# DESKTOP PALAEONTOLOGICAL IMPACT ASSESSMENT
# PROPOSED GILLIMBERG SOLAR PHOTOVOLTAIC (PV) FACILITY AND ASSOCIATED INFRASTRUCTURE - PHASE 2

## COMPILED FOR: Abantu Environmental Services (Pty) Ltd

## Desktop Palaeontological Impact Assessment (Phase 2)

**SPECIALIST DECLARATION OF INDEPENDENCE**

*I, Dr Silindokuhle Mavuso, declare that I am an independent specialist and have no business, financial, personal or other interest in the proposed development, apart from fair remuneration for work performed in connection with this assessment. I have conducted this assessment objectively and in accordance with the applicable professional and heritage-management requirements.*

## EXECUTIVE SUMMARY

Abantu Environmental Services (Pty) Ltd has been appointed to conduct an evaluation of the environmental factors relevant to the designated project site. This involves identifying and assessing any possible environmental effects within the project vicinity. Mr. Silindokuhle Mavuso, an independent specialist in palaeontology and geology, conducted a Desktop Palaeontological Impact Assessment. This report has been compiled in accordance with the provisions outlined in Appendix 6 of the Environmental Impact Assessment Regulations, 2014, promulgated under Section 24(5) of the National Environmental Management Act (Act No. 107 of 1998), which requires the assessment of potential impacts on palaeontological heritage resources where applicable.

The proposed development entails Phase 2 of the Gillimberg Solar Photovoltaic (PV) Facility and associated infrastructure on Farm Gillimberg No. 861 LR within the Mogalakwena Local Municipality, Waterberg District Municipality, Limpopo Province, South Africa. Phase 1 will have an installed capacity of approximately 200 MW and will include ground-mounted bifacial PV modules on single-axis tracking systems, a Battery Energy Storage System (BESS), inverter/transformer stations, on-site and switching substations, operations and maintenance infrastructure, internal access roads, temporary laydown areas, and a 132 kV grid connection to the Eskom Borutho Main Transmission Substation. The assessment was undertaken as a desktop study and is based on a review of regional geological mapping, the South African Heritage Resources Information System (SAHRIS) palaeosensitivity data, published academic literature, and available fossil records.

The study area is underlain predominantly by high-grade metamorphic rocks of the Limpopo Belt, specifically the Hout River Gneiss of the Southern Marginal Zone. These crystalline lithologies formed under elevated temperature and pressure conditions during Neoarchaean tectonic processes and do not preserve palaeontological material. No fossil-bearing sedimentary formations are mapped within the development footprint.

According to the SAHRIS Palaeosensitivity Map, the geological units present within the development footprint are classified as having insignificant to zero palaeontological sensitivity. No palaeontological sites, fossil occurrences, or fossil-bearing stratigraphic units are known from within the proposed development area or its immediate surroundings.

On the basis of the geological and palaeontological context, it is concluded that the proposed construction of the Gillimberg Solar PV Facility and Associated Infrastructure - Phase 1 is unlikely to impact palaeontological heritage resources. No further palaeontological studies or field investigations are required prior to construction. As a precautionary measure and in accordance with best practice, it is recommended that a Fossil Chance Find Protocol be incorporated into the Environmental Management Programme (EMPr) to ensure appropriate management should any palaeontological material be encountered during construction activities.

## 1. INTRODUCTION

Mr. Silindokuhle Mavuso, an independent specialist in palaeontology and geology, was appointed by Abantu Environmental Services (Pty) Ltd to undertake a Desktop Palaeontological Impact Assessment (PIA) for the proposed Gillimberg Solar Photovoltaic (PV) Facility and Associated Infrastructure - Phase 1, within the Mogalakwena Local Municipality, Waterberg District Municipality, Limpopo Province, South Africa.

This report has been prepared in accordance with the requirements set out in Appendix 6 of the 2014 Environmental Impact Assessment Regulations, promulgated under Section 24(5) of the National Environmental Management Act (Act No. 107 of 1998) (NEMA). These regulations require that specialist studies assess the potential impact of development activities on palaeontological heritage resources.

South Africa possesses an exceptional palaeontological record that documents critical stages in the history of life on Earth, including early microbial life, the first tetrapods, the evolution of dinosaurs, mammals, and ultimately humans. The country continues to yield important fossil discoveries, reinforcing its global scientific significance and contributing to the understanding of continental evolution, including that of Gondwana.

The protection and conservation of fossil-bearing deposits are therefore essential to ensure that these non-renewable scientific resources remain available for future research, education, and heritage preservation. In terms of the National Heritage Resources Act (Act No. 25 of 1999) (NHRA), fossils and fossil-bearing geological formations are protected heritage resources and may not be disturbed, damaged, or removed without a permit issued by the South African Heritage Resources Agency (SAHRA).

This report assesses the probability of fossil occurrence within the Phase 1 development footprint and evaluates the potential impact of the construction and operation of the Phase 1 Gillimberg Solar PV Facility and its associated infrastructure on palaeontological heritage resources.

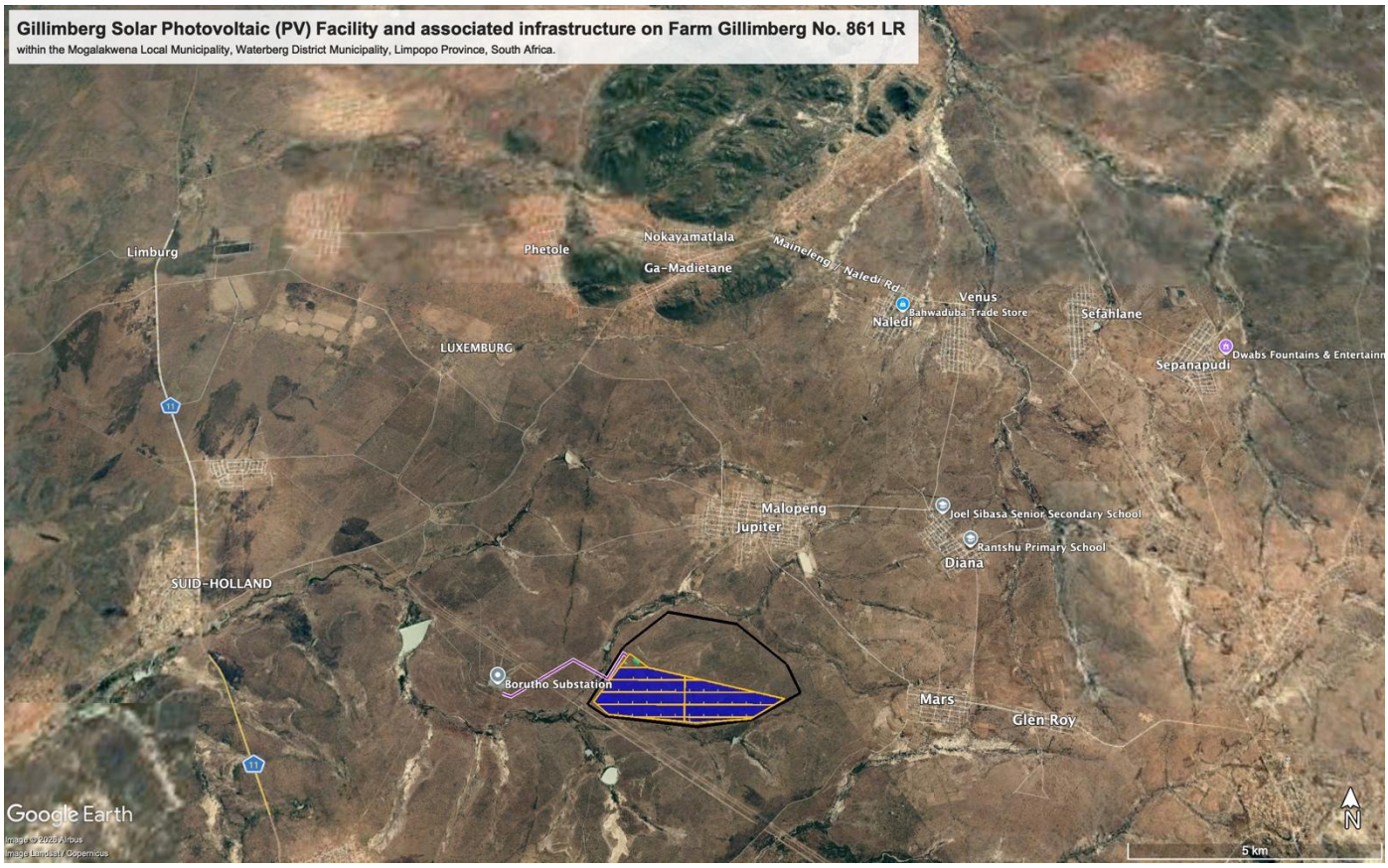



*Figure 1. Satellite image showing the location of the proposed Gillimberg Solar PV Facility Phase 1 development footprint (yellow polygon) within the broader geographical setting.*

## 1.1 Legislation

National Heritage Resources Act (25 of 1999)

Cultural Heritage in South Africa, includes all heritage resources, is protected by the National Heritage Resources Act (Act No. 25 of 1999) (NHRA). Heritage resources as defined in Section 3 of the Act include "all objects recovered from the soil or waters of South Africa, including archaeological and palaeontological objects and material, meteorites and rare geological specimens".

The identification, evaluation and assessment of any cultural heritage site, artefact or finds in the South African context is required and governed by the following legislation:

- National Environmental Management Act (NEMA) Act No. 107 of 1998
- National Heritage Resources Act (NHRA) Act No. 25 of 1999
- Minerals and Petroleum Resources Development Act (MPRDA) Act No. 28 of 2002
- Notice 648 of the Government Gazette 45421- general requirements for undertaking an initial site sensitivity verification where no specific assessment protocol has been identified.

The next section in each Act is directly applicable to the identification, assessment, and evaluation of cultural heritage resources.

GNR 982 (Government Gazette 38282, 14 December 2014) promulgated under the National Environmental Management Act (NEMA) Act No. 107 of 1998

- Basic Assessment Report (BAR) - Regulations 19 and 23
- Environmental Impacts Assessment (EIA) - Regulation 23

- Environmental Scoping Report (ESR) - Regulation 21
- Environmental Management Programme (EMPr) - Regulations 19 and 23

National Heritage Resources Act (NHRA) Act No. 25 of 1999

- Protection of Heritage Resources - Sections 34 to 36
- Heritage Resources Management - Section 38

The NEMA (No. 107 of 1998) states that an integrated EMP should (23:2 (b)) "…identify, predict and evaluate the actual and potential impact on the environment, socio-economic conditions and cultural heritage"
In agreement with legislative requirements, EIA rating standards as well as SAHRA policies a comprehensive and legally compatible PIA report has been compiled.
Palaeontological heritage is exceptional and non-renewable and is protected by the NHRA. Palaeontological resources and may not be unearthed, broken, moved, or destroyed by any development without prior assessment and without a permit from the relevant heritage resources authority as per section 35 of the NHRA.
This Palaeontological Impact assessment forms part of the Heritage Impact Assessment (HIA) and adheres to the conditions of the Act. According to Section 38(1), an HIA is required to assess any potential impacts to palaeontological heritage within the development footprint where:

- the construction of a road, wall, power line, pipeline, canal or other similar form of linear development or barrier exceeding 300 m in length.
- the construction of a bridge or similar structure exceeding 50 m in length.
- any development or other activity which will change the character of a site-
  - exceeding 5 000 m2 in extent; or
  - involving three or more existing erven or subdivisions thereof; or
  - involving three or more erven or divisions thereof which have been consolidated within the past five years; or
  - the costs of which will exceed a sum set in terms of regulations by SAHRA or a provincial heritage resources authority or
  - the re-zoning of a site exceeding 10 000 m² in extent or

any other category of development provided for in regulations by SAHRA or a Provincial heritage resources authority.

## 2. METHODOLOGY AND TERMS OF REFERENCE

Terms of reference: Mr. S.S. Mavuso is a palaeogeologist commissioned to conduct a palaeontological impact assessment: desktop study to ascertain if any palaeontological sensitive material is present in the development area. This study will advise on the impact on fossil heritage mitigation or conservation necessary, if any.
This Palaeontological Impact assessment assesses the development's potential impact on the fossil heritage. This Palaeontological Assessment is part of the HIA Report.
The PIA's goals are to:

1. identify the palaeontological significance of the rock formations in the footprint;
2. evaluate the palaeontological magnitude of the formations;
3. clarify the impact on fossil heritage; and
4. make recommendations for how the developer might protect and minimize potential harm to fossil heritage, according to the "SAHRA APM Guidelines: Minimum

Standards for the Archaeological and Palaeontological Components of Impact Assessment Reports".

Calculations of the palaeontological state of each stratigraphic and lithological segment and the potential impact of development on fossil history consider the palaeontological status of the rocks, the type of development, and the amount of bedrock removed.

The preparation of the palaeontological desktop study will be mostly based on assessing the geology of the area to assess for rocks that may house potentially fossiliferous rock units. This will be largely based on geological maps looking at formations and groups etc. The Provisional DFFE Screening Tool, the SAHRIS Palaeosensitivity map, all Palaeontological Impact Assessment reports for the same area, Google Earth images, topographical and geological maps, as well as academic articles about specimens from the development area and Assemblage Zones, are all used to create desktop Palaeontological Impact Assessments. This will include a plot of nearby collected fossil data in relation to the site being assessed. The range of this activity will be done at a 100km radius. Should it produce abundant fossil, particularly near the development site, the scale of the scope will go into more recent literature as well as procuring more fossil databases, particularly from museums. As most geological data was done decades ago by the Council of Geoscience and the South African Committee for Stratigraphy, a research study shall also be conducted for updated information by both published literature as well as senior postgraduate work procured from all the schools of geology and palaeontology in the country.

## 3. GEOLOGICAL AND PALAEONTOLOGICAL HISTORY

The Phase 1 development footprint is underlain by Precambrian high-grade metamorphic rocks of the Limpopo Belt, specifically the Hout River Gneiss of the Southern Marginal Zone. These crystalline rocks record Neoarchaean crustal reworking and metamorphism and have no potential to preserve palaeontological material. The relevant regional and local geological context is described below.

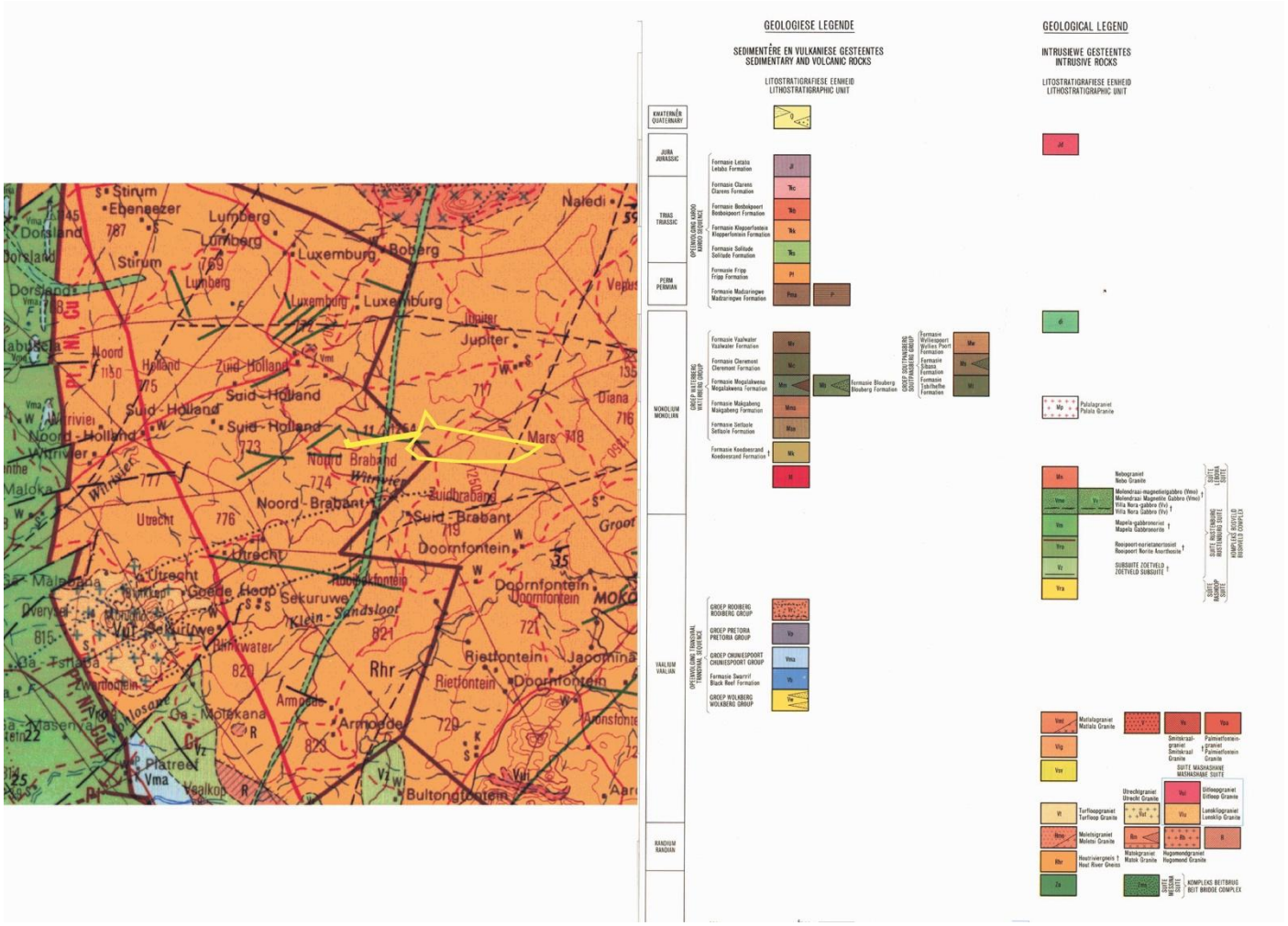



*Figure 2. Geological map showing the Phase 1 Gillimberg Solar PV Facility development footprint (yellow polygon). The map is an enlarged extract from Geological Survey 1:250 000 map sheet 2430 Pilgrim's Rest.*

## 3.1. LIMPOPO BELT

The proposed development area is situated within the Limpopo Province of South Africa and is underlain by high-grade metamorphic rocks of the Limpopo Belt. The Limpopo Belt is a Neoarchaean orogenic province that forms a prominent east to west trending tectonic corridor between the Kaapvaal Craton to the south and the Zimbabwe Craton to the north. It extends across northern South Africa into eastern Botswana and southern Zimbabwe. The belt is widely interpreted as the product of late Archaean continental collision and crustal thickening at approximately 2.7 to 2.6 Ga (Van Reenen et al., 1992; Barton and Van Reenen, 1992). It represents one of the classic examples of Archaean craton interaction and preserves deep crustal lithologies that are now exposed at surface as a result of uplift and prolonged erosion. Structurally, the Limpopo Belt is subdivided into three principal tectonic domains, namely the Northern Marginal Zone, the Central Zone, and the Southern Marginal Zone. The marginal zones are generally interpreted as reworked margins of the adjacent cratons, whereas the Central Zone comprises high-grade granulite facies rocks and granitoids that record peak metamorphic conditions and extensive crustal reworking (Van Reenen et al., 1992; Zeh et al., 2004). Geochronological investigations, including U–Pb zircon and Lu–Hf isotope studies, indicate a complex tectonothermal history involving emplacement of tonalite–trondhjemite–granodiorite suites, high-grade metamorphism, partial melting, and prolonged ductile deformation (Zeh et al.,

2004; Van Reenen et al., 2011). These processes reflect deep crustal burial during collisional thickening followed by exhumation along major shear zones that accommodated significant lateral displacement. The Limpopo Belt therefore represents deeply exhumed continental crust that records late Archaean tectonic assembly along the southern margin of the Zimbabwe Craton.

### 3.2. HOUT RIVER GNEISS

The Hout River Gneiss forms part of the Southern Marginal Zone of the Limpopo Belt and is exposed in northern South Africa along the boundary with the Kaapvaal Craton. It represents reworked continental crust associated with late Archaean tectonic interaction between the Kaapvaal and Zimbabwe cratons. Geochronological data indicate that the granitoid protoliths of the Hout River Gneiss are predominantly between approximately 2.7 and 2.6 Ga, with evidence of inheritance from older crustal components (Barton and Van Reenen, 1992; Zeh et al., 2004). The unit records high-grade metamorphism and intense deformation related to crustal thickening and terrane amalgamation during Neoarchaean orogenesis. Lithologically, the Hout River Gneiss consists primarily of tonalitic to granodioritic orthogneiss with subordinate trondhjemitic compositions and local amphibolitic intercalations. The rocks are typically medium to coarse grained and display well-developed gneissic banding defined by alternating quartz and feldspar rich layers and biotite and hornblende rich layers. Mineral assemblages commonly include quartz, plagioclase, biotite and hornblende, with accessory zircon, apatite and titanite, and locally garnet. Metamorphic conditions reached upper amphibolite to granulite facies, consistent with deep crustal metamorphism during late Archaean crustal thickening (Van Reenen et al., 1992; Zeh et al., 2004). Structurally, the unit is strongly foliated and locally mylonitic, particularly along the Hout River Shear Zone, a major ductile structure marking tectonic juxtaposition along the southern margin of the Limpopo Belt. This shear zone accommodated significant displacement during late Archaean deformation associated with craton amalgamation (Van Reenen et al., 2011). The Hout River Gneiss therefore records the emplacement of granitoid protoliths followed by high-grade metamorphism, partial melting in places, and prolonged ductile deformation during late Archaean continental collision.

## 4. PALAEONTOLOGY

The study area is underlain entirely by high-grade metamorphic rocks of the Limpopo Belt, specifically lithologies associated with the Hout River Gneiss of the Southern Marginal Zone. These rocks represent deeply exhumed continental crust that formed under elevated temperatures and pressures during Neoarchaean tectonic collision. High-grade metamorphic and associated intrusive lithologies do not preserve palaeontological material, as any original organic remains would have been destroyed during metamorphism and recrystallisation. Furthermore, these crystalline rocks were not deposited in sedimentary environments conducive to fossil preservation. No fossil-bearing sedimentary formations are mapped within the development footprint, and there are no known palaeontological sites or recorded fossil occurrences in the immediate vicinity of the study area.

## 5. PALAEONTOLOGICAL SENSITIVITY

The palaeontological sensitivity of the proposed project area is illustrated in Figure 3, which categorises regions based on the likelihood of fossil occurrence and preservation potential. According to the South African Heritage Resources Information System (SAHRIS) Palaeosensitivity Map, the study area is classified as having insignificant to zero palaeontological sensitivity. Areas underlain by high-grade metamorphic rocks of the Limpopo Belt, including the Hout River Gneiss of the Southern Marginal Zone, are designated as zones of zero sensitivity. This classification reflects the absence of fossil preservation potential within crystalline

metamorphic lithologies that formed under elevated temperatures and pressures deep within the crust.

The geological units present within the development footprint consist entirely of high-grade metamorphic rocks with no mapped sedimentary formations. Such lithologies do not provide depositional environments conducive to fossil preservation, and any original organic material would have been destroyed during metamorphism and recrystallisation.

Given the palaeontological sensitivity assigned to the geological units present within the study area, as indicated by their classification in the SAHRIS database, a desktop-based assessment was considered appropriate for this study. The assessment focused on confirming the geological context of the development footprint, reviewing palaeosensitivity mapping, and evaluating the characteristics of the underlying lithologies. Particular attention was given to identifying any sedimentary units or contexts that could potentially preserve palaeontological material; however, no such fossil-bearing formations are known to occur within the area.

Accordingly, no targeted field survey for palaeontological material was required, and the assigned sensitivity classification is considered appropriate for the proposed development.

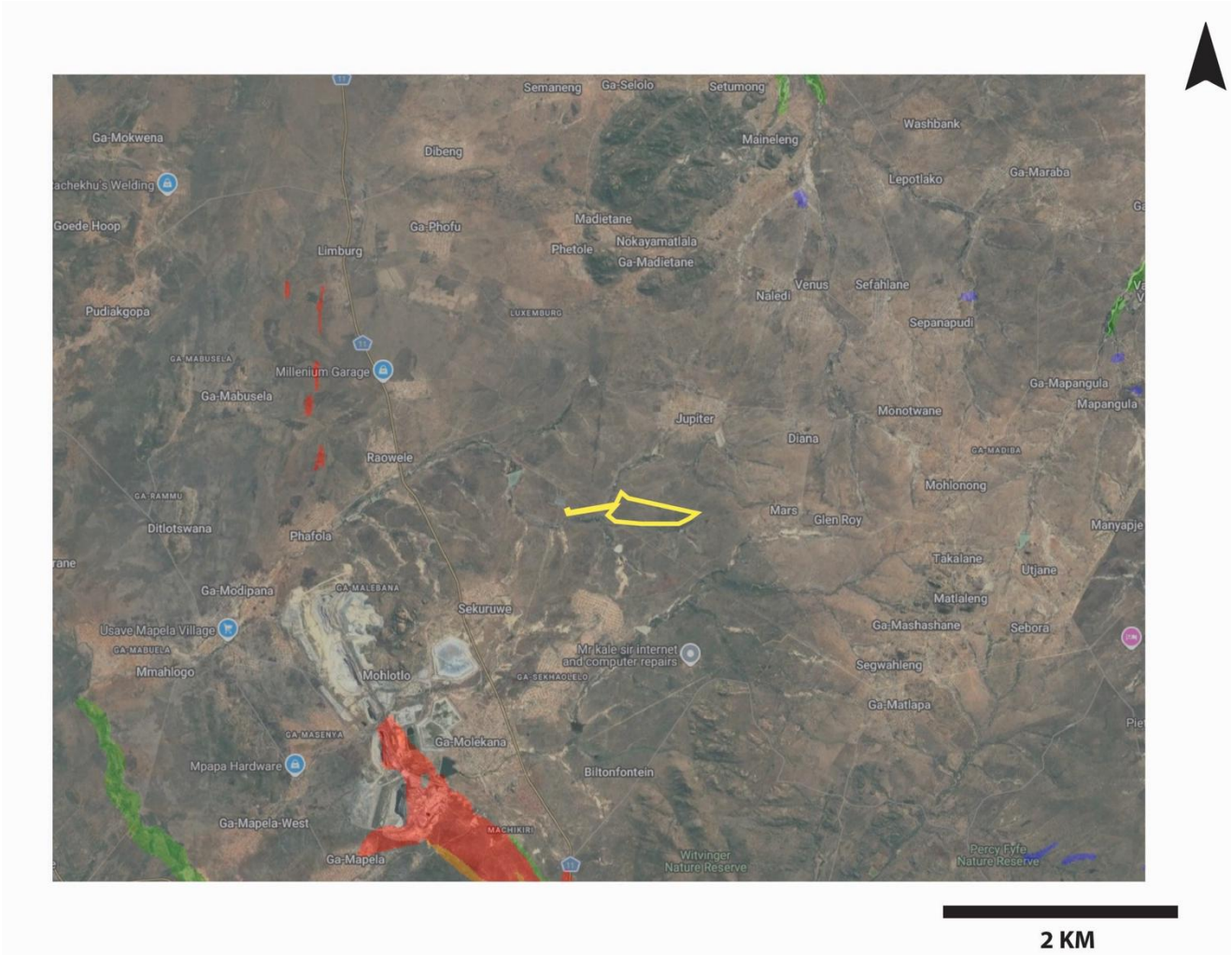



*Figure 3. SAHRIS palaeosensitivity map and colour guide for the Phase 1 study area, with the development footprint indicated by the yellow polygon.*

*Table 1. Colour guide for figure 3 of palaeontological sensitivity of South Africa.*

| 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. |

## 6. ASSUMPTIONS AND UNCERTAINTIES

This Palaeontological Impact Assessment is based on a desktop evaluation of the geological and palaeontological context of the proposed development area. The assessment assumes that the available geological mapping accurately reflects the distribution of lithologies within the development footprint, namely high-grade metamorphic rocks of the Limpopo Belt, specifically the Hout River Gneiss of the Southern Marginal Zone.

It is assumed that these metamorphic lithologies are representative of the subsurface conditions across the entire development area. As the Hout River Gneiss formed under high-temperature and high-pressure conditions during Neoarchaean tectonic collision, it is assumed that these rocks do not preserve palaeontological material. The assessment further assumes that no unmapped sedimentary units occur beneath the surface within the development footprint.

Uncertainties associated with this assessment arise from the absence of intrusive excavation, drilling logs, or detailed subsurface geotechnical data at the time of the study. While it is considered highly unlikely that fossil-bearing sedimentary units occur within a terrain dominated by high-grade metamorphic rocks, there remains a remote possibility that small, localised sedimentary lenses or reworked materials of limited scientific value could be present. However, any such material would not represent in situ fossil-bearing stratigraphy and would not significantly alter the palaeontological interpretation of the area.

Despite these uncertainties, the regional geological framework of the Limpopo Belt is well established, and the mapped lithologies within the development footprint are reliable indicators of palaeontological context. The conclusions of this assessment are therefore regarded as robust for the purposes of a desktop palaeontological impact assessment.

## 7. CONCLUSIONS AND RECOMMENDATIONS

This desktop Palaeontological Impact Assessment was undertaken to evaluate the potential impact of the proposed Gillimberg Solar Photovoltaic (PV) Facility and Associated Infrastructure - Phase 1, within the Mogalakwena Local Municipality, Waterberg District Municipality, Limpopo Province, on palaeontological heritage resources.

The assessment has established that the study area is underlain predominantly by high-grade metamorphic rocks of the Limpopo Belt, specifically the Hout River Gneiss of the Southern Marginal Zone. These lithologies formed under elevated temperatures and pressures during Neoarchaean tectonic collision and do not preserve palaeontological material. No fossil-bearing

sedimentary formations are mapped within the development footprint, and no palaeontological sites or recorded fossil occurrences are known from the immediate vicinity of the study area.
On this basis, the proposed development is not expected to have a direct impact on palaeontological heritage resources. From a palaeontological perspective, no further specialist palaeontological studies or field investigations are required prior to the commencement of construction activities.

However, as a precautionary measure and in accordance with best practice and heritage management guidelines, it is recommended that a Fossil Chance Find Protocol be incorporated into the Environmental Management Programme (EMPr). This protocol should outline procedures to be followed in the unlikely event that palaeontological material is encountered during construction, including the cessation of work in the affected area and notification of a qualified palaeontologist or the relevant heritage authority.
Provided that the recommended Fossil Chance Find Protocol is implemented, the proposed construction of the Gillimberg Solar PV Facility and Associated Infrastructure - Phase 1 may proceed without constraints from a palaeontological heritage perspective.
While pre-construction mitigation measures are not required, it is advisable to implement the following recommendations to ensure appropriate heritage management during excavation and construction activities:

- ECO Awareness: The Environmental Compliance Officer responsible for overseeing the project should be informed of the geological context of the site and the extremely low likelihood of encountering palaeontological material.
- Construction Manager Awareness: Construction managers and supervisory personnel should be made aware of the procedures to follow in the unlikely event that fossil material is encountered.
- Exposure Inspection: Any new geological exposures created during excavation for foundations, cable trenches, substations, or access roads should be visually inspected as part of routine environmental monitoring.
- Qualified Palaeontologist Notification: In the unlikely event that fossil material is discovered, work in the immediate vicinity must cease and a qualified palaeontologist or the relevant heritage authority must be contacted for further guidance.
- Recording and Sampling: Any palaeontological material identified as scientifically significant must be recorded and sampled by a qualified specialist. The costs associated with this activity shall be borne by the developer as part of responsible heritage management.

**REFERENCES**

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## Appendix 1: Fossil Chance Finds Procedure

PROCEDURE: CHANCE FINDS OF PALAEONTOLOGICAL MATERIAL

Introduction

This document is aimed to inform workmen and foremen working on a construction and/or mining site. It describes the procedure to follow in instances of accidental discovery of palaeontological material (please see attached poster with descriptions of palaeontological material) during construction/mining activities. This protocol does not apply to resources already identified under an assessment undertaken under s. 38 of the National Heritage Resources Act (no 25 of 1999).
Fossils are rare and irreplaceable. Fossils tell us about the environmental conditions that existed in a specific geographical area millions of years ago. As heritage resources that inform us of the history of a place, fossils are public property that the State is required to manage and conserve on behalf of all the citizens of South Africa. Fossils are therefore protected by the National Heritage Resources Act and are the property of the State. A qualified person should be responsible for the recovery of fossils noticed during construction to ensure that all relevant contextual information is recorded.
Heritage Authorities often rely on workmen and foremen to report finds, and thereby contribute to our knowledge of South Africa's past and contribute to its conservation for future generations.

Training

Workmen and foremen need to be trained in the procedure to follow in instances of accidental discovery of fossil material, in a similar way to the Health and Safety protocol. A brief introduction to the process to follow in the event of possible accidental discovery of fossils should be conducted by the designated Environmental Control Officer (ECO) for the project, or the foreman or site agent in the absence of the ECO. It is recommended that copies of the attached poster and procedure are printed out and displayed at the site office so that workmen may familiarise themselves with them and are thereby prepared if accidental discovery of fossil material takes place.

Actions to be taken

One person in the staff must be identified and appointed as responsible for the implementation of the attached protocol in instances of accidental fossil discovery and must report to the ECO or site agent. If the ECO or site agent is not present on site, then the responsible person on site should follow the protocol correctly to not jeopardize the conservation and well-being of the fossil material.
Once a workman notices possible fossil material, he/she should report this to the ECO or site agent.

Procedure to follow if it is likely that the material identified is a fossil:

1. The ECO or site agent must ensure that all work ceases immediately in the vicinity of the area where the fossil or fossils have been found;
2. The ECO or site agent must inform HWC of the find immediately. This information must include photographs of the findings and GPS co-ordinates;
3. The ECO or site agent must compile a Preliminary Report and fill in the *Fossil Discoveries: HWC Preliminary Record Form* within 24 hours without removing the

fossil from its original position. The Preliminary Report records basic information about the find including:

- The date
- A description of the discovery
- A description of the fossil and its context (e.g. position and depth of find) Where and how the find has been stored
- Photographs to accompany the preliminary report (the more the better):
  - A scale must be used
  - Photos of location from several angles Photos of vertical section should be provided
  - Digital images of hole showing vertical section (side);
  - Digital images of fossil or fossils.

4. Upon receipt of this Preliminary Report, HWC will inform the ECO or site agent whether or not a rescue excavation or rescue collection by a palaeontologist is necessary.

5. Exposed finds must be stabilized where they are unstable and the site capped, e.g. with a plastic sheet or sandbags. This protection should allow for the later excavation of the finds with due scientific care and diligence. HWC can advise on the most appropriate method for stabilization.

6. If the find cannot be stabilized, the fossil may be collect with extreme care by the ECO or the site agent and put aside and protected until HWC advises on further action. Finds collected in this way must be safely and securely stored in tissue paper and an appropriate box. Care must be taken to remove the fossil material and any breakage of fossil material must be avoided at all costs.

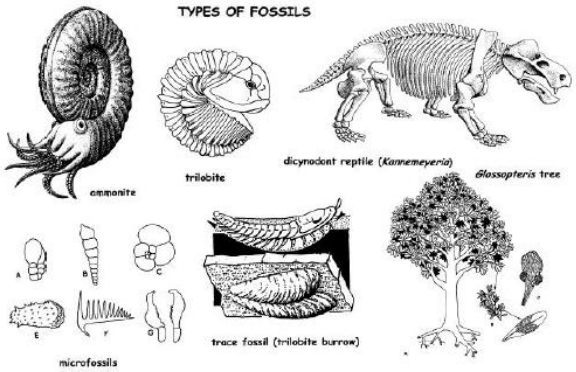
No work may continue in the vicinity of the find until SAHRA has indicated, in writing, that it is appropriate to proceed.

| FOSSIL DISCOVERIES: HWC PRELIMINARY RECORDING FORM | | | |
|---|---|---|---|
| Name of project | Gillimberg Solar PV Facility and Associated Infrastructure - Phase 1 | | |
| Name of fossil location | | | |
| Date of discovery | | | |
| Description of situation in which the fossil was found: | | | |
| Description of context in which the fossil was found: | | | |
| Description and condition of fossil identified: | | | |
| GPS coordinates: | Lat: | Long: | |
| If no co-ordinates available then please describe the location: | | | |
| Time of discovery: | | | |
| Depth of find in hole: | | | |
| Photographs (tick as appropriate and indicate number of the photograph) | Digital image of vertical section (side) | | |
| | Fossil from different angles | | |
| | Wider context of the find | | |
| Temporary storage (where it is located and how it is conserved) | | | |
| Person identifying the fossil | Name:<br>Contact: | | |
| Recorder: | Name:<br>Contact: | | |
| Photographer | Name:<br>Contact: | | |

**Palaeontology: what is a fossil?**

Fossils are the traces of ancient life (animal, plant or microbial) preserved within rocks and come in two forms:

- Body fossils preserve parts, casts or impressions of the original tissues of an organism (e.g. bones, teeth, wood, pollen grains); and
- Trace fossils such as trackways and burrows record ancient animal behaviour.



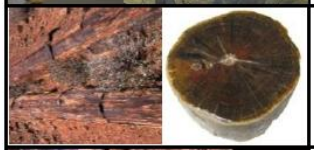

**How to report chance fossil finds: What should I do if I find a fossil during construction/mining?**

If you think you have identified a fossil:

**Types of palaeontological finding - What does a fossil look like?**

Fossils vary in size, from fossilised tree trunks and dinosaur bones down to very small animals or plants. Finds can be **individual fossils** (one isolated wood log or bone) or **clusters and beds** (several bones, teeth, animal or plant remains, trace fossils in close proximity or bones resembling part of a skeleton). A bed of fossils is a layer with many fossil remains.

Below there is a list of few examples of fossils which may be identified during excavations in the Western Cape.

| Image | Description | Image | Description |
|---|---|---|---|
|  | Leaves |  | Snail shells and other shells |
|  | Fossil wood |  | Bones of larger animals |
|  | The remains of fish and marine life (e.g. teeth, scales, starfish) |  | Large burrows made by moles and other animals |