Plant and Animal Species Compliance Statement

Bothaville Consolidated Prospecting, Free State province

Prepared for:

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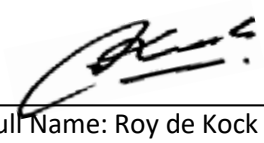
1. Declaration of independence

I, Roy de Kock as duly authorized representative of BlueLeaf Environmental (Pty) Ltd, hereby confirm my independence (as well as that of BlueLeaf) as a specialist and declare that neither I nor BlueLeaf have any interest, be it business, financial, personal or other, in any proposed activity, application or appeal in respect of which BlueLeaf was appointed as environmental specialist in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998), other than fair remuneration for worked performed, specifically in connection with the Specialist Assessment for the proposed Bothaville Consolidated prospecting project in the Free State. I further declarethat I am confident in the results of the studies undertaken and conclusions drawn because of it – as is described in this report.



Full Name: Roy de Kock

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Roy has over 17 years' experience in environmental consulting and specialist services in the EasternCape. Various projects throughout South Africa as well as Africa at larges has also been undertaken.Projects include baseline studies, impact assessments and compliance auditing for various large- scale projects including numerous wind farms, roads (National and Provincial), and infrastructure development projects. Roy has also conducted numerous specialist studies including but not limitedto Ecological and Botanical assessments, Biodiversity studies, Plant and Animal Search and Rescue,Fauna and Flora permits, Aquatic Assessments, Agricultural and Soil Assessments and Environmental and Venomous animals training workshops.

Roy holds a BSc Honours in Geology and an MSc in Botany from the Nelson Mandela University in Port Elizabeth. He is currently busy with his PhD (Doctorate degree) in Botany and Soil Science. He has over 14 years' experience in environmental consulting focusing on Ecological and Agricultural Assessments, Geological and Geotechnical analysis, Environmental Management Plans,mining applications and various environmental impact studies.

Roy is registered as a professional natural scientist (Pr.Sci.Nat.) with SACNASP (Registration nr: 400216/16).

2. Introduction

BlueLeaf Environmental (Pty) Ltd (BlueLeaf) has been appointed by Enviroworks Consulting on behalf of Reef Exploration (Pty) Ltd, to undertake a plant and animal species assessment as part of the Environmental Impact Assessment (EIA) process conducted by Enviroworks.

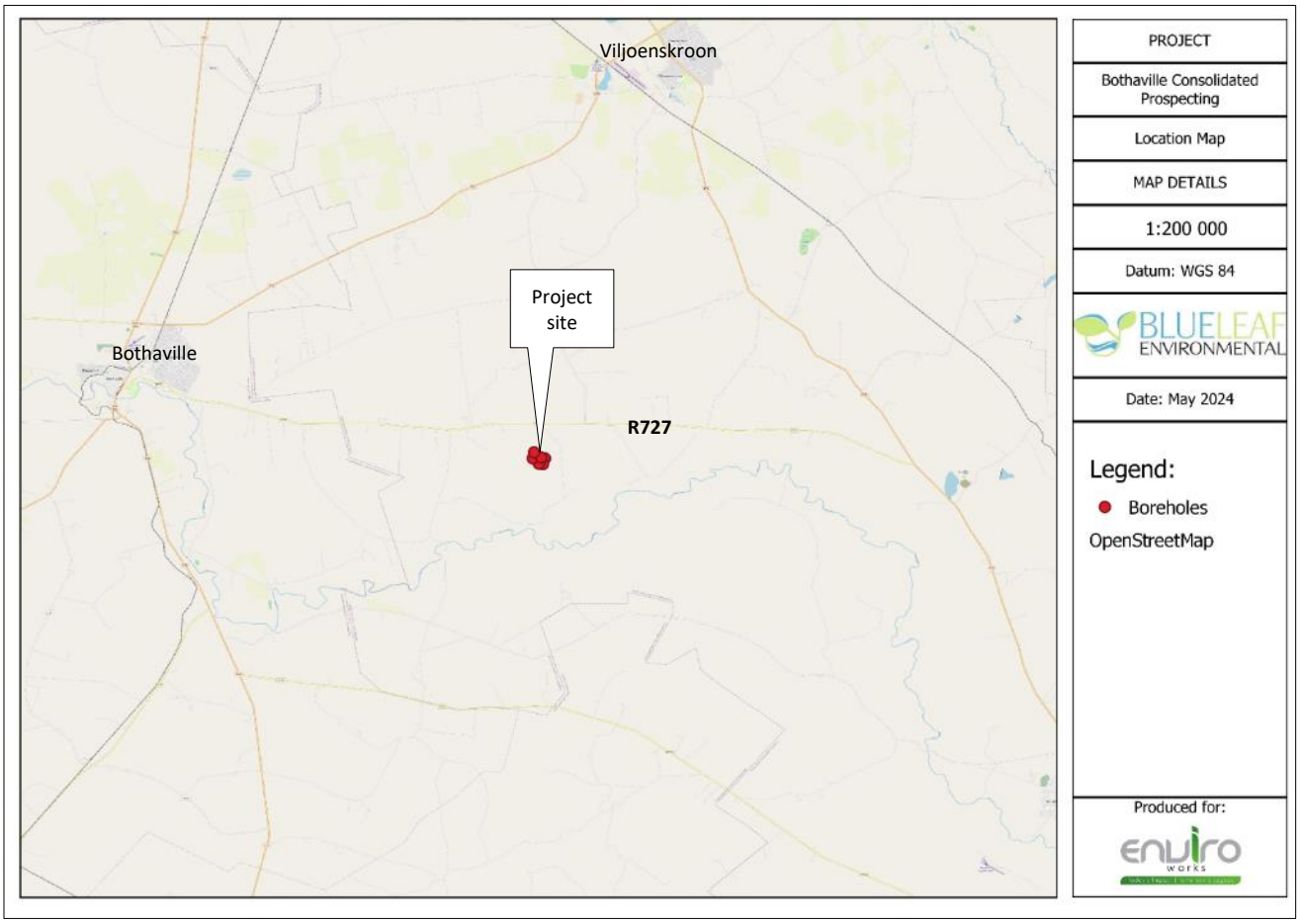

Figure 2.1 Location of the Project site near Bothaville within the Free State Province

According to the DFFE (Department of Forestry, Fisheries and the Environment) protocols, a site sensitivity verification must be undertaken to confirm the sensitivity of the site as indicated by the screening tool. BlueLeaf Environmental (Pty) Ltd was appointed to conduct the Site Verification and Plant and Animal Species Compliance Statement for the proposed new project.

2.1 Methodology

This report has been drafted in accordance with the following Procedures for the Assessment and Minimum Criteria for Reporting on Identified Environmental Themes in Terms of Sections 24(5)(a) and (h) and44 of NEMA (G.NR. 1150 of 2020):

- Protocol for the specialist assessment and minimum report content requirements for environmental impacts on **plant species**.
- Protocol for the specialist assessment and minimum report content requirements for environmental impacts on **animal species.**

The report further complies to the guidelines for the implementation of the Terrestrial Fauna and Terrestrial Flora Species Protocols for environmental impact assessments in South Africa (SANBI,2020).

A site sensitivity verification has been conducted (see Chapter 6) to confirm/dispute the current use of the land and environmental sensitivity as identified by the Screening Tool. Motivation, with photographic evidence, was provided as part of the site sensitivity verification.

Current literature that was used to describe the site includes:

- SANBI (South African National Biodiversity Institute) Red List of South African Plants (http://www.redlist.sanbi.org/).
- SANBI (South African National Biodiversity Institute) Red List of South African Animals (http://www.redlist.sanbi.org/).
- iNaturalist (thhps://www.inaturalist.org).
- SANBI National Vegetation Map (updated 2021).
- Botanical Database of Southern Africa (NEWPOSA) (http://newposa.sanbi.org/)
- NEMBA Threatened or Protected Species Regulations (ToPS) (Notice 255 of 2015 of NEMBA).
- FS NCO (Free State Nature and Conservation Ordinance (No. 8 of 1969), Schedule 6 - Protected plants.
- FS NCO (Free State Nature and Conservation Ordinance (No. 8 of 1969), Schedule 1 - Protected plants.
- CITES (Convention on International Trade in Endangered Species of Wild Flora and Fauna) (http://www.cites.org/).
- Notice of the List of Protected Tree Species under the National Forests Act, 1998 (Act No. 84 of 1998).
- Global Biodiversity Information Facility (GBIF) (https://gbif.org).
- Atlas of African Orchids (OrchidMAP)(https://vmus.adu.org.za/).
- Project DFFE Screening Report.

Utilizing these databases ensured that any recent and new observations of plant and animal Species of Conservation Concern (SCC) within the proposed development footprint not already captured by the screening tool can be considered during the impact analysis.

Secondly, it is important to provide a list of any additional potentially occurring SCC taxa within the defined flora-specific site area that are not already indicated by the screening tool report to occur within the proposed development footprint.

During the site inspection, photographs of the footprint and surroundings were taken for record purposes. A visual observation was made of the footprint and surrounding area, taking note of the land use, land cover and specifically the vegetation cover of the development footprint, and any evidence of the plant SCC. The site sensitivity, as identified by the DFFE Screening Tool, was then confirmed, or disputed using the above information.

2.2 Assumptions and limitations

1. This compliance statement is based on currently available information and, as a result, limited by the information provided by the Client. Information received included:
    a. DFFE Screening Tool Report.
    b. Project information, usually in the form of the Background Information Document (BID).
    c. All relevant and most recent technical drawings showing completed layouts and technologies proposed.
2. This compliance statement is limited by seasonality as the presented data will be based on a single site survey conducted within a single season of a single year.

3. Project description

The site is situated 30 kms east of Bothaville in the Free-State, just south of the R727 and will be located on various farm portions belonging to two separate landowners (Figure 3.1). Farming consists of a mix of maize crop farming and cattle grazing.

Figure 3.1: Layout of the six proposed prospecting borehole sites

The project involves invasive prospecting that will take the form of diamond drilling. This information will then be integrated into the geological model to further define the orebodies, which when combined with the assay information will be utilized to define a resource. The minerals to be prospected for includes Gold Ore, Silver Ore, Coal, Diamond (Alluvial), Platinum Group Metals, Rare Earths, Sulphur and Uranium Ore.

Based on the initial geological model established, a diamond drilling programme, comprising of six boreholes will be undertaken. The drilling of the six boreholes will be to a depth of 700m. The extent of the area required for prospecting is 18 627, 1944 hectares (ha).

Drilling with be conducted in a competent and environmentally responsible manner including rehabilitation of the drill sites to their original site. Plastic lining will be placed underneath the rig motors to prevent oil seepage. It is noted that no drilling fluids other than water for dust suppression will be utilized in the case of diamond drilling. Environmental rehabilitation measures will be included in the contract with the drilling company and environmental rehabilitation costs will be included in the drilling costs.

The drilling process will be managed in a competent manner and will involve the following actions:

- Call for drill tenders.
- Review the registration, incorporation, employment equity and BEE of the drilling company.

- Confirm the good financial standing of the drilling company.
- Establishment of confidentiality agreements and management of conflicts of interest that the drilling company may have.
- Review the drilling company's approach to Mines, Health and Safety issues.
- Compile a preliminary analysis report.
- Select drilling company.
- Award of the drilling contract.
- Obtain permission to access the property.
- Submit information of planned drilling to Mines, Health and Safety at DMR.
- Forward special instructions to the drilling company regarding power, water, environmental, safety and security.
- Preliminary analysis report on notifications e.g. Eskom, Telkom, etc.
- Finalise the initial borehole positions.
- Plan access roads, crew accommodation and site security.
- Environmental assessment of drill sites.
- Preparation of drilling sites.
- Establish water source for drilling.
- Plan health and safety issues and establish a safe working code specific to the area.
- Perform the necessary risk assessments and Planned Task Observations (PTO).
- Monitor and control the drilling process.
- Ensure secure core storage and sampling facilities.
- Set QA/QC sampling procedures in place and insert proper reference material as samples.
- Undertake site rehabilitation.
- Take pictures before and after rehabilitation.
- Compile preliminary analysis report on the start date of the drilling program.
- Plan additional infill borehole sites.

A strict QA/QC program will be conducted by the internal Qualified Person (QP)/Exploration Manager:

- Quality of drilling program.
- Survey of borehole collars utilizing a GPS.
- Sample management (weighing, splitting, transport).
- Logging and mineralization/reef identification.
- Sampling procedures.
- Chain of custody of transport of samples to laboratory.
- Laboratories utilized.
- Quality control of standards, blanks and duplicates to ensure accurate assay methods and grades from laboratory.
- Applicable assay method utilized for style of mineralization.
- QA/QC on lab results including check assaying at an umpire laboratory.
- Database management.
- External audits by Qualified Persons.

4. Desktop analysis

This section consists of a desktop analysis of the site based on available literature, plans, and legislation.

4.1 Screening report

According to the protocols specified in GN 1540 (Procedures for the Assessment and Minimum Criteria for Reporting on Identified Environmental Themes in Terms of Sections 24(5)(A) and (H) and 44 of the National Environmental Management Act, 1998, when Applying for Environmental Authorization), assessment and reporting requirements are associated with a level of environmental sensitivity identified by the national web-based environmental screening tool (screening tool).

All desktop information gathered was confirmed through a site verification (See chapter 6 below for details on the site verification).

Plant species:

The screening tool classified the proposed prospecting site and surroundings as being of **Low Plant Species** sensitivity since no sensitive animal species were identified which may occur on site.

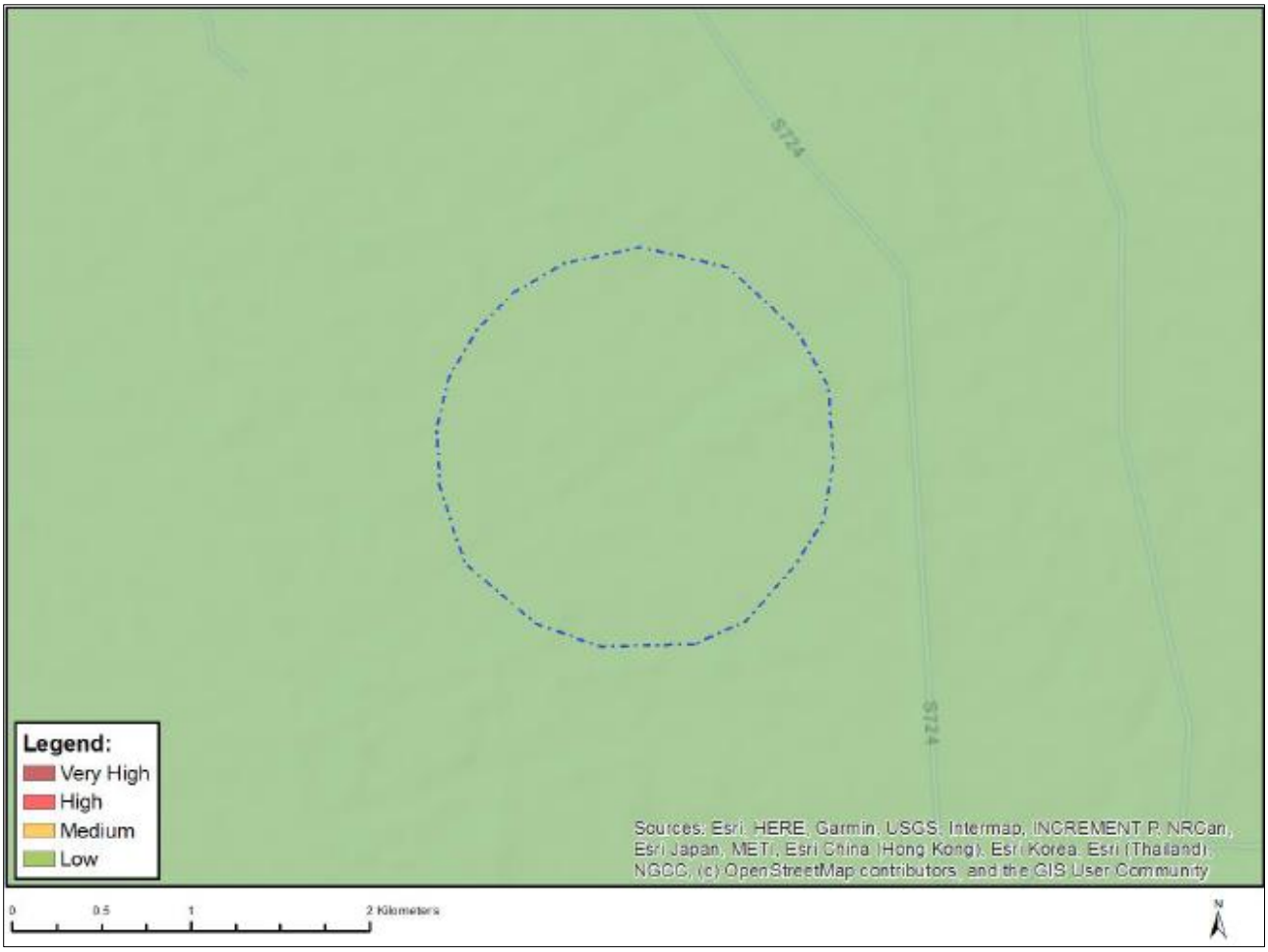

Figure 4.1: Screening Tool Plant Species sensitivity for the site.

Animal species:

The screening tool classified the proposed prospecting site and surroundings as being of **Low Animal Species** sensitivity since no sensitive animal species were identified which may occur on site.

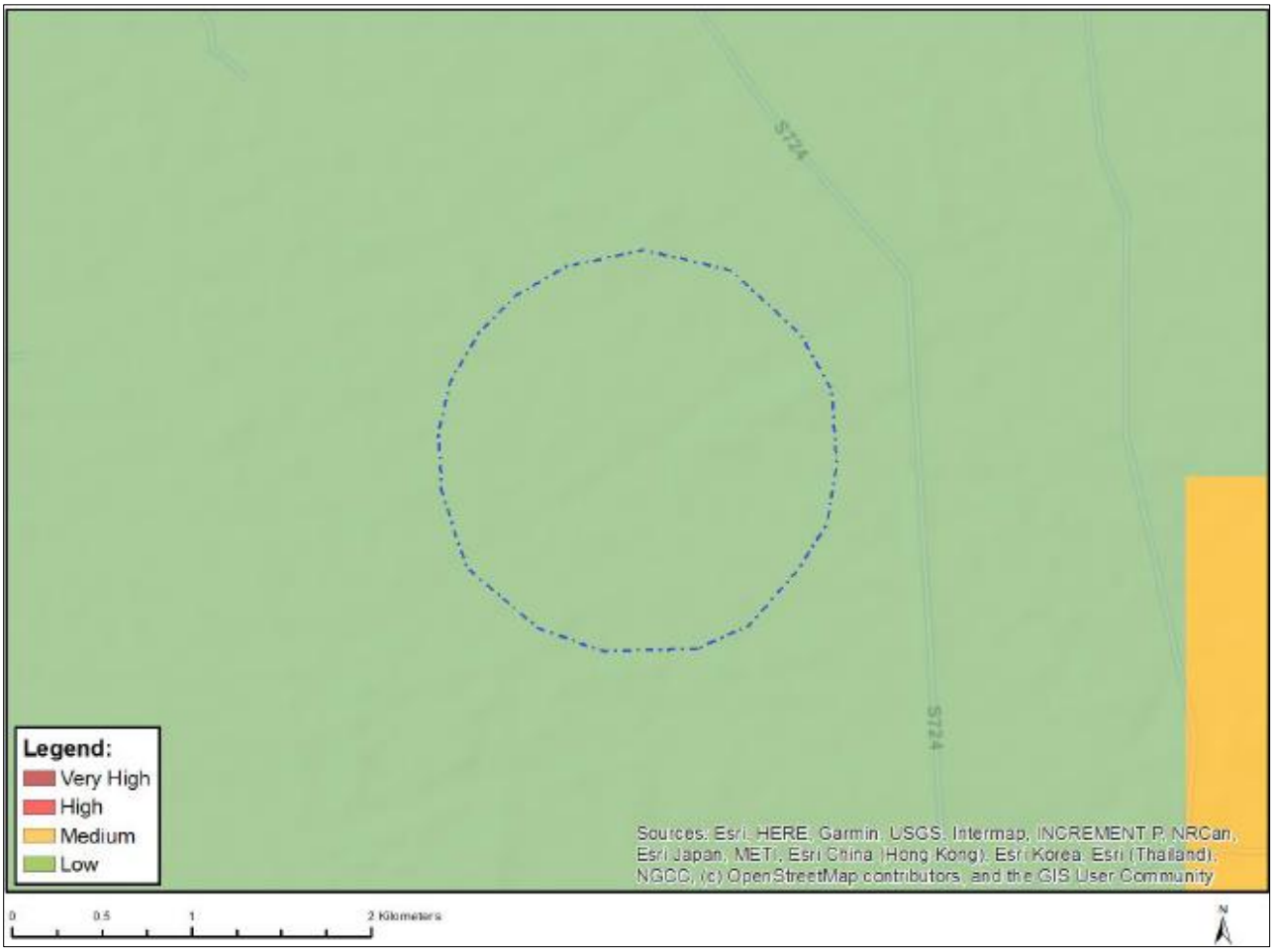

Figure 4.2: Screening Tool Animal Species sensitivity for the site.

4.2 Animals

The following sensitive animal species occur in the Free State province according to the SANBI Red Data List. None of these are anticipated to occur on site.

Mammals

Based on the Red Data List, 1 species is categorized a critically endangered (Black Rhino), 4 endangered, 7 vulnerable and 9 near threatened. Guideline figures have been developed for the carrying capacity for mammal species in each provincial reserve to inform the decision on the number of animals to be removed. The issues with regard to the impact of predation by caracal and black jackal on the total biodiversity of the area are probably the most urgent but most neglected conservation issue in Southern Africa.

Birds

There are sixteen Important Bird Areas in the Free State. Based on the Red Data List, 3 bird species are categorized as critically endangered (Rudd's Lark, White-winged Flufftail and the Wattled Crane), 3 endangered, 24 vulnerable and 22 near threatened. Currently, most conservation work involving birds is of a monitoring nature. There are 26 species that are dependent either on grasslands, wetlands, or both habitats, which are currently inadequately conserved in protected areas.

Reptiles and Amphibians

Within the Free State there are six species of reptiles and one species of amphibian that on the IUCN Red Data

list. Two species of reptiles are categorised as vulnerable and 4 species as near threatened. One species of amphibians is categorised as near threatened. No monitoring programmes are being undertaken at this time on any amphibians or reptiles in the Free State. Consequently, no specific information is available with respect to changes in population numbers or disappearance of species from particular areas.

Arachnids

Although a Red Data list has not been compiled for Arachnida, three family groups are vulnerable in the Free State. The Arachnids of the Free State is still largely unknown, as little work has so far been done on these animals in this Province.

Fish

Only one species of fish is listed on the Red Data List and is categorized as threatened.

4.3 Plants

Conservation of grasslands habitats is important for the protection of the listed Red Data plants species. Based on the Red Data List, 2 species are categorized as endangered, 7 vulnerable and 4 near threatened in the Free State. Information on plant species and their distribution in the Free State is however limited.

The increasing use of indigenous medicinal plants for health care is resulting on intensive harvesting, particularly by the commercial and illegal traders. The Free State Province has 69 plant species of medicinal value, 11 of which are listed in the IUCN Red Data list. With the current rate of extraction, plants that are not listed or protected, risk becoming extinct. The utilization of forest resources for firewood, timber and various other uses has increased. The rural poor are heavily reliant on natural resources for fuel wood, which is exacerbating the problem of deforestation. This is particularly apparent in the northwest region of the Province, where there is a shortage of fuelwood resulting in *Acacia karroo* being felled.

4.4 Vegetation

The South African National Biodiversity Institute (SANBI) vegetation map (called the VegMap, 2022) lists the proposed activity within a single vegetation unit (Figure 4.2) namely **Vaal-Vet Sandy Grassland**.

Vaal-Vet Sandy Grassland occurs within the North-West and Free-State Provinces. It is found from south of Lichtenburg and Ventersdorp, stretching southwards to Klerksdorp, Leeudoringstad, Bothavilleand to the Brandfort area north of Bloemfontein. It occurs at altitudes between 1220 – 1560m, generally 1260 – 1360m.

Vegetation and landscape features are characterized by a plains-dominated landscape with some scattered, slightly irregular undulating plains and hills.

Vegetation consists mainly of low-tussock grasslands with an abundant karroid element. Dominance of *Themeda triandra* is an important feature of this vegetation unit. Locally low cover of *T. triandra* and the associated increase in *Elionurus muticus*, *Cymbopogon pospischilii* and *Aristida congesta* is attributed to heavy grazing and/or erratic rainfall.

SANBI considers this vegetation type as **Endangered** with about 0.3% statutorily conserved in the Bloemhof Dam, Schoonspruit, Sandveld, Faan Meintjies, Wolwespruit and Soetdoring Nature Reserves. More than 63% are already transformed for cultivation (ploughed for commercial crops) and the rest is under strong grazing pressure from cattle and sheep. Erosional risk is very low.

4.5 Topography

The landscape within the project site is relatively flat but elevation does increase slightly from the south to north. The highest point of elevation is found north of the project site at 1 345 meters above sea level (m.a.s.l.) while the lowest point can be observed south of the project site at 1 340 m.a.s.l (Fig 4.3).

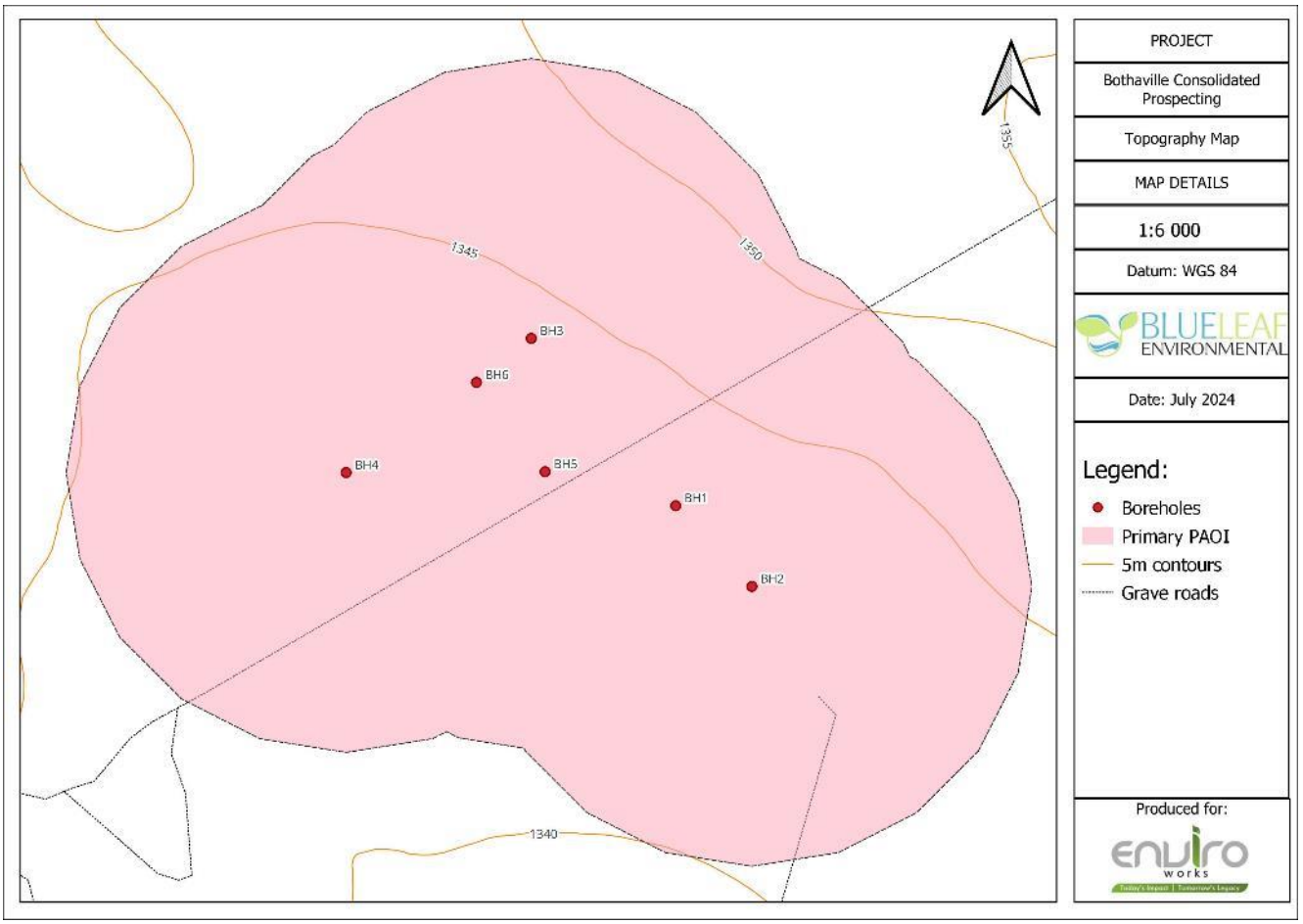

Figure 4.3: Topography of the study site and surrounding areas

4.6 Land use

Current land use has been determined and the entire study area consists of a mix of cultivated land and grassland. The land is currently being used for cattle grazing and agriculture (maize farming). Wetlands can be observed north-west as well as south of the study site. No signs of alien vegetation were observed on site with some vegetation been transformed due to grazing.

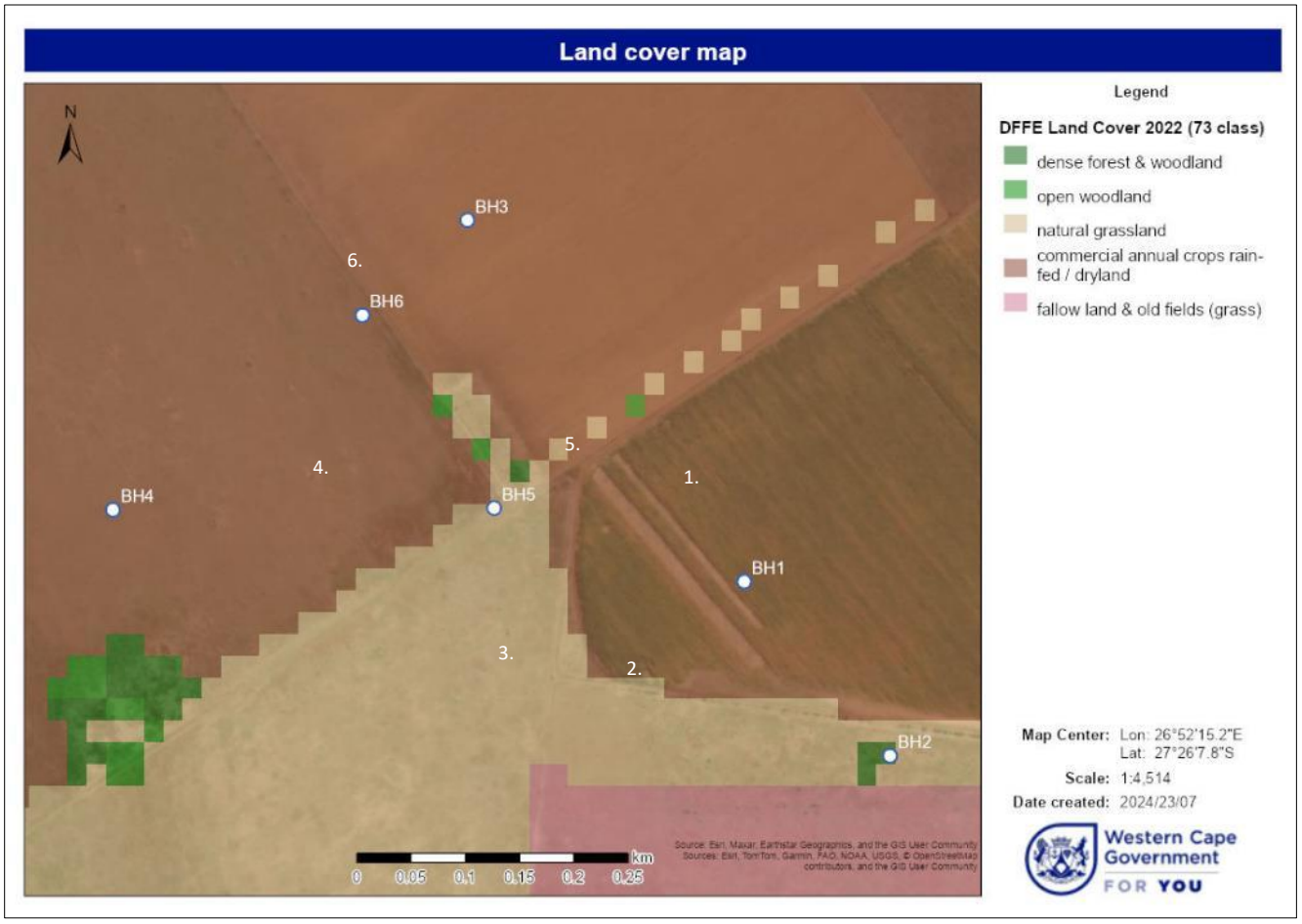

Figure 4.4: Land use of the study site and surrounding areas

5. Site analysis

A site survey was conducted between 3-4 May 2024. The findings were compared to the desktop data collected in chapter 4 above and a site sensitivity for plant and animal species was determined. This was then compared to the sensitivity allocation in the DFFE Screening Report.

5.1 Vegetation

It is anticipated that a maximum of 200 m^2 of vegetation (25 m^2 at each point) will be removed at the six borehole points. All six sites will be rehabilitated after prospecting. Borehole 1 (BH1) is in a maize field while the remaining points are all on naturally vegetated areas. These areas are used for cattle grazing with very little left for natural grazers and other naturalized plants and animals. Below is a photo sequence of each borehole point:

BH1 and BH3 are in agricultural fields (maize):	BH2 is located on very short grazed grassland:
	
BH4 is located on very short grazed grassland:	BH5 is located in a natural grassland:
	

5.2 Plant species

No sensitive or protected plant species were observed at any of the proposed borehole sites. There are no anticipated sensitive plant species (species not observed on site but with a high probability of occurring) for the site.

5.3 Animal species

No sensitive or protected animal species were observed on site. A single *Smaug giganteus* previously called *Cordylus giganteus* (Giant Gidled Lizard or Sungazers) burrow was identified at S27° 25’08.9” E26° 51’11.7”

(Figure 5.1). Although a live specimen was not observed during the site assessment, the landowner confirmed that he has seen it on occasion. This site is well outside the study area, but still on the same property, and will not be impacted by prospecting. Sungazers are highly protected as they are limited to flat or sloping highveld grassland (Van Wyk 2000; Bates et al. 2014). They are limited to a small area covering three provinces (Bates et al. 2014). The main and stable population is found in the northern parts of the Free State and smaller populations are found in the southwestern parts of Mpumalanga and the western parts of KwaZulu-Natal. They live in self-excavated burrows, although they can be opportunistic and inhabit empty burrows. This site must be recorded for future planned development.

Sungazer burrow entrance	Sungazer (taken for SANBI website)
	

Figure 5.1: *Smaug giganteus* (Sungazer) location nearby the proposed prospecting sites.

6. Site sensitivity verification

The following was found during the site assessment:

- The impact will be temporary. The drilling sites will be rehabilitated afterwards.
- No sensitive plant species were observed near the proposed borehole sites.
- No sensitive species were identified by the DFFE Screening Tool Report.
- No sensitive animal habitats were observed near the proposed borehole sites.
- No sensitive animal species were identified by the DFFE Screening Tool Report.
- A single Sungazer burrow (*Smaug giganteum*) was identified on the farm but is located well away from the proposed borehole site and will not be impacted. The location of the burrow must, however, be recorded for planned future developments on the site.

6.1 Plant Species

Based on the above, it is the opinion of the specialist that **the land is considered as low sensitivity for Plant Species**. A full assessment will therefore NOT be required. No site-specific management actions are proposed.

6.2 Animal Species

Based on the above, it is the opinion of the specialist that **the land is considered as low sensitivity for Animal Species**. A full assessment will therefore NOT be required. No site-specific management actions are proposed.

8. Reference

Bates, M.F. 2014. Gerrhosauridae. In M.F. Bates, W.R. Branch, A.M. Bauer, M. Burger, J. Marais, G.J. Alexander & M.S. de Villers (Eds). Atlas and Red list of the reptiles of South Africa, Lesotho and Swaziland. Suricata 1. South African National Biodiversity Institute, Pretoria.

Cape Farm Mapper, version 2.7. Spatial Information and Mapping Services. Western Cape Department of Agriculture [Available at: https://gis.elsenburg.com/apps/cfm/].

DRIVER, A. et al. 2011. National Biodiversity Assessment 2011: an assessment of South Africa's biodiversity and ecosystems. Synthesis Report. SANBI and DEAT, Pretoria.

MUCINA, L. and RUTHERFORD, M.C. 2012. The vegetation of South Africa, Lesotho and Swaziland. SANBI, Pretoria.

National Environmental Management Act (Act No. 107 of 1998) as amended.

National Environmental Management: Biodiversity Act (Act No. 10 of 2004).

National Spatial Biodiversity Assessment (2004).

National Water Act (Act No. 36 of 1998) as amended.

Protocol of the specialist assessment and minimum report content requirements for environmental impacts on animal species.

Protocol of the specialist assessment and minimum report content requirements for environmental impacts on plant species.

SANBI (bgis.sanbi.org).

South African National Biodiversity Institute (SANBI). 2020. Species Environmental Assessment Guideline. Guidelines for the implementation of the Fauna and Flora Species Protocols for environmental impact assessments in South Africa. South African National Biodiversity Institute, Pretoria. Version 3.1. 2022.

Van Wyk, J.H. 2000. Seasonal variation in stomach contents and diet composition in the large girdled lizard, *Cordylus giganteus* (Reptilia: Cordylidae) in the Highveld grasslands of the northeastern Free State, South Africa. African Zoology 35,1: 9–27.