generally Protected B (GP. B)	-	Medium significance	Recording before destruction
Generally Protected C (GP.C)	-	Low significance	Destruction

4. REGIONAL OVERVIEW

4.1 General Information

4.1.1. Literature search

The reports indicated in Table 3 were conducted in the immediate vicinity of the study area and were consulted for this report:

Table 3. Heritage reports conducted in the greater study area

Author	Year	Project	Findings
Van Schalkwyk, L.	2006	Heritage Impact Assessment for the Majuba-Umfolozi 765 KV Transmission Line in Mpumalanga and KwaZulu-Natal, South Africa, Pietermartizburg: eThembeni Cultural Heritage	Ancestral graves; Rock painting sites that were recorded along and below the eastern uKhahlamba escarpment; Stone Age open air sites; Stone walled settlements dating to the Late Iron Age; Battlefields of: - Majuba (1887); - Hlobane (1879); - Holkrantz (1879); - Khambula (1879
Fourie, W.	2008	Camden Power Station Rail expansion project on portions of the farm Mooiplaats 290 IT and the farm Camden Power Station 329 IT, District Ermelo, Mpumalanga	The remains of a stone ruin were identified at this location. The structure consists of two rooms. Only the foundations and rubble remain of the structure. Recent historic
Gaigher, S.	2011	First Phase Heritage Impact Assessment for the Proposed Extension to the Camden Ash Disposal Facilities	Small graveyard (5 graves), historic farmland reservoirs, furrows, pathways.
Pistorius, J.C.C.	2011	Kusipongo Expansion Project: A Heritage Baseline Study for Proposed Adit Positions in a Project Area near the Heyshope Dam to the West of Piet Retief in the Mpumalanga Province of South Africa, KwaZulu-Natal: Environmental Resources Management (South Africa) Pty Ltd (ERM)	A single, historic informal grave with stone dressing. A single square cattle enclosure. Late Iron Age site with stone wall enclosures. historical graveyard demarcated with stone walling. A sandstone bank that may be associated with Stone Age sites.
Van Schalkwyk, J.	2012	Basic assessment and environmental management programme: Construction of a 132kV transmission Line from the Kliphoek to Panbult Substation and Kliphoek to Uitkoms Substation: Mpumalanga Province	Some farmsteads and other farming related features. A number of formal and informal cemeteries
Nel, J. & Karodia, S.	2013	Heritage Impact Assessment Report Kangra Coal	Historical structures and associated trees, cemeteries, sandstone outcrop with potential for Rock Art
Van der Walt, J.	2015	Camden Ash Disposal – Grave confirmation study	Four cemeteries and two historical structures as well as stone cairns.
Gaigher, S.	2015	Report on the Social Consultation Regarding the Relocation of Graves within the Proposed Development Area for the Camden Ash Disposal Facilities	Burial sites (19 graves, 7 graves 2 graves and 5 graves respectively).

Van Schalkwyk, J.	2016	Cultural Heritage Impact assessment for the planned borrow pits and quarries for the improvement of the national route N2, km 60 (Leiden) to km 87.4 (Camden), Gert Sibande District Municipality, Mpumalanga Province	Historic informal cemetery with more than 35 graves. Three old railway culverts that formed part of the original railroad alignment which was constructed in 1911. An old sheep dip constructed from concrete.
Matenga, E.	2020	Heritage Impact Assessment for the proposed improvements to the existing waste reticulation system at Camden power station in Ermelo, Mpumalanga Province	None

4.1 2. Public consultation

A public participation process is facilitated by WSP as per the EIA process with reference to the NHRA and potential heritage concerns and the results will be included in the HIA.

4.1.3. Google Earth and mapping survey

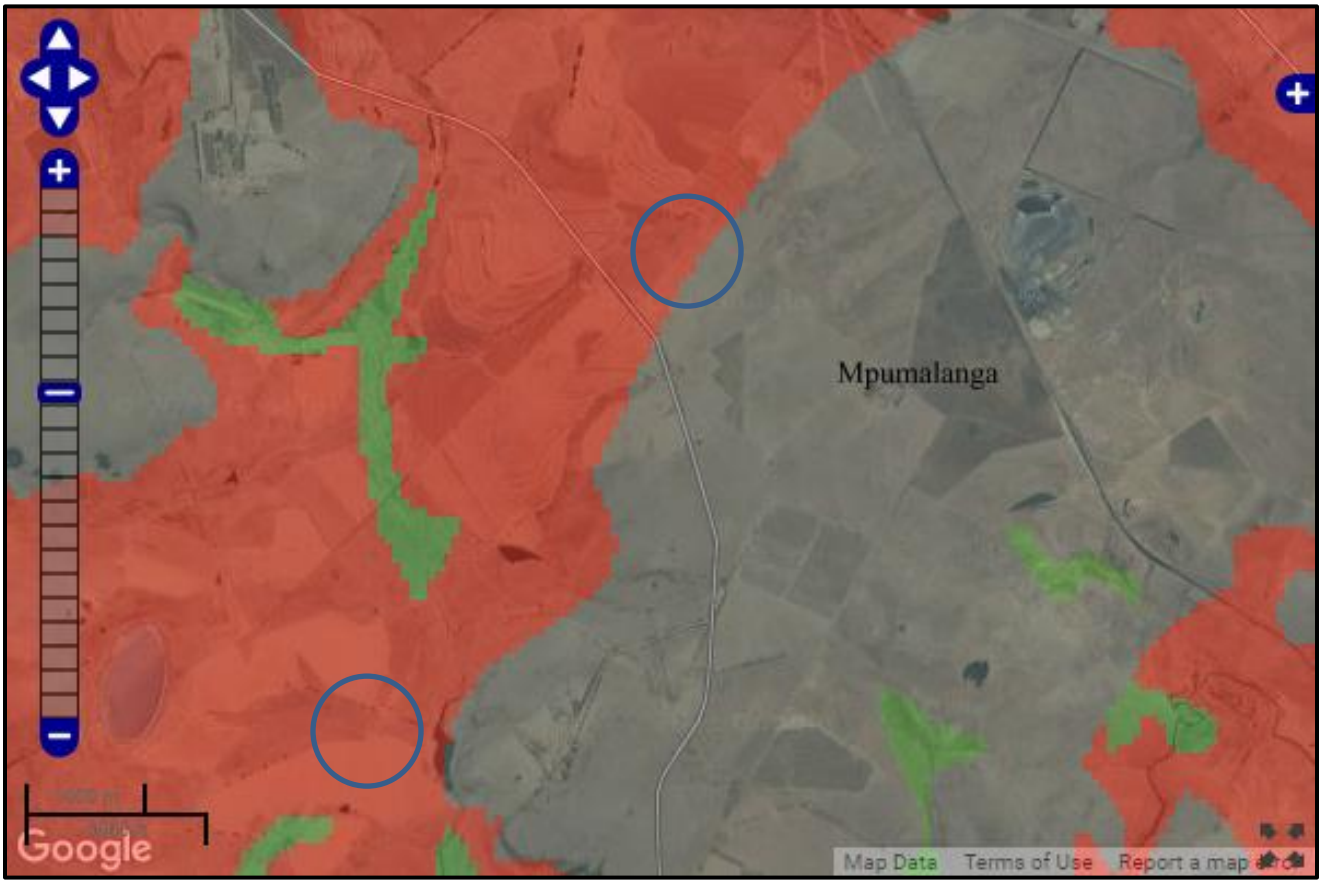
Google Earth and 1:50 000 maps of the area was utilised to identify possible places where archaeological sites might be located.

4.1.4. Genealogical Society of South Africa

No grave sites are indicated within the study area.

4.2. Palaeontology

The study area ranges from insignificant to very high palaeontological sensitivity (Figure 4.1) and further studies will be required in the EIA phase.



Colour	Sensitivity	Required Action
RED	VERY HIGH	Field assessment and protocol for finds is required
ORANGE/YELLOW	HIGH	Desktop study is required and based on the outcome of the desktop study; a field assessment is likely
GREEN	MODERATE	Desktop study is required
BLUE	LOW	No palaeontological studies are required however a protocol for finds is required
GREY	INSIGNIFICANT/ZERO	No palaeontological studies are required
WHITE/CLEAR	UNKNOWN	These areas will require a minimum of a desktop study. As more information comes to light, SAHRA will continue to populate the map.

Figure 4.1. Palaeontological sensitivity map of the approximate study area (blue polygons).

4.3 Archaeological and Historical Information Available on the Study Area"

The Camden power station and associated small town is situated 16km south from Ermelo in the Mpumalanga Province. The archaeological record for the greater study area consists of the Stone Age and Iron Age.

4.3.1. Stone Age

The Stone Age of southern Africa starts when hominins (ancestral to modern-day humans) first started to produce crude tools made with stone. The Earlier Stone Age (2 million - 200 000 years ago) is associated with hominins such as *Homo habilis* and *Homo erectus* (Dusseldorp *et al*. 2013). Mpumalanga currently does not have an extensive ESA archaeological record, at Maleoskop on the farm Rietkloof, only a few ESA artefacts have been found and stone tools consisted of choppers (Oldowan), hand axes, and cleavers (Acheulean) (Esterhuysen & Smith 2007) and some surface scatters have been recorded near Piet Retief (Nel & Karodia 2013).

Middle Stone Age artefacts represents archaic and modern humans that occupied the landscape between 300 000 to 40 000 before present. Later Stone Age occupational sequences reflect San and Khoisan communities from 40 000 years ago until recently (Dusseldorp *et al.* 2013). Although the MSA and LSA has not been extensively studied in Mpumalanga, evidence for these periods has been excavated from Bushman Rock Shelter in the Ohrigstad District (Esterhuysen & Smith 2007; Lombard *et al*. 2012) and it is known that San communities lived near Lake Chrissie as recently as the 1950s (e.g., Schlebusch *et al*. 2016). MSA and LSA surface scatters have also been investigated in the vicinity of Piet Retief, and De Wittekrans nearby Camden is a Later Stone Age archaeological rock art site complex (Nel & Karodia 2013).

4.3.2. Iron Age

The archaeology of farming communities of southern Africa encompasses three phases. The Early Iron Age (200-900 CE) represents the arrival of Bantu-speaking farmers in southern Africa. Living in sedentary settlements often located next to rivers, these farmers cultivated sorghum, beans, cowpeas, and kept livestock. The Middle Iron Age (900-1300 CE) is mostly confined to the Limpopo Valley in southern Africa with Mapungubwe Hill probably representing the earliest 'state' in this region (Huffman 2007).

The Late Iron Age (1300-1840s CE) marks the arrival and spread of ancestral Eastern Bantu-speaking Nguni and Sotho-Tswana communities into southern Africa. The location of Late Iron Age settlements is usually on or near hilltops for defensive purposes. The Late Iron Age as an archaeological period ended by 1840 CE, when the Mfecane caused major socio-political disruptions in southern Africa (Huffman 2007).

Dates from Early Iron Age sites indicated that by the beginning of the 5th century CE Bantu-speaking farmers had settled in the Mpumalanga lowveld. Subsequently, farmers continued to move into and between the lowveld and highveld of Mpumalanga. Iron Age sites such as Welgelegen Shelter, Robertsdrift and Tafelkop situated 50-100 km west of Camden dates from the 12th to the 18th century (Derricourt & Evers 1973; Esterhuysen & Smith 2007).

During the mid-17th century Europeans started to settle in modern-day Cape Town. During and after the conflict caused by the Mfecane (1820-1840), during the reign of king kaSenzangakhona Zulu, known as Shaka, Dutch-speaking farmers started to migrate to the interior regions of South Africa. A period that is marked by various skirmishes and battles between the local inhabitants, Dutch settlers and the British (Giliomee & Mbenga 2007).

4.3.3. Historical context of Camden

Camden power station was commissioned in 1967 (Gaigher 2011; Matenga 2020). However, the nearby town of Ermelo has a rich history. The earliest record for settlers in Ermelo is from 1860, when the area was under the jurisdiction of Zulu-speaking Nhlapo communities (Nhlapo 1945). The construction of the town of Ermelo was initiated by the Dutch Reform Church, which purchased the eastern part of the farm Nooitgedacht on 26 May 1879. The town was officially proclaimed on 12 February 1880 by William Owen Lanyon, the Administrator of the Transvaal (Greyling 2017).

4.3.4. Battlefields and war history

Due to the proximity of Ermelo to the Nederlandsche Zuid-Afrikaansche Spoorweg-Maatskappij railway line linking Pretoria with Lourenço Marques (Maputo), the area was subject to various skirmishes during the Anglo-Boer War of 1899-1902. At the time there were about 100 families residing in the town and many women and children were sent to British concentration camps. In 1901, British troops burnt the town down due to their scorched earth policy, and Ermelo was rebuilt in 1903 (Moody 1977; Pretorius 2000; Van Schalkwyk 2012; Greyling 2017).

4.3.5. Graves and Burial sites

No graves are indicated by the Genealogical Society of the South Africa for the study area. The Klipbank cemetery with 21 graves is indicated 2,485 km to the south of the Project.

4.3.6. Cultural Landscape

The area is mostly cultivated, and forms part of a landscape characterised by wide scale cultivation and mining activities. The study area has been cultivated from prior to 1968 as indicated on historical ma- (Figure 4.2 and 4.3) and has remained under cultivation until present (Figure 1.3). Development in the study area is limited to farming infrastructure such as access roads, fences and agricultural developments.

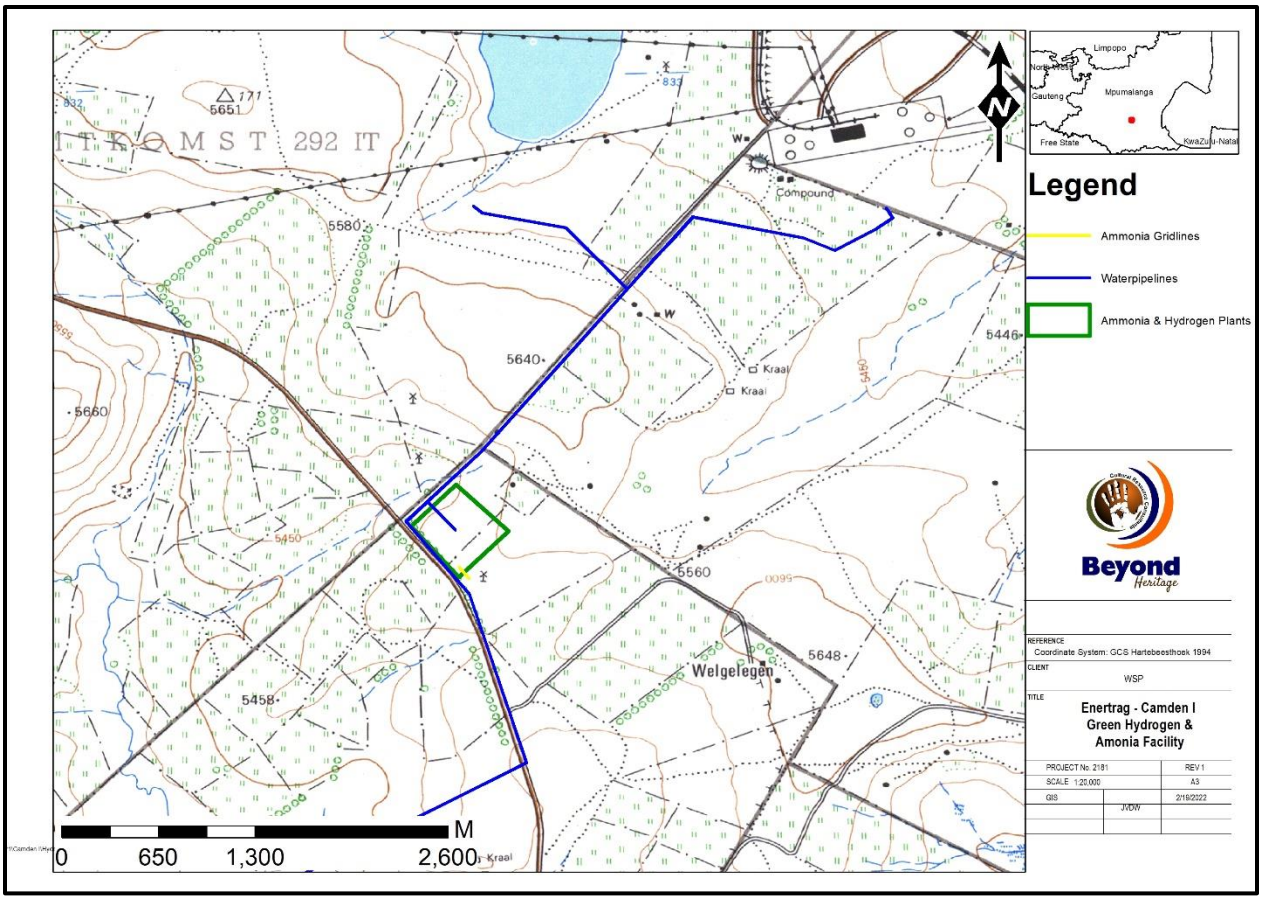


Figure 4.2. 1968 Topographic map of the northern portion of the study area. Tracks and fences are indicated within the impact areas.

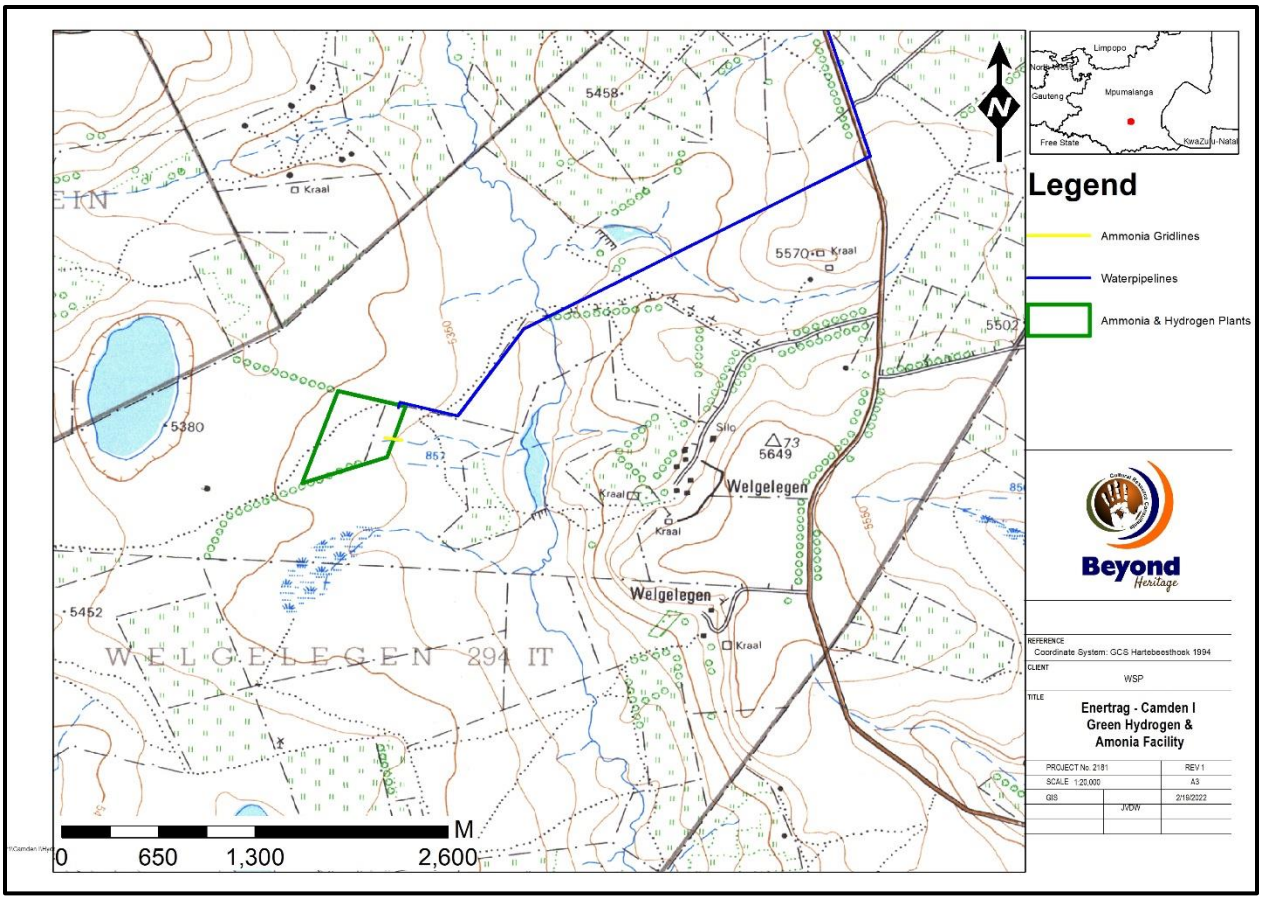


Figure 4.3. 1968 Topographic map of the southern portion of the study area. Tracks and fences are indicated in the impact areas.

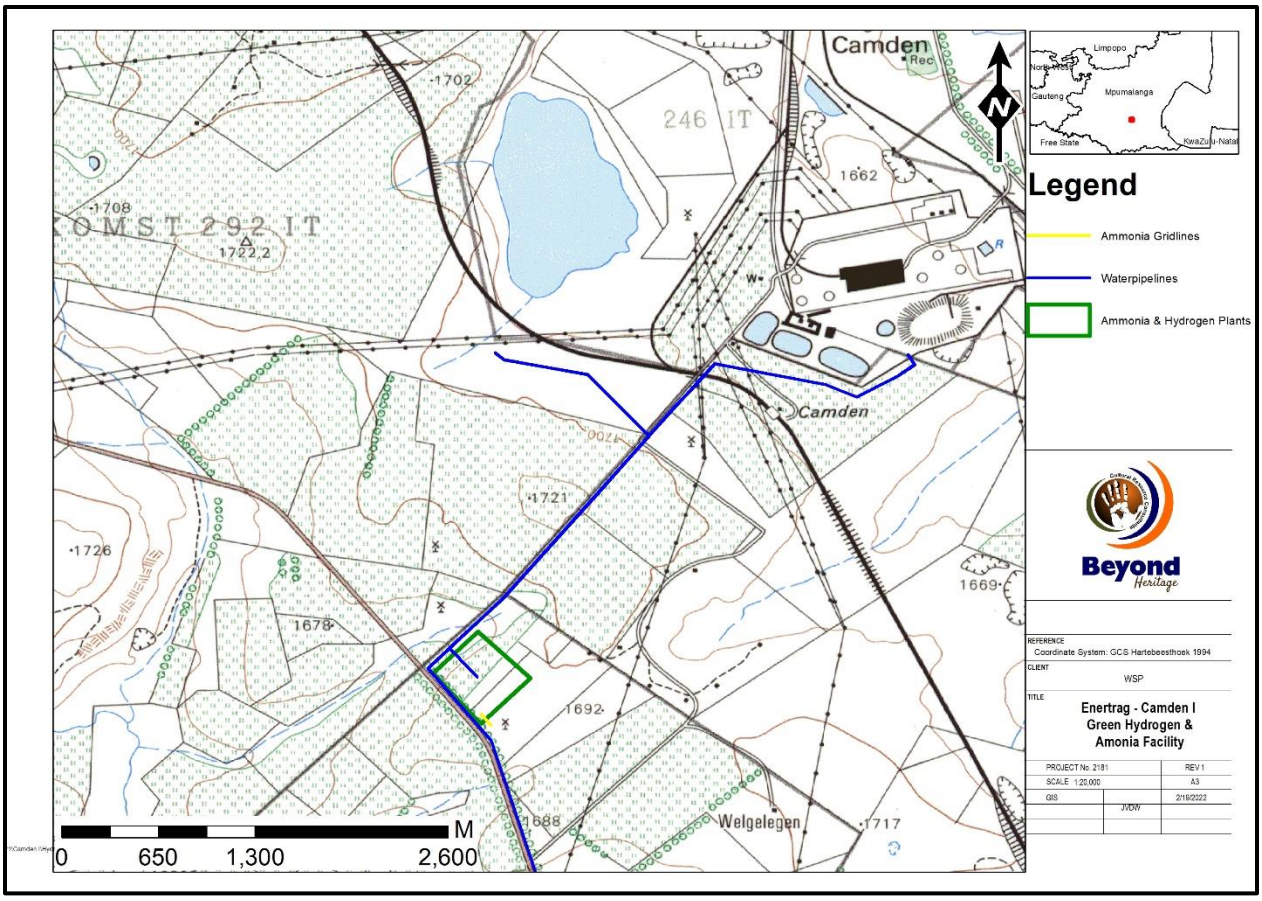


Figure 4.4. 1985 Topographic map of the northern portion of the study area. Cultivation is indicated throughout the study area.

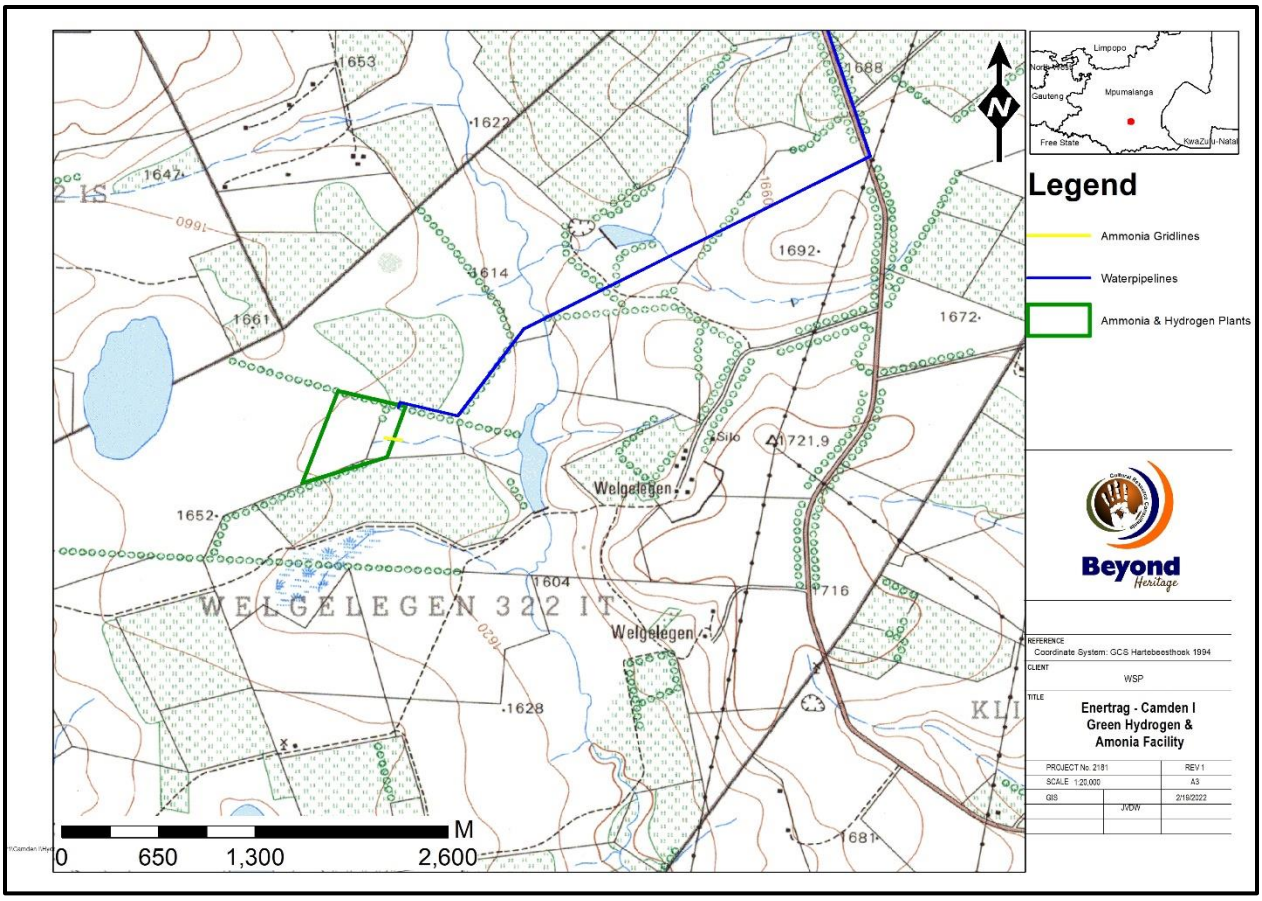


Figure 4.5. 1985 Topographic map of the southern portion of the study area. Cultivation is indicated throughout the study area.

5. PROBABILITY OF OCCURRENCE OF SITES

Based on the above information, it is possible to determine the probability of finding archaeological and cultural heritage sites within the study area to a certain degree. For the purposes of this section of the report the following terms are used – low, medium and high probability. Low indicates that no known occurrences of sites have been found previously in the general study area, medium probability indicates some known occurrences in the general study area are documented and can therefore be expected in the study area and a high probability indicates that occurrences have been documented close to or in the study area and that the environment of the study area has a high degree of probability having sites.

» Palaeontological landscape

Fossil remains*. Low to Medium probability.*

» Archaeological And Cultural Heritage Landscape

NOTE: *Archaeology is the study of human material and remains (by definition) and is not restricted in any formal way as being below the ground surface*.

*Archaeologica*l remains dating to the following periods can be expected within the study area:

» **Stone Age finds**

ESA: *Low Probability*
MSA*: Low Probability*
LSA: Low Probability
LSA –Herder: Low Probability

» **Iron Age finds**

EIA: *Low Probability*
MIA*: Low Probability*
LIA: Low -Medium Probability

» **Historical finds**

Historical period: *Medium to High Probability*
Historical dumps: *Low-Medium Probability*
Structural remains: *Medium to High Probability*
Cultural Landscape*: Low probability*

» **Living Heritage**
For example, rainmaking sites: *Low Probability*

» **Burial/Cemeteries**

Burials over 100 years: *Medium to High Probability*
Burials younger than 60 years*: Medium to High Probability*

Subsurface excavations including ground levelling, landscaping, and foundation preparation can expose any number of these.

6. ASSUMPTIONS AND LIMITATIONS

The study area was not subjected to a field survey and will be conducted in the EIA phase. It is assumed that information obtained for the wider area is applicable to the study area and the authors acknowledge that the brief literature review is not exhaustive on the literature of the area. Due to the subsurface nature of cultural deposits, the possibility exists that some features or artefacts may not have been discovered/recorded during the survey, similarly the possible occurrence of graves and other cultural material cannot be excluded. This study did not assess the impact on medicinal plants and intangible heritage as it is assumed that these components would be highlighted through the public consultation process if relevant. It is possible that new information could come to light in future, which might change the results of this scoping report.

7. FINDINGS

No Stone Age or Iron Age archaeological sites are known from the immediate area although several sites are known from the wider geographical area as indicated in Figure 7.1. Agricultural activities occur throughout the larger study area and would have obliterated surface indicators of heritage resources if any ever occurred in the area. The impact areas have however not been extensively cultivated, but the lack of structures and known heritage sites from the area provide little ground for sites of significance to occur.

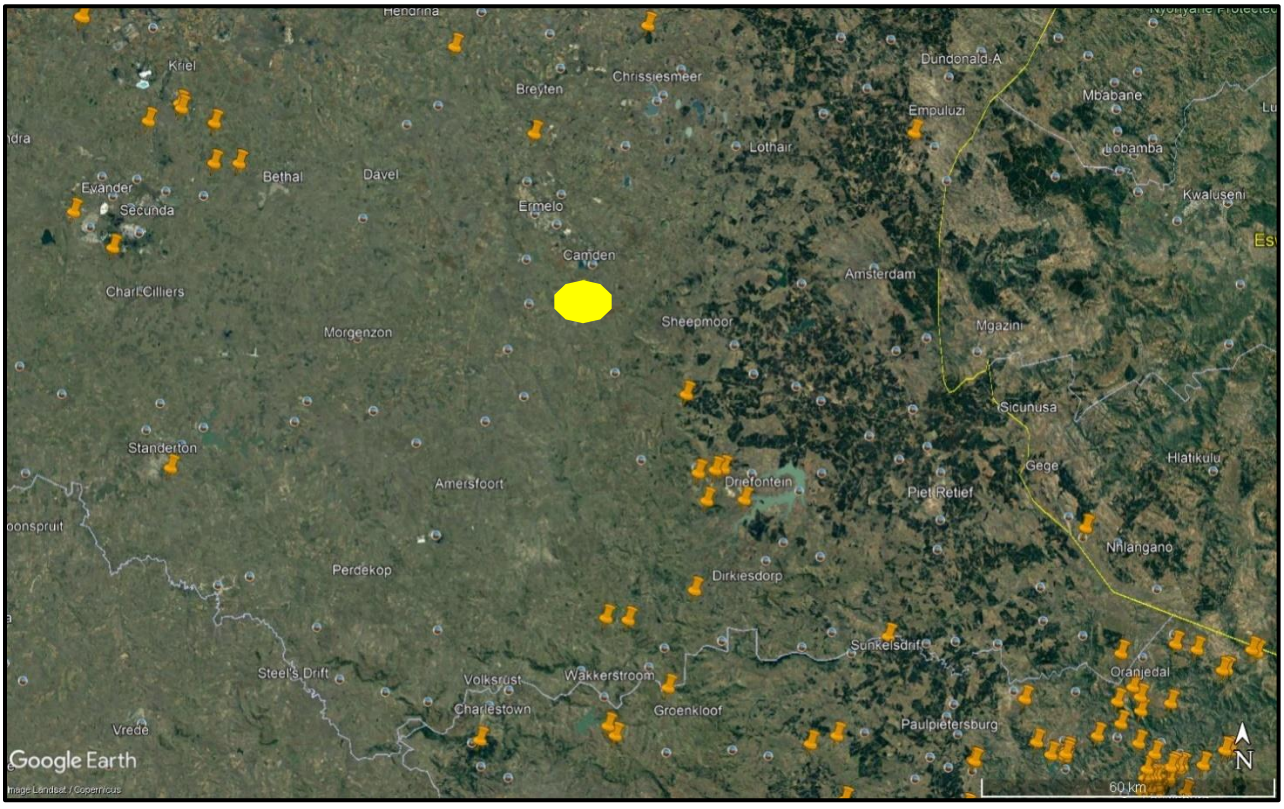


Figure 7.1. Known sites (orange pins) in the greater study area, the approximate location of the Project area is marked by a yellow dot

8. POTENTIAL SIGNIFICANCE OF HERITAGE RESOURCES

Based on the current information obtained for the area at a desktop level it is anticipated that any heritage resources that occur within the proposed development area will have a Generally Protected B (GP. B) or lower field rating and all sites should be mitigatable. Graves are of high social significance (Field rating GP A) and can be expected anywhere on the landscape.

9. CONCLUSION AND PLAN OF STUDY FOR EIA

The scoping study did not identify any fatal flaws in either Option one or two for the proposed Camden 1 Green Hydrogen and Ammonia Facility, and both locations area acceptable from a heritage point of view. To comply with the National Heritage Resources Act (Act 25 of 1999) it is recommended that a Phase 1 HIA must be undertaken for the study area. During the HIA the potential impact on heritage resources will be determined as well as levels of significance of recorded heritage resources. The HIA will also provide management and mitigation measures should any significant sites be impacted upon, ensuring that all the requirements of the SAHRA are met. The study area is of insignificant to very high paleontological sensitivity and according to the SAHRIS palaeontological sensitivity map must be subjected to a palaeontological assessment in the impact assessment phase. During the Public participation and stakeholder consultation process (advertisements & site notices) must reference the National Heritage Resources Act and include heritage concerns from stakeholders.

10. LIST OF PREPARERS

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11. STATEMENT OF COMPETENCY

The author of the report is a member of the Association of Southern African Professional Archaeologists and is also accredited in the following fields of the Cultural Resource Management (CRM) Section (#159): Iron Age Archaeology, Colonial Period Archaeology, Stone Age Archaeology and Grave Relocation. He is also a member of the Association of Professional Heritage Practitioners (#114). Jaco is also an accredited CRM Archaeologist with SAHRA and AMAFA.

Jaco has been involved in research and contract work in South Africa, Afghanistan, Botswana, Mozambique, Zimbabwe, Zambia, Guinea, Tanzania, Afghanistan, and the DRC and conducted well over 500 AIAs and HIAs since he started his career in CRM in 2000. This involved several mining operations, Eskom transmission and distribution projects, and renewable energy developments. The results of several of these projects were presented at international and local conferences.

12. STATEMENT OF INDEPENDENCE

I, Jaco van der Walt as duly authorised representative of Beyond Heritage, hereby confirm my independence as a specialist and declare that neither I nor the Beyond Heritage have any interest, be it business, financial, personal or other, in any proposed activity, application or appeal in respect of which the client was appointed as Environmental Assessment practitioner, other than fair remuneration for work performed on this project.

SIGNATURE: _____

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