

**PALAEONTOLOGICAL IMPACT ASSESSMENT OF THE PROPOSED ESKOM 132KV POWERLINE FROM  
MELKSPRUIT SUBSTATION IN ALIWAL NORTH WITHIN WALTER SISULU LOCAL MUNICIPALITY IN  
EASTERN CAPE PROVINCE TO ROUXVILLE SUBSTATION WITHIN MOHOKARE LOCAL MUNICIPALITY  
IN THE FREE STATE PROVINCE**

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## EXECUTIVE SUMMARY

Eskom Distribution Free State Operating Unit proposes the construction of a 132kV power line between the Melkspruit substation and the Rouxville substation to replace the existing 66kV line between these two substations. According to the National Heritage Resources Act (Act No 25 of 1999, section 38), a palaeontological impact assessment is required to detect the presence of fossil material within the proposed development footprint and to assess the impact of the construction and operation of the development site on the palaeontological resources.

The proposed development footprint (both alternative routes) is underlain by the Middle Triassic Katberg and Burgersdorp Formation (*Lystronotus* and *Cynognathus* Assemblage Zone), Tarkastad Subgroup, Beaufort Group, Karoo Supergroup), Karoo dolerite as well as Late Cenozoic superficial deposits.

The Katberg and Burgersdorp Formations is well known for their abundance of fossils. Karoo dolerite consists of igneous rocks and has **no significance** in terms of local palaeontological heritage. In the past the Quaternary superficial deposits have been relatively neglected in palaeontological terms but they may sometimes contain important fossil biotas. These fossil assemblages on the Quaternary are typically sparse, low in diversity, and occur over a wide geographic area. After the consideration of the power line alternatives it is considered that all the proposed power line routes are acceptable and appropriate from a palaeontological perspective and can all be considered as feasible options. A **medium palaeontological sensitivity** is allocated to the development footprint. Regardless of the sparse and sporadic occurrence of fossils in this biozone a single fossil can have a huge scientific importance as many fossil taxa are known from a single fossil.

It is therefore recommended that no further palaeontological heritage studies, ground truthing and/or specialist mitigation are required for the commencement of this development, **pending the discovery** or exposure of any fossil remains during the **construction phase**. Should fossil remains be discovered during any phase of construction, either on the surface or exposed by fresh excavations, the ECO responsible for these developments should be alerted immediately. Such discoveries ought to be protected (preferably *in situ*) and the ECO should alert SAHRA so that appropriate mitigation (*e.g.* recording, sampling or collection) can be taken by a professional paleontologist.

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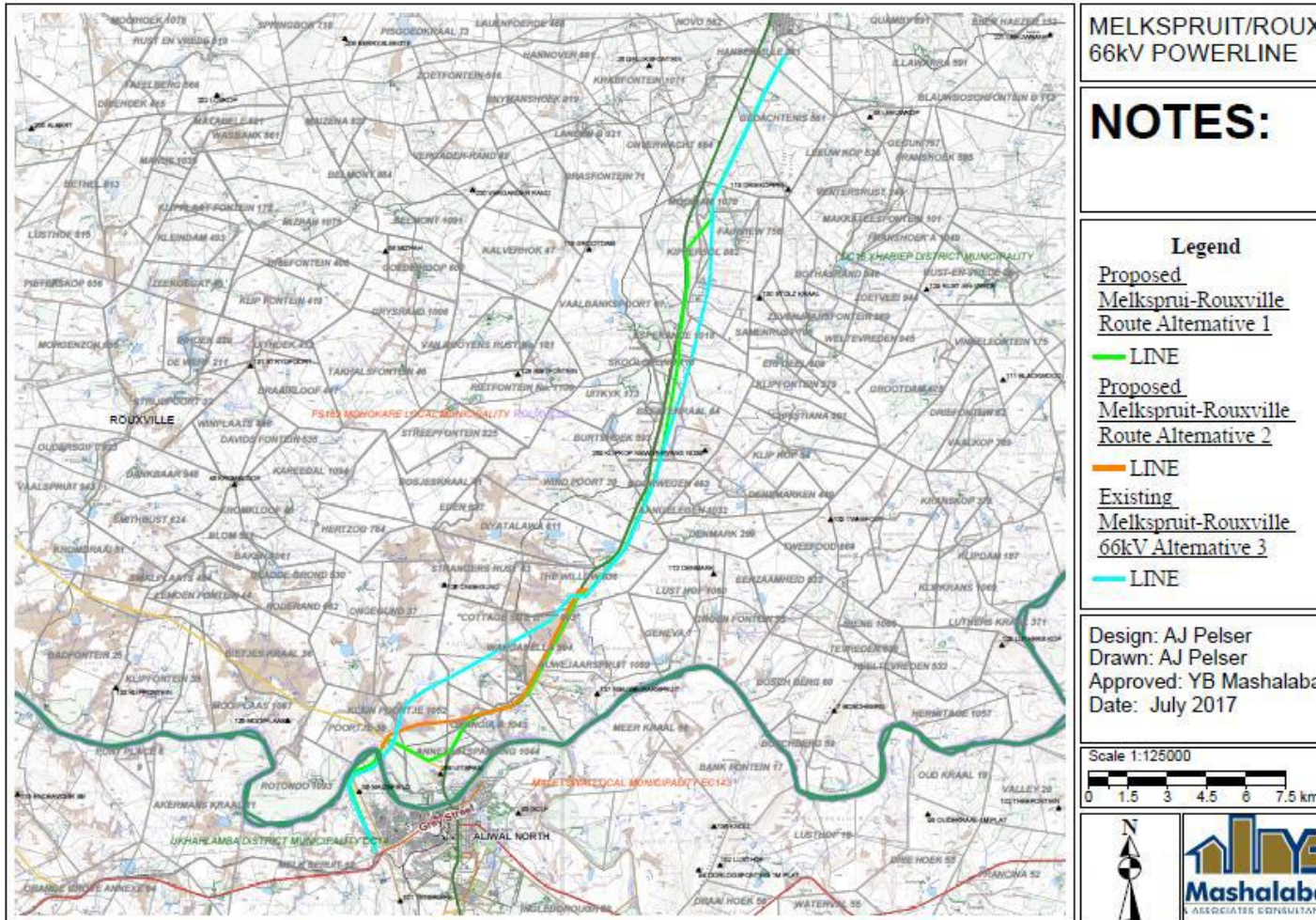
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## **1 INTRODUCTION**

Eskom Distribution Free State Operating Unit proposes the construction of a 132kV power line from Melkspruit Substation in Aliwal North within Walter Sisulu Local Municipality in Eastern Cape Province to Rouxville Substation within Mohokare Local Municipality in the Free State Province. Eskom appointed NSVT Consultants as the independent Environmental Assessment Practitioner for the undertaking of the Basic Environmental Impact Assessment process.

The proposed power line includes two alternatives, namely alternative 1 and 2 (Fig. 1). The existing 66 kV power line will be decommissioned after the new 132 kV line (approximately 35 km) is operational. The assessment includes a 1km corridor for alternative 1 and 2 respectively.

The excavations will involve substantial excavations into the superficial sediment cover as well as locally into the underlying bedrock. These excavations will modify the existing topography and may disturb damage or destroy scientific valuable fossil heritage exposed at the surface or buried below ground. Palaeontological material is unique and non-renewable and is protected by the National Heritage Resources Act. A Palaeontological Impact Assessment of the proposed development is therefore necessary to certify that palaeontological material is either removed, or is not present.



**Figure 1.** The location of the proposed 132 kV powerline from Melkspruit Substation in Aliwal North within Walter Sisulu Local Municipality in Eastern Cape Province to Rouxville Substation within Mohokare Local Municipality in the Free State Province. (Map provided by Mashalaba & Associates).

## **2 LEGISLATION**

Cultural Heritage in South Africa is governed by the National Heritage Resources Act (Act 25 of 1999). This Palaeontological Environmental scoping assessment forms part of the Heritage Impact Assessment (HIA) and complies with the requirements of the above mentioned Act. In accordance with Section 38, an HIA is required to assess any potential impacts to palaeontological heritage within the site.

### **SECTION 35 OF THE NATIONAL HERITAGE RESOURCES ACT 25 OF 1999**

- The protection of archaeological and palaeontological sites and material and meteorites is the responsibility of a provincial heritage resources authority.
- All archaeological objects, palaeontological material and meteorites are the property of the State.
- Any person who discovers archaeological or palaeontological objects or material or a meteorite in the course of development or agricultural activity must immediately report the find to the responsible heritage resources authority, or to the nearest local authority offices or museum, which must immediately notify such heritage resources authority.
- No person may, without a permit issued by the responsible heritage resources authority—
  - Destroy, damage, excavate, alter, deface or otherwise disturb any archaeological or palaeontological site or any meteorite;
  - Destroy, damage, excavate, remove from its original position, collect or own any archaeological or palaeontological material or object or any meteorite;
  - Trade in, sell for private gain, export or attempt to export from the Republic any category of archaeological or palaeontological material or object, or any meteorite; or
  - Bring onto or use at an archaeological or palaeontological site any excavation equipment or any equipment which assist in the detection or recovery of metals or archaeological and palaeontological material or objects, or use such equipment for the recovery of meteorites.
- When the responsible heritage resources authority has reasonable cause to believe that any activity or development which will destroy, damage or alter any archaeological or palaeontological site is under way, and where no application for a permit has been submitted and no heritage resources management procedure in terms of section 38 has been followed, it may—

- Serve on the owner or occupier of the site or on the person undertaking such development an order for the development to cease immediately for such period as is specified in the order; and/or
- Carry out an investigation for the purpose of obtaining information on whether or not an archaeological or palaeontological site exists and whether mitigation is necessary.

### **3 Objective**

According to the South African Heritage Resources Agency (SAHRA) Archaeology, Palaeontology and Meteorites (APM) Guidelines: Minimum Standards for the Archaeological and Palaeontological Components of Impact Assessment Reports, the aims of the palaeontological impact assessment are:

- To identify exposed and subsurface rock formations that are considered to be palaeontologically significant;
- To assess the level of palaeontological significance of these formations;
- To comment on the impact of the development on these exposed and/or potential fossil resources; and
- To make recommendations as to how the developer should conserve or mitigate damage to these resources.

The objective is therefore to conduct a Palaeontological Impact Assessment, which forms of part of the Heritage Impact Assessment (HIA) and the EIA Report, to determine the impact of the development on potential palaeontological material at the site.

When a palaeontological desktop/scoping study is conducted, the potentially fossiliferous rocks (i.e. groups, formations, members, etc.) represented within the study area are determined from geological maps. The known fossil heritage within each rock unit is collected from published scientific literature; fossil sensitivity maps; consultations with professional colleagues, previous palaeontological impact studies in the same region and the databases of various institutions may be consulted. This data is then used to assess the palaeontological sensitivity of each rock unit of the study area on a desktop level. The likely impact of the proposed development on local fossil heritage is subsequently established on the basis of the palaeontological sensitivity of the rocks and the nature and scale of the development itself (extent of new bedrock to be excavated).

If rocks of moderate to high palaeontological sensitivity are present within the study area, a Phase 1 field-based assessment by a professional palaeontologist is necessary. Generally, damaging impacts

on palaeontological heritage occur during the construction phase. These excavations will modify the existing topography and may disturb, damage, destroy or permanently seal-in fossils at or below the ground surface that are then no longer available for scientific study.

When specialist palaeontological mitigation is suggested, it may take place prior to construction or, even more successfully, during the construction phase when new, potentially fossiliferous bedrock is still exposed and available for study. Mitigation usually involves the careful sampling, collection and recording of fossils, as well as relevant data concerning the surrounding sedimentary matrix. Excavation of the fossil heritage will require a permit from SAHRA and the material must be housed in a permitted institution. With appropriate mitigation, many developments involving bedrock excavation will have a *positive* impact on our understanding of local palaeontological heritage.



## 4 BACKGROUND TO THE GEOLOGICAL AND PALAEOONTOLOGICAL HISTORY

### 4.1 PALAEOONTOLOGY

The Beaufort Group is subdivided into a series of biostratigraphic units on the basis of its faunal content (Fig. 2). The proposed development area (Fig. 3) is underlain by the Middle Triassic Katberg and Burgersdorp Formations (*Lystrosaurus* and *Cynognathus* AZ, Tarkastad Subgroup, Beaufort Group, Karoo Supergroup). Karoo dolerite and Late Cenozoic superficial sediments are also present in the development area.

The *Lystrosaurus* AZ (Katberg Formation) is named after the dicynodont *Lystrosaurus* which contributes up to 95% of fossils found in this biozone (Botha & Smith 2007). The *Lystrosaurus* AZ is also known for the small captorhinid parareptiles *Procolophon* and a crocodile-like early archosaur, *Proterosuchus*. Armour-plated “labyrinthodont” amphibians (e.g. *Lydekkerina*) are also present in this biozone as well as small true reptile owenettids, therocephalians, and early cynodonts (e.g. *Galesaurus*, *Thrinaxodon*). This biozone is also characterized by vertebrate and invertebrate burrows. Invertebrate burrows are represented by aquatic and land living organisms while tetrapod burrows include various cynodonts, procolophonids and *Lystrosaurus* (Groenewald 1991, Groenewald and Kitching, 1995, Damiani *et al.* 2003, Abdala *et al.* 2006). Vascular plants in this biozone are generally rare but petrified wood (“*Dadoxylon*”) and leaves of glossopterid progymnosperms and arthropyte ferns (*Schizoneura*, *Phyllothea*) are present.

The *Cynognathus* AZ (Burgersdorp Formation) is dominated by amphibians, reptiles and therapsids. The Burgersdorp biotas include rich freshwater vertebrate fauna, fish groups as well as large capitosaurid and trematosuchid amphibians. The reptile fauna includes lizard-like sphenodontids, rhynchosaurs, and primitive archosaurs. Therapsids include *Kannemeyeria* and numerous small to medium-sized carnivorous and herbivorous therocephalians and advanced cynodonts. Tetrapod trackways and burrows are also present.

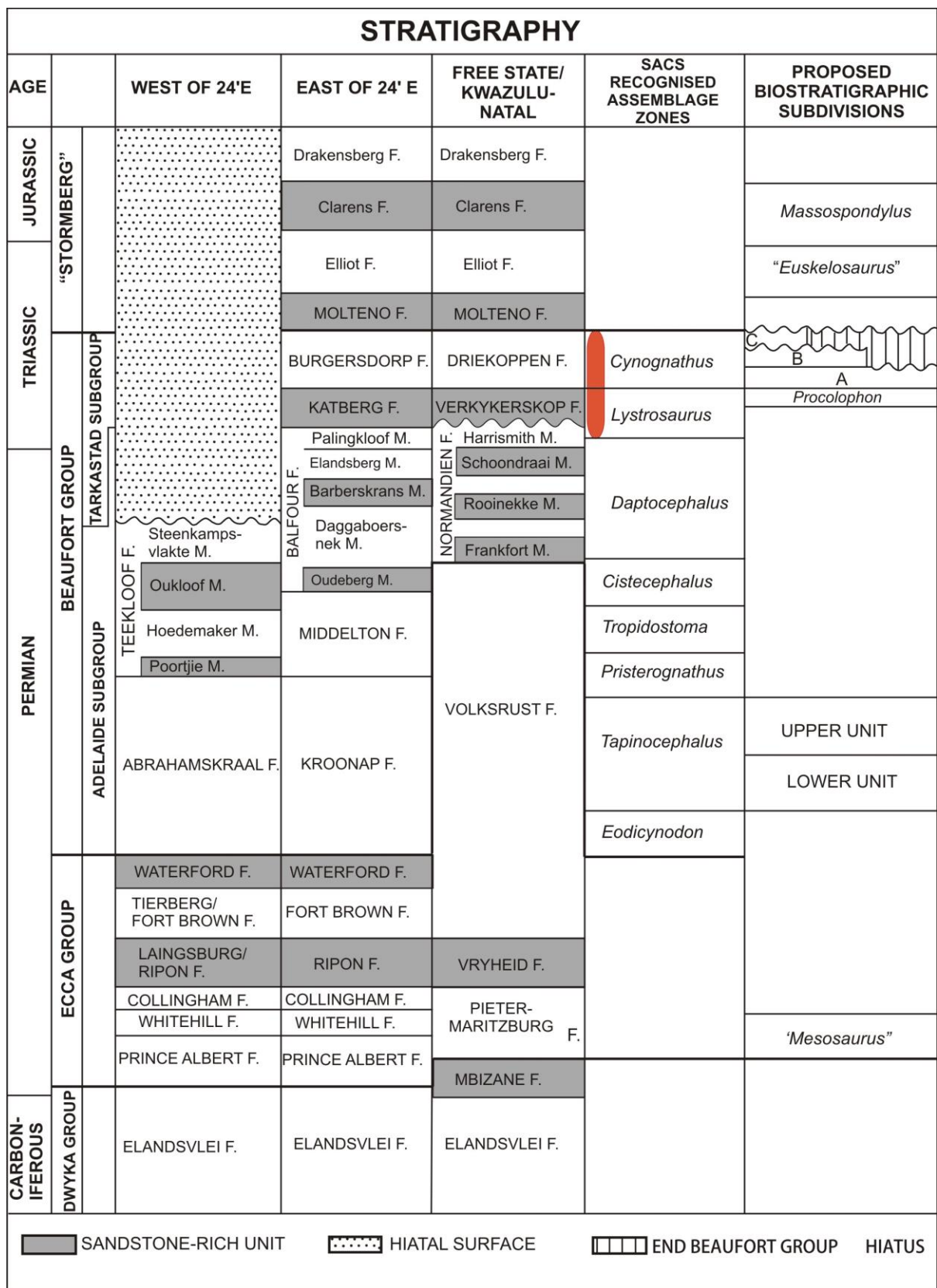
Karoo dolerite consists of igneous rocks and has **no significance** in terms of local palaeontological heritage.

Late Cenozoic sediments consist mostly of superficial deposits (Partridge, 2005). The Quaternary represents a time span of approximately 2.5 million years ago to present (Walker *et al.*, 2009; Gradstein *et al.*, 2012). These alluvium sediments may also contain fossil remains which might include rolled bones, intact or fragmented vertebrate skeletons, vertebrate teeth, invertebrates such

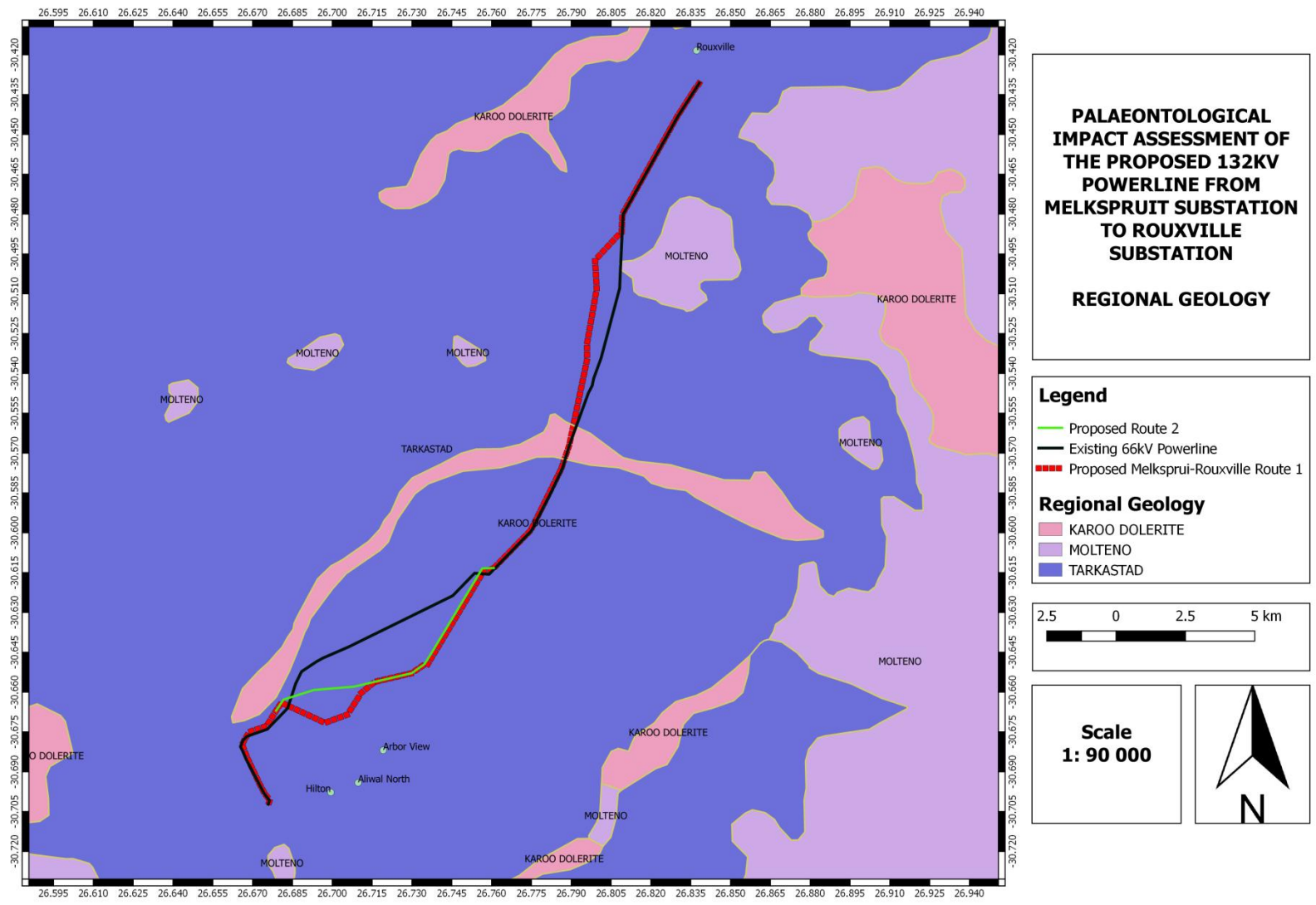
as molluscs and crustaceans, trace fossils of fossilised termite heaps (termitaria) and burrows of both vertebrates and invertebrates. Furthermore, fossilised plant remains such as wood and roots might also be present in these sediments. All the above mentioned fossils however, tend to be low in variety as well as in abundance in these cover soil which obscure the underlying bedrock.

## **4.2 GEOLOGY**

The Early Triassic Tarkastad Subgroup is characterised by an abundance of sandstone and brownish-red mudstone. The Katberg Formation is sandstone-rich, while the Burgersdorp Formation is mudstone-rich. The boundary of this subgroup is the only in the Beaufort Group that can be found with reasonable certainty throughout the Karoo Basin. Sandstones in the Katberg Formation are fine to medium grained. Oval to spherical calcifications is relatively common. The Burgersdorp Formation sandstones are fine grained greenish grey or light brownish grey with horizontal lamination. In both formations intraformational mud-pellet conglomerates are common. Brownish-red colours dominate the mudstones of both formations.



**Figure 2:** Karoo stratigraphy and biostratigraphy (after Smith *et al.*, 2012). Orange line indicates the stratigraphic interval impacted by the proposed development.



**Figure 3.** The surface geology of proposed 132 kV power line from Melkspruit Substation in Aliwal North within Walter Sisulu Local Municipality in Eastern Cape Province to Rouxville Substation within Mohokare Local Municipality in the Free State Province. The development area is underlain by Middle Triassic Katberg and Burgersdorp Formation (Tarkastad Subgroup, Beaufort Group, Karoo Supergroup) Map modified from the 3026 Aliwal North; 1:250 000 Geological Map.

## **5 GEOGRAPHICAL LOCATION OF THE SITE**

The proposed power line is approximately 35 km long and is located between the Free State Province (Rouxville substation) and the Eastern Cape (Melkspruit substation located in Aliwal North).

## **6 METHODS**

The author's experience, aerial photos (using Google Earth, 2017) topographical (3026BD Rouxville and 3026DA Aliwal North) and geological maps (3026 Aliwal North; 1:250 000 Geological Map) and other reports from the same area were used to assess the proposed development footprint. As part of the Palaeontological Impact Assessment, a field-survey of the development footprint was conducted on 27 August 2017, to assess the potential risk to palaeontological material (fossil and trace fossils) in the proposed footprint of the development. A physical field-survey was conducted on foot within the proposed development footprint. No consultations were undertaken for this Impact Assessment.





### **6.1 ASSUMPTIONS AND LIMITATIONS**






The accuracy and reliability of desktop Palaeontological Impact Assessments as components of heritage impact assessments are normally limited by the following restrictions:



- Fossil databases that have not been kept up-to-date or are not computerised. These databases do not always include relevant locality or geological information.
- The accuracy of geological maps where information may be based solely on aerial photographs and small areas of significant geology have been ignored. The sheet explanations for geological maps are inadequate and little to no attention is paid to palaeontological material.
- Impact studies and other reports (*e.g.* of commercial mining companies) - is not readily available for desktop studies.

Large areas of South Africa have not been studied palaeontologically. Fossil data collected from different areas but in similar Assemblage Zones might however provide insight on the possible occurrence of fossils in an unexplored area. Desktop studies therefore usually assume the presence of unexposed fossil heritage within study areas of similar geological formations.

## 7 FIELD OBSERVATIONS

<p>Rouxville substation 30°25'23"S; 26°50'05"E</p>	 A photograph of the Rouxville substation, showing several metal structures and power lines in a field of dry, yellowish grass under a clear blue sky.
<p>Topography of the proposed power line 30°25'15"S; 26°49'50"E</p>	 A photograph showing the topography of the proposed power line, with a power line tower visible in the distance over a flat, open landscape under a clear blue sky.
<p>General topography of the proposed power line</p>	 A photograph showing the general topography of the proposed power line, with a power line tower visible in the distance over a flat, open landscape under a clear blue sky.
<p>Outcrop 30°28'24"S 26°48'23"E</p>	 A photograph showing an outcrop, with a small hill or mound of earth visible in the background, surrounded by dry grass and a clear blue sky.

<p>30°33"24'S 26°47"16'E</p> <p>River located in the corridor</p>	
<p>Topography of the proposed development area</p>	
<p>30°39"56'S 26°40"34'E</p> <p>Topography</p>	
<p>30°42"04'S 26°40"29'E</p> <p>Outcrop</p>	
<p>30°40"33'S 26°40"13'E</p> <p>Thick Quaternary sediments</p>	

<p>30°42'04"S 26°40'29"E</p> <p>Aliwal North Substation</p>	
<p>30°41'60"S 26°40'20"E</p> <p>Example of a loose fossil fragment</p>	

## 8 FINDINGS AND RECOMMENDATIONS

The proposed development site was investigated, and a few isolated loose, poorly preserved fossil fragments were observed. For this reason, a **medium palaeontological sensitivity** is allocated to the development footprint. Regardless of the sparse and sporadic occurrence of fossils in this biozone a single fossil can have a huge scientific importance as many fossil taxa are known from a single fossil. After the consideration of the power line alternatives it is considered that all the proposed power line routes are acceptable and appropriate from a palaeontological perspective and can all be considered as feasible options.

It is thus recommended that **no further palaeontological heritage** studies, ground truthing and/or specialist mitigation are required for the commencement of this development, **pending the discovery** or exposure of any fossil remains during the construction phase.

Should fossil remains be discovered during any phase of construction (see **Protocol for Chance Finds** in this report), either on the surface or exposed by fresh excavations, the ECO responsible for these developments should be alerted. Such discoveries ought to be protected (preferably *in situ*) and the ECO should alert SAHRA (South African Heritage Research Agency) so that appropriate mitigation (*e.g.* recording, sampling or collection) can be taken by a professional paleontologist.



The specialist involved would require a collection permit from SAHRA. Fossil material must be curated in an approved collection (*e.g.* museum or university collection) and all fieldwork and reports should meet the minimum standards for palaeontological impact studies developed by SAHRA.

## 9 PROTOCOL FOR FINDS

Determine the geology of the development area

- The Environment Control Officer (ECO) (Environmental Manager) in collaboration with the project geologist must determine the geological background of areas where development will expose bedrock.
- The SAHRIS Fossil Heritage Layer (available from the SAHRA web page) needs to be consulted to determine whether the geology is considered sensitive. If the geology is found to be insignificant development may proceed without hindrance. When the SAHRIS Fossil Heritage indicates a low significance or higher a palaeontologist with the necessary expertise must be identified.

### Palaeontological field assessment

- The ECO must obtain the services of a qualified palaeontologist.
- The palaeontologist will conduct a field assessment to identify and assess any possible fossils that may occur in the rocks. **Generally, damaging impacts on palaeontological heritage occur during the construction phase.** These excavations will modify the existing topography and may disturb, damage, destroy or permanently seal-in fossils at or below the ground surface that are then no longer available for scientific study.
- If fossils are found on the development site the palaeontologist involved would require a collection permit from SAHRA.
- Mitigation may take place prior to construction or, even more successfully, during the construction phase when new, potentially fossiliferous bedrock is still exposed and available for study. Mitigation entails careful sampling, collection and recording of fossils, as well as relevant data concerning the surrounding sedimentary matrix.
- Fossil material must be curated in an approved collection (*e.g.* museum or university collection) and all fieldwork and reports should meet the minimum standards for palaeontological impact studies developed by SAHRA.

## **10 CHANCE FIND PROCEDURE**

Should any palaeontological remains as defined and protected by the NHRA 1999, be identified during the construction phase of development (including as a standard during vegetation clearing, surface scraping, trenching and excavation phases), the following process is recommended:

- If a chance find is made the person responsible for the find must immediately stop all work near the find.
- The site must be secured to protect it from any further damage. No attempt should be made to remove material from their environment.
- The person who made the find must immediately report the find to his/her direct supervisor, according to reporting protocols instituted by the developer. The supervisor must report the find to his/her manager and the ECO. The ECO must report the find to the relevant Authorities and a relevant palaeontologist.
- The ECO must make sure that a relevant palaeontologist is engaged to investigate the chance find and site and assess its context, age and possibility of the find representing a more extensive site.
- Both ECO and palaeontological specialist must ensure that accurate records and documentation are kept. (Documentation must start with the initial find report, and include records of all actions taken, persons involved and contacted, comments received and findings).
- Documentation and records will be essential to request authorizations and permits from the relevant Authorities to continue work on site.
- The palaeontologist will submit a report, which will include all records kept by the ECO to SAHRA.
- The report will include recommendations for additional specialist work that may be necessary, or request approval to continue with the development.
- Once the necessary approvals have been issued, the developer may carry on with the development.
- The ECO will be in charge to close off the chance find procedure and could require implementing or integrating any requirements issued by any Authority into operational management plans.

## 11 IMPACT RATING MATRIX

### **NATURE:**

The character of the impact

Although minimal, the excavations and ground disturbance during the construction phase will involve excavations into the superficial sediment cover as well as locally into the underlying bedrock. These excavations will modify the existing topography and may disturb, damage, destroy or permanently seal-in fossils at or below the ground surface that are then no longer available for scientific research. All the Alternatives is considered as feasible and the likelihood of fossil heritage to occur is considered to be of medium significance.

This impact is likely to occur only within the construction phase. No impacts are expected to occur during the operation phase

<b>EXTENT</b>	<b>DURATION</b>	<b>PROBABILITY</b>	<b>MAGNITUDE</b>
Area	Time Frame	Likelihood	Intensity of impact to destroy or alter the environment.

### **SIGNIFICANCE:**

Implication of the impact both with or without mitigation

### **TYPE:**

Description as to whether the impact is negative or positive or neutral.

### **MITIGATION:**

Possible impact management, minimization and mitigation of the identified impacts.

Mitigation is the protection of identified fossils uncovered during the construction phase. Should fossil material exist within the development footprint any negative impact upon it could be mitigated by surveying, recording, describing and sampling of well-preserved fossils by a professional palaeontologist. This should take place after initial vegetation clearance has taken place.

### **NO GO OPTION:**

Evaluation of the no-go-option

No-Go areas were not identified

## 1.0

### 1.1.1 Nature of Impact

Nature of impact describes the character of the impact in terms of the effect on the relevant environmental aspect.

### 1.1.2 Spatial Extent of Impact

Measures the area extent, physical and spatial scale over which the impact will occur. This implies the scale limited to the Project Site (footprint) - including adjacent areas (localized), or the Local Municipality area (regional) or the entire Province (Provincial), or the entire country (National) or beyond the borders of South Africa.

Criteria	Footprint (F)	Site/Local (S-L)	Regional (R)	National (N)	International (I)
Rating	1	2	3	4	5

### 1.1.3 Duration of Impact

Duration measures the timeframe of the impact in relation to the lifetime of the Project activities under application. It gives an assessment of whether the impact will disappear with mitigation immediately (0-1) after a short time (1-5 years), medium term (5-10 years), long term (11- 30 years of the Project activities), or permanent (persists beyond life) due to the Project activities.

Criteria	Temporary (T)	Short Term (ST)	Medium Term (MT)	Long Term (LT)	Permanent (P)
Rating	1	2	3	4	5

### 1.1.4 Probability of Impact

Probability measures the probability or likelihood of the impact actually occurring, as either probable, possible, likely, highly likely or definite (impact will occur regardless of preventative measures).

Criteria	Probable (PR) (0-10%)	Possible (PO) (10-25%)	Likely (L) (25-50%)	Highly Likely (HL) (50-75%)	Definite (D) (100%)
Rating	1	2	3	4	5

### 1.1.5 Magnitude/Intensity of Impact

Magnitude or intensity of the impact measures whether the impact is destructive or benign, whether it destroys, alters the functioning of the environment, or alters the environment itself. It is rated as insignificant, low, medium, high or very high.

Criteria	Insignificant (I)	Low (L)	Medium (M)	High (H)	Very High (VH)
Rating	2	4	6	8	10

### 1.1.6 Significance of Impact

Significance measures the foreseeable significance of the impacts of the Project both with and without mitigation measures. The significance on the aspects of the environment is classified as:

<b>Significance Rating (SR) =</b>	(Extent + Intensity + Duration) x Probability
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$$(1+6+5)3=36$$

Extent		Duration		Intensity		Probability		Significance Rating	
Footprint	1	Temporary	1	Insignificant	2	Probable	1	Insignificant	0-19
Site	2	Short	2	Low	4	Possible	2	Low	20-39
Regional	3	Medium	3	Medium	6	Likely	3	Medium	40-59
National	4	Long	4	High	8	Highly Likely	4	High	60-89
International	5	Permanent	5	Very High	10	Definite	5	Very High	90 <

The following is a guide to interpreting the final scores of impact:

**INSIGNIFICANT:** the impact should cause no real damage to the environment, except where it has the opportunity to contribute to cumulative impacts.

**LOW:** the impact will be noticeable but should be localised or occur over a limited time period and not cause permanent or unacceptable changes; it should be addressed in the environmental management plan (EMP) and managed appropriately.

MEDIUM: the impact is significant and will affect the integrity of the environment; effort must be made to mitigate and reverse this impact; in addition the project benefits must be shown to outweigh the impact.

HIGH: the impact will affect the environment to such an extent that permanent damage is likely and recovery will be slow and difficult; the impact is unacceptable without real mitigation or reversal plans; project benefits must be proven to be very substantial; the approval of the project will be in jeopardy if this impact cannot be addressed.

VERY HIGH the impact will result in large, permanent and severe impacts, such as local species extinction, minor human migrations or local economic collapses; even projects with major benefits may not go ahead with this level of impact; project alternatives which are substantially different should be looked at, otherwise the project should not be approved.

#### 1.1.7 Status of Impact

Status of impact describes whether the impact is positive (beneficial) on the affected environment (social) or negative (detrimental) or neutral.

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### **13 QUALIFICATIONS AND EXPERIENCE OF THE AUTHOR**

Elize Butler holds an MSc (Zoology) Cum Laude from the University of the Free State and has been working in Palaeontology for more than twenty years. She has extensive experience in locating, collecting and curating fossils, including exploration field trips in search of new localities in the Karoo Basin. She has been a member of the Palaeontological Society of South Africa since 2006 and has been conducting Palaeontological Impact Assessments since 2014.

### **14 DECLARATION OF INDEPENDENCE**

I, Elize Butler, declare that –

General declaration:

- I act as the independent palaeontological specialist in this application
- I will perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the applicant
- I declare that there are no circumstances that may compromise my objectivity in performing such work;
- I have expertise in conducting palaeontological impact assessments, including knowledge of the Act, Regulations and any guidelines that have relevance to the proposed activity;



- I will comply with the Act, Regulations and all other applicable legislation;
- I will take into account, to the extent possible, the matters listed in section 38 of the NHRA when preparing the application and any report relating to the application;
- I have no, and will not engage in, conflicting interests in the undertaking of the activity;
- I undertake to disclose to the applicant and the competent authority all material information in my possession that reasonably has or may have the potential of influencing - any decision to be taken with respect to the application by the competent authority; and - the objectivity of any report, plan or document to be prepared by myself for submission to the competent authority;
- I will ensure that information containing all relevant facts in respect of the application is distributed or made available to interested and affected parties and the public and that participation by interested and affected parties is facilitated in such a manner that all interested and affected parties will be provided with a reasonable opportunity to participate and to provide comments on documents that are produced to support the application;
- I will provide the competent authority with access to all information at my disposal regarding the application, whether such information is favourable to the applicant or not
- All the particulars furnished by me in this form are true and correct;
- I will perform all other obligations as expected a palaeontological specialist in terms of the Act and the constitutions of my affiliated professional bodies; and
- I realise that a false declaration is an offence in terms of regulation 71 of the Regulations and is punishable in terms of section 24F of the NEMA.

Disclosure of Vested Interest

- I do not have and will not have any vested interest (either business, financial, personal or other) in the proposed activity proceeding other than remuneration for work performed in terms of the Regulations;

**PALAEONTOLOGICAL CONSULTANT:**

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**SIGNATURE:**

