VLAKFONTEIN 33 (PTY) LTD

DRAFT BASIC ASSESSMENT REPORT (BAR)

DRAFT BASIC ASSESSMENT REPORT FOR THE PROPOSED PROSPECTING RIGHT APPLICATION FOR MANGANESE AND IRON ORE IN RESPECT OF THE FARM BLAAUBOSCHPUT NO.73 AND FARM BLAAUBOSCHKUIL NO.74 WITHIN THE ADMINISTRATIVE DISTRICT OF PIXLEY KA SEME, NORTHERN CAPE PROVINCE.

FILE REFERENCE NUMBER SAMRAD: NC 30/5/1/1/2 (14253) PR

NAME OF APPLICANT: Vlakfontein 33 (Pty) Ltd

TEL NO: +27 83 460 0356
POSTAL ADDRESS: 14 Baobab Nook, Zwarkop X4, Gauteng, 0156
PHYSICAL ADDRESS: 14 Baobab Nook, Zwarkop X4, Gauteng, 0156
FILE REFERENCE NUMBER SAMRAD: NC 30/5/1/1/2 (14253) PR

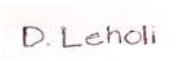
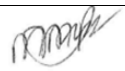
February 2025

This document has been prepared by:

Vahlengwe Mining Advisory and Consulting
238 Voster Ave, Glenvista Ext 3 Johannesburg South,
Glenvista, 2058
+27 11 432 0062 | +27 74 569 7312
info@vahlengweadvisory.co.za
www.vahlengweadvisory.co.za

Prepared for:

Vlakfontein 33 (Pty) Ltd

Name	Responsibility	Signature	Date
Lusizo Nqasha	Report Compiler		February 2025
Dimakatso Leholi	Project reviewer		February 2025
Mulalo Mafunisa	Stakeholder engagement Consultant		February 2025
Sunday Mabaso	Project Manager/Reviewer		February 2025

IMPORTANT NOTICE

In terms of the Mineral and Petroleum Resources Development Act (Act 28 of 2002 as amended), the Minister must grant a prospecting or mining right if among others the mining "will not result in unacceptable pollution, ecological degradation or damage to the environment".

Unless an Environmental Authorisation can be granted following the evaluation of an Environmental Impact Assessment and an Environmental Management Programme report in terms of the National Environmental Management Act (Act 107 of 1998) (NEMA), it cannot be concluded that the said activities will not result in unacceptable pollution, ecological degradation, or damage to the environment.

In terms of section 16(3)(b) of the EIA Regulations, 2014, any report submitted as part of an application must be prepared in a format that may be determined by the Competent Authority and in terms of section 17 (1) (c) the competent Authority must check whether the application has considered any minimum requirements applicable, or instructions or guidance provided by the competent authority to the submission of applications.

It is therefore an instruction that the prescribed reports required in respect of applications for an environmental authorisation for listed activities triggered by an application for a right or a permit are submitted in the exact format of, and provide all the information required in terms of, this template. Furthermore, please be advised that failure to submit the information required in the format provided in this template will be regarded as a failure to meet the requirements of the Regulation and will lead to the Environmental Authorisation being refused.

It is furthermore an instruction that the Environmental Assessment Practitioner must process and interpret his/her research and analysis and use the findings thereof to compile the information required herein. (Unprocessed supporting information may be attached as appendices). The EAP must ensure that the information required is placed correctly in the relevant sections of the Report, in the order, and under the provided headings as set out below, and ensure that the report is not cluttered with un-interpreted information and that it unambiguously represents the interpretation of the applicant.

OBJECTIVE OF THE BASIC ASSESSMENT PROCESS

The objective of the basic assessment process is to, through a consultative process—

(a) Determine the policy and legislative context within which the proposed activity is located and how the activity complies with and responds to the policy and legislative context;

(b) Identify the alternatives considered, including the activity, location, and technology alternatives.

(c) Describe the need and desirability of the proposed alternatives,

(d) Through the undertaking of an impact and risk assessment process inclusive of cumulative impacts which focused on determining the geographical, physical, biological, social, economic, heritage, and cultural sensitivity of the sites and locations within sites and the risk of impact of the proposed activity and technology alternatives on these aspects to determine:

  (i) The nature, significance, consequence, extent, duration, and probability of the impacts occurring to; and

  (ii) The degree to which these impacts—

    (aa) Can be reversed.

    (bb) May cause irreplaceable loss of resources; and

    (cc) Can be managed, avoided, or mitigated.

(e) Through a ranking of the site sensitivities and possible impacts the activity and technology alternatives will impose on the sites and location identified through the life of the activity to—

  (i) Identify and motivate a preferred site, activity, and technology alternative.

  (ii) Identify suitable measures to manage, avoid or mitigate identified impacts; and

  (iii) Identify residual risks that need to be managed and monitored

LIST OF ABBREVIATIONS

Table 1: List of abbreviations

BAR	Basic Assessment Report
BID	Background Information Document
DEA	Department of Environmental Affairs
DMRE	Department of Mineral Resources and Energy
CBA	Critical Biodiversity Area
CARA	Conservation of Agricultural Resources Act (Act No. 43 OF 1983)
CRR	Comments and Responses Report
DFFE	Department of Forestry, Fisheries, and the Environment (DFFE)
EA	Environmental Authorization
EAP	Environmental Assessment Practitioner
ECA	Environmental Conservation Act, 1989 (Act No. 73 of 1989)
ECO	Environmental Control Officer
EIA	Environmental Impact Assessment
EMPr	Environmental Management Programme
ESA	Ecological Support Area
GDP	Gross Domestic Product
GIS	Geographic Information Systems
GNR	Government Notice Regulation
Ha	Hectares
I&APs	Interested and Affected Parties
Km	Kilometer's
MPRDA	Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002)
NAAQS	National Ambient Air Quality Standards
NBA	National Biodiversity Assessment
NCR	Noise Control Regulations Act, 1989 (Act 73 of 1989)
NFEPA	National Freshwater Ecosystem Priority
NEM: AQA	National Environmental Management: Air Quality Act, 2004 (Act No. 39 of 2004)
NEM: BA	National Environmental Management: Biodiversity Act, 2004 (Act No. 10 of 2004)

NEM: WA	National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008)
NEMA	National Environmental Management Act, 1998 (Act No. 107 of 1998)
NFEPA	National Freshwater Ecosystem Priority Area
NPA	National Protected Area
PPP	Public Participation Process
PR	Prospecting Right
PWP	Prospecting Work Programme
SAHRA	South African Heritage Resources Agency
SAHRIS	South African Heritage Resources Information System
SANS	South African National Standard (SANS) 10103
WMA	Water Management Area

EXECUTIVE SUMMARY

Vlakfontein 33 (Pty) Ltd, hereafter referred to as 'the applicant' or 'Vlakfontein' has applied for a prospecting right for manganese and iron ore in respect of the Farm Blaauboschput no.73 and Farm Blaauboschkuil no.74 within the Administrative District of Pixley ka Seme, Northern Cape Province, covering an area extent of approximately 4613,30 ha. The prospecting area is located approximately 32.89 km south of Postmasburg Town and access roads to the farms are R325 and R383.

The application for a prospecting right is in terms of Section 16 of the Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002) (as amended) (MPRDA). Therefore, an Environmental Impact Assessment (EIA) process is required to acquire an Environmental Authorisation in terms of Section 24 of the National Environmental Management Act, 1998 (Act No. 107 of 1998) (as amended) (NEMA). Vahlengwe Mining Advisory and Consulting (Pty) Ltd, hereafter 'Vahlengwe' has been appointed by Vlakfontein as the independent Environmental Assessment Practitioner (EAP) to facilitate the Environmental Authorisation (EA) processes for the proposed prospecting activities. The competent authority for the environmental authorization process is the Department of Mineral Resources and Energy (DMRE), Northern Cape Province.

The proposed prospecting project triggers activities listed on Listing Notices 1: Activity 20 of the NEMA, therefore BAR and Environmental Impact Assessment in terms of NEMA Government Notice Regulation (GNR) 982 (as amended) is required. The environmental impacts of the proposed project activities were determined by first identifying the environmental baseline and then conducting an environmental risk assessment to identify the significance of the impacts. The environmental impact assessment considered all phases of the project, including the site establishment, operation, rehabilitation, and closure. The rating system used is applied to the potential impact on the receiving environment and includes an objective evaluation of the mitigation of the impact.

The stakeholder engagement process, as part of the Environmental Authorisation process will be conducted in terms of NEMA (as amended), which provides clear guidelines for stakeholder engagement during an EIA. Stakeholders therefore will afford an opportunity to participate in the public review of the Draft BAR to ensure that the assessment of impacts and proposed management of impacts addressed their concerns. Comments received during the 30-day comment period (from the Draft BAR review) are incorporated in this report, to be submitted to DMR for decision-making.

Details of the Applicant.

Table 2: Details of the applicant

Name of Applicant:	Vlakfontein 33 (Pty) Ltd		
Registration number (if any):	2019/269642/07		
Trading name (if any):	Vlakfontein 33 (Pty) Ltd		
Contact person:	Swanepoel J Francois		
Physical address:	14 Baobab Nook, Zwarkop X4, Gauteng,0156		
Postal address:	14 Baobab Nook, Zwarkop X4, Gauteng,0156		
Postal code:	0156	**Cellphone:**	+27 83 460 0356
Email:	jfswanepoel@live.com		

Environmental Consultants

Vahlengwe Mining Advisory and Consulting (Pty) Ltd is the appointed independent Environmental Assessment Practitioner (EAP) to conduct the Environmental Impact Assessment Process for the proposed Prospecting Right application of manganese and iron ore in respect of the Farm Blaauboschput no.73 and Blaauboschkuil no.74 within the administrative district of Pixley ka Seme, Northern Cape province, covering an area extent of 4 613,30 ha.

Table 3: Details of the EAPs

Company name:	Vahlengwe Mining Advisory and Consulting (Pty) Ltd
Contact person:	Sunday M Mabaso
Physical address:	238 Voster Ave, Glenvista Extension 3, Johannesburg South, 2058
Telephone:	+2711 432 0062
Email:	info@vahlengweadvisory.co.za

Purpose of this Report

A review of relevant background literature and the baseline environment of the area is used to support the Draft BAR Process as part of the Environmental Impact Assessment (EIA) process. The biophysical and socioeconomic issues that require assessment are identified during this process, and project alternatives are provided where possible. During this process, key stakeholders (including affected state organs) and interested and affected parties are allowed to express their concerns and comment on the proposed activities, allowing for the identification of additional issues that may require assessment. The issues raised in response to the Draft BAR will be documented in a Comments and Responses Report, which will be attached as an

appendix to this BAR to be submitted to the DMRE for decision-making in accordance with Regulation 21 (1) of GN R982 (as amended).

Therefore, the purpose of the Draft Basic Assessment Report was:

- To provide a description of the Drafted BAR of the proposed project to be covered;
- To describe the baseline environment;
- Describe the process of the identification of areas requiring assessment;
- Provide a description of the level of assessment to be undertaken during the impact assessment;
- To provide details of how the stakeholder and the interested and affected parties' engagements will be conducted;
- Provide the details of the processes to be followed to inform the stakeholders and the interested and affected parties of the project activities and associated impacts; and
- Provide details of how the issues raised will be addressed.

Public Participation Process Methodology

A Public Participation Process (PPP) will be undertaken as required in terms of Chapter 6 of the EIA Regulations, 2014 (as amended), promulgated under NEMA. During the undertakings of the PPP, the environmental and social impacts are investigated, and all stakeholders affected by the project are afforded an opportunity to comment, raise concerns, and contribute to the assessment to ensure that local knowledge, needs, and values are taken into consideration throughout the process.

A Draft BAR will be open for public comments for 30 days, and all comments or concerns expressed will be recorded and addressed in the Comments and Responses Report (CRR). The following activities will be undertaken to announce the Project and initiate the Draft BAR Phase:

- A Background Information Document (BID) and registration form will be distributed via email;
- A newspaper advertisement will be placed;
- Site notices will be placed around the site on and
- An electronic copy could be accessed and downloaded from the Vahlengwe website www.vahlengweadvisory.com

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PART A

SCOPE OF ASSESSMENT AND BASIC ASSESSMENT REPORT

1. Introduction

Vlakfontein proposes to undertake manganese and iron ore prospecting activities in respect of Farm Blaauboschput no.73 and Blaauboschkuil no.74 within the Administrative District of Pixley ka Seme, Northern Cape Province, covering an area of approximately 4613,30 ha. The prospecting area is situated approximately 32,89 km Southwest of Postmasburg Town, and access roads to the farms are R325 and R383.

Vlakfontein has appointed Vahlengwe Mining Advisory and Consulting (Pty) Ltd as the independent Environmental Assessment Practitioner (EAP) to conduct the environmental authorization process. The competent authority for the environmental authorization process is the Department of Mineral Resources and Energy (DMRE), Northern Cape Province. However, the application for a prospecting right is in terms of Section 16 of the Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002) (as amended) (MPRDA). Therefore, an Environmental Impact Assessment (EIA) process is required to acquire an Environmental Authorisation in terms of Section 24 of the National Environmental Management Act, 1998 (Act No. 107 of 1998) (as amended) (NEMA). The proposed prospecting activities will include non-invasive and invasive techniques. The planned invasive activities entail drilling ten (10) boreholes. The iron ore and manganese core logs will be sent to a laboratory for detailed analysis to determine their physical, chemical, and mineralogical properties. Additionally, the samples will be transported to an offsite processing facility, which will be analyzed to ensure they meet the necessary specifications.

The prospecting activities will be undertaken in four (4) phases for a total duration of 60 months, thus five (5) years. Should the prospecting programme not be completed within the first term of granting, the prospecting right will be subject to renewal for another three (3) years.

The proposed prospecting project triggers activities listed in Listing Notice 1: Activity 20 of the NEMA, and the Environmental Impact Assessment process in terms of NEMA Government Notice Regulation (GNR) 982 (as amended) is required. The environmental impacts of the proposed project activities were determined by first identifying the environmental aspects and then conducting an environmental sensitivity assessment to identify the significant environmental aspects. The environmental impact assessment considered all phases of the project, including the site establishment, operation, rehabilitation, and closure. The rating system used is applied to the potential impact on the receiving environment and includes an objective evaluation of the mitigation of the impact.

2. Contact Person and correspondence address.

2.1 Details of the EAP

Table 4: Details of the EAP

Company name:	Vahlengwe Mining Advisory and Consulting (Pty) Ltd
Contact person:	Sunday M Mabaso
Physical address:	238 Voster Ave, Glenvista Extension 3, Johannesburg South, 2058
Telephone:	+27 11 432 0062
Email:	info@vahlengweadvisory.co.za

2.2. Expertise of the EAP

2.2.1 The qualifications of the EAP (with evidence as Appendix 1)

(This section describes the EAP's qualifications and experience for the proposed Project. Appendix A contains the EAPs' curriculum vitae and degrees.)

Table 5: Expertise of the EAP

NAME	Sunday M Mabaso
QUALIFICATIONS	MBA, Postgrad Certificate: Climate Change and Energy Law, Certificate: Mine Closure and Rehabilitation
RESPONSIBILITY ON PROJECT	Project Reviewer
PROFESSIONAL REGISTRATION	EAPASA (Reg. No. 2022/4485)
EXPERIENCE	Sunday M. Mabaso is the Principal Consultant with more than 20 years of service at the Department of Mineral Resources and Energy of which he served seven (7) years as a Regional Manager (3 years in Northern Cape and 4 years in Gauteng). He has acquired various qualifications in mining and has recently completed an MBA with Milpark Business School and a Post Graduate Certificate in Climate Change and Energy Law with the University of the Witwatersrand, Mine Closure and Rehabilitation with the University of Pretoria. His experience includes monitoring and enforcing compliance with Social and Labour Plan and Mine Economics in terms of the MPRDA and the Mining Charter, Environmental Management and Waste Management in terms of NEMA and NEM: Waste Act.
NAME	Dimakatso Leholi
QUALIFICATIONS	Diploma in Environmental Sciences
RESPONSIBILITY ON PROJECT	Report Reviewer
PROFESSIONAL REGISTRATION	EAPASA Candidate (Reg. No. 2023/6647)
EXPERIENCE	Dimakatso is a highly motivated and environmentally conscious professional with diverse experience in education, health, safety, environment and

	quality (SHEQ) management, and environmental impact assessment (EIA). As an Environmental Education Facilitator at Johannesburg City Parks and Zoo, she effectively engaged diverse audiences in environmental conservation and sustainability practices. Previously she served as a SHEQ coordinator intern for a steel manufacturing company, ensuring compliance with regulatory requirements and implementing safety protocols. Currently she works as an EIA Consultant at Vahlengwe Mining Advisory and Consulting, conducting environmental assessments and providing advice to inform sustainable mining practices. She is also responsible for environmental compliance audit for mines to maintain environmental protection and safety mining practices to comply with the relevant environmental laws.
NAME	Lusizo Nqasha
QUALIFICATIONS	Bachelor of Arts in Environmental Management Bachelor of Arts Honours in Geography Master of Science in Geography
RESPONSIBILITY ON PROJECT	Report Compiler
PROFESSIONAL REGISTRATION	EAPASA Candidate (Reg. No. 2024/9364)
EXPERIENCE	Lusizo is an environmental consultant with five months of experience in Environmental Management. He holds a bachelor's degree in environmental management from Walter Sisulu University, an Honours degree in Geography from Wits University, and is currently in his final year of a Master of Science in Geography at the University of the Witwatersrand.

3. Location of the overall Activity

Table 6: Details of the overall activity location

Farm Name:	Farm Blaauboschput No.73 and Farm Blaauboschkuil No.74
Application area (Ha)	4 613,30 ha
Administrative district:	Administrative District of Pixley ka Seme, Northern Cape Province
Distance and direction from nearest town	The prospecting area is situated 32,89 km Southwest of Postmasburg Town and the access roads to the farms are R325 and R383, in the Administrative District of Pixley ka Seme, Northern Cape Province, South Africa.
21-digit Surveyor General Code for each farm portion	C03100000000007300000 C03100000000007400000

4. Locality map

(Attach a locality map at a scale not smaller than 1:250000 showing the nearest town and attach as **Appendix 2)**

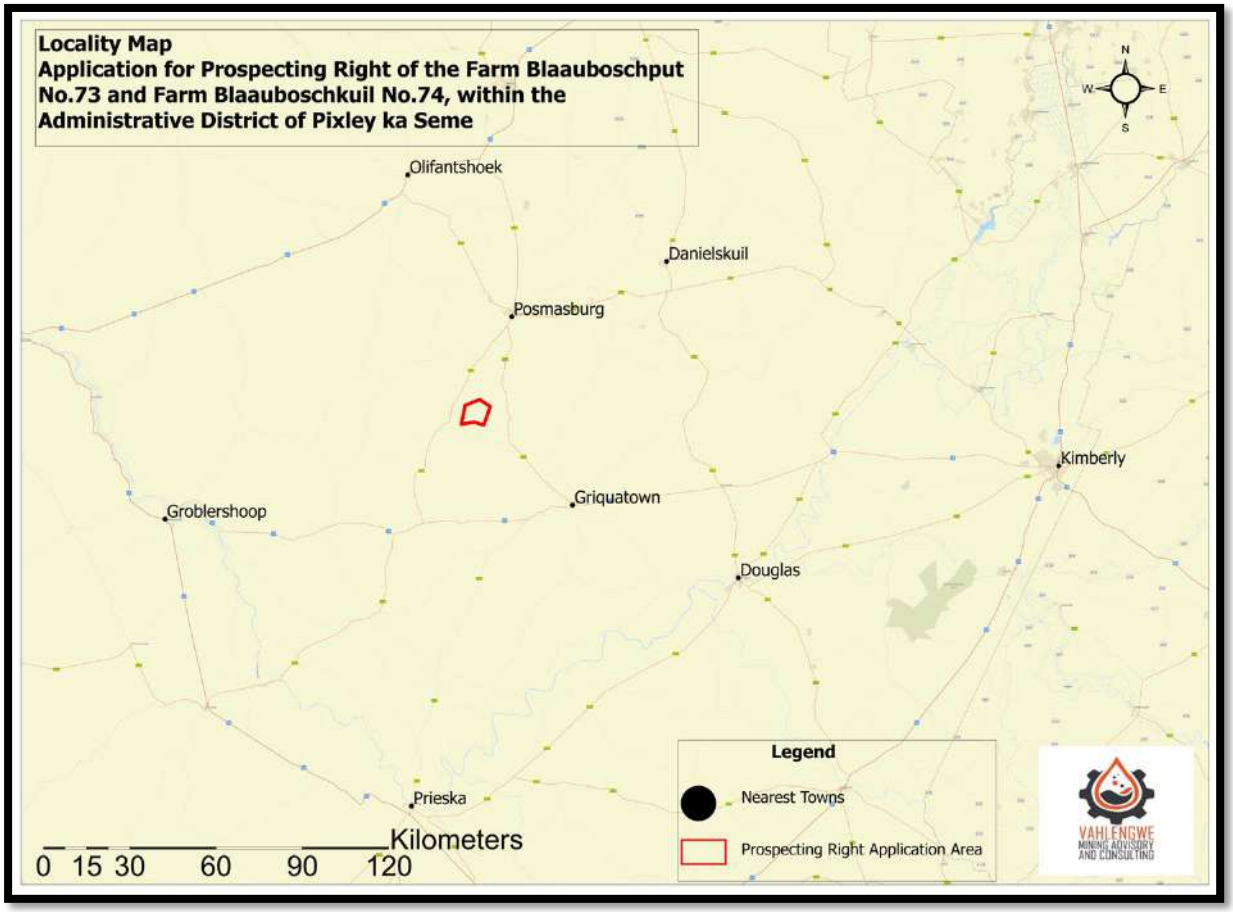


Figure 1: Locality map of the proposed area

5.1. Listed and specified activities

Table 7: Listed and specified activities

NAME OF ACTIVITY	AERIAL EXTENT OF THE ACTIVITY (HA OR M²)	APPLICABLE LISTING NOTICE *GN R 3983, GN R 984 or GN R 985 (as amended)*
Prospecting Right Application Area	4 613,30 ha	GNR 983 (as amended) Listing Notice 1, Activity 20
Planned invasive drilling of 10 boreholes at a maximum depth of 300 m,1-3 m length, and a diameter of 165-215 mm.	0.9 ha 0.01 ha (100 ha)	Activity 20 of GNR 983 (as amended)
Site clearing (30m x 30m)	0,09 ha	Not Listed
Geophysical survey	4613,30 ha	Not Listed
Geological field mapping	4613,30 ha	Not Listed
Access road (3m x 50m)	0.015 ha	Not Listed

5.2. Description of the activities to be undertaken

(Describe Methodology or technology to be employed, including the type of commodity to be prospected/mined and for a linear activity, a description of the route of the activity).

The prospecting activities will include the following activities:

- **Establishment of the office and equipment storage site:**

The site will be cleared of vegetation and levelled where the mobile site offices will be installed. No topsoil will be removed for this activity. Vegetation clearance of an extent area of 30x30m will be undertaken for the establishment of the site camp offices and auxiliary equipment for the operation.

- **Installation of mobile offices and mobile ablutions.**

Mobile offices and portable ablutions will be installed on the established site.

- **Construction of a temporal access road to the camp.**

Temporal access roads to the site camp and drill sites will be constructed within the proposed area. However, existing farm roads will be utilized as far as practicable.

- **Drilling; and**

Drilling of ten (10) boreholes will be undertaken using a grid drilling pattern to a maximum depth of 89 to 140 mm with each borehole sump area of 10m length x 10m breadth for Manganese and Iron Ore 76 mm to 146 mm for each borehole sump area of 10m length x 10m breadth.

- **Rehabilitation and closure.**

Concurrent rehabilitation of the drill holes will be conducted after each drill is completed. The drill holes will be backfilled with the material in their respective manner and the drilled holes to be closed with a cap. The final rehabilitation of the site will be conducted including the rehabilitation of the office and equipment storage site footprint, drill sites, and access roads. The rehabilitation plan will be included within the EMPr which forms part of this report to be submitted to the Department of Mineral Resources and Energy (DMRE).

Project Phases

The prospecting activities will be undertaken in four (4) phases for a total duration of about 48 months, thus five years with the renewal for 3 years should the prospecting programme not be completed within the first term of granting. The prospecting phases will be conducted as

follows:

Phase 1

- Desktop Studies

A desktop study will be carried out to obtain all possible geological information and historical data of the proposed prospecting area. This includes the review of published geological reports, data from the Council of Geoscience, and relevant geological research within the proposed area.

- Reconnaissance Survey

A geological reconnaissance survey of the proposed area will be undertaken to assess the potential manganese and iron ore deposits and to comparatively evaluate the preferred deposit. This survey will generally be carried out for examination of the general geological features and characteristics of a region.

- Geological Field Mapping

A geological field mapping will be conducted to obtain information about the surface lithologies and geological features and structures hence a geological map will be the outcome of this activity.

- Geophysical Survey

Information will need to be gathered from undiscovered hidden manganese and iron ore deposits below the surface. Field data will be obtained based on the principles and guidelines. A GPS will be used to record the data point locations, and no access roads will be constructed for this survey.

- RC/DC Drilling

Boreholes will be drilled at pre-determined sites in the proposed area. A 165mm diameter core drill will be used to drill the geological boreholes. At least ten (10) boreholes will be drilled using a grid drilling pattern at a maximum depth of 146 m. The exact respective borehole positions will heavily rely on the data received from the geophysical survey. The spacing between boreholes shall be decreased appropriately where significant quality changes occur in the structurally complex areas and along the seam sub-outcrop.

- Concurrent Rehabilitation

After each borehole is completely drilled and does not show any occurrence, it will be fully rehabilitated. Rehabilitation will only be done by backfilling of material in their respective manner and closing the drilled hole with a cap.

Phase 2

- Core Logging

All drill holes will be logged every meter containing information such as hole location, depth, and other geological structures encountered within the hole. Dust samples will be taken in sealed chip trays and safeguarded for future referencing. Portions of the drill chips representing the ore will be taken and placed in bags for analysis.

- Sample Analysis

All samples obtained from the drilling programme will be taken to the accredited laboratory for analysis and quality.

Phase 3

- Banking & Feasibility Studies

The outcome of the prospecting work will determine whether the project is viable or not. This phase will comprise of the following key aspects:

- Geological Modelling
- Mineral Resource Estimation

A mineral resource estimation will be conducted and compiled into a Mineral Resources and Reserves Statement to be signed by a competent person. The estimation will include the tonnages and quality of the mineral. Should the results prove positive, the preparations for mining right application and any other relevant applications will commence. More various technical personnel will be involved in the process. The skills cycle will include geology, mine engineering, mine surveying, metallurgy, legal and finance.

Phase 4

- Rehabilitation and closure

Final rehabilitation of the site will be conducted as the final phase of the prospecting activities and will be undertaken upon cessation of the project

6.Policy and Legislative Context

Table 8: Policy and Legislative context

Applicable legislation and guidelines used to compile the report	Reference where applied
The Constitution of the Republic of South Africa, 1996 Under Section 24 of the Constitution of the Republic of South Africa, 1996 (Act No. 108 of 1996) it is clearly stated that: Everyone has the right to a) an environment that is not harmful to their health or well-being; and b) to have the environment protected, for the benefit of present and future generations, through reasonable legislative and other measures that - (i) Prevent pollution and ecological degradation. (ii) Promote conservation; and Secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development.	Vahlengwe is undertaking an EIA process to identify and determine the potential impacts associated with the proposed prospecting activities. Mitigation measures recommended will aim to ensure that the potential impacts are managed to acceptable levels to support the rights as enshrined in the Constitution.
National Environmental Management Act, 1998 (Act No. 107 of 1998) and EIA Regulations (as amended in 2017) The Environmental Management Act, 1998 (Act No. 107 of 1998) (NEMA) (as amended) was set in place in accordance with Section 24 of the Constitution. Certain environmental principles under NEMA must be adhered to, to inform decision making for issues affecting the environment. Section 24 (1)(a) and (b) of NEMA state that:	Activities associated with the proposed prospecting activities are identified as Listed Activities in the Listing Notice 1, GNR 983 (as amended), Listing Activity No. 20 and therefore require Basic Environmental Impact Assessment.

The potential impact on the environment and socio-economic conditions of activities that require authorization or permission by law and which may significantly affect the environment, must be considered, investigated, and assessed prior to their implementation and reported to the organ of state charged by law with authorizing, permitting, or otherwise allowing the implementation of an activity. The EIA Regulation, 2014 was published under GN R 326 on 07 April 2017 (EIA Regulations) and came into effect on 07 April 2017. Together with the EIA Regulations, the Minister also published GN R 327 (Listing Notice No. 1), GN 325 (Listing Notice No. 2) and GN R 324 (Listing Notice No. 3) in terms of Sections 24(2) and 24D of the NEMA, as amended.	
<u>Mineral and Petroleum Resource Development Act, 2002 (Act No. 28 of 2002)</u> The Act makes provision for equitable access to and sustainable development of the nation's mineral and petroleum resources; and provides for matters connected therewith. Mineral and Petroleum Resource Development Act, 2002 (Act No. 28 of 2002): Mineral and Petroleum Resource Development Regulations GNR 527 of 2004. Section 7 (1). The prospecting work programme must contain: - (f). a description of how the mineral resource and mineral description of the prospecting area will be determined throughout – (i) the prospecting work to be performed. (ii) a geological survey to be carried out; and (iii). A geophysical survey to be undertaken. (g). a description of the prospecting method or methods to be implemented that may include -(i) Any excavations, trenching, pitting, and drilling to be carried out. (ii) Any bulk sampling and testing to be carried out; and	The proposed project is applied for in terms of Section 16 of the MPRDA, 2002 (Act No. 28 of 2002) and the planned activities are according to the scope of the PWP in terms of the Mineral and Petroleum Resource Development Act, 2002 (Act No. 28 of 2002): Mineral and Petroleum Resource Development Regulations GNR 527 of 2004.

(iii) Any other prospecting methods to be applied.	
National Environmental Management: Air Quality Act, 2004 (Act 39 Of 2004) The National Environmental Management: Air Quality Act, 2004 (No. 39 of 2004) (NEM: AQA) governs all aspects of air quality, including pollution prevention, national norms and standards, and the requirement for an Atmospheric Emissions License (AEL) for listed activities that emit pollutants into the atmosphere and have or may have a significant negative impact on the environment. Activities requiring an AEL are listed in GN No. 893 (22 November 2013), which was published in accordance with Section 21(1) ((b) of the NEM: AQA. According to Section 22 of NEM: AQA, no one may engage in a listed activity without an AEL.	The prospecting operation will not be conducting activities that may require the application for an AEL. Regulation 2 of NEMAQA: National Dust Control Regulations GN R827 (01 November 2013) indicates that the purpose of the Act is to prescribe general measures for the control of dust in all areas. Therefore, Vlakfontein 33 will be required in terms of Regulations 6 and 7 of the Act to implement measures for controlling dust and conducting an Ambient Air Quality Monitoring PM_{10} respectively.
National Environmental Management: Waste Act, 2008 The National Environmental Management: Waste Act of 2008 (No. 59 of 2008) (NEM: WA) governs all aspects of waste management, with a focus on waste avoidance and minimization. NEM: WA developed a system for categorizing and licensing waste management activities. Listed waste management activities that exceed certain thresholds are subject to an impact assessment and licensing process. Activities in Category A necessitate a Basic Assessment, whereas activities in Category B necessitate a Scoping and EIA process.	The prospecting activities will not generate waste that will trigger or require the application of the Waste Management License in terms of the NEMWA. However, Vlakfontein 33 must ensure that the waste generated must be properly managed through a Waste Management Programme (WMP).
National Environmental Management: Biodiversity Act, 2004 (Act No. 10 of 2004) (NEM:BA) The NEM:BA governs the management and conservation of South Africa's biodiversity within the framework established by NEMA. This Act also governs the protection of species and ecosystems that	A Fauna and Flora Impact Assessment will be conducted as part of the Environmental Impact Assessment (EIA)

require national protection, as well as the management of invasive and alien species. The following regulations have been promulgated in accordance with the NEM:BA and are also relevant: • Alien and Invasive Species Lists, 2014 published (GN R.599 in GG 37886 of 1 August 2014); National Environmental Management: Biodiversity Act, 2004: Threatened and Protected Species Regulations;	
National Noise Control Regulations, R.154 of 1992 (the Noise Regulations) promulgated in terms of Section 25 of the Environmental Conservation Act, 1989 (Act 73 of 1989) The National Noise-Control Regulations (GN R154 in Government Gazette No. 13717 dated 10 January 1992) (NCRs) form part of the Environmental Conservation Act and these Regulations apply to external noise. The NCRs differentiates between Disturbing Noise levels (which is objective and scientifically measurable which are generally compared to existing ambient noise level) and Noise Nuisance (which is a subjective measure and is defined as noise that "*disturbs or impairs or may disturb or impair the convenience or peace of any person*"). Local Authorities use Controlled Areas to identify areas with high noise levels. Restrictions have been set out for development that occurs in these Controlled Areas. These regulations make provision for guidelines pertaining to noise control and measurements. The regulations make reference to the use of the South African National Standards 10103:2008 (SANS) guidelines for the Measurement and <Rating of Environmental Noise with Respect to Land Use, Health, and Annoyance and to Speech Communication.	The EMPr will include measures to control and manage noise.
Conservation of Agricultural Resources Act (Act No. 43 of 1983) The objects of this Act are to provide for the conservation of the natural agricultural resources of the	The EMPr will include measures to control and manage potential impacts on the agricultural

Republic by the maintenance of the production potential of land, by the combating and prevention of erosion and weakening or destruction of the water sources, and by the protection of the vegetation and the combating of weeds and invader plants.	activities.
The National Heritage Resources Act, 1999 (Act No. 25 of 1999) (NHRA) The National Heritage Resources Act, 1999 (Act No. 25 of 1999) (NHRA) is the main piece of legislation in South Africa that protects and regulates the management of heritage resources. The Act requires Heritage Resources Agencies, in this case in the South African Heritage Resources Agency (SAHRA) and the Provincial Heritage Resources Authority of Gauteng (PHRA-G), to be notified of any developments that may exceed certain minimum thresholds as soon as possible.	A desktop Palaeontology Impact Assessment will be conducted during the EIA phase.

7. Need and desirability of the proposed activities.

(Motivate the need and desirability of the proposed development including the need and desirability of the activity in the context of the preferred location).

The proposed prospecting and potential mining of manganese and iron ore in the Northern Cape is necessary and desirable due to its significant economic, strategic, and social benefits. The project will generate employment opportunities, contribute to national GDP growth, and stimulate infrastructure development, ultimately reducing poverty and promoting economic growth. Manganese and iron ore are critical components in steel production, essential for infrastructure development, transportation, and economic growth, and securing domestic supply reduces reliance on imports, enhancing national security. Northern Cape's geological potential, accessibility, and local support further justify the project.

From an environmental perspective, a comprehensive Environmental Impact Assessment will ensure minimal impact while rehabilitation plans and sustainable practices will mitigate potential effects. The project prioritizes community engagement, skills development, and social investment ensuring residents benefit from responsible mining activities. With careful planning and execution, this project can contribute to sustainable development and improved living standards for local communities.

Approval of the proposed project, subject to regulatory fulfillment and implementation of recommended mitigation measures, is recommended. However, Vlakfontein 33 anticipates that significant benefits from the area, should minerals be discovered, will accumulate in the immediate area, the sub-region, and the Northern Cape Province. These benefits must be balanced against the costs of the area, including the impacts on the landowner. There is no reason why this proposed project should not be considered at this time, given the high likelihood of a reserve as demonstrated by other resource discoveries in the area.

8. Motivation for the overall preferred site, activities, and technology alternative

- **Preferred site**

The proposed prospecting project site was selected as a preferred site based on the available geological information and historical data of the site. The available geological information suggests that the preferred site may have Manganese and Iron ore reserves. So, the Environmental Authorization for the proposed project will be required for a period of five (5) years. The intended activities within the stipulated timeframes will be able to provide sufficient information to declare the occurrence of the targeted mineral ore bodies If the project does not achieve its intended outcome within the specified timeframes, the prospecting right may be renewed for an additional period of up

to three years, as required under Section 18 of the Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002) as amended.

- **Activities**

The prospecting activities will be undertaken in four (4) phases for a total duration month about 48 months, thus five (5) years. The intended activities within the stipulated timeframes will be able to provide sufficient information to declare the occurrence of the targeted mineral bodies. If the project does not achieve its intended outcome within the specified timeframes, the prospecting right may be renewed, extending the period by up to three (3) years as required by Section 18 of the MPRDA, 2002 (Act No. 28 of 2002) and its amendments. The prospecting activities will include the following activities:

- **Vegetation clearance** of an extent area of 30x30m will be undertaken for the establishment of the site camp offices and auxiliary equipment for the operation.
- **Installation of mobile offices and mobile ablutions**.
- **Construction of temporal access roads** to the site camp and drill sites will be undertaken within the proposed area. However, existing farm roads will be utilized as far as practicable.
- **Drilling** of ten (10) boreholes will be undertaken at a maximum depth from 89 to 140 mm and Iron 76 to 146 mm diameter
- **Rehabilitation** of the overall site and **closure**.
- **Technology alternative**

The layout plan of the infrastructure has been planned to avoid sensitive areas as far as possible. The intended method of vegetation clearance will have minimal environmental impacts. The applicant intends to utilize a bulldozer to clear vegetation for site establishment and the construction of the access roads. A 165mm diameter core drill will be used to drill the geological boreholes at pre-determined sites in the proposed area. There are no alternative technologies identified for the proposed prospecting activities in this regard.

9. Full description of the process followed to reach the proposed preferred alternatives within the site.

NB! – This section is about the determination of the specific site layout and the location of infrastructure and activities on-site, having taken into consideration the issues raised by interested and affected parties, and the consideration of alternatives to the initially proposed site layout.

9.1. Details of the development footprint alternatives considered.

(With reference to the site plan as provided above and the location of the individual activities on site, provide details of the alternatives considered with respect to:)

Alternatives are different ways of meeting the overall goal and requirement of a proposed activity. Alternatives aid in determining the best way to develop the project, taking into account location or site alternatives, activity, process or technology, temporal, and no-go alternatives. Alternatives also aid in determining which activity has the least environmental impact. Nevertheless, Vlakfontein intends to conduct the prospecting of manganese and iron ore to determine whether the area contains this commodity and, if so, whether the manganese and iron ore reserves are found in economically valuable quantities.

According to the NEMA: EIA Regulations GNR 982(as amended), a Basic Assessment is required to identify alternatives for areas applied for, and in terms of the Regulations, an alternative to a proposed activity means a different strategy to meet the general purpose and requirements of the activity.

9.1.1. The property on which or location where the activity is proposed to be undertaken;

Prospecting sites and associated campsite locations and access routes are among the location alternatives considered for the proposed area. The location alternatives were opted for based on several criteria, including environmental considerations (how sensitive the area is in terms of soils, wetlands, groundwater, and so on), sensitive receptors (proximity to communities and farmsteads), and the area's dependence on the necessary infrastructure.

9.1.2. The type of activity to be undertaken.

Alternative drilling sites cannot be considered at this stage because drill holes and exploration can only be sited after desktop assessment, field mapping, and geophysical survey have been completed. There were two alternatives considered, which are constructing new roads or using existing roads and establishing tracks. The use of existing roads was preferred because of the impact on vegetation and potential erosion that the construction of new roads might have on the environment.

9.1.3. The design or layout of the activity;

Since this area will not require any complicated surface infrastructure, no design and layout alternatives for the proposed area were determined. Alternatives were considered for the location of the campsite. A static location near the entrance of the site, a mobile campsite, and an offsite campsite were among the alternatives. The alternative sites were determined based on the sensitivity of the proposed area.

9.1.4. The technology to be used in the activity.

The prospecting activities proposed in the Prospecting Works Programme is dependent on the preceding phase as previously discussed; therefore, no alternatives are indicated, but rather a phased approach of trusted prospecting techniques.

9.1.5. The operational aspects of the activity; and

- **Site Establishment**

The applicant intends to utilize a bulldozer to clear vegetation for site establishment and the construction of the access roads.

- **Access Roads**

Existing roads will be utilized as far as possible, and areas of the least sensitivity will be chosen for access roads to the drill sites establishment.

- **Drilling**

Core drilling will be undertaken to determine the occurrence and distribution of the manganese and iron ore bodies. Drilling of the geological boreholes will be conducted at pre-determined sites in the proposed area. Small-diameter borehole core drilling will enable the evaluation of both the physical continuity and the quality continuity of the clay beds. The borehole core data will be used for structural evaluation, quality analyses, and geotechnical evaluation. For reliable resource evaluation, the core recovery shall be more than 95% within the clay beds and all core recovery information shall be properly documented. The spacing of manganese ranges from 89 to 140 mm and Iron 76 to 146 mm diameter borehole core holes for geological studies depending on the clay deposit type. The spacing between boreholes shall be decreased appropriately where significant quality changes occur in structurally complex areas and along the clay bed.

- **Sample Analysis**

The core logs will be sent to a laboratory for detailed analysis to determine their physical, chemical, and mineralogical properties. Additionally, the bulk samples will be transported to an offsite processing facility, where they will be analysed to ensure the clay meets the necessary specifications.

9.1.6. The option of not implementing the activity.

The ‘No-Go’ alternative is the option to not conduct prospecting activities at the proposed project site. The No-Go alternative assumes that the site would remain in its current condition. The No-Go

alternative would have no impact on the social and biophysical environment.

Vlakfontein intends to prospect the proposed area to determine the availability of manganese and iron ore. Should the minerals be found, the proposed prospecting project alone will result in job creation and support for local businesses.

Accordingly, the consequences of not undertaking the proposed project will diminish the potential positive impacts of this project on the workforce to be used for the prospecting project as well as on the mining project. Therefore, the No-Go alternative is considered undesirable at the local and regional level.

9.2. Details of the Public Participation Process Followed

(Describe the process undertaken to consult interested and affected parties including public meetings and one on one consultation. NB! The affected parties must be specifically consulted regardless of whether they attended public meetings. Information to be provided to affected parties must include sufficient detail of the intended operation to enable them to assess what impact the activities will have on them or on the use of their land.)

- **Public Participation Materials**

Following the legislative requirements and good practice, it is important to develop documentation, which will be easily accessible to all stakeholders who would be affected or interested in the project. The following documents have been developed and distributed to all stakeholders including the interested and affected parties. The various PPP materials that were used as part of the EIA processes are included as appendices to this report.

Background Information Document (BID):

The BID (**Appendix 3B**) aims to provide important information regarding the following:

- Project description of the proposed prospecting activities.
- The EIA and the PPP that was undertaken in support of the Prospecting activities and relevant contact details.
- Details about how stakeholders could register as an Interested and Affected Party (I&AP) and be kept informed about the Project developments; and
- The public review and comment period for the draft Basic Assessment Report (BAR).

I&APs Registration Form:

A registration form was distributed to the community attached to the BID for the registration of the I&APs from the 30th of August 2024.

Site notice:

An A2-sized site notices informing I&APs about the project information as per the published newspaper advert were developed, laminated, and erected at the boundary of the proposed site as required in terms of Section 24J of NEMA read with Regulation 41 EIA regulation notices were placed within the vicinity of the proposed project site at strategic locations where it was deemed to be visible to the community.

Newspaper advertisement:

A newspaper advertisement, informing all Interested & Affected Parties (I&APs) residing in surrounding communities close to the proposed area within the Administrative District of Pixley ka Seme will be published and include information about Vlakfontein's intention to apply for prospecting rights for manganese and iron ore in respect of the Farm Blaauboschput no.73 and Blaauboschkuil no.74.

Draft Basic Assessment Report (BAR) Commenting Period

A draft Scoping Report will be available via the Vahlengwe Mining Advisory and Consulting website (www.vahlengweadvisory.co.za). Printed copies will be made available for public viewing.

I&APs will be informed to register any comments or concerns they might have regarding the proposed project by contacting the Environmental Assessment Practitioner (EAP), via email through the provided comments request form or request additional information via the telephone. The EAP details included the newspaper advert, Background information (BID), and site notice.

Public meeting:

A stakeholder engagement meeting will be held with the state departments that administer environmental laws and municipalities. The meetings will be to facilitate discussions on the Draft Basic Assessment Report to obtain comments, issues, concerns, and inputs from the Interested and Affected Parties (I&APs). All comments to be raised by the stakeholders will be recorded in the Comments Response Report (CRR). The minutes of these meetings and presentations will be included in the final BAR.

9.4. The Environmental attributes associated with the alternatives.

(The environmental attributed described must include socio-economic, social, heritage, cultural, geographical, physical, and biological aspects)

9.4.1. Baseline Environment

9.4.1.1. Type of environment affected by the proposed activity.

(its current geographical, physical, biological, socio- economic, and cultural character).

- **Regional Setting**

The proposed project area is located within the jurisdiction of the Local Municipality of Siyancuma, Northern Cape Province, as depicted in Figure 3. It covers an area extent of approximately 4,613,30 ha. The prospecting area is situated approximately 32,89 km Southern part of Postmasburg Town and the access roads to the farms are R325 and R383).

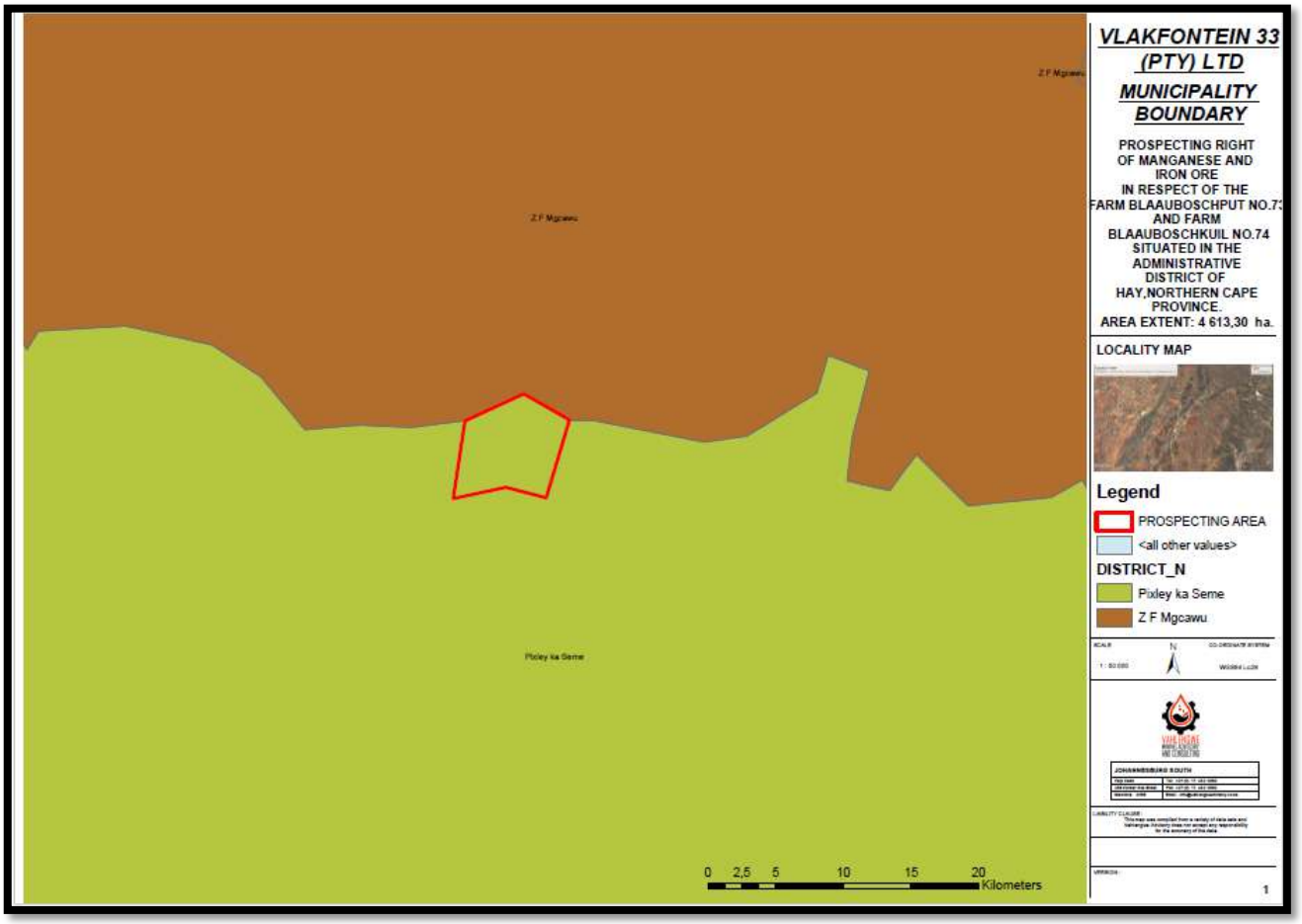


Figure 3: Municipal area

- **Climate**

The project area falls within the range of Swartkoppies weather station, which is located in the southern hemisphere. Swartkoppies experience a semi-arid to arid highland climate. The region's elevation, approximately 1,500 to 1,800 meters above sea level, contributes to its continental climate characterized by cold winters and warm summers. Rainfall primarily occurs during the winter months (May- September), with limited summer rainfall mostly from thunderstorms. The average annual temperature is around 12 °C with annual precipitation ranging from 400-600 mm. Summer begins on December 1st and ends on February 28th or 29th, with January being the warmest month average high of 32°C. In contrast, July is the coldest month, with an average of low 3°C. Relative humidity peaks in the August average of 60% and is lowest in the January average of 30%. The region experiences mild springs (September-November) and cool autumns (March-May), while winters (June-August) are cold. Rainfall distribution is skewed towards winter, accounting for 60-70% of annual rainfall, while summer contributes 20-30%. Spring and autumn receive 10-20% of annual rainfall.

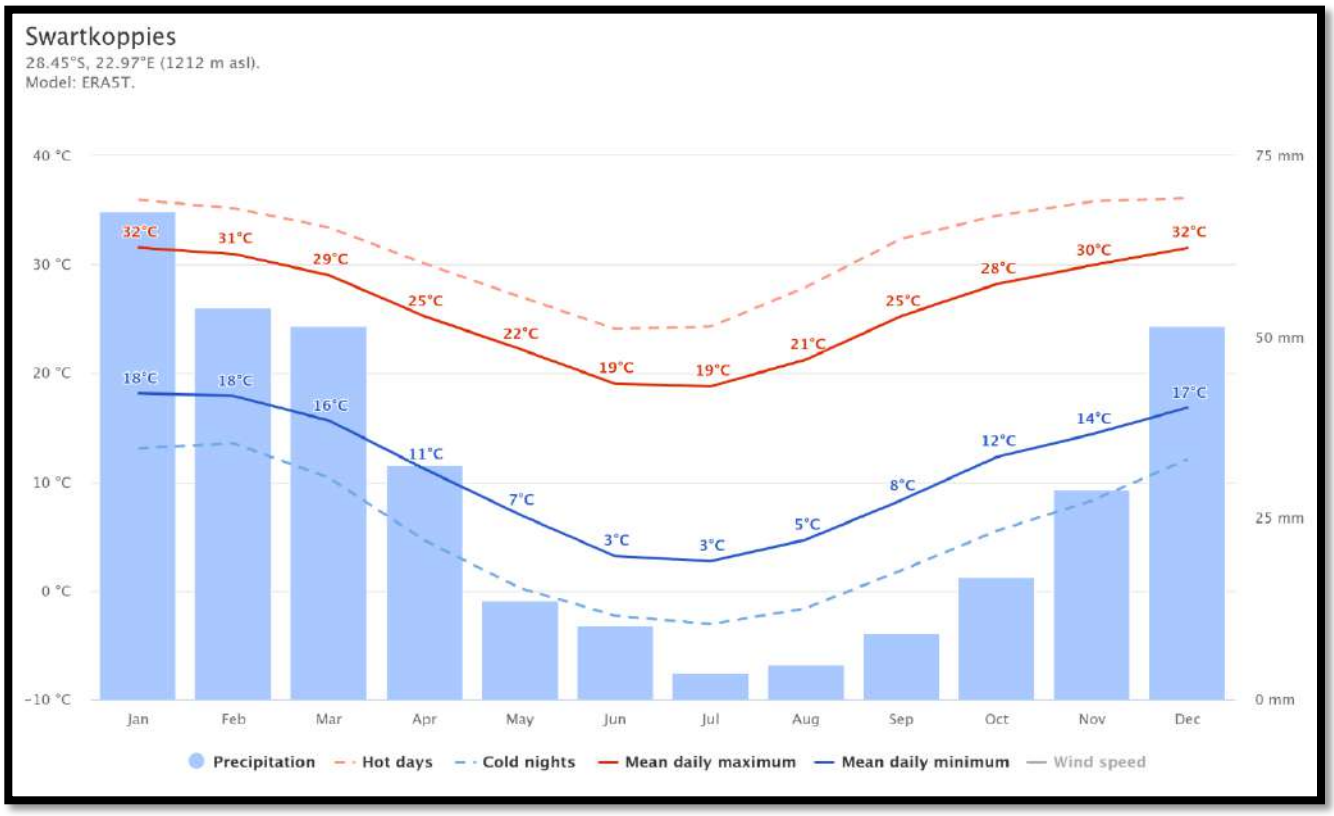


Figure 4: Average climatic conditions of Swartkoppies (https://www.meteoblue.com)

Swartkoppies experience a distinct wind pattern. The dominant wind direction is west-northwest(290°C) with moderate winds ranging from 10-20 km/h. Approximately 40% of the time, the

wind is calm, while 30% is light (0-10 km/h), 20% moderate (10-20 km/h) and 10% strong (20-30% km/h). Seasonal variations are notable, with summer (December-February) winds coming from the northwest (310°) at moderate speeds. Autumn (March-May) winds shift to west-northwest (290°) with moderate speeds.

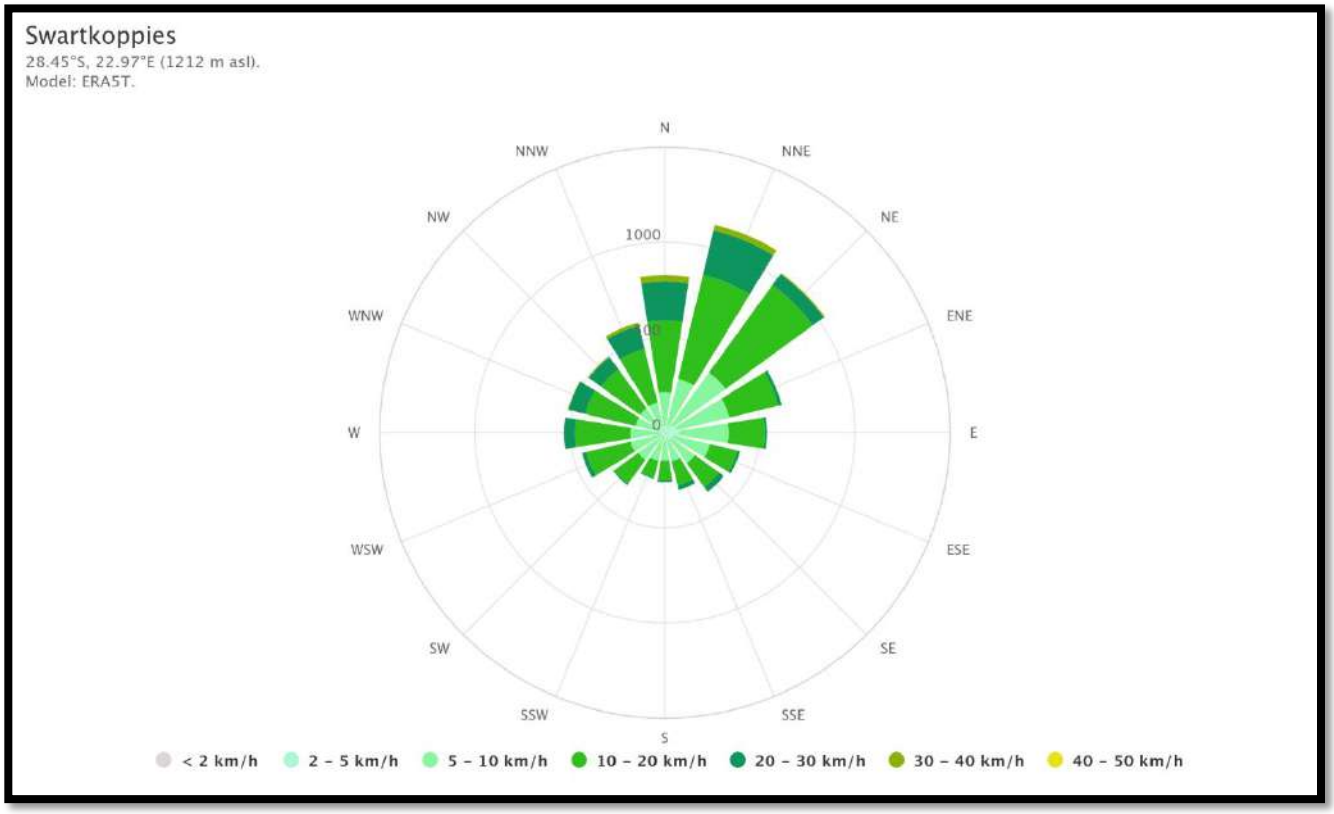


Figure 5: Wind Rose of Swartkoppies (https://www.meteoblue.com)

- **Geology and Soils**

The geological formation of the Kalahari Group is observed not far from Postmasburg, a town located in the Northern Cape Province. The rocks of this area are sedimentary, and Chamaille-Jammes outlines that sedimentary rocks can provide clues about the evolution of geological systems. Most rocks of the Kalahari Group age are from the Mesozoic period. Such age indicates that those types of rock were formed from approximately 250 to 66 million years ago. The Kalahari Group consists of sandstones, siltstones, and shales deposited in river systems and shallow lakes. The Kalahari Group rocks' identifiable features are red-colored sands and silts containing high amounts of iron-bearing minerals that occur through weathering and oxidation. One of the significant aspects of the Kalahari Group rocks relates to the Postmasburg industry as iron mining is one of the leading economic activities in the region. Another one is associated with past environmental conditions, climate changes,

landscape alterations that may be understood through the study of the rock formation and The Ongeluk Formation, located in the Northern Cape Province near Postmasburg, is a crucial geological unit known for its significance in early Earth's history, particularly in understanding the emergence of life forms. Here are some key points about the geology of the Ongeluk Formation. The Ongeluk Formation is part of the Barberton Greenstone Belt and dates to approximately 3.2 to 3.5 billion years ago, making it one of the oldest geological formations on Earth. It represents a time when the Earth's atmosphere was rich in volcanic gases and lacked free oxygen. It predominantly consists of volcanic rocks such as basaltic lavas and volcaniclastic sediments. These rocks were formed through volcanic activity in an ancient oceanic environment.

The Ongeluk Formation is significant because it contains some of the earliest evidence of microbial life on Earth. Fossilized microorganisms, known as stromatolites, have been found within the formation. These structures provide insights into early microbial communities and their role in shaping Earth's environment billions of years ago. The formation is situated within the Kaapvaal Craton, a stable geological region in South Africa that has preserved rocks dating back to the Archean Eon. The Kaapvaal Craton has been subjected to extensive geological studies due to its rich and well-preserved rock record. Scientists continue to study the Ongeluk Formation to unravel more about the early Earth environment, the evolution of life, and the geological processes that shaped our planet during its infancy.

In summary, the Ongeluk Formation in the Northern Cape Province near Postmasburg holds significant scientific importance as it provides a window into Earth's early history, offering clues about the conditions under which life first emerged and evolved on our planet.

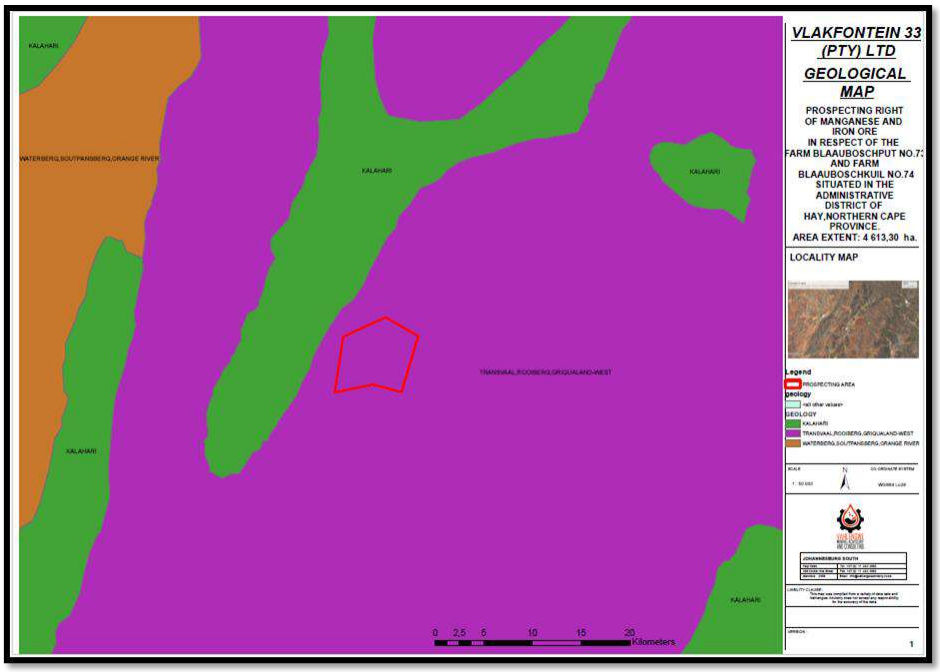


Figure 6: Geological map indicating the geological formation of the proposed prospecting area.

Topography and Land Capability

Swartkoppies is located in the Highveld plateau area in the Northern Cape of South Africa known as the Highveld, at an elevation of 8240, 8242, and 5582 meters, as shown in Figure 6 below. Consequently, based on the map's gradient, and displayed elevation, the project area is in a gentle slope dominated by landscapes. The Central Business District (CBD) is situated on a prominent ridge known as Posmasburg Town. This area is drained by dry riverbeds and pans, which are seasonal watercourses that flow only during periods of heavy rainfall.

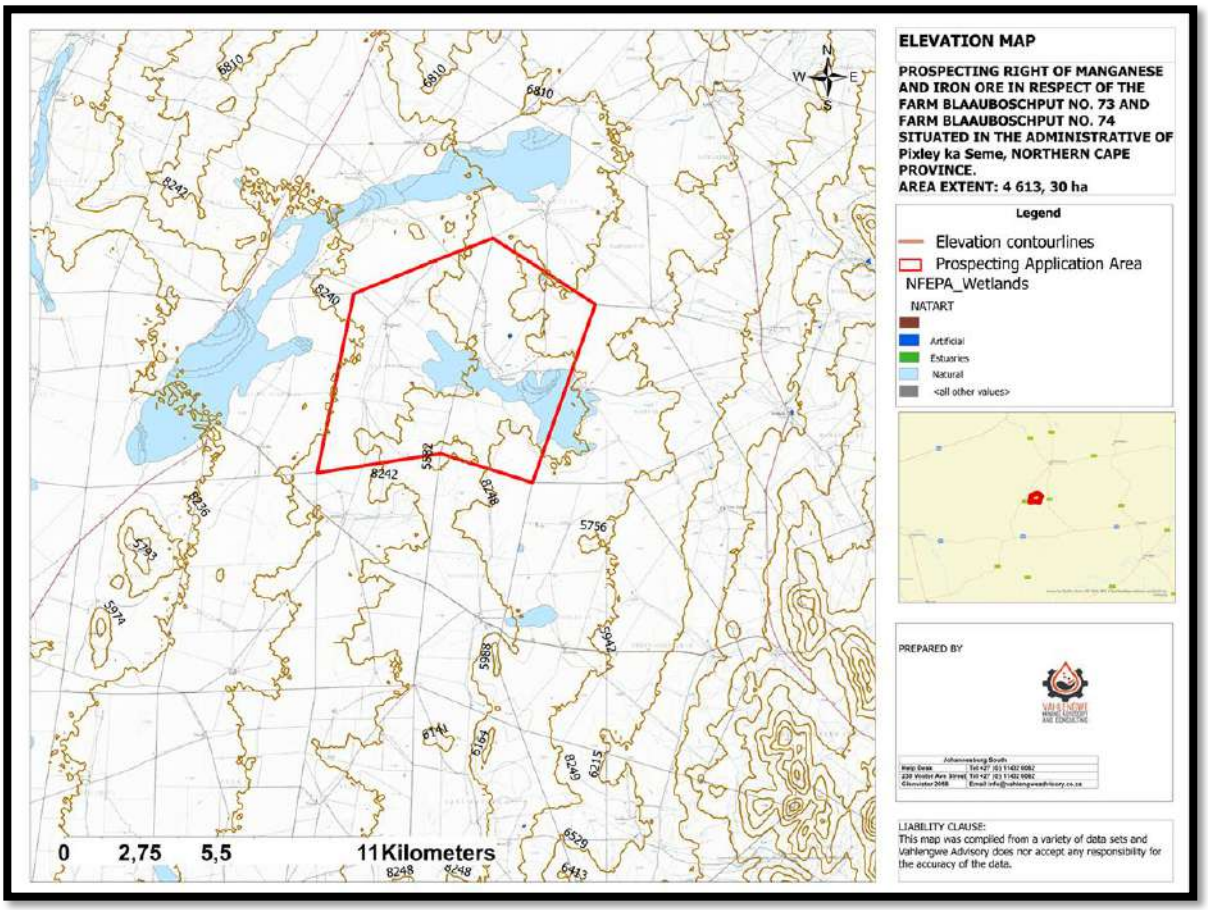


Figure 7: Topographical Map of the Administrative District of Pixley ka Seme.

- **Hydrology**

The proposed project area is situated southwest of Posmasburg Town, accessed via R383 road. Nevertheless, in the prospecting area, there is surface water from different rivers. These rivers provide surface water resources for farming, irrigation, and drinking water, as illustrated in Figure 8. Notably, natural water falling inside the area has collected tributaries flowing inside natural water. Many of their sources define the significance and indication of groundwater aquifer availability. These aquifers can

provide a reliable source of water for domestic use and agricultural purposes. Its availability varies depending on various factors, including climate and infrastructure development.

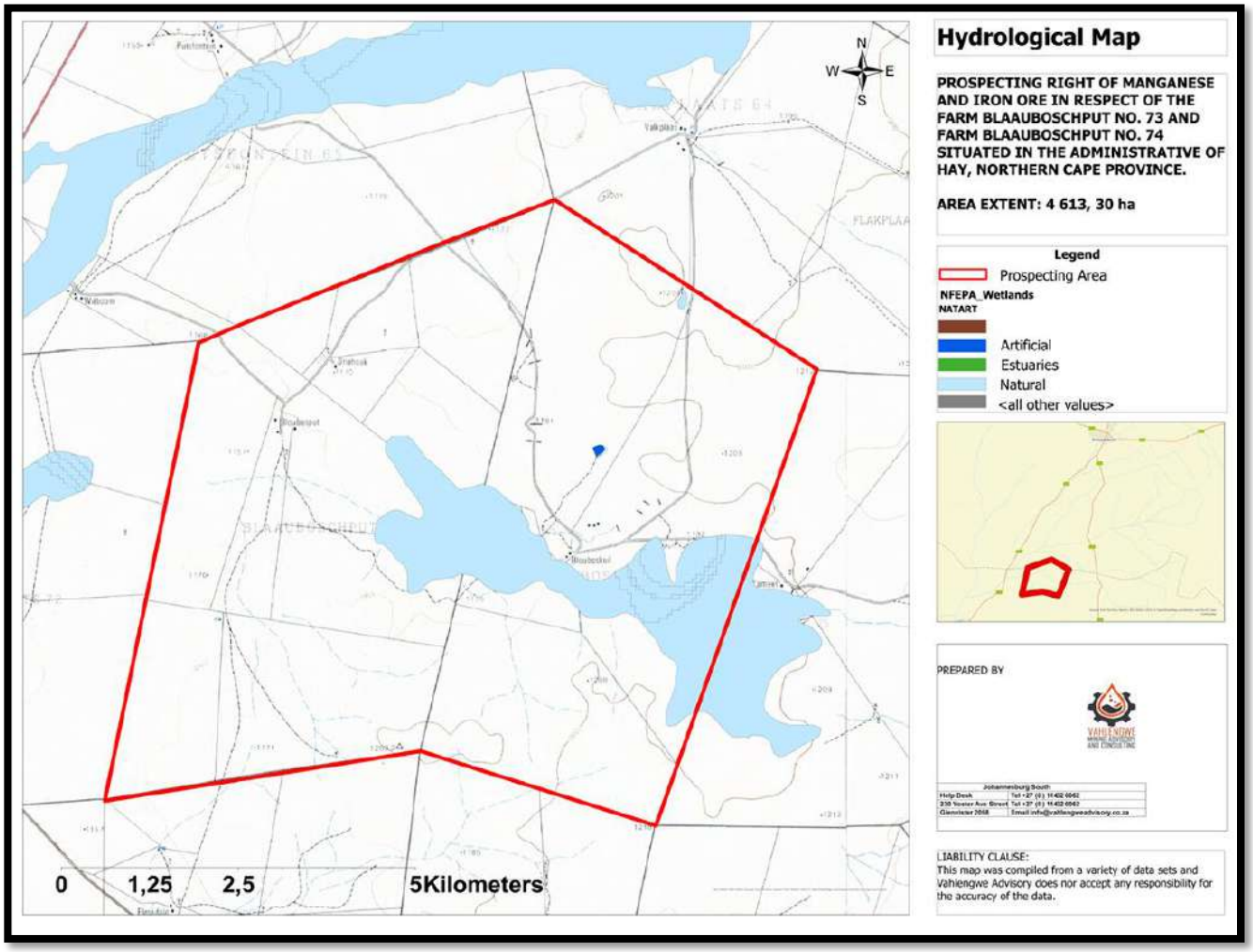


Figure 8: Hydrological Map

- **Biodiversity**

- **Biomes**

Figure 11 below shows that the proposed prospecting right area is located within the Savanna and Nama Karoo Biomes. The Savanna Biome is a vast, tropical region covering much of sub-Saharan Africa, including South Africa's Kruger National Park. This biome is characterized by a mix of grasslands and open woodlands, with rainfall varying from 400- 1200 mm annually. Savanna supports diverse vegetation, including Acacia, Baobab, and Marula trees, and a wide range of herbaceous plants. Fauna includes iconic species like lions, elephants, giraffes, and antelopes. The Savanna biome is shaped by seasonal fires, grazing, and browsing, maintaining its dynamic balance.

The Namakaroo Biome is a unique and arid region in Southern Africa, covering parts of South Africa

and Namibia. Characterized by succulent karoo vegetation, this biome is adapted to harsh conditions with limited rainfall (less than 200 mm annually). Namakaroo supports sparse tree cover, with dominant species like Acacia and Euphorbia. The biome's diverse succulent flora, including aloe and euphorbia, has evolved to store water, enabling survival in this water-scarce environment. Fauna includes adapted species like springbok, ostrich, and various reptiles.

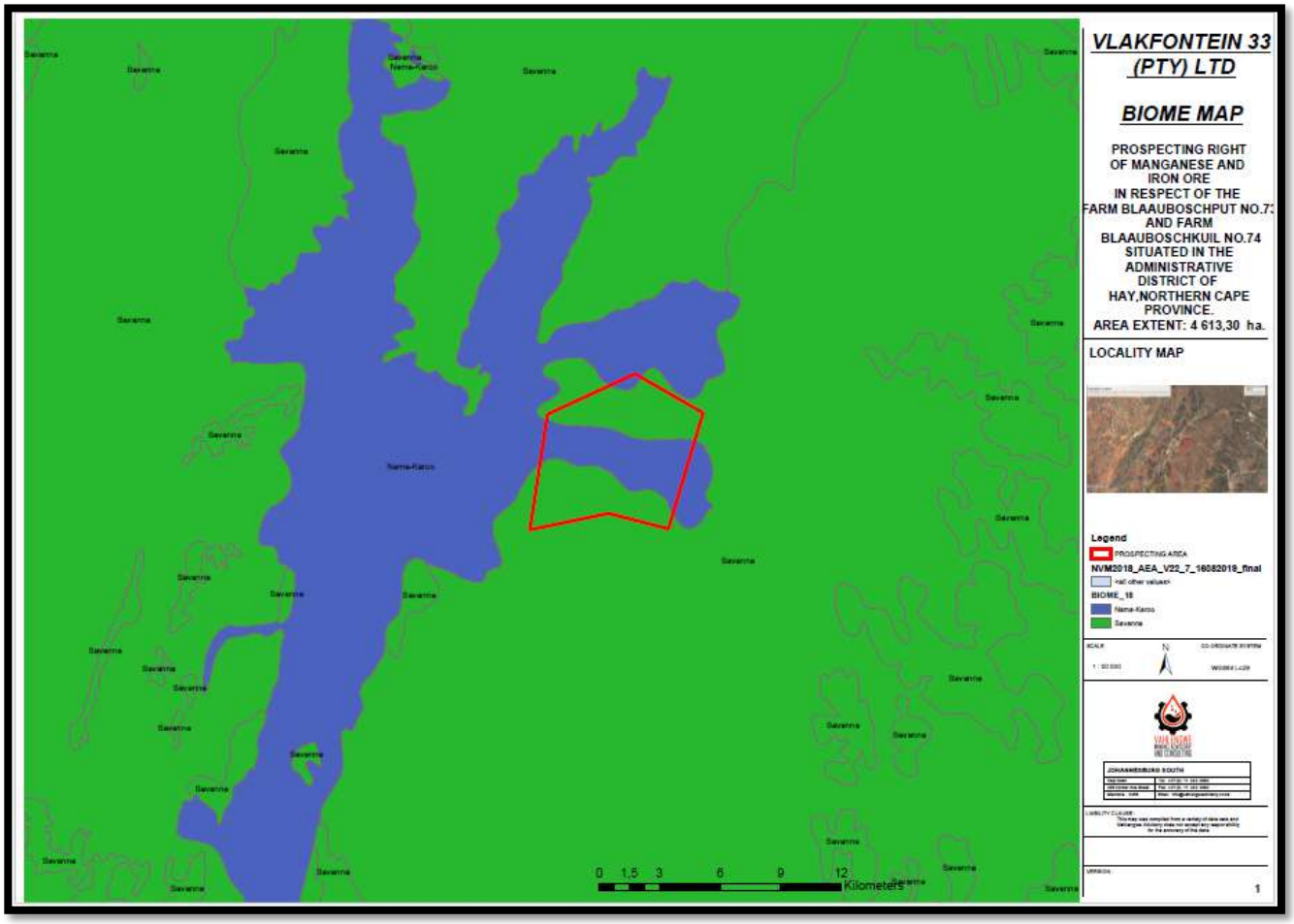


Figure 9: Biome

- **Bioregions**

The proposed prospecting right area is in the Upper Karoo and the Eastern Kalahari Bioregions respectively as shown in Figure 10. The Upper Karoo Bioregion, covering the western and central parts of the province, is characterized by an arid to semi-arid climate with elevated plains and plateus. Vegetation consists of grasslands, succulent karoo, and dwarf shrublands, supporting fauna such as springbok, gemsbok, ostrich, and reptiles adapted to arid conditions.

In contrast, the Eastern Kalahari Bushveld Bioregion, situated in the northeastern parts of the Northern Cape, bordering Botswana, features a semi-arid climate with summer rainfall. This bioregion boasts open woodlands dominated by Acacia, Terminalia, and Burkea, interspersed with bushveld and

grasslands. The diverse fauna includes antelopes, predators like lions and leopards, elephants, and various bird species.

Figure 10: Bioregions

- **Vegetation Type**

The proposed project area is located within the Olifants Plains Thorvald and Northern Upper Karoo. There is a high diversity of herbs. Several kinds of existing vegetation found within the project, include succulent Karoo, Nama-Karoo, and grassland. Succulent Karoo is more dominant in the Northern Upper Karoo region. The area is characterized by a different array of succulent plants, such as aloe, euphorbia as well as crassula species. While Nama Karoo is found in the Olifants farm Thorvald area. This is characterized by mixed succulent as well as non-succulent plants, which include shrubs, grasses, and geophytes. Lastly, grassland is profound in the fertile regions of the Northern Upper Karoo. This type of grass species is all over, including Themeda Triandra and Eragrostis spp are the dominating species in this region. However, the region has a varied gradient with hills, flat plains, and valleys. The vegetation is species-rich, wiry, sour grassland alternating with low, sour shrubland on rocky outcrops and steeper slopes accompanied by a rich suite of shrubs.

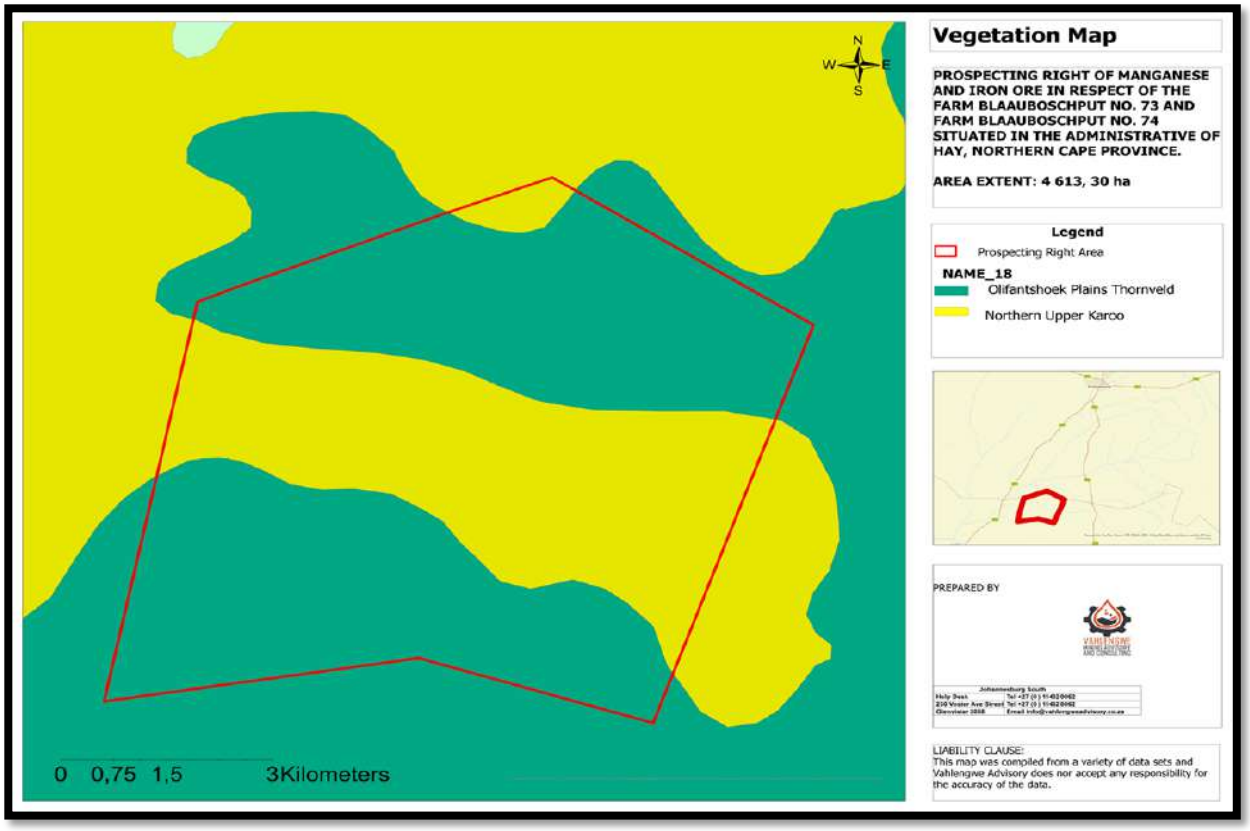


Figure 11: Vegetation type

- **Conservation Plan**

The Department of Rural, Environmental, and Agriculture Development (READ) defines Critical Biodiversity Areas and Ecological Support Areas as follows:

Critical Biodiversity Areas Two (CBAs) are terrestrial and aquatic areas of the landscape that need to be maintained in a natural or near-natural state to ensure the continued existence and functioning of species and ecosystems and the delivery of ecosystem services. In other words, if these areas are not maintained in a natural or near-natural state then biodiversity targets cannot be met. Maintaining an area in a natural state can include a variety of biodiversity-compatible land uses and resource uses. Now, based on the spatial data illustrated, a small part of the CBA falls within the prospecting area, displayed on the Northeast of the map.

Ecological Support Areas (ESAs) are terrestrial and aquatic areas that are not essential for meeting biodiversity representation targets (thresholds), but which nevertheless play an important role in supporting the ecological functioning of critical biodiversity areas and/or in delivering ecosystem services that support socio-economic development, such as water provision, flood mitigation or carbon sequestration. The degree or extent of restriction on land use and resource use in these areas may

be lower than that recommended for CBAs. Thus then, ESA also occupies a bigger area from Southeast of the PR.

According to the map, the proposed prospecting area falls within other natural areas (Important Bird and Biodiversity Areas) that are not critical for PR to be undertaken, as presented in Figure 14. These other natural areas dominate the project area.

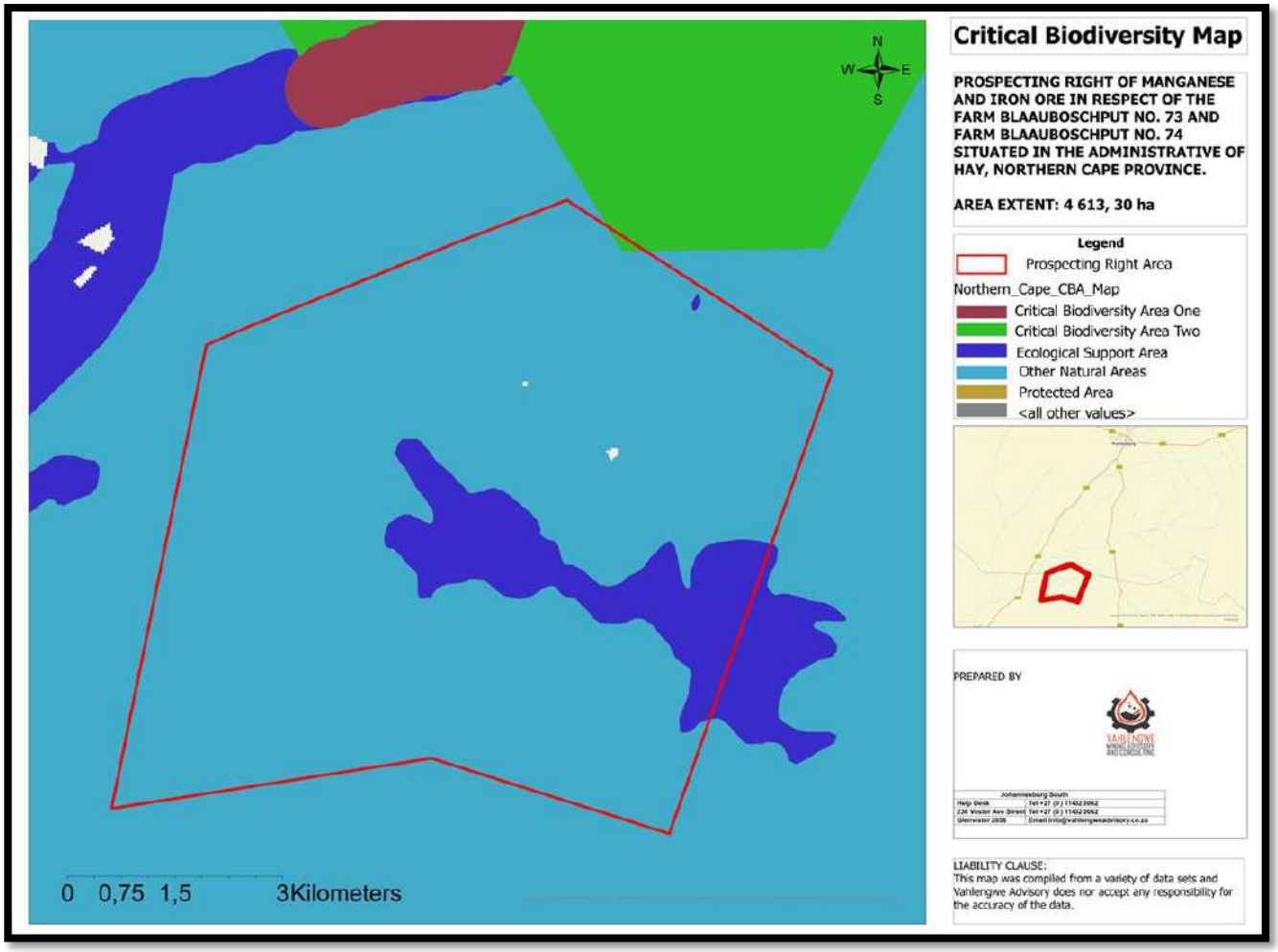


Figure 12: Areas of conservation importance

- **Socio-Economic Status**

The project area is located in the Northern Cape Province, under the small Town of Postmasburg. In recent years, this Town has faced significant socio-economic issues. The Town's economic status has stagnated, leading far to depend on social grants. The socio-economic characteristics are varied, with a sparse population: like many small mining towns, the Town struggles with a low population and very limited economic opportunities. Low productivity of the Town's remote location and limited infrastructure prevent economic growth and development. The current job opportunities are quite limited and do not consider the local economy, which is heavily reliant on the unpredictable mining

industry that is subject to fluctuations. However, the region is more reliant on the mining industry which can be vulnerable to economic downturns. The Town struggles to diversify its economy, leading to a lack of job opportunities and economic stagnation.

- **Demographics and Population Statistics**

According to the 2022 census, the Siyancuma Local Municipality has a total population of 37,076. The population of the municipality consists of 57.5% coloured, 33.3% black African, 7.5% white, 0.7% Indian/Asian, and 1.4% from other population groups. (see Table 9 and Figure 15). Of those aged 20 years and older,7,2% have completed primary school, 30,3% have some secondary education, 16,9% have completed matric, and 5,4%have some form of higher education. Of the mentioned age group, 16,8% have no form of schooling (Figure 17).

Table 9:Population profile of Posmasburg (Source: Stats SA 2022 Census)

Group	Percentage
Black African	33%
Coloured	57,5%
Indian/Asian	0,7%
White	7,5%
Other	1,4%

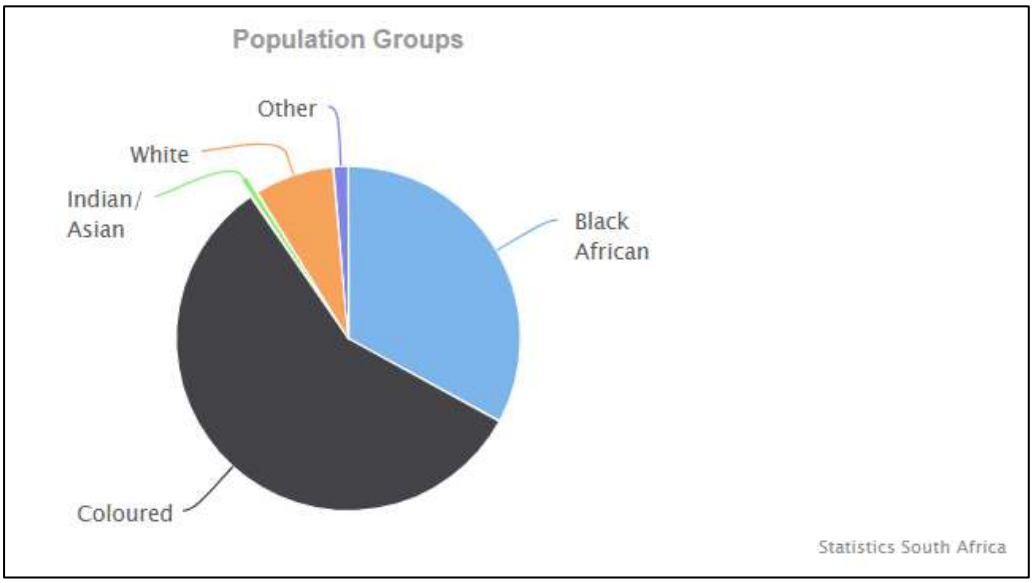


Figure 13: Population groups of the Posmasburg (Source: Stats SA 2022 Census)

The Figure below depicts sex and age distribution for Alfred Duma local municipality derived from demographic breakdowns within Estcourt Town population. The population of Alfred Duma Local Municipality is relatively young, with a significant portion under the age of 20. There is also a slightly higher number of females compared to males. The working-age population constitutes the bulk of the population, which has implications for local economic development, employment, and social services.

Gender profile

The gender composition is slightly skewed towards the male. A conclusion can be drawn for Inkosi Langalibalele where both shares of migrated population and male population are lowest in the district. The figure below illustrates the information as captured above.

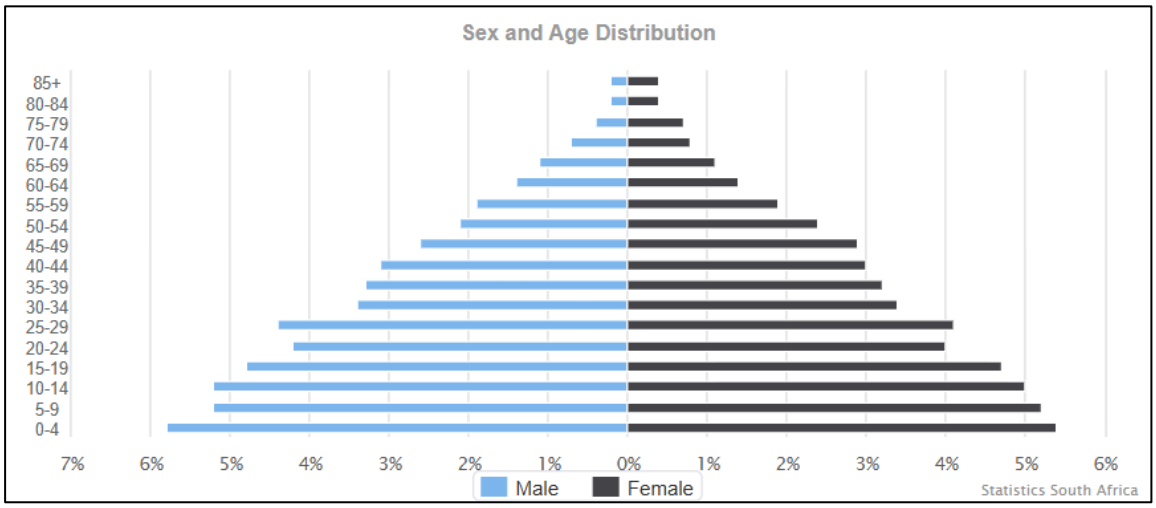


Figure 14: Sex and Age Distribution of the Posmasburg (Source: Stats SA 2022 Census)

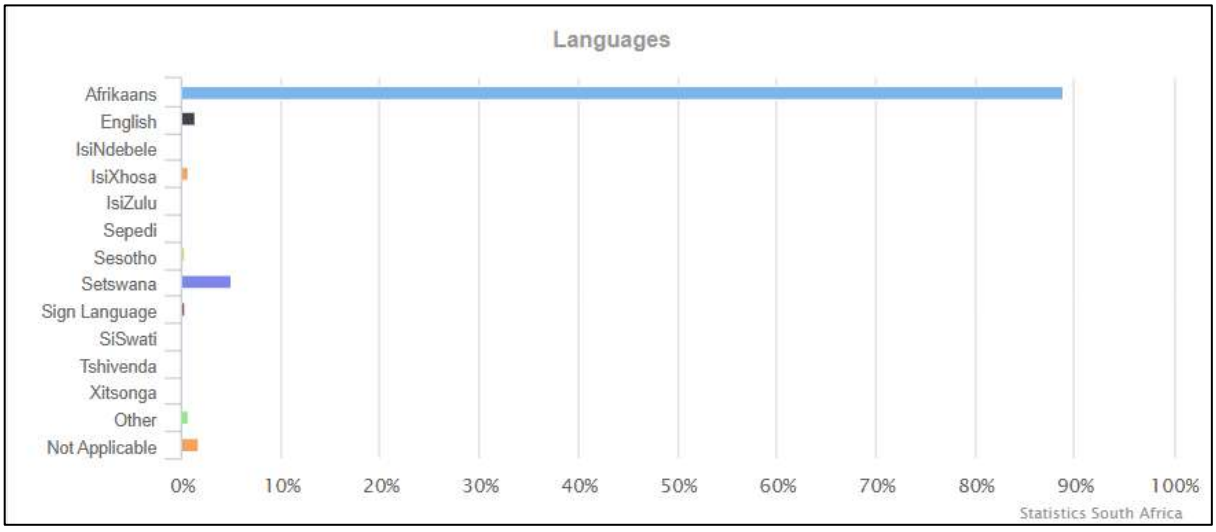


Figure 15: Education level of Estcourt Town (Source: Stats SA 2011 Census)

The municipality has a total of 9,578 households, averaging 3.8 people per household. Among these households, 35% have access to piped water, either within their homes or in their yards. Additionally, 82.2% of households have access to electricity for lighting

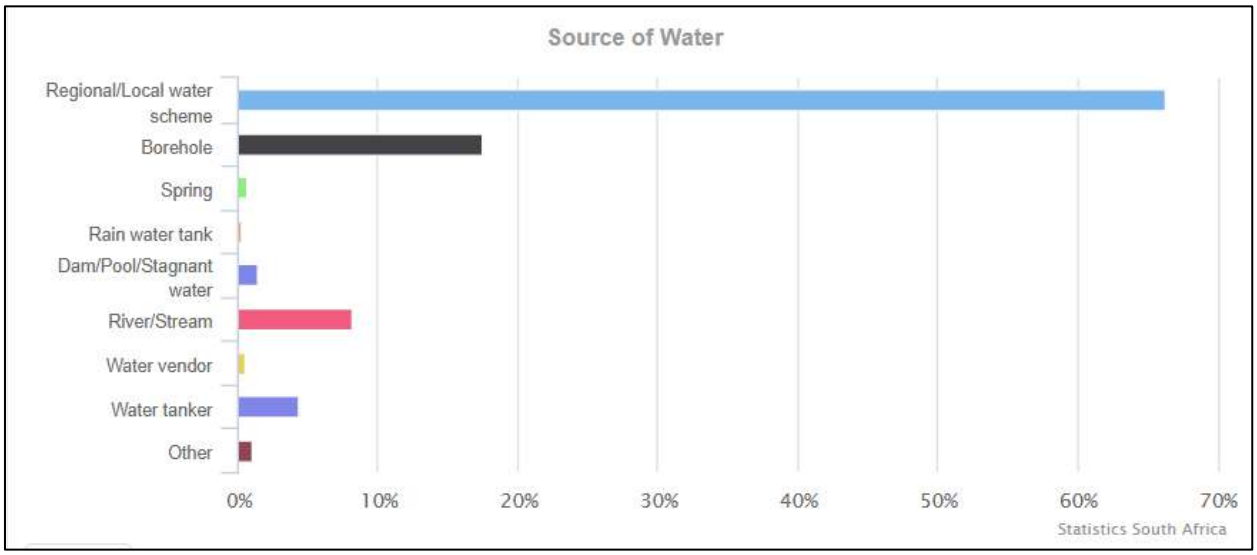


Figure 16: Sources of Water at the Posmasburg (Source: Stats SA 2022 Census)

There are 11,064 economically active individuals (employed or unemployed but seeking work), and of these, 28.2% are unemployed. Among the 5,800 economically active youth (ages 15–34) in the area, 35.2% are unemployed.

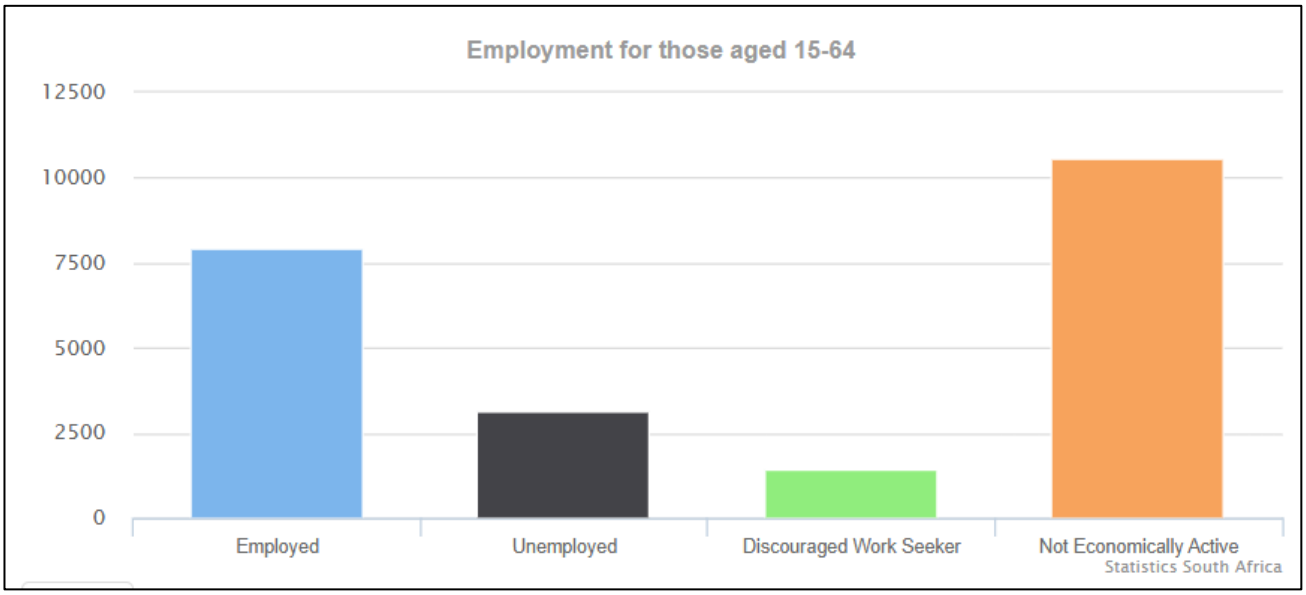


Figure 17: Posmasburg Employment status (Source: Stats SA 2022 Census)

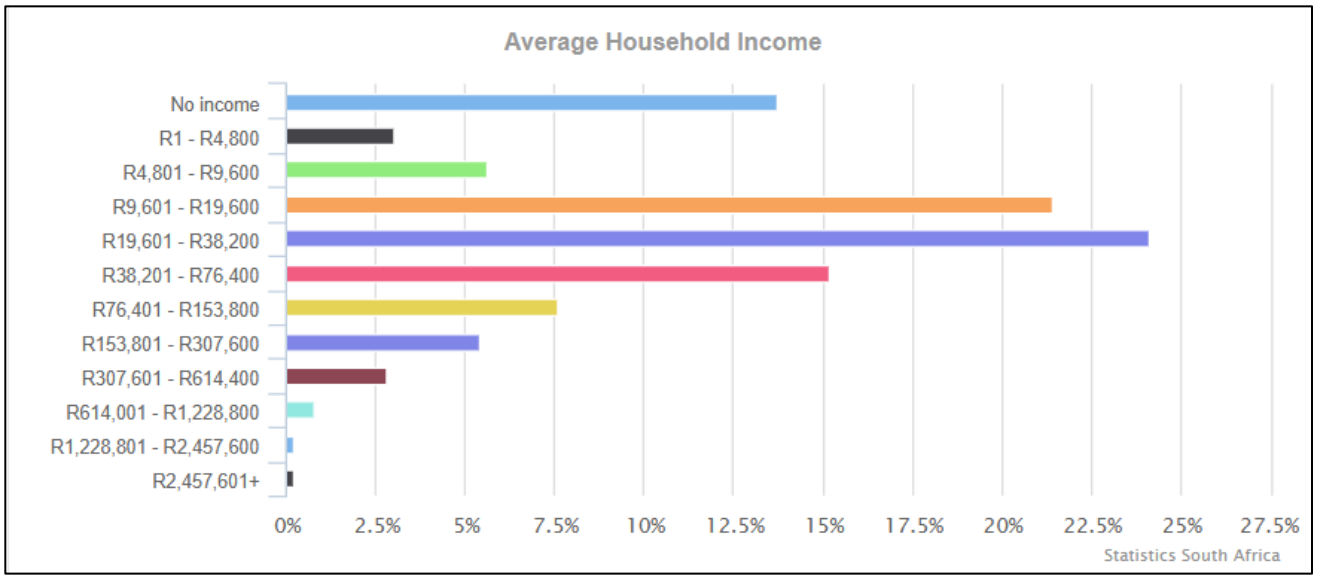


Figure 12: Posmasburg Household Annual Income (Source: Stats SA 2022 Census)

9.4.1.2. Description of the current land uses.

The Siyancuma local Municipality has a diverse range of land uses, with residential, commercial, renewable energy (solar), and agricultural areas particularly prominent. These land uses reflect the city's role as a major urban center with a dynamic economy and vibrant communities. The area surrounding the proposed prospecting site is primarily characterized by substantial farmers and residential areas, highlighting a mix of agricultural and residential uses near the site.

9.4.1.3. Description of specific environmental features and infrastructure on the site.

The project area is an open veld characterized by a mixture of environmental features such as water resources, which are impacted by infrastructure development, sensitive ecosystem area, and existing farmsteads infrastructure. According to the data for Northern Cape Critical Biodiversity Areas, the proposed prospecting area falls within the small part of CBA located in the northeast of the prospecting area, Ecological Support Area, and other natural areas. Within the application area, there are natural and artificial dams. There are farmsteads within the proposed area that use two different access roads: Road (R325) and (R383).

9.4.1.4. Environmental and current land use map

(Show all environmental, and current land use features).

The environmental and current land use of the proposed area is shown on the map below

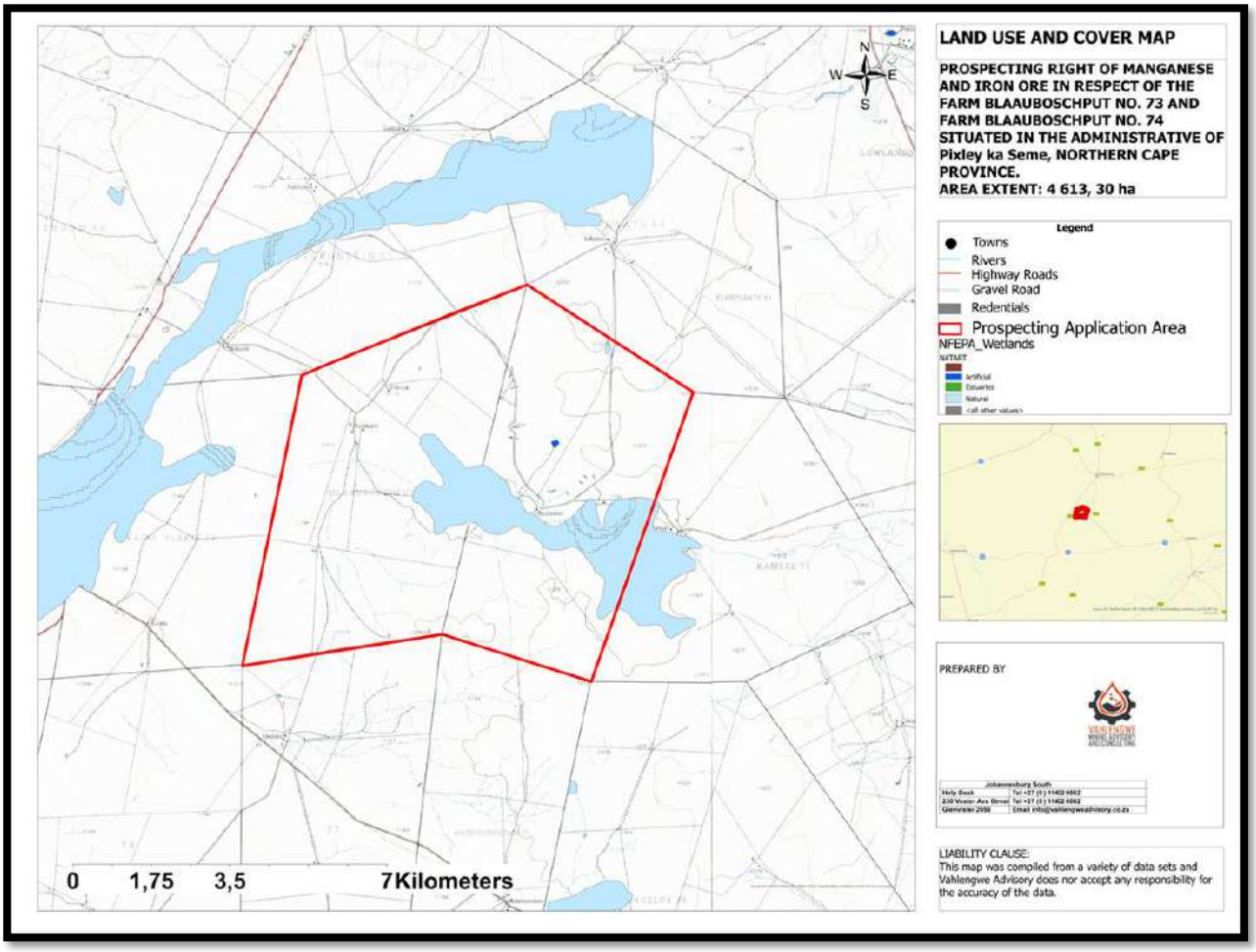


Figure 18: Environmental and Land use map

9.4.2. Impacts and risks identified including the nature, significance, consequence, extent, duration and probability of the impacts, including the degree to which these impacts.

(Provide a list of the potential impacts identified of the activities described in the initial site layout that will be undertaken, as informed by both the typical known impacts of such activities, and as informed by the consultations with affected parties together with the significance, probability, and duration of the impacts. Please indicate the extent to which they can be reversed, the extent to which they may cause irreplaceable loss of resources, and can be avoided, managed, or mitigated).

Project activities

The prospecting activities will include the following activities:

- Establishment of the office and equipment storage site.
- Installation of mobile offices and ablution facilities;
- Construction of temporal access road to the camp;
- Drilling; and
- Rehabilitation and closure.

Impacts associated with the proposed project.

- Topsoil disturbance and soil erosion due to the vegetation clearance during the site establishment and drill sites establishment during the operational phase of the proposed project;
- Disturbance on the flora and fauna;
- Dust generation and noise disturbance due to the movement of the vehicles and operating equipment;
- Soil contamination and groundwater resources contamination due to the hydrocarbon spillages from the fuel storages and/or leakages from the operating vehicles;
- Impacts of socio-economic environments such as the farming and grazing lands; and
- Impacts on cultural, heritage and palaeontological resources

9.4.3. Methodology used in determining and ranking the nature, significance, consequences, extent, duration and probability of potential environmental impacts and risks.

(Describe how the significance, probability, and duration of the aforesaid identified impacts that were identified through the consultation process was determined to decide the extent to which the initial site layout needs revision).

Criteria to Consider when Determining Severity of impacts:

The ranking of impacts/determination of significance is estimated using two criteria, namely Consequence and Probability. These consider the contributing factors / criteria listed in the legislation. The definitions of each are provided below.

The **Consequence** of an impact resulting from an aspect is expressed as a combination of:

- **Nature** of impact: An indication of the extent of the damage (negative impacts) or benefit (positive impacts) the impact inflicts on natural, cultural, and/or social functions (environment).
- **Extent** of impact: A spatial indication of the area impacted (i.e., how far from activity the impact is realised).
- **Duration** of impact: A temporal indication of the how long the effects of the impact will persist, assuming the activity creating the impact ceases. For example, the impact of noise is short lived (impact ceases when activity ceases) whereas the impact of removing topsoil exists for a much longer period.
- **Frequency** of the impact occurring: An indication of how often an aspect, because of a particular activity, is likely to occur. Note that this does not assess how often the impact occurs. It applies only to the aspect. For example, driving takes place daily whilst other activities take place monthly while the resultant frequency of the impacts occurring will vary based on several factors.

Magnitude/Severity of an impact determines to what extent will the environment be destroyed or is functions be altered by the activity.

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

Table 10: Environment impact assessment criteria.

CONSEQUENCE	**Nature of Impact:**		
	Low	Impacts affect the environment in such a way that natural, cultural. and / or social functions and processes are not affected.	**1**
	Low-Medium	Impacts affect the environment in such a way that natural, cultural. and / or social functions and processes are affected insignificantly.	**2**
	Medium	Impacts affect the environment in such a way that natural, cultural. and / or social functions and processes are altered.	**3**
	Medium-High	Impacts affect the environment in such a way that natural, cultural. and / or social functions and processes are severely altered.	**4**
	High	Impacts affect the environment in such a way that natural, cultural and / or social functions and processes will temporarily or permanently cease.	**5**
	Scale/Extent of Impact:		
	Local	The impacted area will only extend as far as the activity being conducted, e.g., the activity footprint	**1**
	Site	Impact occurs within a 20km radius of the site.	**2**
	Regional	Impact occurs within a 100km radius of the site.	**3**
	National	Impact occurs within South Africa.	**4**
	Duration of Impact:		
	Short-term	The impact will either disappear with mitigation or will be mitigated through the natural processes in shorter time span.	**1**
	Medium-term	The impact will last up to the end of the project phases, where after it will be negated. The impact will cease within 5 years if the activity is stopped.	**3**
	Long-term	The impact will last for the entire operational phase and after the operational life of the operation but will be mitigated by direct human action or by natural processes thereafter.	**4**
	Permanent	Intervention will not occur in such a way or in such a time span. that the impact can be considered transient.	**5**
	Frequency of the Occurrence of the Impact:		
	Annually or less	Impact occurs at least once in a year or less frequently.	**1**
	6 months	Impact occurs at least once in 6 months.	**2**
	Monthly	Impact occurs at least once a month.	**3**
	Weekly	Impact occurs at least once a week.	**4**
	Daily	Impact occurs daily.	**5**
PROBABILITY	**Probability of the Occurrence of the impact:**		
	Improbable	The possibility of the impact materializing is very low either. because of design or historic experience.	**1**

	Probable	The possibility of the impact materializing will occur to the extent that provision must be made thereof.	**2**
	Highly Probable	It is most	**4**
	Definite	The impact will occur regardless of any prevention measures.	**5**
	Magnitude of the impacts:		
	Low	The impact alters the affected environment in such a way that the natural processes are not affected.	**2**
	Medium	The affected environment is altered; however, the functions and processes continue in a modified way.	**6**
	High	Function or process of the affected environment is disturbed to the extent where it temporarily or permanently ceases.	**8**
SIGNIFICANCE	**Significance of the impact: Sum (Duration, Extent, Duration) x Probability**		
	Negligible	The impact is non-existent or unsubstantial and is of no or little importance to any stakeholder and can be ignored.	**< 20**
	Low	The impact is limited in extent, with low to medium intensity and whatever the probability of the occurrence may be, the impact will not have a material effect on the decision and is likely to require the management intervention with increased costs.	**< 40**
	Moderate	The impact is of importance to one or more stakeholders, and its intensity will be medium or high; therefore, the impact may materially affect the decision, and management intervention will be required.	**< 60**
	High	The impact could render development options controversial or the project unacceptable if it cannot be reduced to acceptable levels; and/or the cost of management intervention will be a significant factor in mitigation	**> 60**

This rating system is weighted in such a way as to set impacts that are very likely to occur, but have very little consequence, as negligible significance. Similarly, impacts with serious consequences but that are unlikely to occur are rated lower, than impacts with serious consequences that are likely to occur.

Table 11: Impacts and risks identified.

Aspect	Impacts	Extent	Duration	Magnitude	Probability	Significance	Reversibility	Replaceability
Soils and Land Capability	There will be a disturbance on the soil and erosion at the proposed prospecting area due to the vegetation clearance and the removal of the topsoil.	Local (1)	Medium - Term (3)	Medium (6)	Highly Probable (4)	Low < 40	Irreversible	Irreplaceable
Vegetation	The potential impact of the proposed prospecting on the vegetation would occur at the prospecting area which result in loss of diversity, habitat and indigenous vegetation.	Local (1)	Medium - Term (3)	High (6)	Definite (5)	Moderate< 60	Irreversible	Replaceable
Animal life	• Animal life will be affected in the immediate vicinity of the operation. • It is anticipated that the noise and general activity will keep the animal life away from the site while the prospecting is ongoing.	Site (2)	Medium – Term (3)	Medium (6)	Definite (5)	Moderate < 60	Irreversible	Irreplaceable
Surface Water	There is a natural wetland on the southern border of the project site and a secondary stream which traverses the project area.	Site (2)	Medium-term (3)	Medium (6)	Probable (2)	Low < 40	Reversible	Irreplaceable
Ground water	Groundwater contamination due to hydrocarbons seepages, boreholes drilling.	Site (2)	Medium-term (3)	Medium (6)	Highly Probable (4)	Moderate < 60	Irreversible	irreplaceable
Air Quality/ Dust	Dust generation by vehicle movement on dust roads, processing of the material and during the drilling operations.	Site (2)	Medium-Term (3)	Medium (6)	Definite (5)	Moderate < 60	Reversible	Replaceable
Noise	Noise nuisance will be created by the excavation, operating processing plant and vehicle movement.	Site (2)	Medium - Term (2)	Medium (6)	Highly Probable (4)	Low < 40	Irreversible	Replaceable
Cultural Heritage	Impacts on cultural and heritage resources if any exists.	Local (1)	Medium - Term (3)	Low (2)	Improbable (1)	Low < 20	Reversible	Replaceable
Visual	The prospecting activities will change the visual character of the property.	Site (2)	Medium - Term (3)	Medium (6)	Definite (5)	Medium < 60	Irreversible	Replaceable

Socio-economic	The effect of this prospecting activity for employment and socio-economic regime would be positive.	Regional (3)	Medium-Term (4)	Medium (6)	Highly Probable (4)	Moderate (positive) < 60	Reversible	Replaceable
Safety	Equipment theft and property vandalism	Local (1)	Medium-Term (3)	Medium (6)	Probable (2)	Low < 20	Reversible	Replaceable
Health	Health impact due to dust inhalation, occupational injuries.	Local (1)	Medium-Term (3)	Medium (6)	Highly Probable (4)	Low < 40	Reversible	Replaceable
Waste Generation	Waste nuisance and littering	Site (2)	Medium-Term (3)	Medium (6)	Probable (2)	Low < 40	Reversible	Replaceable
Traffic and access	Prospecting activities generates additional traffic on the existing number of the moving vehicle going in and out of the site.	Regional (3)	Medium-Term (3)	Medium (6)	Probable (2)	Low < 40	Reversible	Replaceable

9.4.4. The positive and negative impacts that the proposed activity (in terms of the initial site layout) and alternatives will have on the environment and the community that may be affected.

(Provide a discussion in terms of advantages and disadvantages of the initial site layout compared to alternative layout options to accommodate concerns raised by affected parties).

The impacts assessed have highlighted potential risks, important management strategies, and control measures associated with the Project. It is considered there are opportunities to substantially enhance and improve the current and ongoing impacts by undertaking a well-planned and effective prospecting operation. The project has associated positive and negative impacts, and such impacts are described in the table below:

Table 12: Positive and Negative impacts

Aspect	Description
Positive	
Soils and Land Capability	Potential for neighbouring communities to benefit from assistance with shared land management responsibilities.
Animal Life	The opportunity of implementing processes around feral animal control.
Socio-economic	• Opportunities for indigenous employment and economic development. • Requirement for the supply of the goods and services from the local businesses; and • Requirement for short-term accommodation and thus benefiting the house rental and accommodation sector.
Waste	• Supporting local recycling centre and local scrap metal merchant; and • Metals such as steel and copper wire will be collected in designated areas prior to removal from site for recycling.
Negative	
Soils and Land Capability	• Landscape disturbance. • Soil compaction and soil erosion due to the movement of heavy vehicles in the on-site; and • Soil contamination due to hydrocarbon spillages from the fuel storages and vehicles.
Flora and Fauna	Introduction of alien vegetation; and Loss of flora and fauna and habitat destruction
Surface water resources	Erosion and sedimentation leading to soil scouring and increased turbidity of water courses and drainage lines downstream.
Groundwater resources	Contamination of groundwater due to chemicals and hydrocarbons seepage
Noise	Noise nuisance due to moving vehicles and equipment
Air Quality/Dust	Dust creation during clearance, placement of infrastructure and the drilling operations
Visual	Increased visual intrusion due to operation infrastructure and the movement of the operating equipment and vehicles
Socio-economic	Project is unsustainable in terms of job security due to the life of project
Cultural and Heritage Resources	Indigenous resources, values, and aspirational impacts
Waste	Waste generation including the domestic, scrap and hazardous waste
Health and Safety	Inheritance of occupational health problems and exposure to occupational hazards
Traffic and Access	Addition to the existing traffic of the movement of vehicles

Table 13: Positive and negative impacts of the proposed activity.

Impact	Rating Pre-Mitigation	Construction	Operation	Decommission	Rating Post-Mitigation
Positive (+)	**Low**	Job creation	• Employment opportunities and job security • Support to local businesses • Income generation for accommodation business sector • Supporting local recycling centre and local scrap metal merchant	• Increased employment opportunities	**Low**
Negative (-)	**Low**	• Visual nuisance • Health and Safety impacts • Surface and groundwater contamination • Impacts on traffic. • Disturbance on the landscape • Waste generation	• Visual nuisance • Health and Safety impacts • Surface and groundwater contamination • Impacts on traffic. • Unsustainable job security • Disturbance on the landscape • Waste generation	• Visual nuisance • Health and Safety impacts • Surface and groundwater contamination • Impacts on traffic. • Job losses	**Low**
Negative (-)	**Medium**	• Habitat disturbance • Vegetation disturbances • Loss of biodiversity • Soil erosion • Soils contamination • Visual nuisance to moving equipment and vehicles.	• Habitat disturbance • Vegetation disturbances • Loss of biodiversity • Alien vegetation species invasion • Soil erosion • Impacts on groundwater quality. • Soils contamination	• Habitat disturbance • Vegetation disturbances due to vegetation clearance • Alien vegetation species invasion • Soil erosion	**Medium**

		• Noise disturbances	• Visual nuisance due to moving equipment and vehicles. • Noise disturbances	• Impacts on groundwater quality. • Waste generation • Visual nuisance due to moving equipment and vehicles	

9.4.5. The possible mitigation measures that could be applied and the level of risk.

(With regard to the issues and concerns raised by affected parties provide a list of the issues raised and an assessment/ discussion of the mitigations or site layout alternatives available to accommodate or address their concerns, together with an assessment of the impacts or risks associated with the mitigation or alternatives considered).

All possible mitigation measures that could be applied to risks regarding the site layout discussed and considered as part of the EIA process. The proposed mitigation measures for the assumed risks will be confirmed during the EIA process.

9.4.6. Motivation where no alternative sites were considered.

The prospecting activities are intended to be conducted in search of the manganese and iron ore deposits. These minerals occur in specific areas depending on the geology of the area. The historical data shows that there could be the occurrence of manganese and iron ore in the area, and therefore, the prospecting activities are ought to be undertaken in the proposed site. The proposed site has existing access roads that will be used during the operational phase of the project and minimal infrastructure will be established due the site location.

9.4.7. Statement motivating the alternative development location within the overall site.

(Provide a statement motivating the final site layout that is proposed)

Because this area will not necessitate any complex surface infrastructure, no design and layout alternatives for the proposed area have been identified. Alternatives for the camp site's location were considered. Among the options were a fixed location near the site's entrance, a mobile campsite, and an offsite campsite. The alternative sites were chosen based on the proposed area's sensitivity.

9.5. Full description of the process undertaken to identify, assess and rank the impacts and risks the activity will impose on the preferred site (In respect of the final site layout plan) through the life of the activity.

(Including (i) a description of all environmental issues and risks that were identified during the environmental impact assessment process and (ii) an assessment of the significance of each issue and risk and an indication of the extent to which the issue and risk could be avoided or addressed by the adoption of mitigation measures.)

Environmental Impact Assessment (EIA):

The purpose of the EIA Phase is to investigate the potential negative and positive impacts of a proposed project activities on the environment. The potential impacts will then be quantified to assess

the significance that an impact may pose on the receiving environment. The objectives of the EIA process are to:

- Ensure that the potential biophysical and socio-economic impacts of the proposed project, are taken into consideration during the decision-making process.
- Ensure that the project activities to be undertaken do not have a substantial detrimental impact on the environment by presenting management and mitigation measures that will avoid and/or reduce those impacts.
- Ensure that I&APs are informed, including the landowner, about the proposed Project and the public participation process is properly followed.
- Ensure that I&APs are given an opportunity to raise concerns, and make input to understand their needs and expectations; and
- Provide a process aimed at enabling authorities to make an informed decision, especially in respect of their obligation to take environmental and social considerations into account when making those decisions.

The EIA process will assess the overall aspects affected by the proposed project in relation to the activities to be conducted. A sensitivity report has been conducted to determine the sensitivity of the proposed area to make sound decision on the consideration and implementation of the mitigation measures of the impacts posed by the proposed activity.

Using the significance criteria, impacts can be assigned a rating of a potential risk, uncertain risk, and significant risk.

- **Extreme**

These are unacceptable risks that are primarily critical in nature in terms of the extent and long-term environmental harm, permanent sacred site damage, fatality, and massive economic impacts that are effectively regarded as a possibility to almost certain to occur. Such risks significantly exceed the risk acceptance threshold and necessitate comprehensive control measures as well as additional urgent and immediate attention to the identification and implementation of risk-reduction measures.

- **High**

Typically refer to significant to critical consequences, such as significant environmental or heritage damage, as well as significant safety, social, or economic consequences that are likely to cut across the possible to almost certain likelihood ratings. These are also likely to exceed the risk acceptance threshold, and while proactive control measures have been planned or implemented, a very close monitoring regime and additional actions to reduce risk are required.

- **Medium**

As the classification suggests, medium level risks encompass a range of risk combinations ranging from relatively low consequence / high likelihood to mid-level consequence / low likelihood scenarios across environmental, social, and economic domains. Because they are effectively positioned on the risk acceptance threshold, these risks are likely to necessitate active monitoring.

- **Low**

These risks are below the risk acceptance threshold and although they may require additional monitoring in certain cases are not considered to require active management. In general, such risks represent relatively low likelihood and low to mid-level consequence scenarios.

- **Very Low**

Impacts risks that are below the risk acceptance threshold and would at the most require additional monitoring and in many cases would not require active management. These risks can include unlikely to rare events with minor consequences and in essence relate to situations around very low probabilities of relatively minor impacts occurring.

The probability of occurrence has been categorised within the context of reasonable timeframes and frequencies given the nature of the anticipated project life. The following table defines the levels of likelihood and severity for the types of consequences that comprise the risk rating determination:

Table 14: Likelihood rating system

Rating	Likelihood	Definitions
5	Almost certain	The event is expected to occur in most circumstances (The event is likely to occur once per year).
4	Likely	The event will probably occur in most circumstances (The event is likely to occur once every 1 – 2 years).
3	Possible	The event might occur at some time (The event is likely to occur once every 2 – 5 years).
2	Unlikely	The event could occur at some time (The event is likely to occur once every 5 – 10 years).
1	Rare	The event may occur only in exceptional circumstances (The event is unlikely to occur in any 10-year period).

Risk Analysis Matrix

The risk controls are linked to the level of risk and the opportunity for risk reduction to meet the project rehabilitation objectives and goals, which are linked to an environmentally and socially responsible operation, and these requirements are part of the regulatory obligations and impact assessment guidelines. The table below summarizes the qualitative risk matrix used, as well as the risk levels for the various consequence and likelihood combinations.

Table 15: Risk Analysis Matrix

		Severity of Consequence				
		Critical (5)	**Major (4)**	**Significant (3)**	**Moderate (2)**	**Minor (1)**
Likelihood of Consequence	**Almost Certain (5)**	Extreme	Extreme	High	High	Medium
	Likely (4)	Extreme	High	High	Medium	Medium
	Possible (3)	Extreme	High	Medium	Medium	Low
	Unlikely (2)	High	Medium	Medium	Low	Very Low
	Rare (1)	Medium	Medium	Low	Low	Very Low

The impact assessment will focus on the invasive activities of the project since they will have the potential to impact on the biophysical and the social environment of the proposed area. These activities include:

- Vegetation clearance for site (camp and drill sites) establishment.
- Installation of mobile offices and ablutions.
- Construction of temporal access roads to the site camp and drill sites.
- Drilling; and
- Rehabilitation of the overall site and closure.

The impact assessment is furthermore separated into three distinct phases, namely:

- Site establishment/construction phase.

The site establishment will include the clearance of vegetation to establish the camp and drill sites. Various aspects of the environment will be subjected to the disturbances due to this activity.

- Operational phase; and

The operational phase will include the drilling operation whereby the drill cores will be logged and taken to the lab for analysis.

- Decommissioning.

This phase will entail the removal of all temporal infrastructure and the rehabilitation of all the disturbed area at the prospecting site.

Table 16: Identified and assessed impacts and risks the activity will impose on the preferred site.

Aspect	Impact	Mitigation Measures	*C	*L	*R
Vegetation	Loss of vegetation cover due to clearance during the site preparation. Vehicle movement and compaction of soil minimising plant growth of indigenous flora. Alteration of natural environment and habitat loss. Spreading of invasive alien plants. The altered environment will also favour species that are better adapted to disturbed/transformed areas. Exposed disturbed area with no indigenous vegetation. Long-term or permanent degradation and modification of the receiving environment resulting to the loss of important habitats. Loss of vegetation cover due to clearance during the site preparation. Vehicle movement and compaction of soil minimising plant growth of indigenous flora. Alteration of natural environment and habitat loss. Spreading of invasive alien plants. The altered environment will also favour species that are better adapted to disturbed/transformed areas. Exposed disturbed area with no indigenous vegetation. Long-term or permanent degradation and modification of the receiving environment resulting to the loss of important habitats.	Environmental awareness and training to the contractors; Drilling sites to be located in less sensitive areas as far as possible; Rehabilitate the disturbed areas as far as possible. Vehicles should only use designated roadways to access the site. Have a biodiversity protocol and rehabilitation plan in place that will be implemented upon closure. Invasive plant material should be disposed by incineration, or alternatively, composting to break down seeds. If seedbank persists, invasive alien plant management and eradication measures should be implemented. Implement effective rehabilitation measures upon closure.	Pre – Mitigation 2 Post – Mitigation 1	 3 3	 M L
Animal Life	Loss of priority fauna species from important habitats. Loss of resident fauna through increased disturbance. Displacement of resident fauna species through increased disturbance.	Environmental awareness and training for workers about the animal life on site. Killing of animals on site will be strictly prohibited and animals found on site must be safely removed from the operation. Implementing noise monitoring measures and management. Avoid vegetation clearance during the breeding season.	Pre – Mitigation 2 Post – Mitigation 1	 3 3	 M L
Soils and Land Capability	The removal of vegetation associated with the prospecting activities will allow for increased surface water runoff, which may lead to change in topographical characteristics of the area. Land clearance during establishment of infrastructure will disturb the natural sequence of soil layers thereby changing the soil and land capability. The movement of heavy vehicles in the operation area will result in compaction of soil, water runoff and soil erosion especially during the rainy season. The equipment and vehicles may contaminate the soil due to hydrocarbon spillages.	Removal of vegetation must be undertaken in a phased approach to limit the number of exposed areas at a time. Regular roads maintenance of eroded shoulders. A cleaned-up of any hydro-carbon spills on soil must be undertaken by trained personnel using commercially available emergency clean-up kits.	Pre – Mitigation 3 Post – Mitigation 1	 3 3	 M L

Surface water resources	Contamination of water resources and deterioration of water quality; and Disturbance of free drainage and runoff.	Remediate using commercially available emergency clean up kits; and Re-profiling and rehabilitation of the disturbed landscapes. Implementing temporary erosion control measures.	Pre – Mitigation		
			4	3	H
			Post – Mitigation		
			3	3	M
Groundwater resources	Changes in runoff and infiltration during the operation phase leading to reduce groundwater recharge. Groundwater contamination from fuel & hydrocarbons leakages and spillages from the storage and transporting vehicles. Baseflow reduction caused by proposed activity.	Implementing measures to minimise the removal of vegetation and opportunities for revegetation will be maximised. Implement groundwater monitoring to detect groundwater contamination. Implementation of the mitigation measures to minimise hydrocarbon spills. Conducting prospecting activities in low groundwater sensitivity area.	2	2	L
Noise	Increase in ambient noise levels during the operational phase; Disturbances to faunal species behaviour during the operational phase.	Limiting the site establishment activities working hours to daylight hours (07h00 to 17h00) and not undertaking such activities at all on Sundays and public holidays. Applying an operating buffer of a minimum 50m, but preferably 100m between drill site and any dwellings.	Pre – Mitigation		
			3	3	M
			Post – Mitigation		
			2	3	M
Air Quality/Dust	Possible dust generation in some areas including the drilling during operations; Heavy dust deposition can have detrimental effects on plants if the leaves are smothered to the extent where transpiration and photosynthesis are affected. Health impacts on livestock and people in proximity to the project site due to fine particulate emissions during construction and operational phases.	Conduct dust fall-out monitoring. Enforcing the speed limits to reduce dust created by moving vehicles. Haul roads in use will be subjected to dust suppression management measures. Implement concurrent rehabilitation activities to minimise the number of exposed surfaces that would result in dust generation. It must be noted that the speed limit for driving within a community and prospecting right shall be limited to 40Km/h on exposed surfaces.	Pre – Mitigation		
			2	3	M
			Post – Mitigation		
			1	3	L
Visual	Visual disturbance due to site clearance. Dust generated during site establishment. View disturbance due to the operating of the equipment	Ensure that all exposed surfaces are subjected to dust suppression. Clearing of vegetation must be undertaken within the demarcated boundaries of the designated area only.	Pre – Mitigation		
			3	3	M
			Post – Mitigation		
			2	2	L
Socio-economic	The effect of this prospecting activity for employment and socio-economic regime would be positive, but very limited in extent and duration. Disturbance on the current commercial activities.	Skill development and transfer. Maximise procurement of goods and services from local providers.	Pre – Mitigation		
			1	3	L
			Post – Mitigation		
			2	2	L
Cultural and Heritage Resources	Destruction of archaeological remains. Disturbance of graves. Disturbance of buildings and structures older than 60 years old.	Use chance find procedure to cater for accidental finds. Maintaining a 100m buffer from all identified 'no-go' areas with heritage resources.	2	2	L

	Destruction public monuments and plaques.	Encountered heritage resources, including fossils, graves, or human remains must be reported to the relevant authorities.			
Waste	Waste Generation including general, scrap and hazardous waste. If this waste is not stored correctly, can lead to environmental pollution including soil and water resources.	Classification and separation of the waste into general or hazardous must be implemented onsite into different coloured and labeled bins. Uncontrolled disposal of waste must strictly be prohibited on-site	Pre – Mitigation		
			2	2	L
			Post – Mitigation		
			1	2	L
Safety	Theft of equipment and the damage of infrastructure.	Ensure that there is a controlled access to the site by deploying security personnel who would also conduct security patrols to monitor the perimeters of the project site thereby providing an increased security presence. Consult with the local police branch to establish standard operating procedures for the control and/or removal of loiterers. All project infrastructure should be contained in a fenced and secured area to prevent unauthorized access and potential health and safety risks.	Pre – Mitigation		
			2	3	M
			Post – Mitigation		
			1	3	L
Health	The dust generation with potentially particulate matter, which can be inhaled, causing respiratory diseases.	All area that are sources of dust must be subjected to dust suppression. Continuous dust monitoring should be carried out throughout the project undertakings. All employees will be issued with and instructed to wear the appropriated personal protective equipment (PPE).	Pre – Mitigation		
			2	3	M
			Post – Mitigation		
			1	3	L

*C – Consequences
*L – Likelihood of consequences
*R – Residual Risks
VL – Very Low
L – Low
M – Medium
H - High

- **Public Participation Process followed:**

The PPP will be carried out in accordance with the NEMA and in accordance with the regulatory requirements outlined in Chapter 6 of the 2014 EIA Regulations (as amended). The public participation process is summarized below.

Table 17: Summary of the PPP followed.

Activity	Details
Identification of stakeholders	Lodgment of the stakeholder database which represents various sectors of society, including directly affected and adjacent landowners, in and around the proposed project area.
Distribution of BID and the I&AP registration form	Handing of BID with I&APs registration and some will be emailed to stakeholders from the 13th of February 2025.
Placing newspaper advertisement	A newspaper advertisement in the **NoordkaapBulletin** on the 13th of February 2025.
Putting up of site notices	Placing site notices at the proposed project site on the 12th of February 2025. A site notice placement report and map were developed to indicate the locations of site notices in and around the project area.
Announcement of Draft BAR	The Draft Basic Assessment Report will be released electronically, and copies will be available to stakeholders on the Vahlengwe Mining Advisory and Consulting website (www.vahlengweadvisory.co.za).
Consultation with Stakeholders	Stakeholder Engagement and Public Participation meetings will be facilitated to discuss the draft Basic Assessment Report will be conducted at Madibeng Village.
Obtaining comments from stakeholders	All comments, issues of concern, and suggestions from the stakeholders will be noted and a CRR will be compiled and incorporated in this Final BAR to be submitted to the DMRE for decision-making.
Announcement of Final Basic Assessment Report	The final report will be made available (www.vahlengweadvisory.co.za).

10. Assessment of each identified potentially significant impact and risk.

(This section of the report must consider all the known typical impacts of each of the activities (including those that could or should have been identified by knowledgeable persons) and not only those that were raised by registered interested and affected parties).

Table 18: Assessment of the potentially significant impact and risk

NAME OF ACTIVITY	POTENTIAL IMPACT	ASPECTS AFFECTED	PHASE	SIGNIFICANCE	MITIGATION TYPE	SIGNIFICANCE
-Site establishment -Construction of access roads -Prospecting activities (Drilling)	**Vegetation** Destruction 0f natural vegetation Loss of threatened plant species Invasion of alien and invasive vegetation Exposure to erosion Loss of biodiversity	Vegetation (flora)	Construction, Operational, and Decommissioning	Moderate	Environmental awareness and training to the contractors. Drilling sites are to be located in less sensitive areas as far as possible. Rehabilitate the disturbed areas as far as possible. Vehicles should only use designated roadways to access the site. Have a biodiversity protocol and rehabilitation plan in place that will be implemented upon closure. Invasive plant material should be disposed by incineration, or alternatively, composting to break down seeds. If seedbank persists, invasive alien plant management and eradication measures should be implemented. Implement effective rehabilitation measures upon closure.	Low
	Animal Life Loss of priority fauna species Loss of resident fauna through increased disturbance.	Animal life (fauna)	Construction, Operational, and Decommissioning	Moderate	Environmental awareness and training for workers about the animal life on site. Killing of animals on site will be strictly prohibited and animal found on site must be safely removed from the operation.	Low

	Displacement of resident fauna species.				Implementing noise monitoring measures and management. Avoid vegetation clearance during the breeding season.	
	Noise Noise nuisance due to the drilling activities and movement of operating equipment and vehicle	Air quality Animal life	Construction, Operational, and Decommissioning	Low	Conducting regular equipment maintenance to minimise noise generated by the operating equipment. Limiting the operation times to daylight hours (07h00 to 17h00) on Mondays to Fridays, Saturdays (07h00 to 14h00) and no activities to be conducted on Sundays and public holidays. Maintaining a buffer of 100m between the operation area and dwellings.	Low
	Visual Visual disturbance to the surrounding due to the project activities Visual impact on observers travelling along the roads and residents	Aesthetic beauty of the surrounding Social practices around the area	Construction, Operational, and Decommissioning	Low	Minimise unvegetated areas as far as possible. Concurrent rehabilitation of all disturbed areas.	Low
	Air Quality Dust generation	Dust fall & nuisance from prospecting activities	Construction, Operational, and Decommissioning	Low	Implementation of the dust suppression system. Low vehicle speeds enforcement on unpaved surfaces. Maintain a buffer of 500m- 1000m between operational site and dwellings.	Low
	Soils and land Capability Soil Compaction leading to erosion and sedimentation. Destruction on current land use	Soil and vegetation Land use	Construction, Operational, and Decommissioning	Moderate	Provide adequate erosion control measures where required. No mixing of fertile soils with sub soils during construction. Implement concurrent and re-vegetate all disturbed with locally indigenous species as soon as possible.	Low

	Surface water Sedimentation and siltation of water courses Alteration of natural drainage patterns Contamination of water resources Degradation of surface quality	Surface water quality	Construction, Operational, and Decommissioning	Moderate	Remedy the possible effects of alteration to natural drainage lines. Implementing the hydrocarbon spillages management plan. Ensure that wastewater is appropriately managed. Implement the erosion control measures.	Low
	Groundwater resources Changes in runoff and infiltration Groundwater contamination from fuel & hydrocarbons leakages and spillages Baseflow reduction	Groundwater quality	Construction, Operational, and Decommissioning	Moderate	Implementing measures to minimise the removal of vegetation and opportunities for revegetation will be maximised. Implement groundwater monitoring to detect groundwater contamination. Implementation of the mitigation measures to minimise hydrocarbon spills. Conducting prospecting activities in low groundwater sensitivity area.	Low
-Site establishment -Construction of access roads -Prospecting activities (Drilling)	**Health and Safety** Health and safety of employees and surrounding communities	Human health and safe working environment	Construction, Operational, and Decommissioning	Low	All employees or sub-contractors entering site must be inducted to ensure the awareness of the developed health and safety plan; Appoint a health and safety representatives to be appointed during operations; Conduct daily inspections and observations of on-site activities shall take place; All incidents to be reported, recorded, investigated, and mitigated. Employees or sub-contractors must be informed as to what required PPE is applicable in working sections, and must always be equipped with appropriate PPE; Safety signs to be provided in areas considered as high-risk areas;	Low

					Provided adequate first aid services on site; and Promote ongoing health and safety awareness campaigns.	
-Site establishment -Construction of access roads -Prospecting activities (Drilling)	**Socio-economic** Increased employment opportunities Local economic development	Economic activities such as the commercial farming Land uses	Construction, Operational, and Decommissioning	Moderate	Conduct consultation with local communities through the appropriate channels to ensure the use of local skills and businesses where possible. Ensure local employment and local services providers are appointed where possible from the local area; and Ensure that goods and services are procured from within the local area as far as possible.	Low
-Site establishment -Construction of access roads -Prospecting activities (Drilling)	**Heritage** Destruction of archaeological remains. Disturbance of graves. Disturbance of buildings and structures older than 60 years old. Destruction public monuments and plaques.	Loss of heritage & palaeontological resources	Construction, Operational, and Decommissioning	Low	Use chance find procedure to cater for accidental finds. Maintaining a 100m buffer from all identified 'no-go' areas with heritage resources. Encountered heritage resources, including fossils, graves, or human remains must be reported to the relevant authorities.	Low
-Site establishment -Construction of access roads -Prospecting activities (Drilling)	**Traffic Management** Construction vehicles and access roads Operation staff transportation trips, maintenance, and delivery trips	Pressure on public transport infrastructure Socio-economic conditions	Construction, Operational, and Decommissioning	Low	The surface quality of the road is not negatively impacted resulting from vehicle movement; Sections of existing road surfaces which have been impacted on by the vehicle movement and Existing road surfaces must be utilised and maintained within baseline levels.	Low
-Site establishment -Construction of access roads -Prospecting activities (Drilling)	**Waste Management** General waste generation and hazardous waste generation	Soil contamination Contamination of water resources Impacts on human health	Construction, Operational, and Decommissioning	Low	Promoting the reduction, re-use, or recycle of waste where prevention is not possible; Disposal of waste to local waste disposal sites; Littering should be strictly prohibited; and Implement waste classification and separation system.	Low

10. Summary of specialist reports.

(This summary must be completed if any specialist reports informed the impact assessment and final site layout process and must be in the following tabular form):

A Screening Report for an Environmental Authorization was generated from the DFFE Web-based Environmental Screening Tool (Appendix 4). The following is a summary of the environmental sensitivities at the site where the proposed prospecting activities are to be undertaken. Consequently, the drilling activities will be undertaken in an area where there are no sensitivities.

Table 19: Environmental Sensitivity of the proposed area

THEME	Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
Agriculture Theme			X	
Animal Species Theme		X		
Aquatic Biodiversity Theme	X			
Archaeological and Cultural Heritage Theme				X
Civil Aviation Theme				X
Palaeontology Theme		X		
Plant Species Theme				X
Terrestrial Biodiversity Theme	X			

12. Environmental impact statement

12.1. Summary of the key findings of the environmental impact assessment.

Most of the prospecting activities are non-invasive and hence will have no environmental or social impact. The invasive activities that entail the site establishment and the drilling of approximately 10 drill holes will have a minimal environmental and social impact as the overall site establishment and the drill sites will be confined to an area.

The assessed impact ratings after implementation of the mitigation measures described above are as follows:

Table 20: Summary of the Environmental Impact Assessment

Impacts	Activity Phases	Significance	
		Pre – Mitigation	Post – Mitigation
Flora and Fauna	All phases	Moderate	Low
Noise	All phases	Low	Low
Visual	All phases	Low	Low
Air Quality/Dust	All phases	Low	Low
Soils and Land Capability	All phases	Moderate	Low
Surface and Groundwater Resources	All phases	Moderate	Low
Health and Safety	All phases	Low	Low
Socio – Economic	All phases	Moderate	Low
Cultural and Heritage Resources	All phases	Low	Low
Traffic	All phases	Low	Low
Waste	All phases	Low	Low

Most of the identified impacts will occur for a limited period and the extent of the impacts will be localised. All the identified impacts can be suitably mitigated with the residual impact ratings ranging from **moderate** to **low** significance. After drilling activities have been completed and the drill pads rehabilitated to predrilling status, the land will be returned to its pre-prospecting impacts state.

12.2. Summary of the positive and negative impacts and risks of the proposed activity and identified alternatives.

Table 21: Summary of the positive and negative impacts and risks of the proposed activity and identified alternatives.

Proposed Activity	**Aspects**
Non – Invasive Activities	No impacts on site
Positive	
Invasive Activities: Site establishment, Operation and decommission	Potential for neighbouring communities to benefit from assistance with shared land management responsibilities.
	The opportunity of implementing processes around feral animal control.
	• Opportunities for indigenous employment and economic development. • Requirement for the supply of the goods and services from the local businesses; and • Requirement for short-term accommodation and thus benefiting the house rental and accommodation sector.
	• Supporting local recycling centre and local scrap metal merchant; and • Metals such as steel and copper wire will be collected in designated areas prior to removal from site for recycling.
	Potential for neighbouring communities to benefit from assistance with shared land management responsibilities.
	The opportunity of implementing processes around feral animal control.

	Negative
Invasive Activities: Site establishment, Operation and decommission	• Soil compaction and soil erosion due to the movement of heavy vehicles in the on-site; and • Soil contamination due to hydrocarbon spillages from the fuel storages and vehicles.
	• Introduction of alien vegetation; and • Loss of flora and fauna and habitat destruction.
	Erosion and sedimentation leading to soil scouring and increased turbidity of water courses and drainage lines downstream.
	Contamination of groundwater due to chemicals and hydrocarbons seepage.
	Noise nuisance due to moving vehicles and equipment.
	Dust creation during clearance, placement of infrastructure and the drilling operations.
	Increased visual intrusion due to operation infrastructure and the movement of the operating equipment and vehicles.
	Project is unsustainable in terms of job security due to the life of project.
	Indigenous resources, values, and aspirational impacts.
	Waste generation including the domestic, scrap and hazardous waste.
	Inheritance of occupational health problems and exposure to occupational hazards.
	Addition to the existing traffic of the movement of vehicles

12.3. Proposed impact management objectives and the impact management outcomes for inclusion in the EMPr; Based on the assessment and where applicable the recommendations from specialist reports, the recording of proposed impact management objectives, and the impact management outcomes for the development for inclusion in the EMPr as well as for inclusion as conditions of authorisation.

The objectives of the EMPr will be to:

- Provide sufficient information to strategically plan the prospecting activities so as to avoid unnecessary social and environmental impacts.
- Ensure that the prospecting activities are conducted in a sustainable manner.
- Develop an approach that will ensure compliance with relevant legislation; and
- Provide a management plan that is effective and practical for implementation.

Through the implementation of the proposed mitigation measures, it is anticipated that the identified environmental impacts can be managed and mitigated effectively.

- Heritage/cultural resources can be managed by avoidance of known resources and though consultation with landowners/stakeholders. Contractor personnel will also be briefed on these

sensitivities and consequences of any damage/removal of such features; Should the exploration program advance to the drilling stage, a phase 1 heritage assessment will be undertaken prior to identification of drill sites once areas of drilling interest have been determined.

- Noise generation can be managed through consultation and restriction of operating hours and by maintaining equipment and applying noise abatement equipment if necessary.
- Visual intrusion can be managed through consultation with landowners/stakeholders and by suitable siting of drill pads and use of screens (natural vegetation or shade cloth etc).
- Dust generation can be managed by limiting as far as possible the exposure of surfaces, application of dust suppression methods on exposed surfaces and use of water during drilling.
- Soil disturbance and clearance of vegetation at drill pad areas will be limited to the absolute minimum required and disturbed areas will be re-vegetated with locally indigenous species as soon as possible.
- Protecting biodiversity by conducting the ecological impact assessment prior to any invasive activities being conducted to ensure that impacts of protected and vulnerable species are prevented and where impacts cannot altogether be prevented minimised and mitigated.
- Manage as far as possible the soil, surface water and groundwater contamination by hydrocarbons by conducting proper vehicle maintenance, refuelling with care to minimise the chance of spillages and by having a spill kit available on each site where prospecting activities are in progress.
- Conduct an appropriate public consultation and conflict resolution during stakeholder consultation phases. All prospecting personnel will be made aware of the local conditions and sensitivities in the prospecting area and that they treat local residents with respect and courtesy at all times.

12.4. Aspects for inclusion as conditions of Environmental Authorisation.

(Any aspects which must be made conditions of the Environmental Authorisation)

It is the opinion of the EAP that the following conditions should form part of the authorisation:

- Maintain a buffer of 100m from sensitive areas;
- Maintain a minimum 500m (preferably 1000m) buffer from any infrastructure or dwelling;
- Conduct a heritage survey of the identified drill sites and access routes once these are known and prior to any activities being undertaken at these sites;
- Conduct an ecology and wetland survey of any identified drill sites and access routes that may fall within any critical endangered ecosystems ; and

- Landowners and land occupiers should be engaged (re-consulted) at least 1 month prior to any site activities being undertaken once drill sites are known.

12.5. Description of any assumptions, uncertainties, and gaps in knowledge.

(Which relate to the assessment and mitigation measures proposed)

The location of the site camp and drill sites are not yet known and will be identified through the phased approach of the prospecting programme. This assessment is therefore based on a desktop approach at a broad scale and assumes that the site camping and drilling could occur anywhere within the proposed prospecting area.

Once camp and drill sites have been identified, then specific focus will be given to ecological and Heritage screening and assessment along possible access routes in order to ensure that valued ecological components, threatened species, and Heritage artifacts are not inadvertently damaged. In addition, landowners will be engaged with regard to the progress of the operation and to discuss the proposed invasive prospecting activities and identified locations with the landowner at that point in time.

12.6. Reasoned opinion as to whether the proposed activity should or should not be authorised.

12.6.1. Reasons why the activity should be authorized or not.

The applicant is committed to sustainably conducting the prospecting activities and to complying with the prescribed environmental legislations in order to protect the environment and manage as far as possible the impacts associated with the project. Therefore, the applicant will ensure that:

- The prospecting program will be developed in a phased manner commencing with non-invasive activities to bring refinement to an understanding of the geological anomaly.
- The environmental impacts associated with the prospecting activities are deemed to be minimal provided that the proposed mitigation is implemented.
- If the success exceeds expectations/assumptions, the financial guarantee will be reviewed annually and variations in the planned work programme will be revised in line with Section 102 of the MPRDA.
- With appropriate care and consideration, the impacts resulting from the prospecting activities can be suitably avoided, minimized, or mitigated.

- With implementing the appropriate rehabilitation activities, the impacts associated with the prospecting activities can be reversed; and
- Without the implementation of prospecting activities, the knowledge concerning the potential mineral resource within the prospecting right area will not be confirmed.

12.6.2. Conditions that must be included in the authorisation.

The following conditions could form part of the authorisation:

- Maintain a 100m buffer from sensitive areas; • Maintain a 500m (preferably 1000m) buffer from any infrastructure or dwelling.
- Conduct a heritage survey of the identified drill sites and access routes across undisturbed land once they are known and before any activities are carried out at these sites.
- Conduct an independent ecology and wetland survey of the identified camp and drill sites, as well as access routes to be built on undeveloped land. A special emphasis should be placed on assessing any critical endangered ecosystems in the prospecting area; and
- Once the camp and drill sites have been determined, landowners and land occupiers should be consulted before any site activities begin.

12.7. Period for which the Environmental Authorisation is required.

The authorisation is required for the duration of the prospecting right which is an initial five (5) years plus a potential to extend the right by an additional three (3) years. Therefore, a period of approximately eight (8) years is required.

12.8. Undertaking:

Confirm that the undertaking required to meet the requirements of this section is provided at the end of the EMPr and is applicable to both the Basic Assessment Report and the Environmental Management Programme Report.

The undertaking is provided at the end of the EMPr.

12.9. Financial Provision:

State the amount that is required to both manage and rehabilitate the environment in respect of rehabilitation.

A financial provision of approximately **1 824 854.00 has** been budgeted for the prospecting programme over five (5) years, for rehabilitation activities.

12.19.1. Explain how the aforesaid amount was derived.

The financial provision calculations were undertaken in terms of the guidelines provided within the "DMR Guideline Document for The Evaluation of The Quantum of Closure-Related Financial Provision Provided by a Mine" (DMR, 2005). The closure components for the prospecting activities are summarised on the table below:

Table 22: Closure components to the prospecting activities

Components	Extent	Description
1.Dismantling of processing plant and related structures	0m^3	There will not be a processing of the material for this project
2(A). Demolition of steel buildings and structures	0m^2	There will be no steel structures
2(B). Demolition of reinforced concrete buildings and structures	0m^2	Only mobile offices and ablutions will be put on site and removed upon closure of the project
3. Rehabilitation of access roads	150m^2	There are temporary access roads that will require rehabilitation
4(A). Demolition and rehabilitation of electrified railway lines	0m	There will be no electrified railway lines
4(B). Demolition and rehabilitation of non-electrified railway lines	0m	There will be no demolition and rehabilitation non-electrified railway lines
5. Demolition of housing and/or administration facilities	0m^2	There is no housing that will require demolition
6. Opencast rehabilitation including final voids and ramps	0	No excavation will be required to be undertaken
7. Sealing of shafts, adits, and inclines	0m^3	There are no shafts, adits nor inclines on site
8(A). Rehabilitation of overburden and spoils	0ha	The spoils from the drilling will be used to backfill the drillholes.
8(B). Rehabilitation of processing waste deposits and evaporation ponds (non-polluting potential)	0ha	There will be no processing waste deposits and evaporation ponds
8(C). Rehabilitation of processing waste deposits and evaporation ponds (polluting potential)	0ha	There will be no wastewater being generated on site
9. Rehabilitation of subsided areas	0ha	The prospecting activities will not be associated with subsidence
10. General surface rehabilitation	0,205ha	The area that will require rehabilitation will include the site camp, drill sites and access roads
11. River diversions	0m	The prospecting activities will not involve river diversions.

12.Fencing	0m	Fencing would not be required
13. Water management	0ha	There will be no circulation of dams that will require to be rehabilitated
14. 2 to 3 years of maintenance and aftercare	0ha	All disturbances will be subjected to rehabilitation

12.9.2. Confirm that this amount can be provided for from operating expenditure.

(Confirm that the amount, is anticipated to be an operating cost and is provided for as such in the Mining work programme, Financial and Technical Competence Report or Prospecting Work Programme as the case may be).

The above-mentioned amount has been provided for from operating expenditure within the Prospecting Work Programme. The amount is also reflected in the Prospecting Work Programme submitted to the DMRE.

Table 23: Cost estimate of the expenditure to be incurred for each phase of the proposed prospecting operation.

ACTIVITY	YEAR 1 Expenditure (R')	YEAR 2 Expenditure (R')	YEAR 3 Expenditure (R')	YEAR 4 Expenditure (R')	YEAR 5 Expenditure (R')
PHASE 1 (e.g., 12 months)					
Desktop Studies and Reconnaissance	15 000.00				
Geological Field Mapping	25 000.00				
Geophysical Survey		160 000.00			
PHASE 2 (e.g., 24 months)					
Diamond Drilling and Core Logging			1 220 000.00		
Rehabilitation					44854 .00
Sample analysis and Geological Modelling				60 000.00	
PHASE 3 (e.g., 12 months)					
Environmental & Rehabilitation Studies					250 000.00
Banking & Feasibility Studies				50 000.00	
Phase 4 (e,g. 12 months)					
Rehabilitation					
Annual Total	40 000.00	160 000.00	1220 000.00	110 000.00	294 854.00

Total Budget	1 824 854.00

12.10. Specific Information required by the competent Authority.

12.10.1. Compliance with the provisions of sections 24(4) (a) and (b) read with section 24 (3) (a) and (7) of the National Environmental Management Act (Act 107 of 1998). the EIA report must include the: -

12.10.1.1. Impact on the socio-economic conditions of any directly affected person.

(Provide the results of Investigation, assessment, and evaluation of the impact of the mining, bulk sampling, or alluvial diamond prospecting on any directly affected person including the landowner, lawful occupier, or, where applicable, potential beneficiaries of any land restitution claim, attach the investigation report as an **Appendix.**

The purpose of the consultation is to provide the interested and affected persons the opportunity to raise any potential concerns. A public participation process was initiated with the intent to consult with I&APs including the landowners and the nearby communities. Concerns that will be raised during a public participation process will be captured and addressed within the public participation section of this report to inform the decision-making process.

12.10.1.2. Impact on any national estate referred to in section 3(2) of the National Heritage Resources Act.

(Provide the results of Investigation, assessment, and evaluation of the impact of the mining, bulk sampling or alluvial diamond prospecting on any national estate referred to in section 3(2) of the National Heritage Resources Act, 1999 (Act No. 25 of 1999) with the exception of the national estate contemplated in section 3(2)(*i*)(vi) and (vii) of that Act, attach the investigation report as **Appendix 2.19.2** and confirm that the applicable mitigation is reflected in 2.5.3; 2.11.6.and 2.12.herein).

Since the positioning of the drill sites will only be determined in phase 2 of the prospecting works programme, and in order to ensure that there is no impact on unknown heritage sites, a recommendation has been made to undertake a heritage survey of the drill sites in order to identify any cultural or heritage resources of significance. Mitigation measures proposed in this report include that no drill site will be located within 50m of any identified heritage site (which may occur during the prospecting programme).

12.11. Other matters required in terms of sections 24(4) (a) and (b) of the Act.

(The EAP managing the application must provide the competent authority with detailed, written proof of an investigation as required by section 24(4)(b)(i) of the Act and motivation if no reasonable or feasible alternatives, as contemplated in sub-regulation 22(2)(h), exist. The EAP must attach such motivation as an **Appendix)**.

The proposed prospecting activities (including the drilling) requested as part of this authorization are the viable way a mineral resource can be identified and used to generate a SAMREC-compliant resource which is a minimum requirement to determine whether it is viable to invest in a future mine.

Therefore, the proposed prospecting activities to be undertaken will be part of the feasibility studies to determine whether the minerals of interest will be economically viable to mine.

PART B

ENVIRONMENTAL MANAGEMENT PROGRAMME REPORT

13. Environmental Management Programme Introduction.

13.1. Details of the EAP

(Confirm that the requirement for the provision of the details and expertise of the EAP are already included in PART A, section 2 herein as required).

This has already been covered. Refer to Part A, Section 2 of this document.

13.2. Description of the Aspects of the Activity

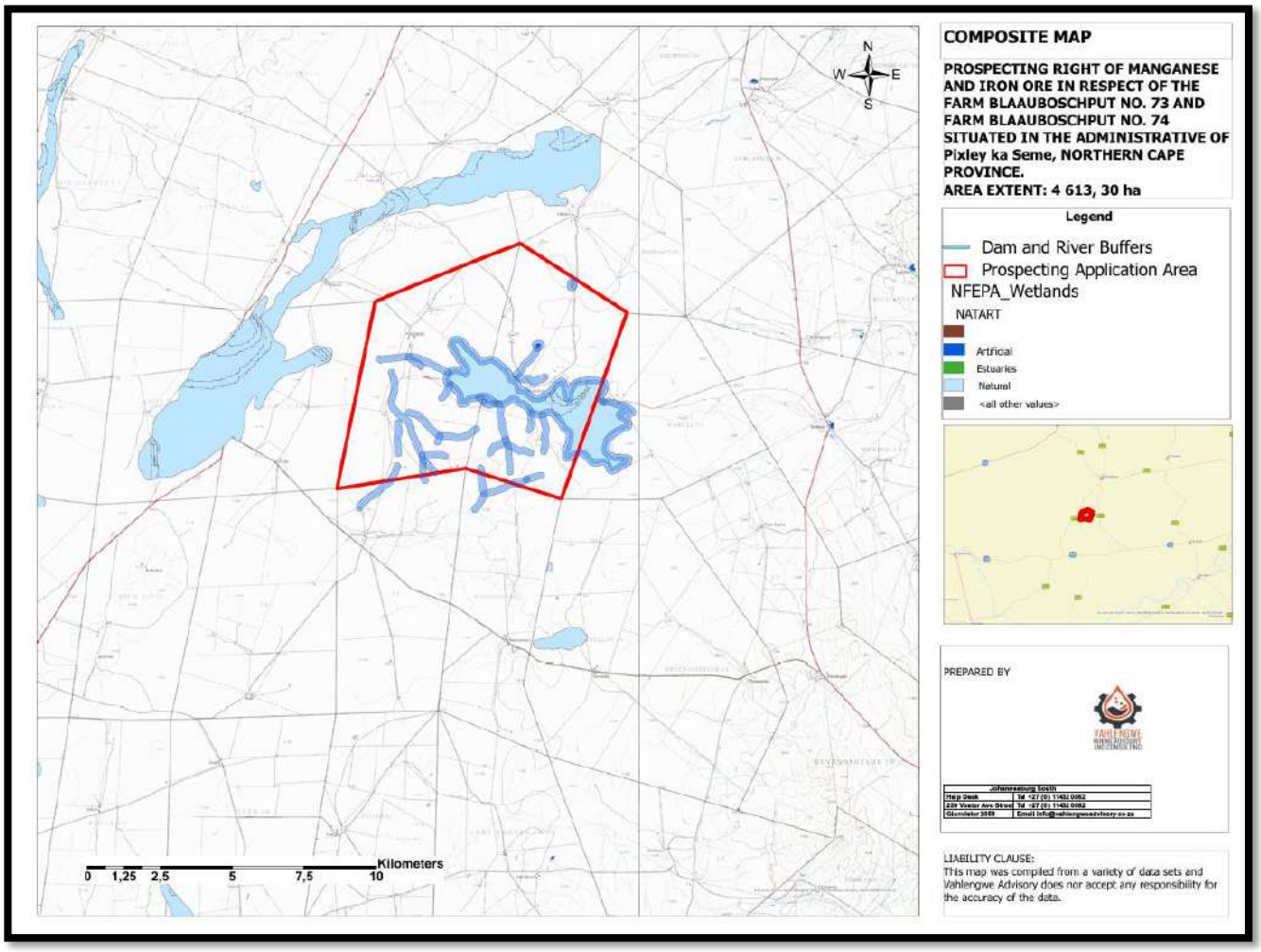
(Confirm that the requirement to describe the aspects of the activity that are covered by the environmental management programme is already included in PART A, section (5) herein as required).

This has already been covered. Refer to Part A, Section 5 of this document.

13.3. Composite Map

(Provide a map **(Attached as an Appendix**) at an appropriate scale that superimposes the proposed activity, its associated structures, and infrastructure on the environmental sensitivities of the preferred site, indicating any areas that any areas that should be avoided, including buffers)

Applying buffers along the water bodies is very crucial for maintaining their ecological integrity and ensuring the long-term sustainability of these vital ecosystems. Buffers including riparian zones or vegetated strips, aiding to filter out the sediments and prospecting might release toxic heavy metals near water bodies, causing human health and aquatic life. Furthermore, reducing risks of water pollution as well as extinction of animal habitats. Applying buffers enables the prevention of the degradation of wetlands as well as rivers, biodiversity, and environmental compliance.



14. Description of Impact management objectives including management statements

The proposed impact management objectives and management statements are informed by the environmental setting of the site where the proposed prospecting activities will be undertaken and the desired state post rehabilitation of the site.

14.1. Determination of closure objectives

The vision, and consequent objectives and targets for rehabilitation, decommissioning, and closure, are intended to reflect the local environmental and socio-economic context of the project, as well as to reflect both the corporate requirements and stakeholder expectations.

The receiving environment within which the prospecting activities will be undertaken includes the following key land-uses:

- Residential areas
- Nature Conservation; and
- Agricultural activities.

The post-closure land-use will be determined by the pre-prospecting land use applicable to the proposed area given that the exact locations of the intended prospecting activities have been identified and assessed, it can be said that the closure plan will sufficiently address the objectives for the preferred alternative. This EMPr, on the other hand, aims to address the key closure objectives, which are likely to remain consistent over most prospecting activities.

The rehabilitation plan shall outline the closure objectives, which are focused at restoring the landform, land use, and vegetation units to their pre-prospecting state unless the landowner requests a specified, justifiable replacement land use. As a result, the disturbed prospecting areas' planned end use and closure objectives will be specified in consultation with the relevant landowner. Evidence of such consultation will be given with an application for a Closure Certificate. The overall goal of the rehabilitation plan is to rehabilitate the environment to as close to its pre-prospecting condition as possible. This will be accomplished through a series of established objectives.

- Making the area safe. i.e., Decommission prospecting activities to ensure that the environment is safe for people and animals. This entails the backfilling and sealing of boreholes, etc;
- Recreating a free-draining landform. This entails the recreation of the topography as close as possible to its original state and to ensure a free-draining landscape;
- Re-vegetation. This involves either reseeding or allowing natural succession depending on the area, climate, etc;
- Verification of rehabilitation success. This entails monitoring rehabilitation; and
- Successful closure and obtaining a closure certificate.

14.2. Volumes and rate of water use required for the operation.

The water required for prospecting activities will be obtained through an arrangement with an existing authorised water user, which might be either the landowner or the local municipality. Prior to drilling, the department responsible for water resources shall be consulted about any water-related agreement with either the landowner or the local municipality. No water will be abstracted in terms of section 21(a) of the National Water Act, 1998 (Act No. 36 of 1998).

14.3. Has a water use licence been applied for?

None of the proposed planned prospecting activities fall under the scope of Section 21 of the National Water Act of 1998, (Act No. 36 of 1998). As a result, no water use license application is required for the proposed prospecting activities.

14.4. Impacts to be mitigated in their respective phases.

Measures to rehabilitate the environment affected by the undertaking of any listed activity.

Table 24: Impacts Mitigation

Activities	Phase	Size and Scale of Disturbance	Mitigation Measures	Compliance with Standards	Time Period for Implementation
Site Clearance	• Construction • Operation	0.9 ha, short term and localized	• Minimize clearance of vegetation as much possible. In instances where it is possible, cut vegetation instead of clearing to minimize soil disturbance. • Use of hand cutting techniques wherever possible and minimise the usage of heavy machines when clearance of vegetation is undertaken to prevent soil disturbance. • Any larger fauna species discovered prior to and during vegetation clearance should be given the opportunity to relocate away from the machinery that will be used for construction and prospecting activities. • Sensitive areas should be demarcated and treated as No-Go areas. • Methods for minimizing potential harm to fauna species should be used during vegetation clearance. To maximize the potential for mobile species to move to adjacent areas, clearing must be gradual and slow, beginning from the interior of the site and continuing outwards towards the boundary. • Indigenous vegetation, even secondary communities should not be fragmented under any circumstances or further disturbed. • To avoid the spread of exotic or invasive species or the unlawful collection of plants, no plant species, whether indigenous or exotic, shall be brought into or taken from the proposed project area. • Utilize local labour if possible. • Vehicle movement should be restricted to provided access roads. • Implement alien vegetation management. • Implementing mitigation measure to prevent and manage hydrocarbon spills. • Conducting water quality and quantity monitoring. • No prospecting activities to be conducted at or near sensitive water resource areas.	NEMA MPRDA NEMBA NEMAQA Dust regulations NWA	Throughout prospecting
Site Access	• Construction • Operation	Short term and localized	• When on site, the Applicant and/or contractors must take into consideration not to interfere with current land uses and practices. • All site employees and visitors must be taken through a site induction, which includes basic environmental awareness as well as site-specific environmental requirements such as site sensitivities and appropriate protocols/procedures. Wherever possible, the Contractor's Environmental Officer should present or facilitate this induction.	NEMA OHS and MHSA	Throughout prospecting
Establishment Of site	• Operation	0.015 ha, short term and localized	• Vehicles and machinery must use existing access routes as far as possible to prevent unnecessary construction of new routes.	NEMA MPRDA	Throughout prospecting process

infrastructure			• Ensure proper and adequate drainage. • Dust suppression should be undertaken when required to reduce the usage of water. Dust suppression strategies should be in accordance with applicable standards for PM_{10} AND $PM_{2.5}$. • Ensure that prospecting is in accordance with occupational health and safety regulations. • All drill sites must be protected, with security access control and warning signs to ensure no person or animal can access these sites. • All laydown, chemical toilets should be restricted to least sensitive areas. • Noise must be kept to an absolute minimum during all the prospecting phases to minimize the impact of the development on the fauna that lives on the site. • Permanent structures should not be permitted on site. Buildings should preferably be prefabricated or constructed from reusable/recyclable materials. • Contractors working on the project should have spill kits available to ensure that any fuel or oil spills are cleaned up and disposed of properly.	NEMBA NEMAQA Dust regulations NWA	
Storage of hazardous substances	• Construction • Operational	Short term and localized	• To prevent pollution of the environment or harm to humans or animals, all hazardous substances such as fuel, grease, oil, brake fluid, hydraulic fluid must be handled, stored, and disposed of in a safe and responsible manner. Appropriate spillage prevention measures must be implemented. • If there are any major spills of hazardous materials, they must be reported in accordance with Section 30 of the NEMA. • All chemicals and toxicants used in the construction must be stored away from sensitive areas and in a bunded area.	NWA NEMWA NEMA	Throughout prospecting process
Waste management	• Construction • Operation	Short term and localised	• Waste generated on-site must be classified and separated using the color-coding method. • Waste management must be prioritized, and all waste must be properly collected and disposed of. • Recyclable waste must not be stored on site for extended periods to prevent risk of environmental pollution. • To prevent rodents and pests from entering the site, it is recommended that all waste be removed on a weekly basis. • A Waste Management System must be put in place, with adequate waste storage in a form of covered containers, waste separation for recycling, and frequent removal of non-recyclable waste for permanent disposal at an appropriately licensed waste disposal facility. On-site waste disposal will be prohibited.	NEMWA	Throughout prospecting activities
Storage of construction vehicle	• Construction • Operation	Short term and localised	• Any equipment that may leak and is not required to be transported on a regular basis must be placed on watertight drip trays to catch any possible pollutant spills. The drip trays must be large enough to accommodate the equipment. • Drip trays must be cleaned on a regular basis and must not overflow. All spilled hazardous substances must be collected and disposed of properly at a properly licensed facility. • Soil compacting must be avoided as much as possible, and the use of heavy machinery must be restricted in areas of the intended prospecting sites. • Storage spaces must be located outside of the buffer zones.	NWA	Throughout prospecting activities

Transportation / access to and from drill sites	• Construction • Operation	short term and localized	• Drill sites should be located along existing access roads whenever possible to minimize the need for additional access roads. • All prospecting/operational and access must make use of the existing roads as far as possible. • Under no circumstances may the contractor damage any existing structures on the where the prospecting activities are to be undertaken • On-site vehicles must be restricted to approved access routes and locations on the site in order to reduce excessive environmental disturbance to the soil and vegetation on site. • Damage to public roads caused by prospecting activities must be repaired in consultation with the appropriate municipal authorities.	NEMA NEMBA CARA NEMAQA NWA Dust Regulations	Throughout prospecting
Prospecting boreholes	Operation	0.1 ha, Short term and localized	• To minimize the period of disturbance on fauna and flora, the duration of prospecting activities should be kept as short as possible. • To minimize the disturbance footprint, vegetation clearance for prospecting sites should be kept to a minimum. • Always adhere to approved plans to avoid encroachment on the sensitive areas. • The recommended buffer zones must be strictly adhered to. Buffer zones must be clearly demarcated and monitored as No-Go areas. • Adequate sanitary ablution facilities on the servitude must be provided for all personnel throughout the project area. • Prepare action plans and train contractors and staff in the case of spills, leaks, or other impacts to aquatic systems. • To prevent soil compaction, soil compacting must be avoided as much as possible, and the use of heavy machinery must be restricted in areas outside of the intended prospecting sites. • Dust-reducing mitigation measures must be implemented and strictly enforced, particularly for all roads and spoils. This includes watering exposed soft soil surfaces and not conducting activities on windy days, which increase the risk of dust generation. • Any potentially noisy activities or work should be undertaken at suitable times of the day. These works should not be carried out at night or on weekends. • Noise must be kept to an absolute minimum during the evenings and at night to minimize all possible disturbances to amphibian species and nocturnal mammals. • Outside lights should be directed away from sensitive environments such as wetlands. Fluorescent and mercury vapor lighting should be avoided, and instead use sodium vapor (yellow) illumination whenever possible. • To avoid migrating, nesting, and breeding seasons, prospecting activities and operations should be scheduled during the least sensitive periods. • The holes need to be sealed to ensure that no fauna species can fall in the drill hole. • On-site vehicles must be restricted to approved access routes and areas on the site in order to reduce excessive environmental disturbance to the soil and vegetation on the site. • Workforce should be kept within defined boundaries and to agreed access routes. • No invasive prospecting activities to be undertaken within 50m of a watercourse. • Should any watercourse be affected, then the necessary water use licences should be	SANS 10103 Noise Regulations NEMAQA Dust Regulations NWA	Throughout prospecting and decommissioning

			obtained from the Department of Water and Sanitation • No ablution or site laydown areas are to be located within 150m of a watercourse.		
Borehole closure	• Decommissioning • Closure	Short term and localised	• When drilling and groundwater is encountered with, all affected prospecting boreholes that will not be required for any useful purposes should be closed and sealed with cement to minimize possible cross flow and contamination between aquifers. • Because of the very high pH of the material and the chemicals contained within cement and liquid concrete, they are hazardous to the natural environment. Consequently, the contractor must ensure that: o Concrete shall not be mixed directly on the ground. o The visible residues of concrete, whether solid or from washings, must be physically removed and disposed of as waste as soon as possible. o All excess aggregate shall also be removed.	NWA NEMWA NEMA	Throughout Decommissioning and Closure
Waste removal	Decommissioning	Short term and localised	• Excess or waste material or chemicals, including drilling muds, must be removed from the site and, if possible, recycled (for example, oil and other hydrocarbon waste products). Any waste materials or chemicals that cannot be recycled must be disposed of at a waste facility that is properly licensed.	NEMWA	Decommissioning
Surface infrastructure removal	Decommissioning	Short term and localised	• All infrastructure, equipment, and other items erected during prospecting activities shall be removed from the site. • Soil compaction should be avoided as much as possible. Heavy machinery use must be prohibited in areas outside of proposed prospecting sites to reduce soil compaction.	• MPRDA • Rehab Plan	Decommissioning
Rehabilitation	Rehabilitation	All disturbed areas	• Areas of Indigenous vegetation, even secondary communities outside of the direct project footprint, should under no circumstances be fragmented or disturbed further. • Clearing of vegetation should be minimized and avoided where possible. • Maintain small patches of natural vegetation within the prospecting site to accelerate restoration and succession of cleared patches. • Areas that are denuded during prospecting need to be re-vegetated with indigenous vegetation to prevent erosion during flood events. This will also reduce the likelihood of encroachment by alien invasive plant species. • All structure footprints to be rehabilitated and landscaped concurrently as the prospecting activities progress is complete. • Topsoil must also be utilised, and any disturbed area must be re-vegetated with plant and grass species that are endemic to this vegetation type. • Progressive rehabilitation will enable topsoil to be returned more rapidly, thus ensuring more recruitment from the existing seedbank. • Any woody material removed can be shredded and used in conjunction with the topsoil to augment soil moisture and prevent further erosion	• NEMA • OHS and MHSA • MPRDA Rehab Plan	Decommissioning
Consultation	• Planning • Construction • Operation	Medium term, localised	• Stakeholder engagement will continue throughout the prospecting process to ensure that the community and landowners are kept informed and can address their concerns.	• NEMA	Throughout Planning, construction and operation

15. Financial Provision

15.1. Determination of the amount of Financial Provision

15.1.1 Describe the closure objectives and the extent to which they have been aligned to the baseline environment described under the Regulation.

Prospecting activities should be carried out in a manner that enables site rehabilitation and the restoration of existing land capacities. The following are the primary objectives of rehabilitation:

- The facilitation of the re-establishment of the land use and capability to as close as reasonable to the original conditions;
- Removal of all infrastructure and material introduced to the site;
- Removal of all wastes and their disposal;
- Promotion of the rapid re-establishment of the natural vegetation and the restoration of the site ecology;

The disturbed areas shall be rehabilitated to ensure that:

- The biodiversity habitat is encouraging new land use after the prospecting activities;
- Eliminate any safety risk associated with drill holes and sumps through adequate drill hole capping and backfilling;
- Environment and resources are not subjected to physical and chemical deterioration;
- The site is reversed to almost its original state;
- The after-use of the site is beneficial and sustainable in the long term, and
- All socio-economic benefits are maximized

Removal of all generated wastes constructed infrastructure and materials, re-vegetation of disturbed and cleared areas, rehabilitation of access roads to ensure the growth of existing grasses and plant species, and clean-up of hydrocarbon spillages form part of the rehabilitation plan.

15.1.2. Confirm specifically that the environmental objectives about closure have been consulted with landowners and interested and affected parties.

This Basic Assessment Report and Environmental Management Programme will be available to each registered stakeholder for review and comment. All comments will be captured in the CRR and will be included in the report.

15.1.3. Provide a rehabilitation plan that describes and shows the scale and aerial extent of the main mining activities, including the anticipated mining area at the time of closure.

Because of the nature of the activities, the impacts will be confined and temporary. The management plan was created in such a manner that concurrent rehabilitation is attainable. Following the completion of planned invasive activities, Vlakfonteion 33 will ensure that the site is returned to its

former state by carrying out the following measures:

- Removing all infrastructures, including the drill rig, the mobile diesel tank, the mobile water tank, and the chemical toilet;
- The whole drill site will be inspected for any signs of hydrocarbon spillages. Any identified soil that has been polluted because of the drilling activities will be removed and disposed of in a registered landfill site;
- Ensure that no material (plastics, papers, pipes) is left behind on the drill site and
- Any area compacted because of the drill rig will be ripped, and any furrows created by accessing or leaving the site for the drilling activity will be filled in to ensure that no future erosion shall occur on site.

15.1.4. Explain why it can be confirmed that the rehabilitation plan is compatible with the closure objectives.

The areas where drilling will take place will be the most impacted. The activities, in this instance, will be transient, and a detailed management plan has been developed to address any potential repercussions.

15.1.5. Calculate and state the quantum of the financial provision required to manage and rehabilitate the environment by the applicable guidelines.

A financial provision of approximately **1 824 854.00** has been budgeted for the prospecting programme over 5 years for rehabilitation activities.

The financial provision calculations were undertaken in terms of the guidelines provided within the “DMR Guideline Document for The Evaluation of The Quantum of Closure-Related Financial Provision Provided by a Mine” (DMR, 2005). The closure components for the prospecting activities are summarised in the table.

15.1.6. Confirm that the financial provision will be provided as determined.

Should the Prospecting Right be granted, Vlakfonteion 33 will make provision for the estimated closure cost by means of a Bank Guarantee or any other means available and accepted by the Competent Authority.

16. Mechanisms for monitoring compliance with and performance assessment against the environmental management programme and reporting thereon, including

16.1. Monitoring of Impact Management Actions

16.2. Monitoring and reporting frequency

16.3. Responsible persons

16.4. Time period for implementing impact management actions

16.5. Mechanism for monitoring compliance

Table 25: Compliance Monitoring and Frequency

Source Activity	**Impacts Requiring Monitoring Programmes**	**Functional Requirements for Monitoring**	**Roles and Responsibilities**	**Monitoring and Reporting Frequency and Time Periods for Implementation**
Desktop studies and acquisition of historic data	• None	• None	• None	• None
Geological field mapping	• None	• None	• None	• None
Remote sensing and Geophysical Surveys	• None	• None	• None	• None
Site establishment -Vegetation clearance -Alien vegetation removal -Vehicle and equipment movement -Placing of infrastructure	• Disturbance of Flora and Fauna; • Impacts on soils and land capability; • Contamination of water	• Document control; • Site Inspections and checklists; and • Report review and Development of action	• Contractors Environmental Representative; • Environmental specialist, ECO; and	• Once-off control of documents, site visit, and reporting; • Monthly site visits; • Monthly Reports; and

	resources and deterioration of water quality • Groundwater quality deterioration; • Noise and dust generation; and • Visual and topography disturbance	plans	• Senior Environmental Management Officer	• Annual Performance Assessment
Target Prospecting Boreholes	• Alien vegetation management ; • Noise nuisance; • Air quality due to dust generation; and • Surface and groundwater management	• Site Inspections and checklists; • Report review and development of corrective action plans; • Inspection of surface water features; and • Survey of groundwater users and use within 5km of the invasive prospecting sites.	• Contractors Environmental Representative; • Environmental specialist; • ECO; • Senior Environmental Management; and • Geohydrologist (if required)	• Once-off control of documents site visit and reporting; • Monthly site visits; • Monthly Reports, Annual Performance, and • Before invasive prospecting activities and monitoring post-prospecting.
Ablutions - Chemical Toilets	• Groundwater contamination; and • Health impacts on workers	• Site Inspections and checklists	• Contractor Environmental Representative	• Daily inspections and checklists
Access Route (Existing roads to be utilized)	• Dust generation	• Site Inspections and checklists	• Contractors Environmental	• Monthly inspections and checklists

			Representative	
Temporary general waste storage (General/domestic waste)	• Visual disturbances; • Soils contamination; and • Surface water and Groundwater contamination	• Site Inspections and checklists	• Contractors • Environmental Representative	Monthly inspections and checklists
Temporary hazardous waste storage (Hazardous waste – Sealed Container)	• Surface water and groundwater contamination; and • Soils contamination	• Site Inspections and checklists	• Contractors • Environmental Representative	Weekly inspections and checklists
Undertake decommissioning and rehabilitation as per the rehabilitation plan	• Alien vegetation management; • Fire management plan; • Noise generation; and • Air quality	• Site Inspections and checklists; and • Report review and development of corrective action plans	• Contractors Environmental Representative; • Environmental specialist, ECO; • Senior Environmental Management Officer; and • Surface water specialist	• Monthly site visits; and • Monthly Reports and Annual Performance Assessments
Monitoring of rehabilitation efforts	• All Impacts Identified in the EMPr	• Site Inspections and checklists	• ECO; and • Independent Environmental Auditor	• Monthly reports

17. Indicate the frequency of the submission of the performance assessment/ environmental audit report.

Annual environmental performance audit report will be undertaken alternating between internal and independent EAP after the granting of the authorisation. It requires the holder of the authorisation to ensure compliance with all the conditions of the EA and/or the EMPr, and of which the conduct of the proposed activities must be audited against these conditions. It is also recommended that an internal audit specified in the previous section, be carried out on an annual basis, at least before the independent audit. This audit report must then be submitted to the competent authority. This audit report must adhere to the following conditions:

- Be prepared by an **independent** person with relevant environmental auditing expertise.
- Provide verifiable findings, in a structured and systematic manner, on-
  - (i) the level of performance against and compliance of an organization or project with the provisions of the requisite environmental authorisation or EMPr and, where applicable, the closure plan; and
  - (ii) the ability of the measures contained in the EMPr, and where applicable, the closure plan, to sufficiently provide for the avoidance, management, and mitigation of environmental impacts associated with the undertaking of the activity.
- Contain the information set out in Appendix 7 of GN R. 326; and
- Be conducted and submitted to the competent authority at intervals as indicated in the environmental authorisation.

The purpose of this audit report is also defined in the regulations and is as follows:

- Determine the ability of the EMPr, and where applicable, the closure plan, to sufficiently provide for the avoidance, management, and mitigation of environmental impacts associated with the undertaking of the activity on an ongoing basis and to sufficiently provide for the avoidance, management, and mitigation of environmental impacts associated with the closure of the project area; and
- Determine the level of compliance with the provisions of environmental authorisation, EMPr, and, where applicable, the closure plan.

18. Environmental Awareness Plan and Training

Training and environmental awareness is an integral part of a complete EMPr. The overall aim of the training will be to ensure that all site staff are informed of their relevant requirements and obligations pertaining to the relevant authorizations, licenses, permits, and the approved EMPR and protection of the environment.

The applicant and contractor must ensure that all relevant employees are trained and capable of

carrying out their duties in an environmentally responsible and compliant manner and can comply with the relevant environmental requirements. To obtain buy-in from staff, individual employees need to be involved in:

- Identifying the relevant risks;
- Understanding the nature of risks;
- Devising risk controls; and
- Given incentive to implement the controls in terms of legal obligations.

The applicant shall ensure that adequate environmental training takes place. All employees shall be given an induction presentation on environmental awareness. Where possible, the presentation needs to be conducted in the language of the employees. All training must be formally recorded, and attendance registers must be retained. The environmental training should, as a minimum, include the following:

- General background and definition of the environment;
- The importance of compliance with all environmental policies;
- The environmental impacts, actual or potential, of their work activities;
- Compliance with mitigation measures proposed for sensitive areas;
- The environmental benefits of improved personal performance;
- Their roles and responsibilities in achieving compliance with the environmental policy and procedures and with the requirement of the applicant's environmental management systems, including emergency preparedness and response requirements;
- The potential consequences (legal and/or other) of departure from specified operating procedures;
- The mitigation measures required to be implemented when carrying out their work activities;
- Discussions are required on sensitive environmental receptors within the project area to inform contractors and site staff of the presence of Red / Orange List species, their identification, conservation status and importance, biology, habitat requirements, and management requirements of the Environmental Authorisation and within the EMPr; and
- All operational risks must be identified, and processes established to mitigate such risks proactively. Thus, the applicant needs to inform the employees of any environmental risks that may result from their work and how these risks must be dealt with to avoid pollution and/or degradation of the environment.

In the case of new staff (including contract labour) the contractor/applicant shall keep a signed register of attendance for proof and record of adequate environmental induction training.

18.1. Way the applicant intends to inform his or her employees of any environmental risk which may result from their work.

Environmental awareness could be fostered by induction course for all personnel on site, before commencing site visits. Personnel should also be alerted to environmental concerns associated with their tasks for the area in which they are working. Courses must be given by suitably qualified personnel and in a language and medium understood by personnel. The environmental awareness training programme will include the following:

- Occupational Health and Safety Training (OHS)
- Environmental Awareness Training on EMPr management actions.

Environmental awareness training will focus on the following specific aspects and be undertaken in "Toolbox talk "topics prior to site access:

- Waste collection and disposal;
- Sensitive environmental receptors;
- Identification of Red/ Orange List species, conservation status and importance, biology, habitat requirements, and management requirements of the environmental authorization and EMPr; and
- EMPr management options and application.

18.2. Manner in which risks will be dealt with to avoid pollution or degradation.

The broad measures to control or remedy any causes of pollution or environmental degradation because of the proposed prospecting activities taking place are provided below:

- Contain potential pollutants and contaminants (where possible) at source;
- Handling of potential pollutants and contaminants (where possible) must be conducted in bunded areas and on impermeable substrates;
- Ensure the timeous clean-up of any spills;
- Implement a waste management system for all waste streams present on-site; and
- Investigate any I&AP claims of pollution or contamination because of prospecting activities

It is of critical importance that broad measures to control or remedy any causes of pollution or environmental degradation are applied during onsite prospecting activities.

19. Specific information required by the Competent Authority

(Among others, confirm that the financial provision will be reviewed annually).

In accordance with the provisions of Regulation 23(3) of the EIA 2014 Regulations (as amended) the EIA should include all information required as set out in Appendix 3 and in terms of Regulation 23(4) the Environmental Management Plan (EMP) should contain all information required as set out in Appendix4. The EIA report must include the following:

- Details of the EAP who prepared the report and the expertise of the EAP, including a curriculum vitae;
- A plan, which locates the proposed activity or activities applied for as well as the associated structures and infrastructure at an appropriate scale;
- A description of the scope of the proposed activity;
- A description of the policy and legislative context within which the development is located and an explanation of how the proposed development complies with and responds to the legislation and policy context;
- A motivation for the need and desirability for the proposed development, including the need and desirability of the activity in the context of the preferred location;
- A full public participation process including a CRR in the BAR;
- Impact Assessment, including methodology, of the necessary environmental aspects, including the nature, significance, extent, duration, and probability of the impacts occurring, positive and negative impacts, including mitigation and monitoring measures;
- An assessment of the proposed alternatives;
- A complete EMPr;
- The financial provision for the environmental liability which will be reviewed annually;
- An impact statement from the EAP, specific information the Competent Authority may require, and conditions for approval; and
- An EAP oath regarding the correctness of information provided in the report.

20. UNDERTAKING

The EAP herewith confirms;

- the correctness of the information provided in the reports; ☒
- the inclusion of comments and inputs from stakeholders and I&APs; ☒
- the inclusion of inputs and recommendations from the specialist reports where relevant; and
- that the information provided by the EAP to interested and affected parties and any responses by the EAP to comments or inputs made by interested and affected parties are correctly reflected herein ☒.

Signature of the environmental assessment practitioner:

Name of company: Vahlengwe Mining Advisory and Consulting

Date: 13 February 2025

-END

Appendix 1:

CVs of the EAPs

SUNDAY MISHACK MABASO

12 Thaxted Ave Mulbarton 2190 · 0745697312/0824614251
Email - sunday@vahlengweadvisory.co.za · LinkedIn Profile - Sunday Mabaso ·Twitter @Sun.dayMabaso

BIOGRAPHY

Mr. Sunday Mabaso is the founder and CEO of Vahlengwe Mining Advisory and Consulting. He's got extensive experience in mineral regulation gained from spending over 20 years (2000 – 2021) with the Department of Mineral Resources and Energy (DMRE) where he served his last seven years as Regional Manager (3 years in Northern Cape and 4 years in Gauteng) before his resignation to advance his career in business. In 2020 was nominated to the Task Team that developed the current "South Africa's Exploration Implementation Plan" where he served to its completion and the plan was officially gazetted by Minister of Mineral Resources and Energy in 2022.

He holds a National Diploma in Mine Surveying and a National Higher Diploma in Mineral Resource Management from Technikon Witwatersrand in 1999 and 2000 respectively, a Graduate Diploma (GDE) in Mining Engineering from University of Witwatersrand in 2009 and a Master of Business Administration (MBA) from Milpark Business School in 2021. Sunday also completed a Post Graduate Certificate in Climate Change and Energy Law from University of the Witwatersrand in 2021, a Certificate in Energy Efficiency and Sustainability from the University of Cape Town (UCT) in 2022 and Certificate in Mine Closure and Land Rehabilitation from University of Pretoria (UP) in 2022.

Sunday is a registered member of the Institute of Directors of South Africa (IoDSA), the Southern Institute of Mining and Metallurgy (SAIMM) and is an Environmental Assessment Practitioner registered with EAPASA, a member of the International Association of Impact Assessment South Africa (IAIAsa), member of the International Society for Development and Sustainability (ISDS). A committee member of the Environmental, Social and Governance (SAMESG) working group of the SAMCODES Standard Committee (SSC) responsible for developing the South African Mineral Reporting Codes. He has authored opinion and journal articles about South African mining legislation with interests focused on social and environmental impacts on mine communities affected by mining operations, past and present. Some of his articles are published in academic journals and books internationally.

PUBLICATIONS

Mabaso, SM. (2023) Legacy Gold Mine Sites & Dumps in the Witwatersrand: Challenges and Required Action. Natural Resources, 14, 65-77. https://doi.org/10.4236/nr.2023.145005

Mabaso, SM. (2023). Social and Environmental Challenges caused by Legacy Gold Mining in Johannesburg: Government's Action Plan. eBook: ISBN: 978-81-19491-53-7. DOI: 10.9734/bpi/npgees/v9/10672F

Ramontja, T. and Mabaso, S. 2022. *Evolution of South Africa's Mining Regulatory Framework as it Relates to the Empowerment and Participation of Mining Communities.* https://doi.org/10.1007/978-3-031-07048-8_6

PROFESSIONAL AFFILIATIONS

- EAPASA: Environmental Assessment Practitioner (EAP) No 2022/4485
- International Association of Impact Assessment South Africa (IAIAsa) No 7442
- Southern Institute of Mining and Metallurgy (SAIMM) No 709244
- Institute of Directors in South Africa (M.Inst.D)
- Land Rehabilitation Society of Southern Africa (LaRSSA)
- International Society for Development and Sustainability (ISDS)

COMMITTEES

- South African Mineral Reporting Codes (SAMCODES) Standards Committee, 2016 to 2021
- SAMCODES-ESG Subcommittee – 2021 to date

EXPERIENCE

01 MAY 2021 – DATE
FOUNDER AND CEO: VAHLENGWE MINING ADVISORY AND CONSULTING
CORE SERVICES

- MPRDA and NEMA
- Mining Charter
- Environmental, Social and Governance - ESG
- Mine Closure and Rehabilitation
- Waste Management
- Carbon Tax Reporting
- Compliance Inspections
- Assistance to junior and small-scale miners

01 AUGUST 2014 – 30 APRIL 2021

REGIONAL MANAGER, DEPARTMENT OF MINERAL RESOURCES AND ENERGY

(NORTHERN CAPE –AUGUST 2014 TO APRIL 2017 AND GAUTENG – MAY 2017 TO APRIL 2021)

- Effective implementation and administration of the MPRDA
- Implementation and administration of Environmental Management policies and regulations in terms of NEMA and NEM: Waste Act
- Implementation and administration of Social and Labour Plans in terms of MPRDA
- Evaluation of Mining and Prospecting Work Programs and monitoring compliance
- Management of Land Use in mining areas to promote development and coexistence.
- Management of community development through implementation of the Mining Charter
- Promoting participation of Historically Disadvantaged South Africans in the mining economy and the value chain
- Management of relations and conflict resolutions between mining communities and mining companies
- Management of Financial and Administrative systems and procedures in the Regional Office
- Provide support and advisory to the Deputy Director General in the department

01 APRIL 2007 – 31 JULY 2014

DEPUTY DIRECTOR: MINE ECONOMICS, DEPARTMENT OF MINERAL RESOURCES

- Adjudication of mineral rights applications and manage sustainability of mining operations in line with the Mining/Prospecting Work programs.
- Monitor compliance through inspections and issuing of compliance directives.
- Assisting junior coal miners to access export markets through the Quattro Task team.
- Assist new entrants and junior miners in the mining industry.
- Conduct asset and mineral valuations for tax purposes and Section 11 applications

01 DECEMBER 2000 – 31 MARCH 2007

INSPECTOR OF MINES, DEPARTMENT OF MINERALS AND ENERGY

- Monitor compliance with the Mine Health and Safety Act in the mines.
- Provide technical advice on conflict between land development and mining operations.

25 JANUARY 2000 – 30 NOVEMBER 2000

MINE SURVEYOR, TAVISTOCK COLLIERIES

05 AUGUST 1994 – 31 DECEMBER 2000

LEARNER OFFICIAL AND BURSAR, TAVISTOCK COLLIERIES

EDUCATION

FEBRUARY 2018 TO JULY 2021

MASTER OF BUSINESS ADMINISTRATION, MILPARK BUSINESS SCHOOL

- Advanced Business Research Methodology
- Business Ethics and Corporate Governance
- Business in Emerging Markets
- Business Report Writing, Quantitative Analysis and Presentation Skills

- Dissertation
- General Management Environment
- Global Trade (Macro-economic – BRICS – Developing Markets)
- Integrated Business Strategy
- Leadership and Change Management
- Management Accounting and Finance (part 1)
- Management Accounting and Finance (part 2)
- Marketing and Sales Management
- Operations and Technology Management
- People Management
- Social Responsibility and Environmental Management

JUNE 2022 TO NOVEMBER 2022
CERTIFICATE: MINE CLOSURE AND LAND REHABILITATION, UNIVERSITY OF RETORIA (UP)

- Closure Design
- Regional Planning considerations and operational mitigation
- Land preparation and soil management
- Land cover/surface stabilization-economic value
- Maintenance and land management systems
- Identifying closure planning challenges and problem areas
- Mine closure planning consideration
- Closure document required Baseline environment and closure risks
- Closure success criteria and rehabilitation monitoring
- Financial provisioning and social planning

OCTOBER 2021 TO DECEMBER 2021
CERTIFICATE: ENERGY EFFICIENCY AND SUSTAINABILITY, UNIVERSITY OF CAPE TOWN (UCT)

- Energy -importance, Strategy and Challenges
- Energy Metrics, Economics and Efficiency
- Energy-efficient and Sustainable Buildings
- Energy-efficiency management and technologies in buildings
- Energy-efficiency management and technologies in industrial sector
- Energy auditing
- Energy measurement verification and management systems

MARCH 2021 TO JULY 2021
POST GRADUATE CERTIFICATE: CLIMATE CHANGE AND ENERGY LAW, UNIVERSITY OF WITWATERSRAND

- Climate Change and Energy
- Energy Law Concepts and Economics
- Theories of Energy and Climate Regulation
- Sources of Energy: Fossil Fuels
- Sources of Energy: Petroleum Sector
- Sources of Energy: Gas Sector
- The South African Electricity Supply Industry
- Climate Change Law and Policy Framework

- Energy, Climate Change & Just Transition
- Nuclear as a Source of Electricity
- Energy Efficiency and Demand Side Management
- Regulation of Energy Procurement

OCTOBER 2014 TO JANUARY 2015
CERTIFICATE IN BASIC TRAINING FOR ENVIRONMENTAL MINERAL RESOURCE INSPECTORS, UNIVERSITY OF PRETORIA

- Constitutional Background
- NEMA and MPRDA framework legislation
- Sustainable Development
- EIA process, Scoping reports, and review of EA applications and Integrated EAs
- WASTE Act
- The Air Quality Act
- The Environmental Conservation Act
- The National Water Act
- The Integrated Coastal Management Act
- The Biodiversity Act
- The Protected Areas Act
- Administrative Law
- Criminal Enforcement
- Special forms of Liability
- Powers of Environmental Mineral Resources Inspectors-EMRI
- Ethics, Health and Safety and relevant issues
- Sampling
- Inspections
- Investigations
- Appeals
- Exemptions and exceptional circumstances

MARCH 2006 TO NOVEMBER 2008
GRADUATE DIPLOMA IN MINING ENGINEERING, UNIVERSITY OF WITWATERSRAND

- Mineral Economics
- Mineral Policy and Investment
- Compliance and Reporting Rules in the Mining Industry
- Economic Geology of South African Coal
- Coal extraction and Exploitation
- Coal and the Environment

JULY 1999 TO JULY 2000
NATIONAL HIGHER DIPLOMA, MINERAL RESOURCE MANAGEMENT, TECHNIKON WITWATERSRAND

JULY 1996 TO MAY 1999
NATIONAL DIPLOMA, MINE SURVEYING, TECHNIKON WITWATERSRAND

SKILLS

- In-depth understanding of the mining industry and its economic value chain
- In-depth understanding of the regulatory and compliance regime in the mining industry
- In-depth understanding of the value of mining in the South African and Global economy
- Good communication skills
- Conflict resolution
- Good decision making
- Ability to work under pressure.
- Time management
- Good Leadership and management

PERSONAL INFORMATION

I'm a male South African Tsonga speaking citizen, born on 29 November 1976 in Bushbuckridge, Mpumalanga Province where I started my primary schooling at Mpikaniso Primary school in 1983 and matriculated at Orhovelani High School in 1993.

I'm currently married with four children and residing in Mulbarton, Johannesburg South since June 2017 after my transfer from the Kimberly as the Regional Manager of the Northern Cape to the Johannesburg office where I also served as Regional Manager for the Gauteng Region until 30 April 2021 upon resignation.

COMMUNITY INVOLVEMENT AND PERSONAL HOBBIES

I'm currently involved in community development projects in Bushbuckridge through career guidance, cultural activities, and sport to guide the youth to focus on their vision and education goals as part of giving back to my community and assist the future generation. I have sponsored soccer kits, traditional dancing activities and motivational seminars in my village since 2009.

My personal hobbies include playing golf, watching, and following soccer, rugby, and other national sporting codes. Mentoring my kids through schoolwork and sport. I spend more time outside work with my family to groom my kids to become better citizens and leaders of the future generation.

REFERENCES

Mr Mosa Mabuza
Chief Executive Officer
Council for Geoscience
012 841 1911
082449 8650
88 9122
mmabuza@geoscience.org.za

Dr Thibedi Ramontja
Former Director General: DMRE
Currently Director: School of Mining
University of Witwatersrand
083 3

thibedi.ramontja@wits.ac.za /
Ramontja2@gmail.com

Dr Tania Marshall
Director: School of Mining
University of Witwatersrand
082 611 3388
marshall.tania@gmail.com

Environmental Assessment Practitioners Association of South Africa

Registration No. 2022/4485

Herewith certifies that

Sunday Mishack Mabaso

is registered as an

Environmental Assessment Practitioner

Registered in accordance with the prescribed criteria of Regulation 15. (1) of the Section 24H Registration Authority Regulations (Regulation No. 849, Gazette No. 40154 of 22 July 2016, of the National Environmental Management Act (NEMA), Act No. 107 of 1998, as amended).

Effective: 01 March 2024

Expires: 28 February 2025

Chairperson

Registrar

SAQA
SOUTH AFRICAN QUALIFICATIONS AUTHORITY

DIMAKATSO ELIZABETH LEHOLI

NAME: Dimakatso Elizabeth Leholi

DATE OF BIRTH: 15 May 2002

PROFESSION/ SPECIALIZATION: Environmental Consultant

YEARS OF EXPERIENCE: 2 Years 5 Months

LANGUAGES: English, Sesotho

KEY QUALIFICATIONS

Dimakatso Elizabeth Leholi holds a Diploma in Environmental Sciences from the Tshwane University of Technology. She is an environmental consultant with experience in conducting environmental impact assessments, environmental management systems, regulatory compliance and stakeholder engagement.

EXPERIENCE

[Environmental Consultant]

[Vahlengwe Mining Advisory and Consulting]

[October 2024- Present]

DUTIES:

- Conducting environmental impact assessments (EIAs) for prospecting, mining rights and mining permits to identify potential environmental impacts and develop mitigation measures.
- Preparing and reviewing EIA reports, including scoping reports, basic assessment reports, environmental management plans/programmes and environmental authorization applications.
- Conducting environmental audits and risk assessments to identify areas for improvement.

- Providing guidance to mining clients on environmental management best practices.
- Ensuring compliance with environmental regulations, laws, and standards relevant to the mining industry, including the National Environmental Management Act (NEMA) and the Mineral and Petroleum Resources Act (MPRDA).
- Liaising with regulatory authorities such as the Department of Mineral Resources and Energy and the Department of Environment, Forestry and Fisheries (DEFF).
- Preparing and submitting environmental authorization applications and reports.
- Conducting stakeholder engagement and public participation processes for mining or prospecting projects, including community meetings and other form of engagement.
- Liaising with local communities and other stakeholders.
- Coordinating with multidisciplinary teams, including engineers, scientists, and other stakeholders environmental consultants.
- Ensuring projects are delivered on time, within budget, and to the required quality standards.
- Maintaining professional registration with EAPASA.
- Participating in continuing professional development (CDP) activities.
- Staying current with industry developments and trends.

EDUCATION

INSTITUTION: Tshwane University of Technology

QUALIFICATION: Diploma in Environmental Sciences

STATUS: Completed (2023)

PROFESSIONAL AFFILIATIONS

Candidate EAP- Environmental Assessment Practitioners Association of South Africa (EAPASA)

Registration Number: 2023/6647

SKILLS

- Strong communication.
- Analytical and logical thinking.
- Gathering and analysing information.
- Conflict resolution and negotiation.

- Presentation and public speaking.
- Multidisciplinary problem solving.
- Technical writing skills

Environmental Assessment Practitioners Association of South Africa

Registration No. 2023/6647

Herewith certifies that

Dimakatso Elizabeth
Leholi

is registered as an

Candidate Environmental Assessment Practitioner

Registered in accordance with the prescribed criteria of Regulation 15. (1) of the Section 24H Registration Authority Regulations (Regulation No. 849, Gazette No. 40154 of 22 July 2016, of the National Environmental Management Act (NEMA), Act No. 107 of 1998, as amended).

Effective: 01 March 2024 Expires: 28 February 2025

Chairperson

Registrar

SAQA
SOUTH AFRICAN QUALIFICATIONS AUTHORITY

Nqasha Lusizo

Johannesburg, Gauteng Province 2001
0639688778/0725046088 nqashalusizo@gmail.com

LINKS

- linkedin.com/in/lusizo-nqasha-a745092b8

PROFESSIONAL SUMMARY

I am a dedicated geoscientist in Environmental Management with extensive experience in waste and water management, GIS, and Remote Sensing Technologies. Possesses a strong environmental science and sustainability background and excels in leveraging spatial data analysis to inform strategic decision-making processes. Skilled in utilizing GIS tools to map, monitor and analyze environmental trends, adept at applying remote sensing techniques to assess land use change, monitor ecological dynamics, and evaluate natural resource management strategies and sustainability development. With a proven track record of implementing innovative remediations for environmental challenges, committed in driving sustainable practices and mitigating ecological impact through integrating technology and comprehensive management strategies.

AREAS OF SPECIALIZATION

- Environmental Specialist in waste and water management - Geographic Information System
- Remote Sensing Analyst - Environmental Impact Analysis - Environmental Change and Policy - Disaster Management

SKILLS

- Environmental Impact Assessment
- Environmental Management
- Natural Resource Management
- Communication
- Microsoft Office Package
- Scientific Writing
- Sampling
- Geographic Information Systems
- Remote Sensing Techniques
- Geospatial programming using Machine Learning (GEE)
- Geospatial Visualization
- Data Collection
- Remote Sensing Image Processing
- Database Management Systems and Statistic analysis

EDUCATION

University of The Witwatersrand - Gauteng Province | Master of Science in Geography
Environmental Management in Mining and Remote Sensing, 2024

- Dissertation in Geography, Environmental Science. Geographic Information System and Remote Sensing

University of Witwatersrand - Gauteng Province | Bachelor of Art Honours in Geography
Environmental Geography, and Remote Sensing, 2023

Walter Sisulu University - Eastern Cape Province | Bachelor of Arts
Environment Management, GIS And Remote Sensing, 2022

Daluhlanga Senior Secondary School - Eastern Cape Province | Matric Grade 12, 2018

WORK HISTORY

ENVIRONMENTAL PRACTICALS | 02/2023 to 09/2023

University Of The Witwatersrand - Gauteng Province

- Conducted water parameter testing on water samples to assess water quality and identify potential environmental challenges.
- Utilized GIS and Remote Sensing to create maps and thematic maps, validating environmental impacts and aiding in decision-making processes.
- Applied analytical practices and evaluation techniques in Environmental Impact Assessment to assess the potential consequences of proposed projects on the environment.
- Generated reports summarizing findings from water parameter testing, GIS mapping, and EIA evaluations to communicate results effectively to stakeholders.
- Collaborated with interdisciplinary teams to analyze and interpret data, ensuring a comprehensive understanding of environmental challenges and potential solutions.
- Employed statistical analysis techniques to analyze large datasets, providing valuable insights into trends and patterns related to water quality and environmental impacts.
- Conducted field surveys and site visits to gather primary data and verify findings, enhancing the accuracy and reliability of assessments.
- Developed strategies for mitigating environmental risks and promoting sustainability in water management practices, incorporating findings from research and analysis.

TUTOR - GIS | 03/2022 to 10/2022

Walter Sisulu University - Eastern Cape Province

- Designed and executed mapping projects to enhance spatial data analysis, facilitating informed decision-making.
- Developed custom applications to optimize workflow efficiency and accuracy in data processing.
- Conducted comprehensive spatial data analysis to identify patterns and trends, aiding in strategic planning and resource allocation.
- Provided technical expertise and training to staff members, empowering them to utilize tools effectively in their roles.
- Managed GIS databases and ensured data integrity through regular maintenance and quality assurance procedures.

PACKING OPERATOR | 04/2019 to 12/2019

C-Pack Corrugated - Western Cape Province

- Managed packing and stripping of cardboard materials concurrently, optimizing efficiency in the packaging process.
- Oversaw the simultaneous packing and stripping of cardboard, streamlining operations to meet production targets effectively.
- Coordinated the packing and stripping of cardboard materials, ensuring seamless transitions between tasks to minimize downtime.
- Executed packing and stripping procedures for cardboard products, maintaining a consistent workflow to support manufacturing timelines.
- Implemented strategies for packing and stripping cardboard efficiently, enhancing productivity and reducing material waste.

REFERENCES

- C - Pack Manager - Mr. C Williamson - 0835630317
- Geographic Information System - Lecturer - Mr. N Nkohla 0787246753
- RRM Lecture - Mrs. S Dlepu - 0630856314

Environmental Assessment Practitioners Association of South Africa

Registration No. 2024/9364

Herewith certifies that

LUSIZO NQASHA

is registered as an

Candidate Environmental Assessment Practitioner

Registered in accordance with the prescribed criteria of Regulation 15. (1) of the Section 24H Registration Authority Regulations (Regulation No. 849, Gazette No. 40154 of 22 July 2016, of the National Environmental Management Act (NEMA), Act No. 107 of 1998, as amended).

Effective: 01 March 2025

Expires: 31 March 2026

Chairperson

Registrar

SAQA
SOUTH AFRICAN QUALIFICATIONS AUTHORITY

Appendix 2:

Maps

Appendix 2A:

Locality and Regulation 2 (2)

Locality Map
Application for Prospecting Right of the Farm Blaauboschput No.73 and Farm Blaauboschkuil No.74, within the Administrative District of Pixley ka Seme

N
W
E
S

Olifantshoek

Danielskuil

Posmasburg

Griquatown

Groblershoop

Douglas

Kimberly

Prieska

0 15 30 60 90 120 Kilometers

Legend

Nearest Towns

Prospecting Right Application Area

VAHLENGWE
MINING ADVISORY
AND CONSULTING

VLAAKFONTEIN 33 (PTY) LTD

REGULATION 2.2

THE APPLICATION OF THE PROSPECTING RIGHT IN TERMS OF SECTION 16 OF THE MINERAL AND PETROLEUM RESOURCES DEVELOPMENT ACT, 2002 (ACT 28 OF 2002)

AREA EXTENT: 4600,67 ha

Situated on
Farm Blaauboschput No.73
And Farm Blaauboschkuil No.74

Legend

- Points location
- Farms

Locality Map

Plan Approval

Applicant

Date:.....

Signature:.....

Surveyor

Date:.....

Signature:.....

Regional Manager

Date:.....

Signature:.....

SCALE

1 : 50 000

N

CO-ORDINATE SYSTEM

WGS84 Lo29

Name	POINT_X	POINT_Y
A	22,905477	-28,62826
B	22,917354	-28,577206
C	22,962539	-28,56125
D	22,995804	-28,580136
E	22,975387	-28,631029
F	22,945553	-28,622726

0 1,5 3 6 9 12 Kilometers

VAHLENGWE MINING ADVISORY AND CONSULTING

JOHANNESBURG SOUTH

Help Desk	Tel +27 (0) 11 432 0062
238 Vorster Ave Street	Fax +27 (0) 11 432 0062
Glenvista 2058	Email info@vahlengweadvisory.co.za

FIGURE No :

FIGURE 1

DATE :

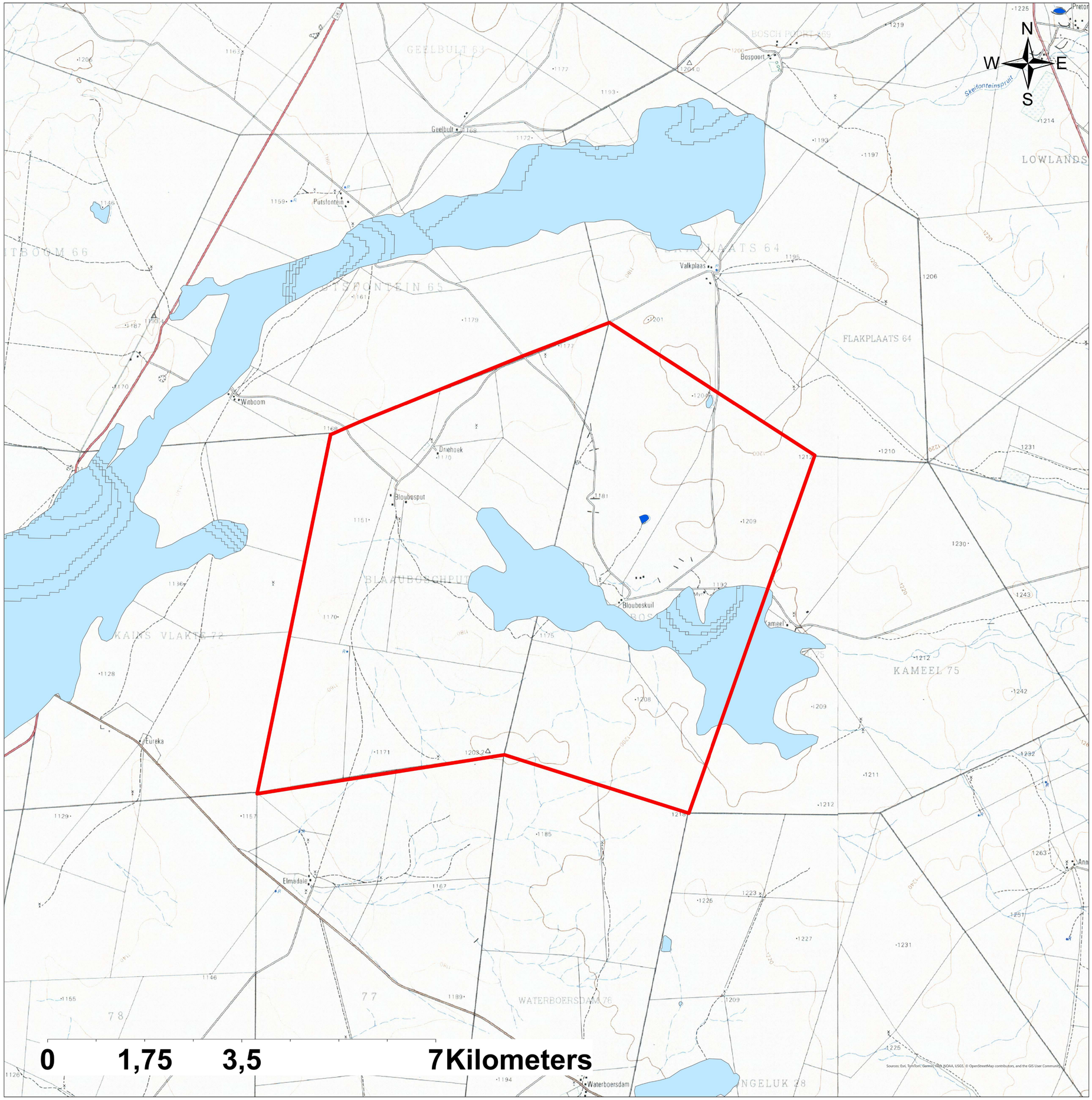
July 2024

Appendix 2B:

Land use map

LAND USE AND COVER MAP

PROSPECTING RIGHT OF MANGANESE AND IRON ORE IN RESPECT OF THE FARM BLAAUBOSCHPUT NO. 73 AND FARM BLAAUBOSCHPUT NO. 74 SITUATED IN THE ADMINISTRATIVE OF Pixley ka Seme, NORTHERN CAPE PROVINCE.
AREA EXTENT: 4 613, 30 ha



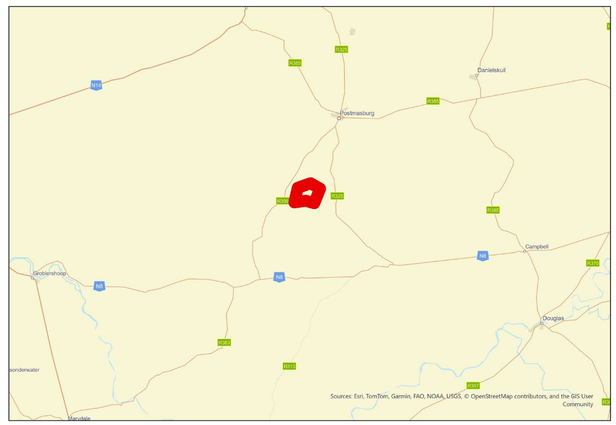
Legend

- Towns
- Rivers
- Highway Roads
- Gravel Road
- Redentials
- Prospecting Application Area

NFEPA_Wetlands

NATART

- Artificial
- Estuaries
- Natural
- <all other values>



PREPARED BY

VAHLENGWE
MINING ADVISORY AND CONSULTING

Johannesburg South	
Help Desk	Tel +27 (0) 11432 0062
230 Voster Ave Street	Tel +27 (0) 11432 0062
Glenvister 2058	Email info@vahlengweadvisory.co.za

Appendix 3:

Public Participation Process

Appendix 3A:

Proof of Newspaper Advert

Diary

21 FEBRUARY

■ The Music and Poetry Open Mic contest takes place from 19:00 in the parking area of the North Cape Mall in Kimberley, opposite McDonalds. This is a family-friendly and free event, with prizes up for grabs. The deadline for registration is Friday, 14 February. Register by sending a WhatsApp message to 082-345-3268.

22 FEBRUARY

■ The Big Hole Market is presented at the Big Hole premises in Kimberley from 15:00. Browse through a variety of stalls and enjoy the live entertainment. Call Marais Tesner on 082-309-7885.

1 MARCH

■ The Kimberley Junior School presents a day of fun and adventure for the whole family, starting at 09:00 and running until 14:00. Jumping castles, a mechanical bull, live shows, games and more can be enjoyed. Stalls are available for hire. Write to kjsreception@gmail.com or dial 053-833-2481.

2 MAART

■ Die Keimoes Skoonmaak-komitee bied 'n mark aan om geld in te samel om nuwe asblikke aan te koop en op soveel plekke moontlik in die dorp te plaas. Belangstellendes kan aansoek doen om hul stalletjies op die markdag, van 10:00 tot 14:00, by De Werf Lodge op te rig. Skakel 060-528-9365.

9 MAART

■ Steve Hofmeyr tree om 14:00 by At the Fire in Kimberley op. Skakel 083-350-3504 vir besprekings, of besoek kimberleyevents.co.za.

Send details for a free diary entry to helena.barnard@media24.com.

Valentynsdans by skool aangebied

Die Elizabeth Conradie-skool (Elcon) in Kimberley bied op 14 Februarie om 18:00 vir 18:30 'n Valentynsete en -dansparty in die skoolsaal aan.

Dit dien as 'n geld-insamelingsgeleentheid vir dié skool vir leerlinge met fisieke gestremdhede.

'n Snoepie sal oop wees. Kinders jonger as 12 is welkom om die geleentheid by te woon en het gratis toegang. Eie koelerbokse kan ingebring word teen 'n fooi van R100 elk.

Kaartjies kos R150 per persoon, of R1 500 per tafel. Gaste kan 'n tweegangete en dans geniet. Kaartjies kan by die skoolkantoor gekoop word, of skakel 083-225-4890 of 061-981-3613.

STUUR NUUS: KOERANT IS NUUSKIERIG

NoordkaapBulletin is 'n gemeenskapskoerant in Afrikaans en Engels en publiseer nuus oor mense, skole, klubs, projekte, organisasies en tydverdrywe uit die 23 dorpe en omstreke waarin die koerant versprei word. Skryf aan, en stuur nuus aan helena.barnard@media24.com.

PIXLEY KA SEME DISTRICT MUNICIPALITY

DRAFT ANNUAL REPORT 2023/2024:

This notice is made in terms of Section 21A(a)(b)(c) of the Local Government: Municipal Systems Act, (Act No 32 of 2000) and Section 127(5)(a)(i)(ii) of the Local Government: Municipal Finance Management Act, (Act No 56 of 2003)

Members of the public, government institutions, private sector institutions and civil society organizations within the Pixley ka Seme District are hereby invited to comment on the 2023/2024 Draft Annual Report. The report is accessible on the municipal website @ www.pksdm.gov.za

Please note that hard copies are also available at the **offices of the Pixley ka Seme District Municipality** and at the offices of all **Local municipalities** in the district.
Written submissions and comments can be sent to pixley@telkomsa.net

or
Comments, if posted, must be addressed to:
The Municipal Manager
Pixley ka Seme District Municipality
Private Bag X 1012
De Aar, 7000
Tel: (053) 631 0891
Email: pixley@telkomsa.net

The closing date for written submission and comments is **Friday 28 February 2025** at **15h30**.

I VISSER
MUNICIPAL MANAGER

X1YDEJ0D-NK130225

VLAKFONTEIN 33 (PTY) LTD

NOTICE OF ENVIRONMENTAL IMPACT ASSESSMENT PROCESS

INVITATION TO REGISTER AS AN INTERESTED AND AFFECTED PARTY AND COMMENT ON THE DRAFT BASIC ASSESSMENT REPORT (BAR).

NOTICE OF ENVIRONMENTAL AUTHORISATION FOR THE PROSPECTING RIGHT APPLICATION OF IRON ORE, AND MANGANESE IN RESPECT OF THE FARM BLAAUBOSCHPUT NO.73 AND FARM BLAAUBOSCHKUIL NO.74; WITHIN THE ADMINISTRATIVE DISTRICT OF PIXLEY KA SEME, NORTHERN CAPE PROVINCE.

DMR REFERENCE NO: NC 30/5/1/1/2 (14253) PR

Notice is hereby given with the intent to conduct the Environmental Authorization process for an application of a prospecting right of Iron Ore and Manganese, for Vlakfontein in terms of the National Environmental Management Act - NEMA (Act 107 of 1998) (as amended), and the Environmental Impact Assessment (EIA) Regulations, 2014 (as amended). Notification is hereby given to all Interested and Affected Parties (I&APs) in terms of Sections 39 to 44 of GNR 982 (as amended). The EIA process would be undertaken in terms of these guidelines and be submitted to the Competent Authority Department of Mineral Resources and Energy (DMRE).

THE ABOVE ACTIVITIES TRIGGERS:
Activity 19 of GN R984 (as amended): The removal and disposal of a mineral, which requires permission in terms of section 20 of the Mineral and Petroleum Resources Development Act, as well as any other applicable activity as contained in this Listing Notice, in Listing Notice 1 of 2014 or Listing Notice 3 of 2014, required to exercise the permission.

PROPOSED SITE LOCATION.
The Proposed Project is located in respect of Farm Blaauboschput No.73 and Farm Blaauboschkuil No.74, within the Administrative District of Pixley Ka Seme, Northern Cape Province.

PUBLIC MEETING:
A public meeting will be held to facilitate discussions on the Draft Basic Assessment Report to obtain comments and concerns from the Interested and Affected Parties (I&APs), therefore you are requested to register your names as I&APs within 15 days, thus, on/before **February 27, 2025.** You are further requested to submit your comments within 30 days of the date this notice was published. Take note that your comments must be submitted on or before **March 14, 2025**, to the details below:

Consultant	**: Vahlengwe Mining Advisory and Consulting**
Contact person	: Sunday Mabaso
Postal address	: 238 Voster Ave, Glenvista Extension 3, Johannesburg South, 2058
Contact	: +27 11 432 0062
E-mail	: info@vahlengweadvisory.co.za

VAHLENGWE MINING ADVISORY AND CONSULTING

Address: 238 Voster Avenue, Glenvista, 2058
Tel: +27 11 432 0062
E-mail: info@vahlengweadvisory.co.za

X1YDFYYI-NK130225

Appendix 3B:

Background Information Document
Interested and Affected Parties Registration Form

BACKGROUND INFORMATION DOCUMENT FOR THE ENVIRONMENTAL AUTHORIZATION: BASIC ASSESSMENT REPORT (BAR) APPLICATION.

ENVIRONMENTAL AUTHORISATION FOR PROSPECTING RIGHT APPLICATION, VLAKFONTEIN 33 (PTY) LTD IN RESPECT OF THE FARM BLAAUBOSCHPUT NO.73 AND FARM BLAAUBOSCHKUIL NO.74, WITHIN THE ADMINISTRATIVE DISTRICT OF PIXLEY KA SEME, NORTHERN CAPE PROVINCE.

DMRE REFERENCE NO: NC 30/5/1/1/2 (14253) PR

PURPOSE OF THIS DOCUMENT

This Background Information Document (BID) has been prepared as part of the notification and consultation process required in terms of the National Environmental Management Act (NEMA) (Act 107 of 1998). It describes the following:

- Background information regarding the proposed project;
- Information about the site and the proposal being considered;
- Public participation process; and
- Suggestions on how the stakeholders including the I&APs can participate in the process.

APPOINTED OF ENVIRONMENTAL ASSESSMENT PRACTITIONERS

Vahlengwe Mining Advisory and Consulting, as an Environmental Assessment Practitioner (EAP), will conduct the Environmental Authorization process for the prospecting application in respect of the Farm Blaauboschput no.73 and Blaauboschkuil no.74 within the Administrative District of Pixley ka Seme, for the extent area of 4 613,30 ha.

PROJECTION LOCATION

The proposed prospecting right will take place on the Farms Blaauboschput no.73 and Blaauboschkuil no.74 within the Administrative District of Pixley ka Seme, Northern Cape Province.

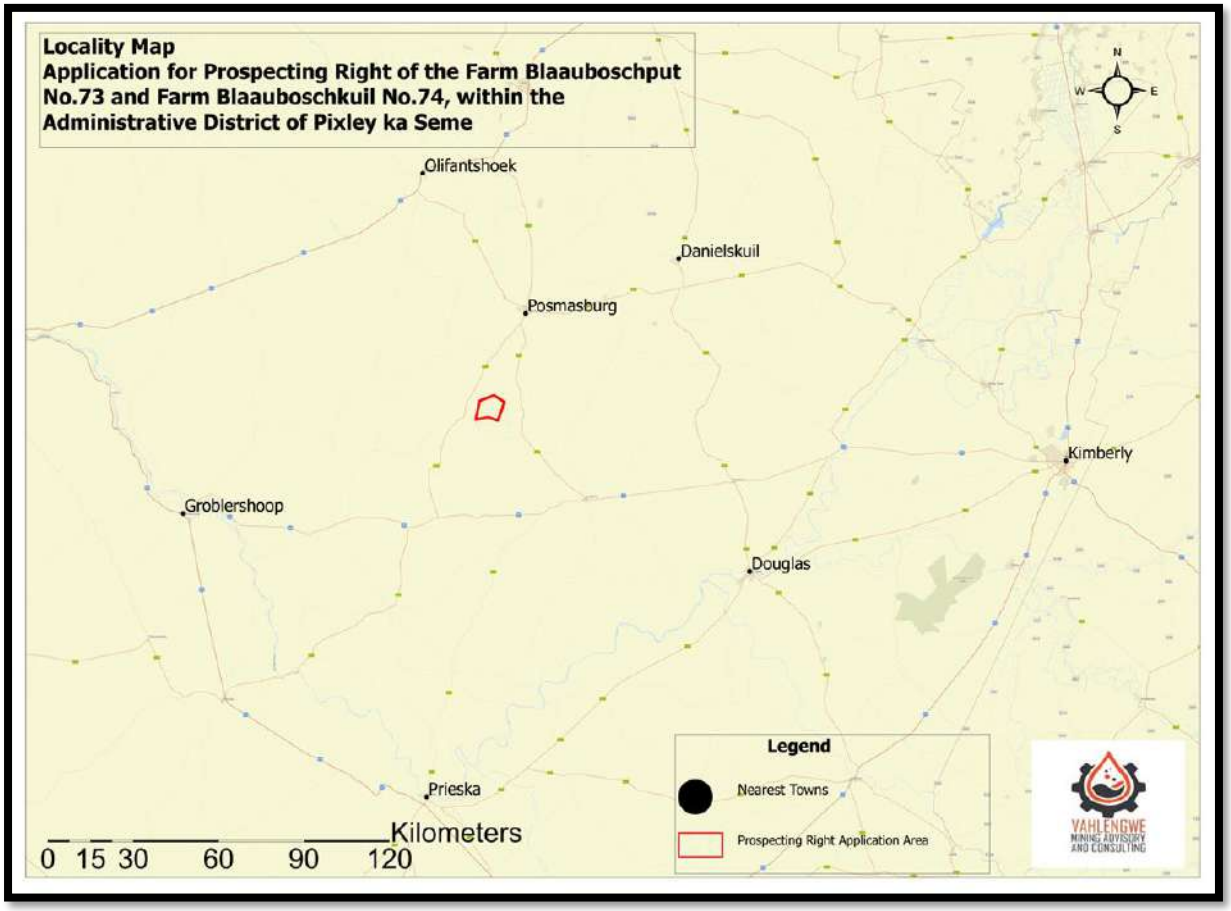


Figure 1: Locality Map of the proposed prospecting area

PROJECT DESCRIPTION

Vlakfontein 33 (Pty) Ltd proposes to undertake the prospecting activities in respect of Farm Blaauboschput no.73 and Blaauboschkuil no.74 within the Administrative District of Pixley ka Seme, Northern Cape. The project entails the proposed prospecting right application for the prospecting of manganese and iron ore. Vahlengwe Mining Advisory and Consulting (Pty) Ltd will compile the Basic Assessment and Environmental Management Programme for prospecting the application and facilitating the PPP.

PUBLIC PARTICIPATION PROCESS.

The public consultation process aims to enable landowners, lawful occupiers, directly affected individuals, and/or other Interested and Affected Parties (I&APs) to raise any issues, concerns, and or comments regarding the prospecting activities. A proof of consultation report will be developed and submitted to the Department of Mineral

Resources and Energy (DMRE). The proposed project requires an Environmental Impact Assessment process in terms of the National Environmental Management Act, 1998 (Act 107 of 1998) (as amended).

The following steps will be followed while conducting public participation.

- Issuing of notification of this project to:
  - Owners and occupiers of the farms as well as those adjacent to the site
  - Municipal Councillor
  - The municipality which has jurisdiction, and any organ of state having jurisdiction
- Placing an advert in a local newspaper
- Placing a notice on the site notice
- Meetings with landowners and key I&APs, as required
- Public review of the Basic Assessment Report and Environmental Management Programme

PUBLIC INVOLVEMENT

Public involvement is an essential component of the process. It addresses the right of Interested and affected Parties (I&APs) to be informed of the proposed activities.

All Interested and Affected Parties (I&APs) are invited to submit their issues, concerns, and comments regarding the proposed prospecting activities to Vlakfontein 33 (Pty) Ltd via email, registered post, or telephonically. The Interested and Affected Parties (I&APS) Form is made available below for you to fill in your personal details and comments, kindly do so and submit it back to us.

HOW TO OBTAIN FURTHER INFORMATION.

Registering as I&APs will ensure that you are placed on a database to be informed of any progress regarding the project. You can do so by filling in the form below and returning it to the relevant person listed below.

We encourage the I&APs to review the information presented to you in this Background Information Document (BID) and to register as an I&AP for the attached respondent sheet and return it to us.

PUBLIC CONSULTATION CONTACTS:

Name: : Sunday Mabaso
Postal address : 238 Voster Ave, Glenvista Ext 3, Glenvista, 2058
Contact : +27 11 432 0062/ 074 569 7312
E-mail : info@vahlengweadvisory.co.za

APPLICANT CONTACTS

Name : Swanepoel J Francois
Postal Address : 14 Baobab Nook, Zwarkop X4, Gauteng,0156
Tel : +27 83 460 0356
E-mail : jfswanepoel@live.com

VLAKFONTEIN 33 (PTY) LTD

Interested & Affected Party Registration Form

Project Reference No.: NC 30/5/1/1/2(14253) PR

Name and Surname	
Physical Address	
Contact Details	***Telephone No.:*** ***Fax No.:*** ***Cell No.:*** ***E-mail Address:***
Please indicate any issues, comments, and concerns regarding the proposed project.	
Please indicate in which aspects you would require more information.	
Please indicate any I&APs whom you think should be contacted.	
To be registered as an I&AP for this project mail, or e-mail the completed registration form to: **Sunday M Mabaso** **Postal address: 238 Voster Ave, Glenvista Ext 3, Glenvista, 2058** **Contact: +27 11 432 0062 / 074 569 7312** **E-mail: info@vahlengweadvisory.co.za**	

VAHLENGWE MINING ADVISORY AND CONSULTING

Appendix 4:

Environmental Sensitivity Screening Report

SCREENING REPORT FOR AN ENVIRONMENTAL AUTHORIZATION AS REQUIRED BY THE 2014 EIA REGULATIONS – PROPOSED SITE ENVIRONMENTAL SENSITIVITY

EIA Reference number:

Project name: Vlakfontein 33 Prospecting Right Aplication

Project title: Prospecting Right Application

Date screening report generated: 21/08/2024 08:49:07

Applicant: Vlakfontein 33 (Pty) Ltd

Compiler: Vahlengwe Mining Advisory and Consulting

Compiler signature: .....

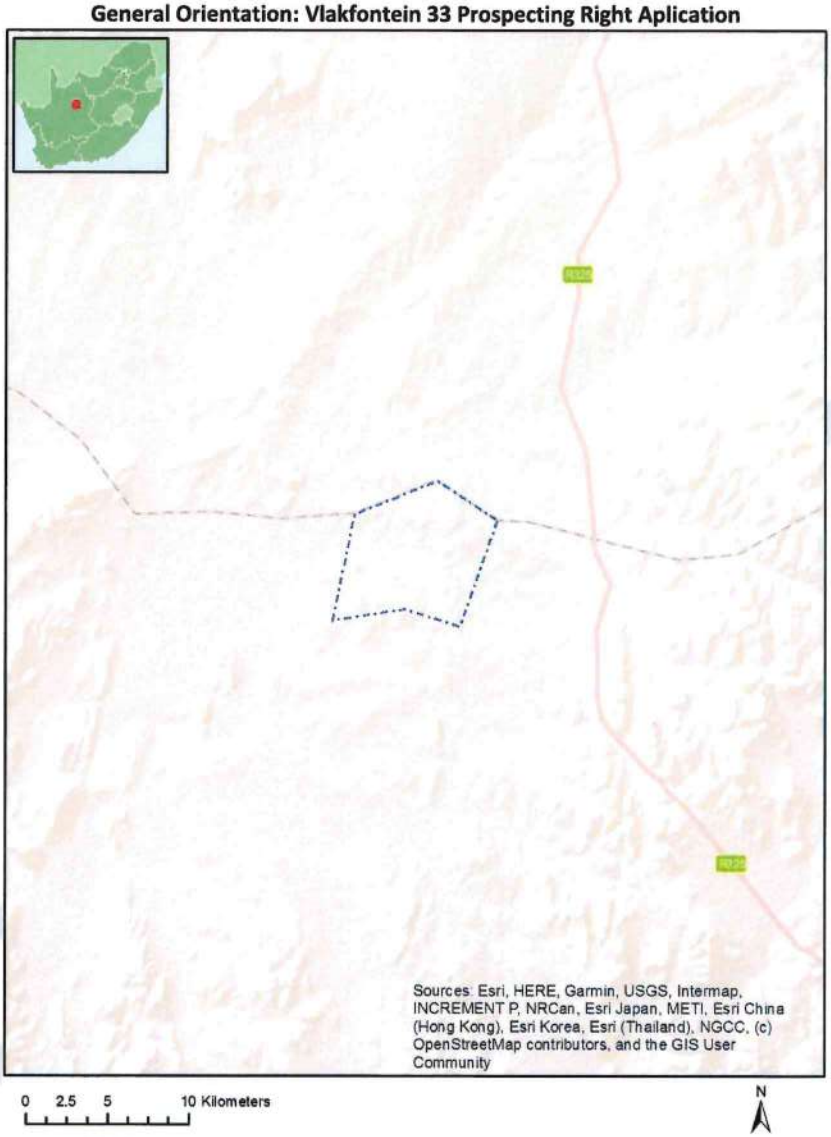
Application Category: Mining|Prospecting rights

Table of Contents

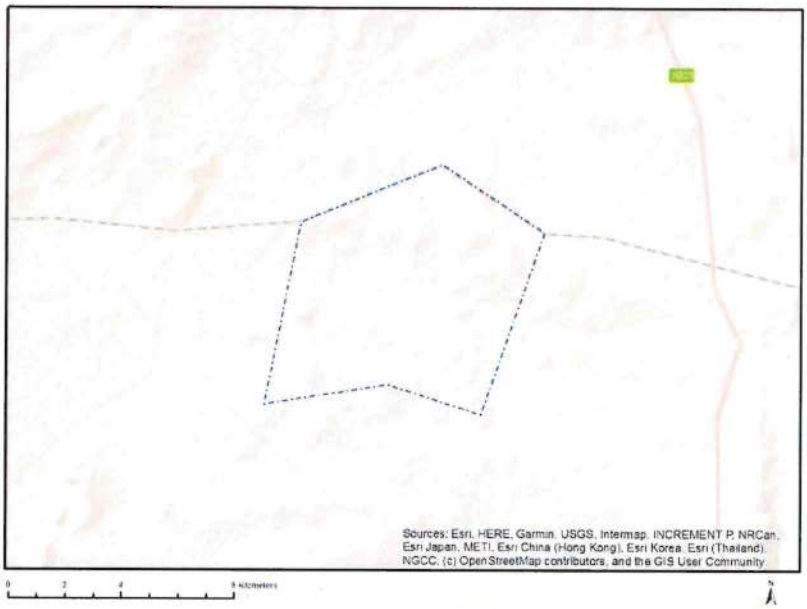
Proposed Project Location

Orientation map 1: General location

General Orientation: Vlakfontein 33 Prospecting Right Aplication



Map of proposed site and relevant area(s)



Cadastral details of the proposed site

Property details:

No	Farm Name	Farm/ Erf No	Portion	Latitude	Longitude	Property Type
1	BLAAUWBOSCHPUT	73	0	28°35'48.63S	22°56'0.37E	Farm
2	BLAAUWBOSCHKUIL	74	0	28°35'51.8S	22°58'11.1E	Farm
3	BLAAUWBOSCHKUIL	74	0	28°35'51.8S	22°58'11.1E	Farm Portion
4	BLAAUWBOSCHPUT	73	0	28°36'18.02S	22°55'48.12E	Farm Portion
5	BLAAUWBOSCHPUT	73	1	28°34'39.45S	22°56'45.29E	Farm Portion

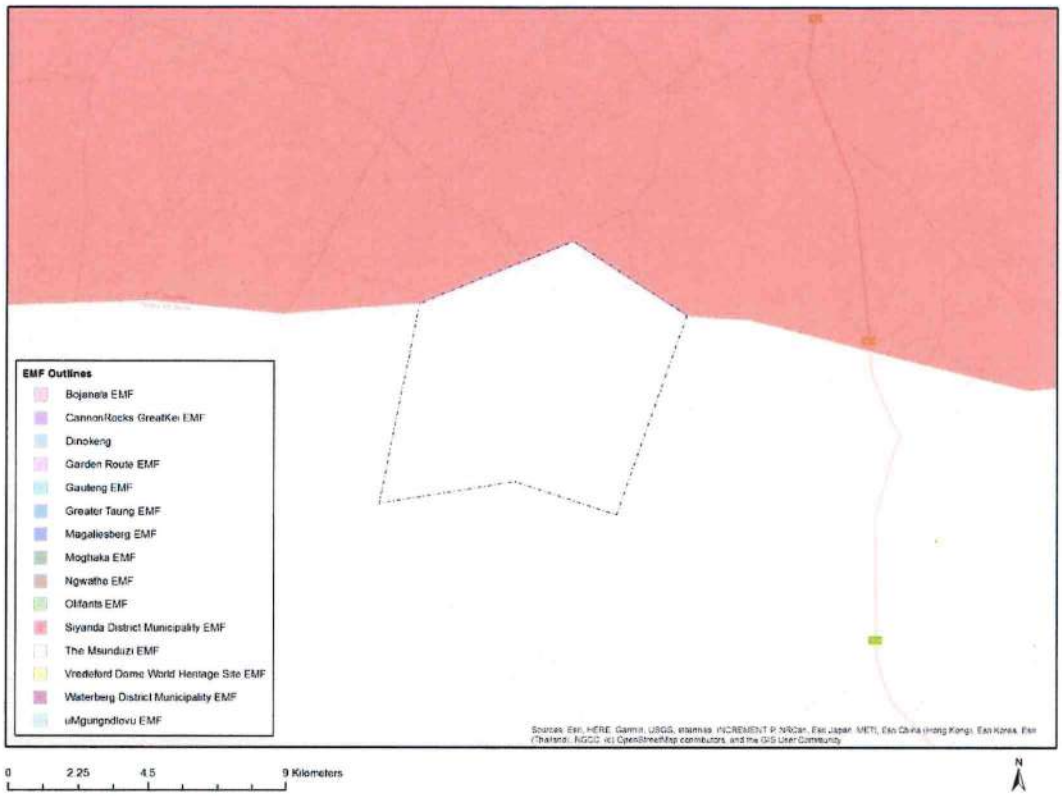
Development footprint[1] vertices:
No development footprint(s) specified.

Wind and Solar developments with an approved Environmental Authorisation or applications under consideration within 30 km of the proposed area

No nearby wind or solar developments found.

[1] "development footprint", means the area within the site on which the development will take place and incudes all ancillary developments for example roads, power lines, boundary walls, paving etc. which require vegetation clearance or which will be disturbed and for which the application has been submitted.

Environmental Management Frameworks relevant to the application



Environmental Management Framework	LINK
Siyanda District Municipality EMF	https://screening.environment.gov.za/ScreeningDownloads/EMF/SIYANDA_EMF_REPORT_2008.pdf

Environmental screening results and assessment outcomes

The following sections contain a summary of any development incentives, restrictions, exclusions or prohibitions that apply to the proposed development site as well as the most environmental sensitive features on the site based on the site sensitivity screening results for the application classification that was selected. The application classification selected for this report is: **Mining|Prospecting rights**.

Relevant development incentives, restrictions, exclusions or prohibitions

The following development incentives, restrictions, exclusions or prohibitions and their implications that apply to this site are indicated below.

No intersection with any development zones found.

Proposed Development Area Environmental Sensitivity

The following summary of the development site environmental sensitivities is identified. Only the highest environmental sensitivity is indicated. The footprint environmental sensitivities for the proposed development footprint as identified, are indicative only and must be verified on site by a suitably qualified person before the specialist assessments identified below can be confirmed.

Theme	Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
Agriculture Theme			X	
Animal Species Theme		X		
Aquatic Biodiversity Theme	X			
Archaeological and Cultural Heritage Theme				X
Civil Aviation Theme				X
Defence Theme				X
Paleontology Theme		X		
Plant Species Theme				X
Terrestrial Biodiversity Theme	X			

Specialist assessments identified

Based on the selected classification, and the known impacts associated with the proposed development, the following list of specialist assessments have been identified for inclusion in the assessment report. It is the responsibility of the EAP to confirm this list and to motivate in the assessment report, the reason for not including any of the identified specialist study including the provision of photographic evidence of the site situation.

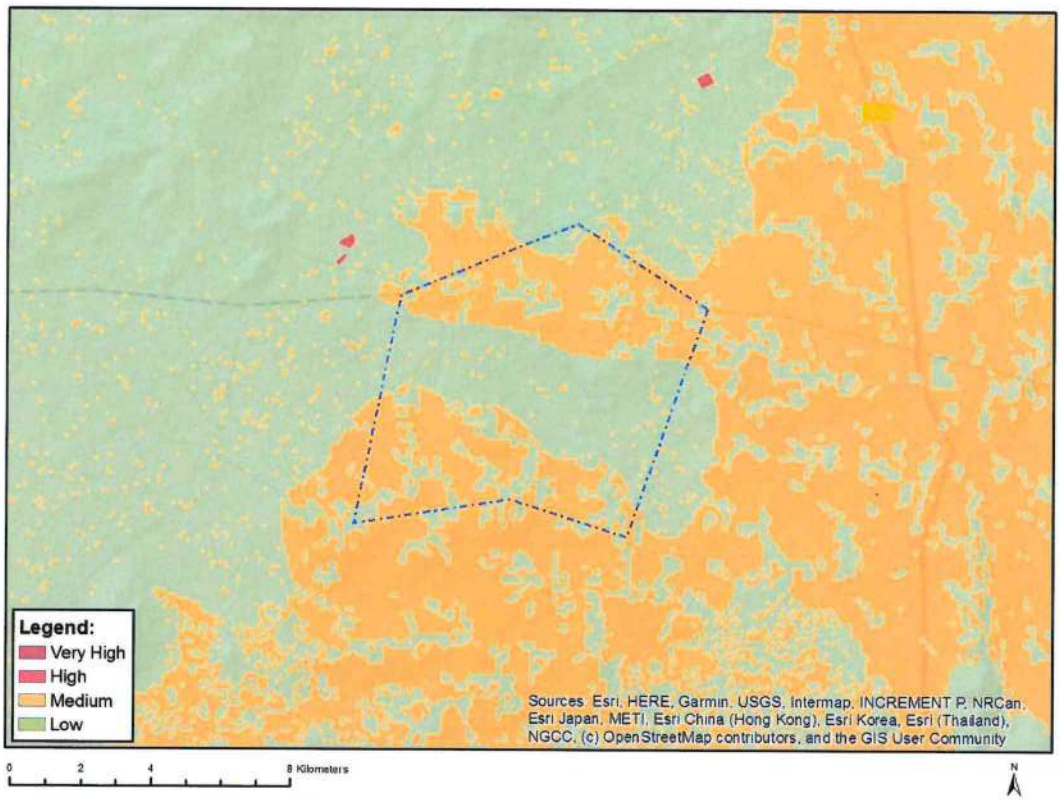
No	Specialist assessment	Assessment Protocol
1	Agricultural Impact Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_General_Agriculture_Assessment_Protocols.pdf
2	Archaeological and Cultural Heritage Impact Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_General_Requirement_Assessment_Protocols.pdf
3	Palaeontology Impact Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_General_Requirement_Assessment_Protocols.pdf
4	Terrestrial Biodiversity Impact Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_Terrestrial_Biodiversity_Assessment_Protocols.pdf
5	Aquatic Biodiversity Impact Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_Aquatic_Biodiversity_Assessment_Protocols.pdf
6	Noise Impact Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_Noise_Impacts_Assessment_Protocol.pdf
7	Radioactivity Impact Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_General_Requirement_Assessment_Protocols.pdf
8	Plant Species Assessment	https://screening.environment.gov.za/ScreeningDownloads/Asse

		ssmentProtocols/Gazetted_Plant_Species_Assessment_Protocols.pdf
9	Animal Species Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_Animal_Species_Assessment_Protocols.pdf

Results of the environmental sensitivity of the proposed area.

The following section represents the results of the screening for environmental sensitivity of the proposed site for relevant environmental themes associated with the project classification. It is the duty of the EAP to ensure that the environmental themes provided by the screening tool are comprehensive and complete for the project. Refer to the disclaimer.

MAP OF RELATIVE AGRICULTURE THEME SENSITIVITY

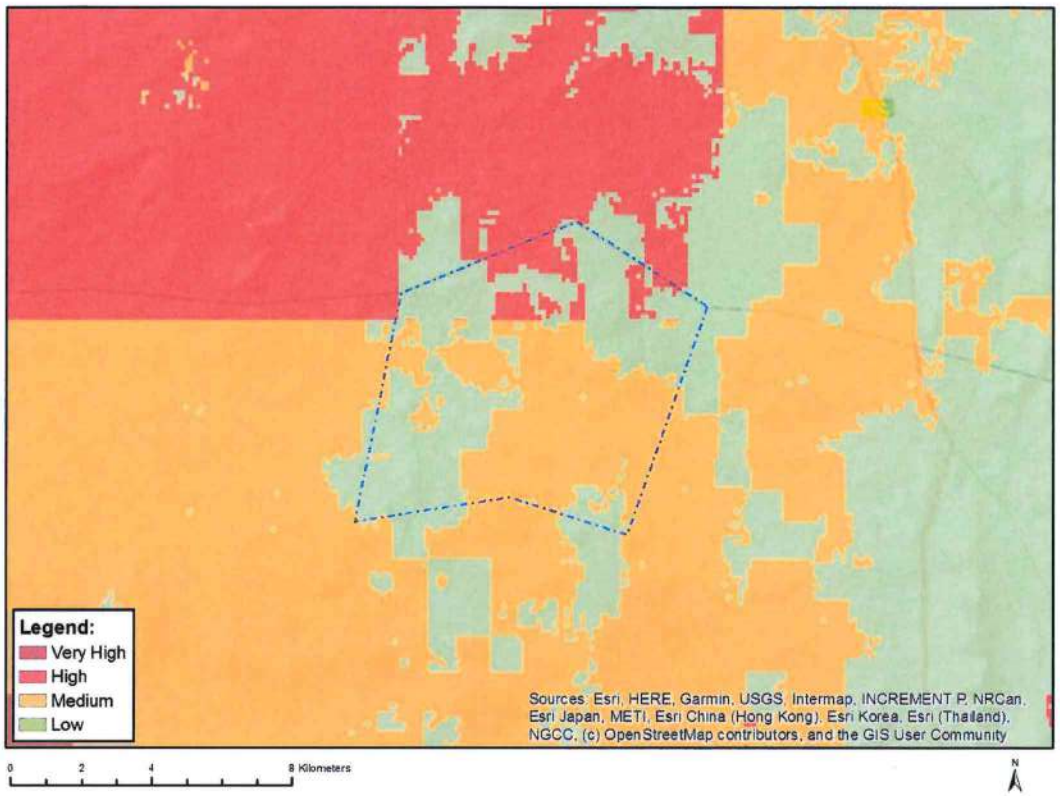


Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
		X	

Sensitivity Features:

Sensitivity	Feature(s)
Low	Land capability;01. Very low/02. Very low/03. Low-Very low/04. Low-Very low/05. Low
Medium	Land capability;06. Low-Moderate/07. Low-Moderate/08. Moderate

MAP OF RELATIVE ANIMAL SPECIES THEME SENSITIVITY



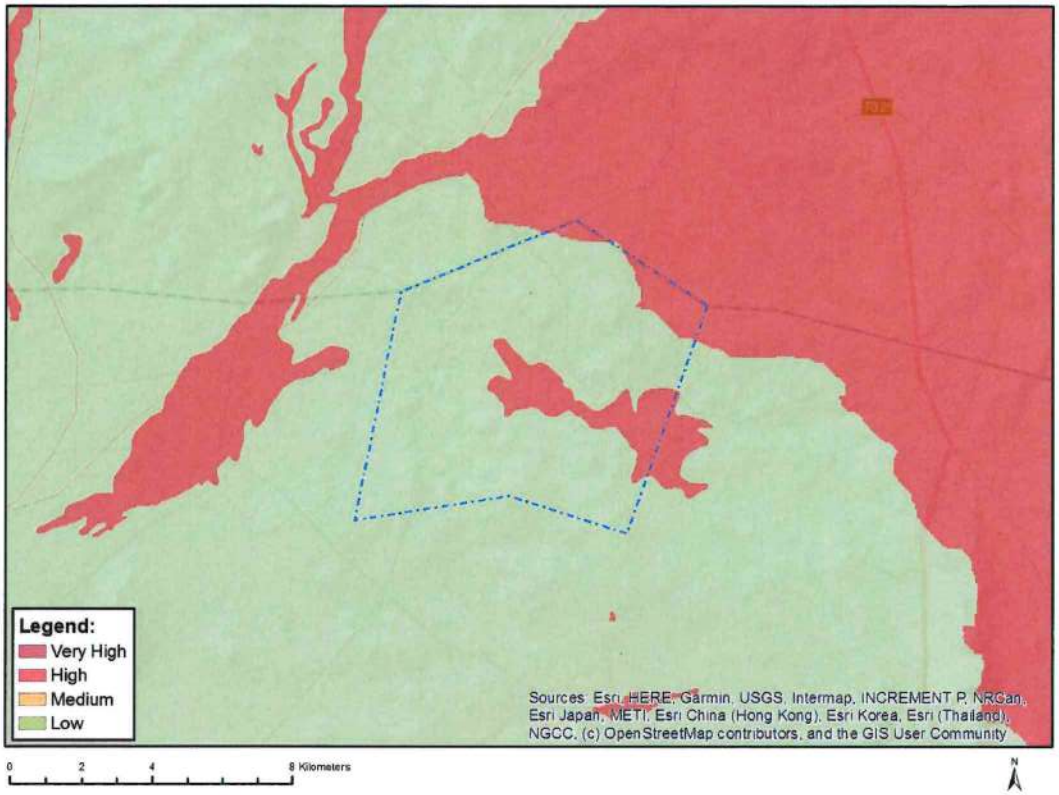
Where only a sensitive plant unique number or sensitive animal unique number is provided in the screening report and an assessment is required, the environmental assessment practitioner (EAP) or specialist is required to email SANBI at eiadatarequests@sanbi.org.za listing all sensitive species with their unique identifiers for which information is required. The name has been withheld as the species may be prone to illegal harvesting and must be protected. SANBI will release the actual species name after the details of the EAP or specialist have been documented.

Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
	X		

Sensitivity Features:

Sensitivity	Feature(s)
High	Aves-Neotis ludwigii
High	Aves-Torgos tracheliotos
Low	Subject to confirmation
Medium	Aves-Neotis ludwigii

MAP OF RELATIVE AQUATIC BIODIVERSITY THEME SENSITIVITY

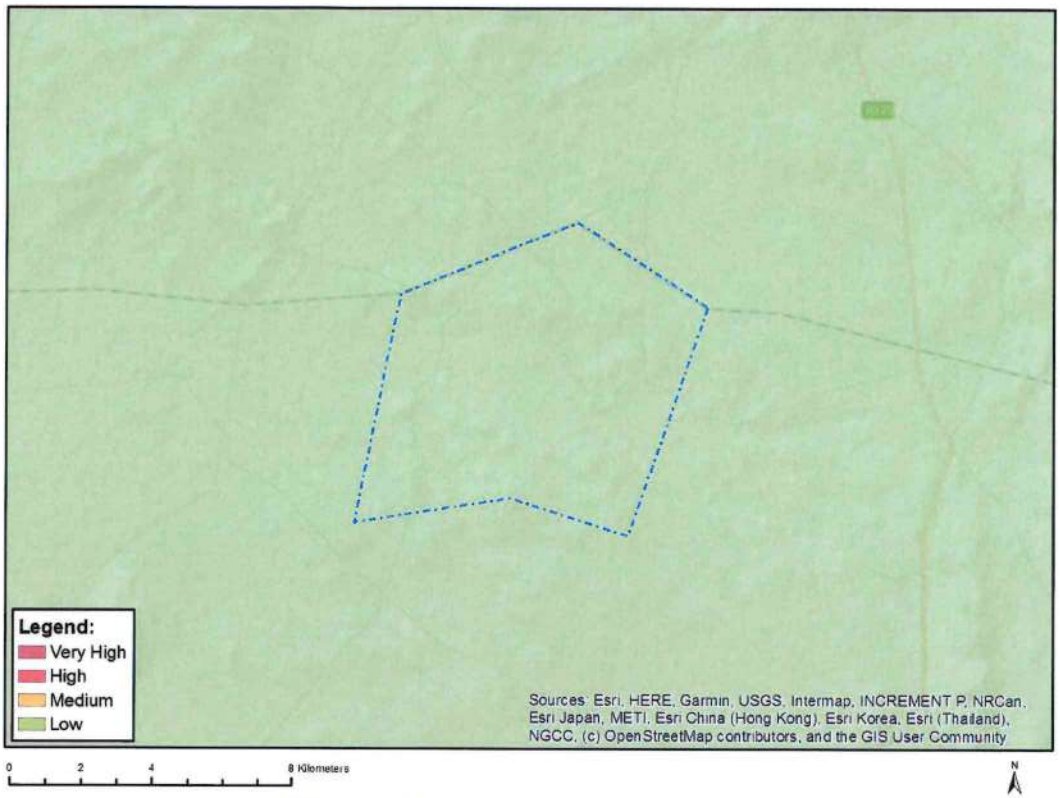


Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
X			

Sensitivity Features:

Sensitivity	Feature(s)
Low	Low sensitivity
Very High	FEPA Subcatchment
Very High	Wetlands_Eastern Kalahari Bushveld Bioregion (Depression)
Very High	Wetlands_Eastern Kalahari Bushveld Bioregion (Seep)

MAP OF RELATIVE ARCHAEOLOGICAL AND CULTURAL HERITAGE THEME SENSITIVITY

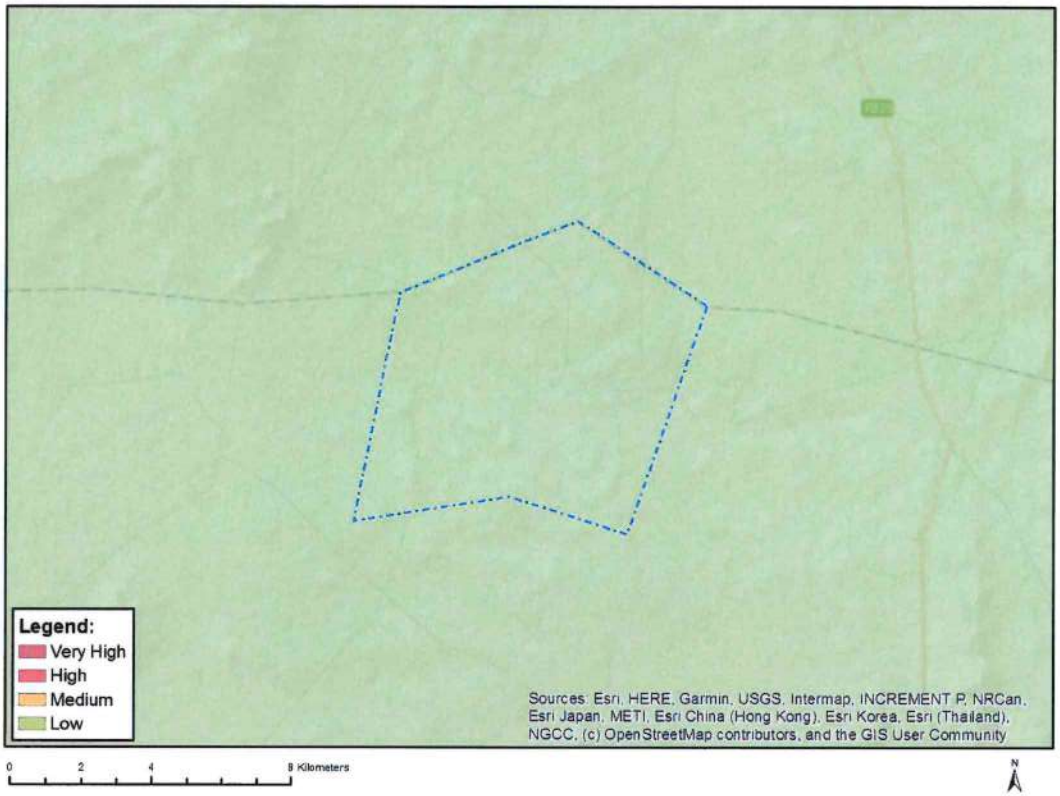


Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
			X

Sensitivity Features:

Sensitivity	Feature(s)
Low	Low sensitivity

MAP OF RELATIVE CIVIL AVIATION THEME SENSITIVITY

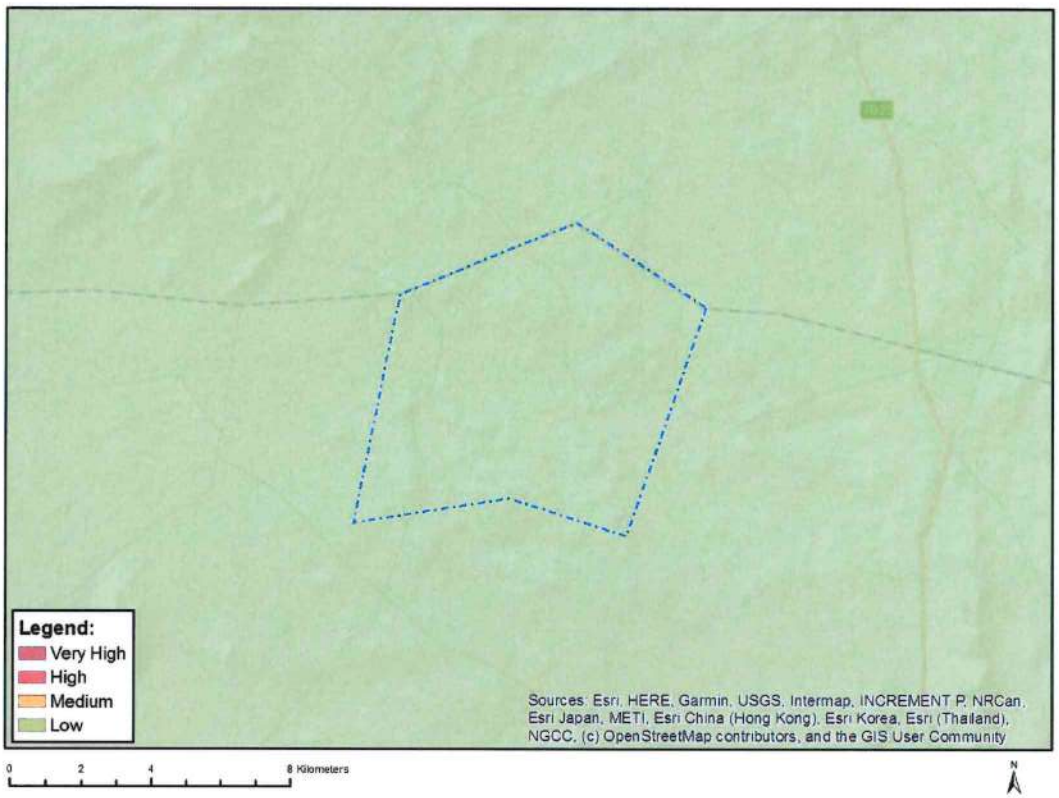


Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
			X

Sensitivity Features:

Sensitivity	Feature(s)
Low	Low sensitivity

MAP OF RELATIVE DEFENCE THEME SENSITIVITY

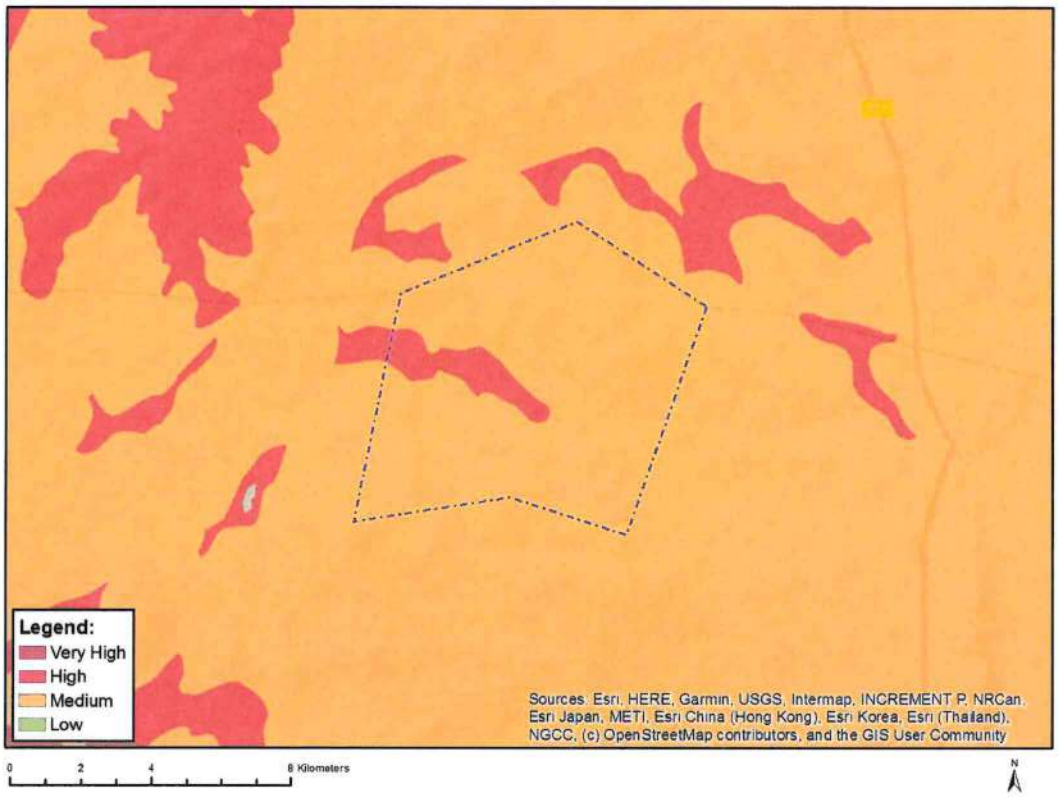


Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
			X

Sensitivity Features:

Sensitivity	Feature(s)
Low	Low Sensitivity

MAP OF RELATIVE PALEONTOLOGY THEME SENSITIVITY

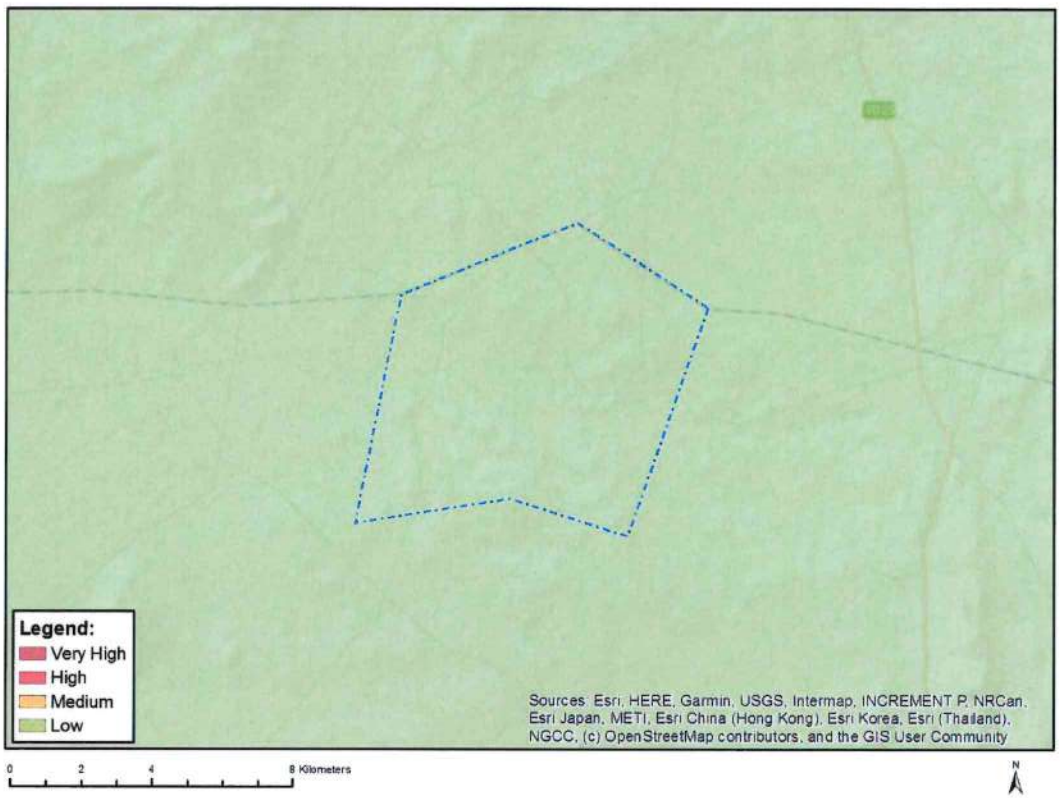


Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
	X		

Sensitivity Features:

Sensitivity	Feature(s)
High	Features with a High paleontological sensitivity
Medium	Features with a Medium paleontological sensitivity

MAP OF RELATIVE PLANT SPECIES THEME SENSITIVITY



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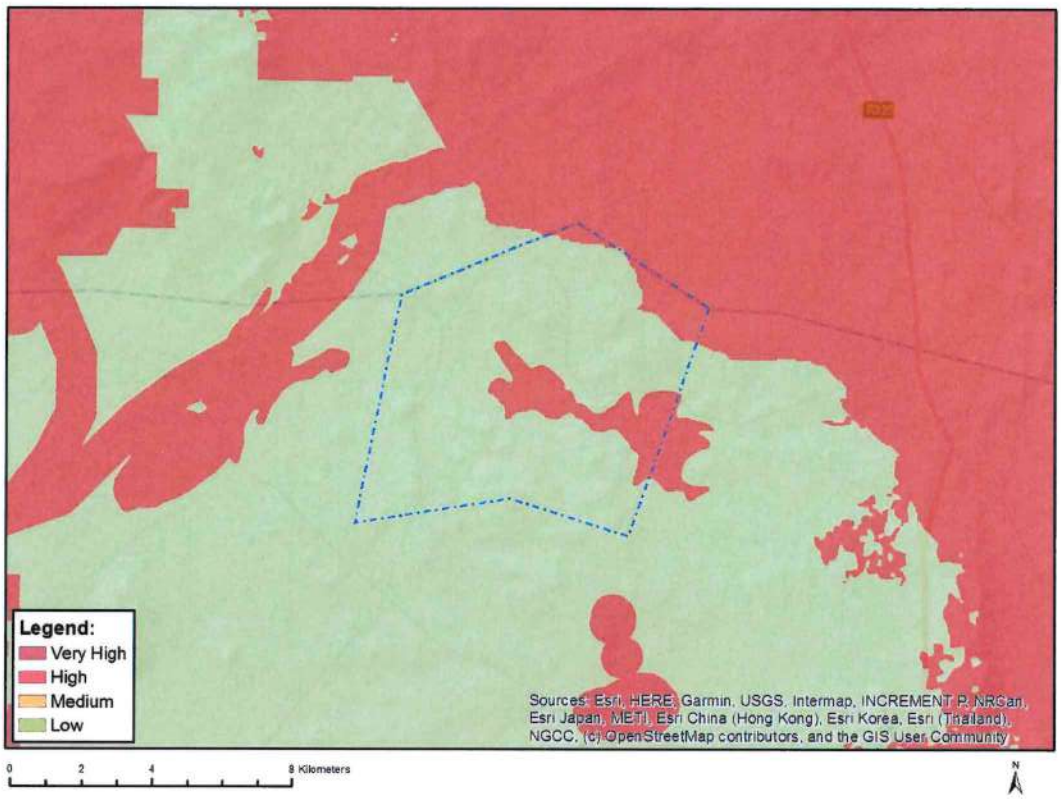
Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
			X

Sensitivity Features:

Sensitivity	Feature(s)
Low	Low Sensitivity

MAP OF RELATIVE TERRESTRIAL BIODIVERSITY THEME SENSITIVITY



Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
X			

Sensitivity Features:

Sensitivity	Feature(s)
Low	Low Sensitivity
Very High	CBA 2
Very High	ESA
Very High	FEPA Subcatchment

21/08/2024