

PROSPECTING RIGHT APPLICATION BY KABKEN FOR COAL, RESOURCES ON THE FARM WINTERHOEK 17223 GT SITUATED IN ENDUMENI LOCAL MUNICIPALITY, UNDER UMZINYATHI MAGISTERIAL DISTRICT, IN KWAZULU-NATAL PROVINCE

**BASIC ASSESSMENT REPORT And ENVIRONMENTAL MANAGEMENT PROGRAMME REPORT DMRE Ref: KZN 30/5/1/1/2/11415 PR.**



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**COMPILED FOR:**



**mineral resources  
& energy**

Department:  
Mineral Resources and Energy  
REPUBLIC OF SOUTH AFRICA

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**DRAFT REPORT**

**2023**

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# mineral resources & energy

Department:  
Mineral Resources and Energy  
REPUBLIC OF SOUTH AFRICA

## BASIC ASSESSMENT REPORT

And

## ENVIRONMENTAL MANAGEMENT PROGRAMME REPORT

SUBMITTED FOR ENVIRONMENTAL AUTHORIZATIONS IN TERMS OF THE NATIONAL ENVIRONMENTAL MANAGEMENT ACT, 1998 AND THE NATIONAL ENVIRONMENTAL MANAGEMENT WASTE ACT, 2008 IN RESPECT OF LISTED ACTIVITIES THAT HAVE BEEN TRIGGERED BY APPLICATIONS IN TERMS OF THE MINERAL AND PETROLEUM RESOURCES DEVELOPMENT ACT, 2002 (MPRDA) (AS AMENDED).

<b>Project applicant:</b>	KABKEN MINING (PTY) LTD		
<b>Registration no (if any):</b>	2022/258299/07		
<b>Trading name (if any):</b>	KABKEN MINING (PTY) LTD		
<b>Responsible Person, (e.g. Director, CEO, etc):</b>	BOTSHELENG, ATISANG KENNEDY		
<b>Contact person:</b>	BOTSHELENG, ATISANG KENNEDY		
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**FILE REFERENCE NUMBER SAMRAD:** KZN 30/5/1/1/2/11415 PR



## 1. 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 taken into account 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.

## 2. 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 the 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.

**PART A**  
**SCOPE OF ASSSMENT AND BASIC ASSESSMENT REPORT**

**1. Contact Person and correspondence address**

**a) Details of EAPs**

DOCUMENT CONTROL					
Document Title			Basic Assessment Report and Environmental Management Programme report for Coal on the farm Winterhoek 17223 GT, situated in the Magisterial District of Umzintathi, Kwazulu-Natal Province DMRE REF.: KZN 30/5/1/1/2/11415 PR.		
Version	Version 1:		Basic Assessment Report and Environmental Management Programme		
QUALITY CONTROL					
	Public Participation Officer	Candidate EAP	Programme Manager (1st Reviewer)	Principal EAP (2nd Reviewer)	Distribution
Name	N Mathenjwa	B Sbiya	R Shonisani Radebe	Dr NK Singo	Stakeholders
Email	<a href="mailto:ncamiso@singoconsulting.co.za">ncamiso@singoconsulting.co.za</a>	<a href="mailto:bongokuhle@singoconsulting.co.za">bongokuhle@singoconsulting.co.za</a>	<a href="mailto:rudzani@singoconsulting.co.za">rudzani@singoconsulting.co.za</a>	<a href="mailto:kenneth@singoconsulting.co.za">kenneth@singoconsulting.co.za</a>	
Cell Number	071 233 2725	061 868 7545/068 540 6970	078 548 1244	078 272 7839 / 072 081 6682	

**b) Location of the overall Activity.**

Table 1: Locality

<b>Farm Name:</b>	Farm Winterhoek 17223 GT
<b>Application area (Ha)</b>	Approximately 363.662Ha
<b>Magisterial district:</b>	uMzinyathi in Kwazulu Natal Province
<b>Distance and direction from nearest town</b>	Approximately 18.3 km East of Dundee
<b>21-digit Surveyor General Code for each farm portion</b>	NOGT00000001722300000

Table 2: WinDeed Results.



This report is compiled exclusively from the very latest data directly supplied to WinDeed by the Deeds Office.

Any personal information obtained from this search will only be used as per the Terms and Conditions agreed to and in accordance with applicable data protection laws including the Protection of Personal Information Act, 2013 (POPI), and shall not be used for marketing purposes.

\*\* ASTERISKS INDICATE THE INFORMATION IS ENRICHED FROM THE WINDEED DATABASE

SEARCH CRITERIA	
Search Date	Farm Number 17223
Reference	Registration Division GT
Report Print Date	Portion Number -
Farm Name	Remaining Extent NO
Deeds Office	Search Source Deeds Office
PROPERTY INFORMATION	
Property Type	Diagram Deed Number T33902/2001
Farm Name	Local Authority NOT AVAILABLE
Farm Number	Province KWAZULU NATAL
Registration Division	Remaining Extent NO
Portion Number	Extent 362.3673H
Previous Description	LPI Code NOGT00000001722300000
Suburb / Town**	Co-ordinates (Lat/Long)** -28.200034 / 30.432057
OWNER INFORMATION (1)	
MABELASELENGE COMMUN	Owner 1 of 1
Company Type**	Document T41604/2013
Registration Number	Microfilm / Scanned Date -
Name	Purchase Price (R) -
Multiple Owners**	Purchase Date -
Multiple Properties**	Registration Date 2013/12/20
Share (%)	

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## 2. Locality map

(Show nearest town, scale not smaller than 1:250000).  
ATTACHED

The project area is located at Dundee at approximately 19 km East of the area of Endumeni, 23 km North-West of Nqutu township, 40.76 km Southeast of Dannhauser, and about 44.93 km North of Msinga. The perennial river cut through the project area. The community of Mabhelaselenge is located near the proposed area which is located under the ENdumeni Local Municipality. The proposed area can be accessed through gravel road that connects R68 national route. The farm boundary covers the farmhouses and waterbodies inclusive within its boundaries (refer to Figure 1). The area is characterized by a flat to gentle undulating topography whilst the farm is operational for Horse, goats grazing and meal cultivation.

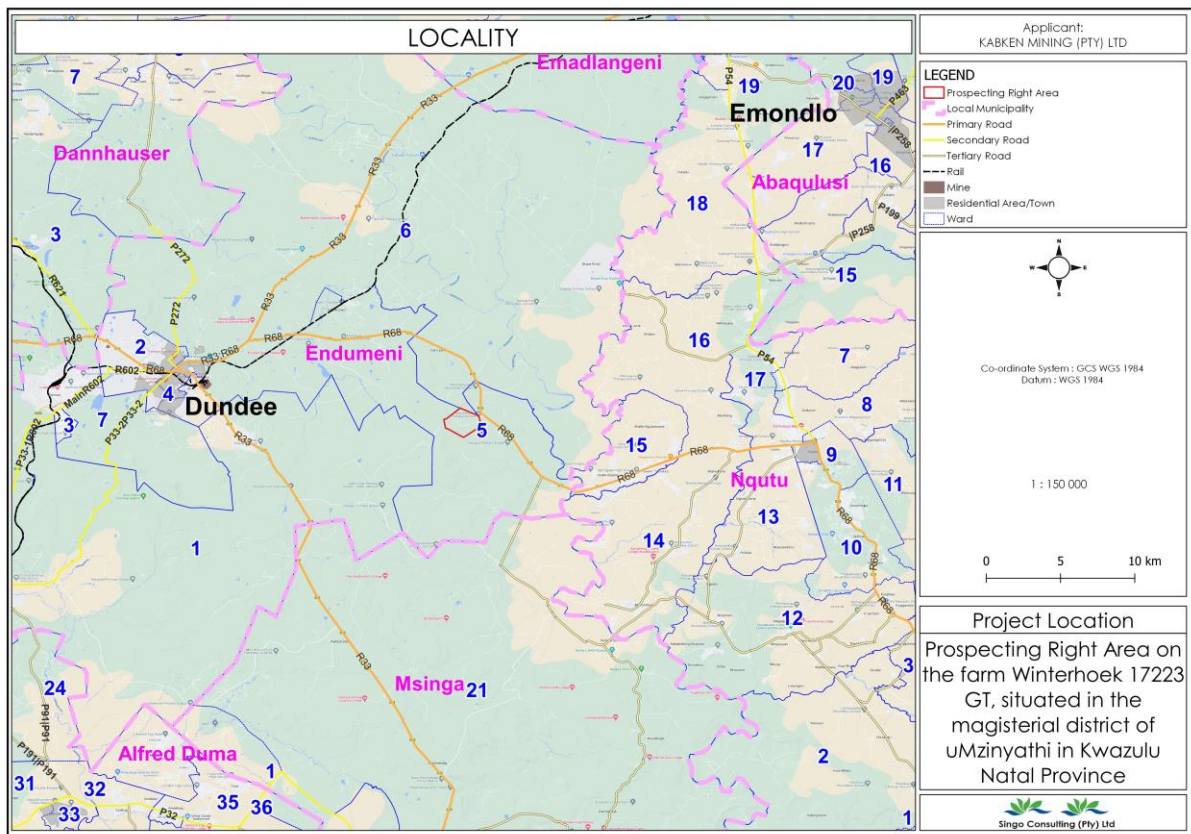


Figure 1: Locality Map of the PR Application Area.

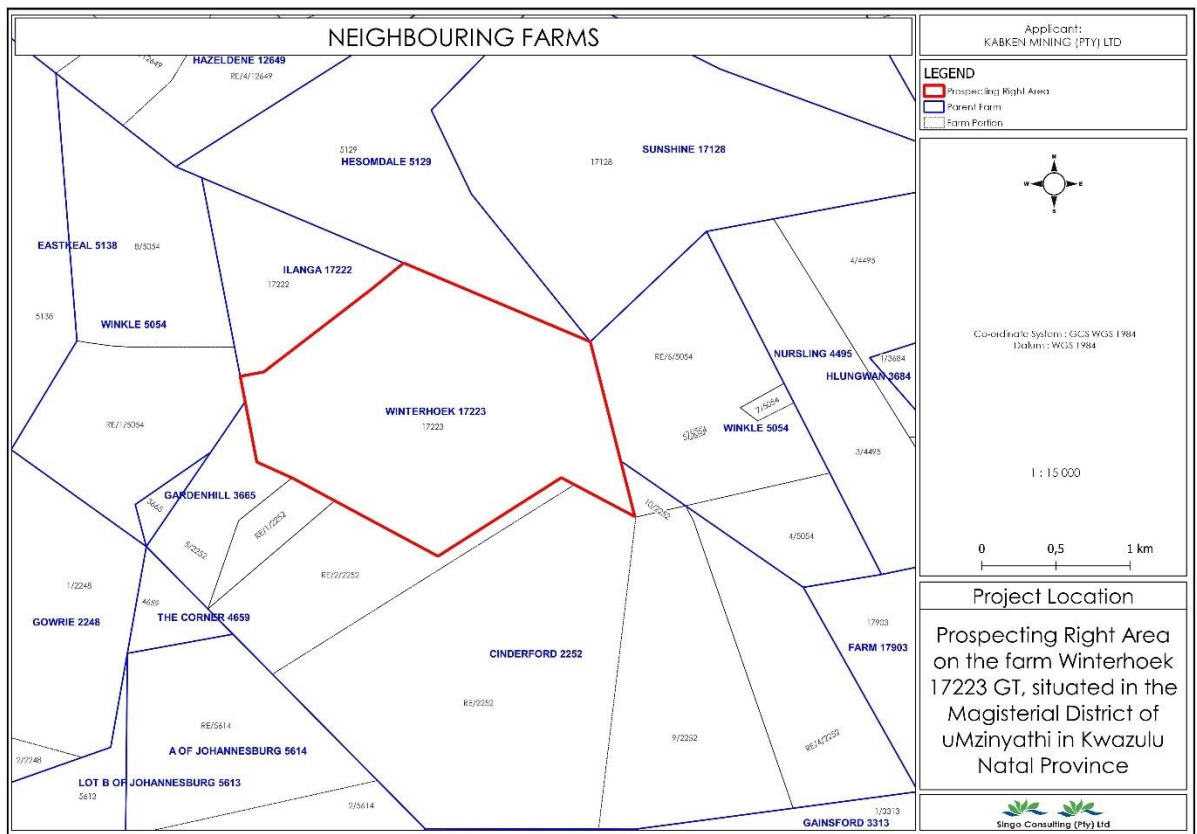


Figure 2: Adjacent Farms

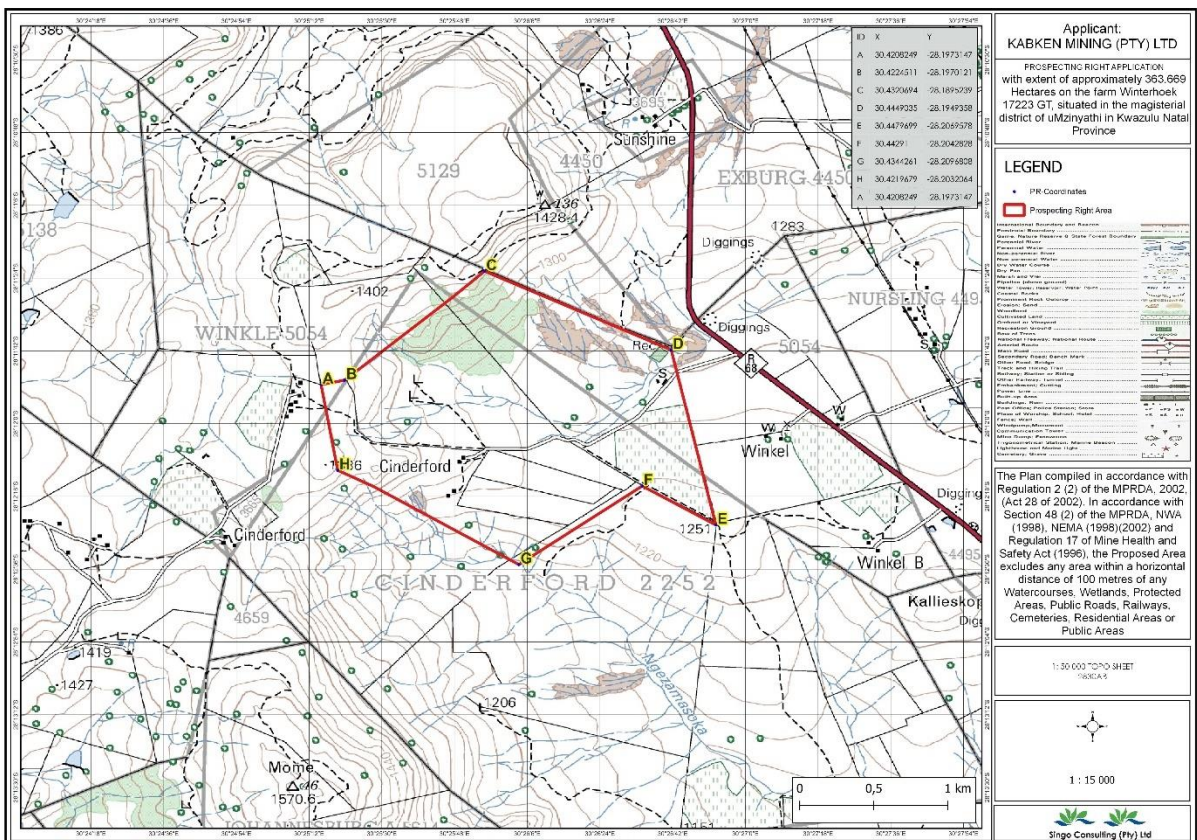


Figure 3: Regulation map

Endumeni Municipality is a category B municipality, as described in section 155 (1) (b) of the constitution of the Republic of South Africa ,1996. The municipality has its administrative seats in its two main towns; Dundee and Glencore, located at the base of the Endumeni Mountain. It also comprises of Wasbank town, together with several farms astride MR33, MR 68 and DR602. The municipality is generally accessed off the N3 highway onto the N11 then proceeding onto the R68 into the Municipal area.

There is no Ingonyama Trust land nor traditional authority within the municipal jurisdiction area. It is 1,612 km<sup>2</sup> in Extent, 55 km wide from North-East to South-West on the R33/ R602 and 30 km on the R33/ R602 Southeast to North-west. It is situated 360 kilometres southeast of Johannesburg and 290 kilometres north of Durban.

The ward boundaries within Endumeni Municipality have changed three times since 2010. In 2011, 2016 and 2020, the current data available for ward information is Census 2011, once the data is available for the latest wards boundaries, the report will be updated accordingly. See plans: 5, 6 and 7 below which spatially depict these changes in ward boundaries.

Endumeni Municipality has the smallest population within the district but dominates the district economy as it serves as the key administrative, educational, and economic centre for the entire district.

Endumeni Municipality has a diversified economy ranging from retail and trade, tourism, farming, industrial (manufacturing), coal mining and administrative centres.

The municipality is positioned within a well-developed commercial agricultural region and hence, it functions as an important regional rural service centre serving the agricultural vicinity. It exists with multipurpose business, administrative, social service and intermodal transportation terminal centre that services the surrounding urban and rural communities of Endumeni, it is a centre from which tourism is based on the cultural heritage of the Zulu Kingdom and 'battlefields' is emphasized and managed to some extent. Cultural assets in the area include.

- Monuments and Museums (e.g., Talana Museum);
- Battlefields sites (Talana and Lennox Hills);
- Other cultural sites i.e., Talana Zulu Cultural Villafem Iron Age smelting sites;
- Riflemans Road and Red Soldiers March Battlefield Routes; and
- Maria Ratschitz Mission.



Glencoe is the secondary node and serves as a secondary centre to Dundee. The area is branded the 'custodian' of the battlefields region which has international and regional significance. The area is in the Biggarsberg valley in the foothills of Drakensburg.

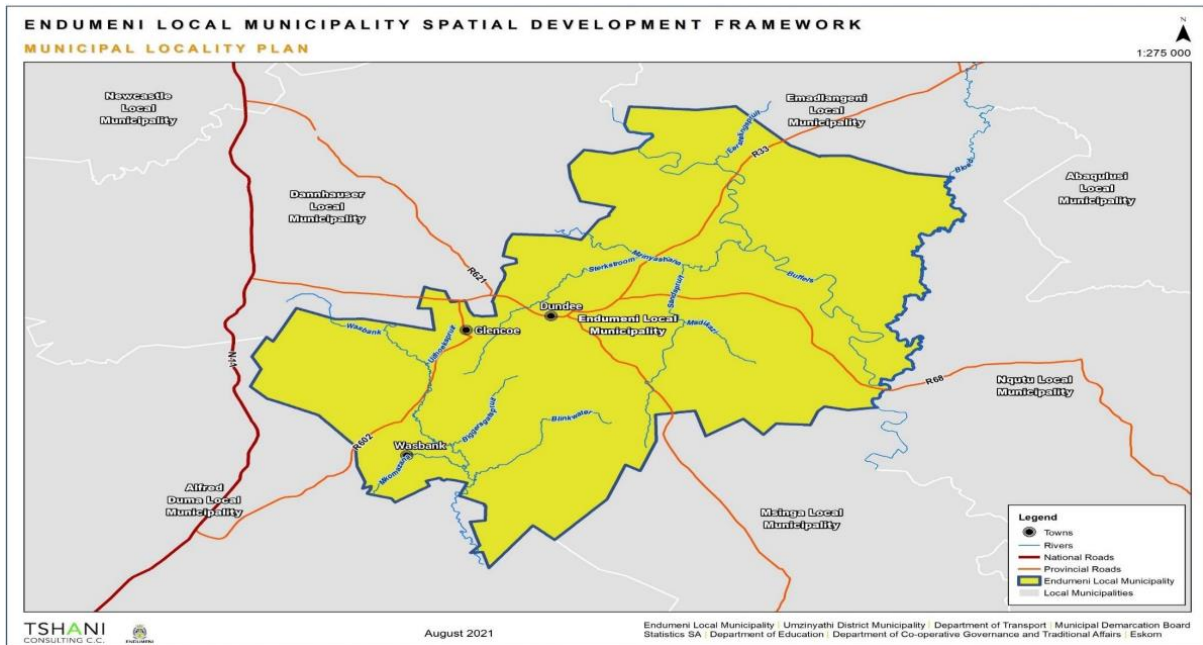


Figure 4: Endumeni locality map.

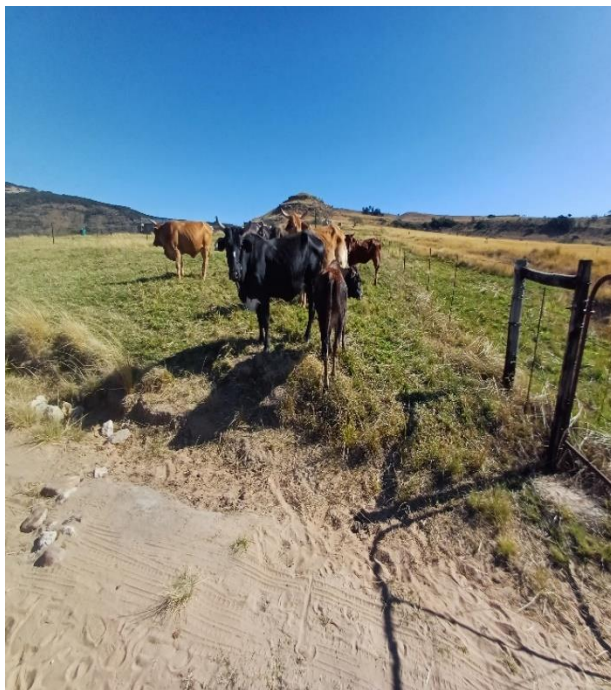
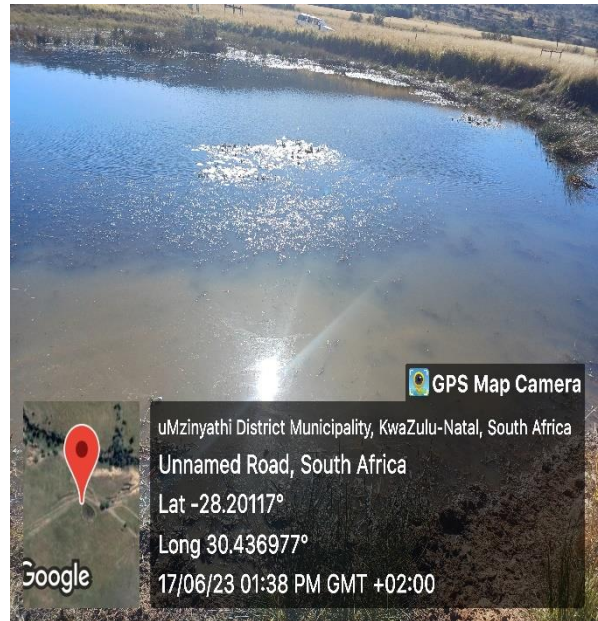
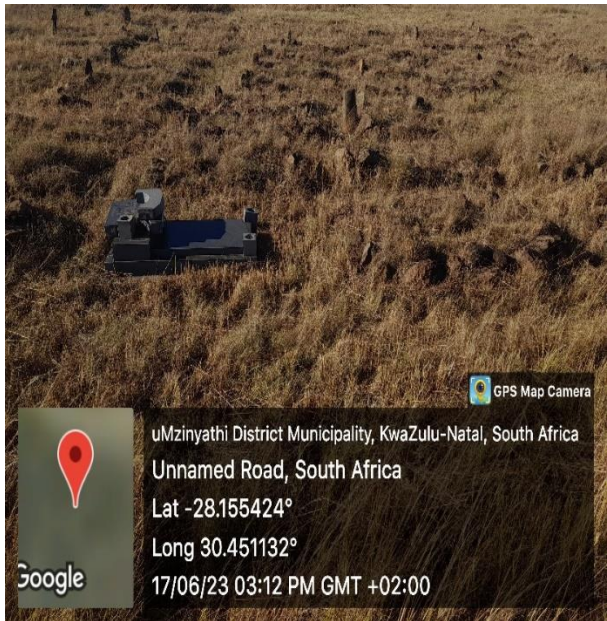


Figure 5: proposed prospecting right application area.

REFER TO APPENDIX 5 FOR MORE PROJECT PHOTOS.

### 3. Description of the scope of the proposed overall activity.

Provide a plan drawn to a scale acceptable to the competent authority but not less than 1: 10 000 that shows the location, and area (hectares) of all the aforesaid main and listed activities, and infrastructure to be placed on site

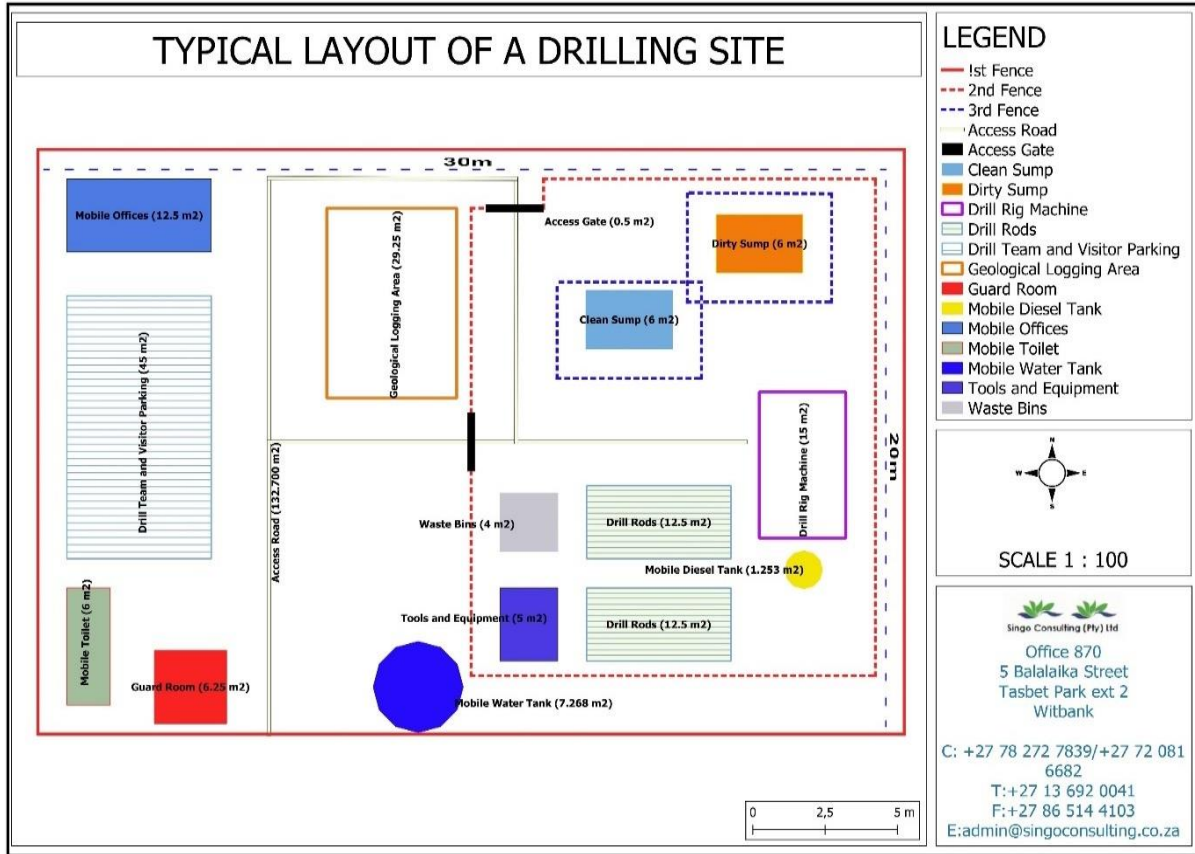


Figure 6: Regulation sketch plan for the proposed area

### 4. DESCRIPTION OF ACTIVITY

#### (i) Listed and specified activities

Section 16 of the Mineral and Petroleum Resources Development Act (MPRDA) (No. 28 of 2002) requires, upon request by the Minister, that an Environmental Management Programme should be submitted, and that the applicant notifies and consults with Interested and Affected Parties (I&APs). Section 24 of the National Environmental Management Act (NEMA) requires that activities which may impact on the environment be authorized by the relevant authority before commencing with that activity. Such activities are listed under Regulations Listing Notice 1 Government Notice (GN) 327 of the NEMA. See Table 2 for details of the listed activities.

Table 3: NEMA-Triggered Activities

Table 4: Listed and specified activities

Name of activity E.g., for prospecting (drill site, site camp, ablution facility, accommodation, equipment storage, sample storage, site office, access route, etc.)	Aerial extent of the activity Ha or m <sup>2</sup>	Listed activity Mark with an X where applicable/affected	Applicable listing notice GN 517, 11 June 2021
Prospecting by means of diamond drilling 15 boreholes.	363.662 ha of the prospecting area (Disturbed area: 0.06 ha per hole x 15 boreholes = 0,9 ha)	X	GN 517, Listing Notice 1, Activity 20
Vegetation clearance for drilling (includes drill site). Invasive prospecting by means of diamond drilling 15 boreholes. The holes will be drilled to an average depth 110 m. The demarcated working area (total area to be disturbed) per site is 30 m x 20 m = 600 m <sup>2</sup> (0.06 ha). Then 600 m <sup>2</sup> x 15 boreholes =9 000 m <sup>2</sup> The total area to be disturbed is 9 000 m <sup>2</sup> /10 000 = 0,9 ha	0,9 ha (total disturbed area) of 363.662 ha (extent of application area)		Not Listed
Mobile office	12.5 m <sup>2</sup>		Not Listed
Mobile toilet	6 m <sup>2</sup>		Not listed
Drill team and visitor team parking	45 m <sup>2</sup>		Not listed
Access road	132.7 m <sup>2</sup>		Not listed
Guard room	6.25 m <sup>2</sup>		Not listed
Access gate	0.5 m <sup>2</sup>		
Geological logging area	29.25 m <sup>2</sup>		Not listed
Waste bins and tools	9 m <sup>2</sup>		Not Listed
Drill machine	15 m <sup>2</sup>		Not listed
Drill rods	25 m <sup>2</sup>		Not listed
Clean sump	6 m <sup>2</sup>		Not listed
Dirty sump	6 m <sup>2</sup>		Not listed
Water tank	7.268 m <sup>2</sup>		Not listed

## **(ii) 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)

Coal prospecting activities will be conducted over a period of five years in the following phases:

**Phase 1:** Non-Invasive Prospecting: - Consultation with landowners - Data processing and validation- Lithofacies and Coal quality modelling- Inspection/Consultation with landowners

**Phase 2:** Non-Invasive Prospecting: - Consultation with landowners

**Phase 3:** Invasive Prospecting: - Diamond drilling (5 borehole), Directional drilling (Optional), Geophysical survey (Optional and Geohydrological survey (Optional

## **DESCRIPTION OF PLANNED NON-INVASIVE ACTIVITIES:**

Non – invasive activities which relate to the various prospecting methods can be briefly described as follows:

### **- Consultation with landowners:**

Land Tenure Specialist will visit the respective landowners prior to the proposed prospecting and arrange all issues relating to the envisaged prospecting programme such as dates, access routes, availability of water, and rehabilitation of the drill sites and any other items of mutual concern. Official permission together with all agreed requirements will be in writing.

### **- Data processing and validation:**

Data obtained during the drilling process needs to be process and validated versus stratigraphic, structural and analytical data received and correlated with surrounding boreholes in the reserve area.

- ❖ Electronic procession of borehole data
- ❖ Validation of lithological data versus analytical data.
- ❖ Stratigraphic correlation of Coal.
- ❖ Editing and correction of data on database.

### **- Lithofacies and Coal quality modelling:**

Variations in a stratigraphic unit across the reserve area are generated and illustrated by contoured maps showing lateral trends of most significant properties. This is done by the utilization of computerized geological software. Detailed in situ reserve and quality

determinations will then be possible through computer based modelling, and qualitative and quantitative calculations.

- **Compilation of geology report:**

Information obtained during the exploration phase together with computer generated information is compiled into a geological report.

- **Inspection/Consultation with landowner:**

Land Tenure Specialist will visit the boreholes during and after prospecting has been completed. Once confirmation has been obtained that the area had been properly rehabilitated, sign off will be obtained from the landowners and compensation paid for any damages caused as a result of the prospecting.

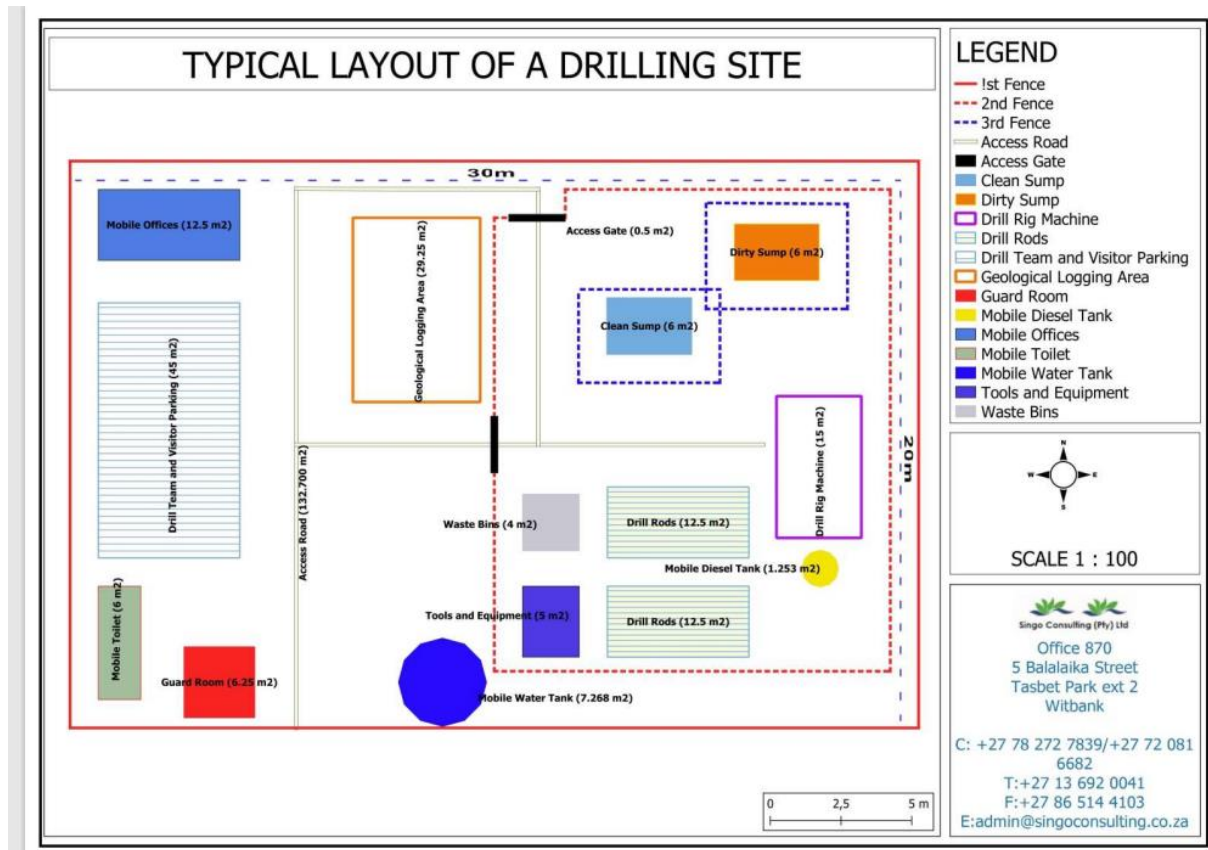


Figure 7: General Layout for prospecting area activities.

- **Diamond Drilling: Core Diamond Drilling Method**

The drill rigs are truck-mounted and equipped with diesel driven engines to provide power to the drill. A truck fitted with a water tank is used to provide the water supply for the drilling process. The drill site is not larger than 30m x 20m (600m<sup>2</sup>) and consists of a drill rig, water pump, caravan and portable chemical toilet.



Figure 8: Example of drilling equipment and site setting (Singo Consulting (Pty) Ltd, 2022)

Table 5 Proposed Prospecting Phases and Time Frames

Phase	Activity	Skill(s) required	Timeframe	Outcome	Timeframe outcome for	What technical expert will sign off on the outcome?
<b>Phase 1: Invasive Prospecting</b>						
	Diamond drilling (5 boreholes)	Exploration Geologist	Month 1 (30 days)	Borehole core data, Coal samples Rock core samples	Month 1	Exploration Geologist
	Sampling	Exploration Geologist		Core analyses Rock core analyses	Month 2 – 3	Laboratory analyst
<b>Phase 1: Non-invasive Prospecting</b>						
	Consultations with landowners	Land Tenure Specialist	Month 1	Legal Access Agreement	Month 1	Land Tenure Specialist
	Data processing and validation	Exploration Geologist	Month 7-8	Stratigraphic correct borehole data Analytical correct borehole data	Month 8 – 10 Month 8 - 10	Exploration Geologist /Database administrator Exploration Geologist /Database administrator
	Lithofacies and Coal quality modelling	Exploration Geologist	Month 10-12	Contour maps Reserve breakdown	Month 10-12	Exploration Geologist /Modeller
	Inspection/Consultation with landowners	Land Tenure Specialist /Drilling contractor	Month 5-6	Rehabilitation clearance certificate	Month 5 - 6	Land Tenure Specialist / Environmental officer
<b>Phase 2: Invasive Prospecting</b>						
	Diamond drilling (5 borehole)	Exploration Geologist	Month 13	Borehole core data Coal core samples	Month 13	Exploration Geologist Laboratory analyst
				Rock core samples Core analyses Rock core analyses	Month 13-14	
	Geophysical survey (Optional)	Geophysicist Exploration Geologist	Month 13-15	Lithology data Structural data	Month 13-14	Geophysicist
	Geohydrological survey (Optional)	Geohydrologist Exploration Geologist	Month 13-14	Borehole water yield Water samples	Month 17-20	Geohydrologist
<b>Phase 2: Non-invasive Prospecting</b>						
	Consultation with landowners	Mining Rights officer	Month 12	Legal Access Agreement	Month 12	Land Tenure Specialist



Phase	Activity	Skill(s) required	Timeframe	Outcome	Timeframe outcome for	What technical expert will sign off on the outcome?
	Data processing and validation	Exploration Geologist	Month 17-18	Stratigraphic correct borehole data Analytical correct borehole data	Month 20 – 22 Month 20 - 22	Exploration Geologist /Database administrator Exploration Geologist /Database administrator
	Lithofacies and Coal quality modelling	Exploration Geologist	Month 22-24	Contour maps Reserve breakdown	Month 22-24	Exploration Geologist /Modeler
	Inspection/Consultation with landowners	Mining Rights officer	Month 16-17	Rehabilitation clearance certificate	Month 16 - 17	Land Tenure Specialist / Environmental officer
<b>Phase 3: Invasive Prospecting</b>						
	Diamond drilling (5 borehole)	Exploration Geologist	Month 25	Borehole core data coal core samples  Rock core samples Coal core analyses	Month 25  Month 25-36	Exploration Geologist  Laboratory analyst
	Directional drilling (Optional)	Exploration Geologist	Month 24-30	Lithological data	Month 24-36	Exploration Geologist
	Geophysical survey (Optional)	Geophysicist Exploration Geologist	Month 25-27	Lithology data Structural data	Month 25-36	Geophysicist
	Geohydrological survey (Optional)	Geohydrologist Exploration Geologist	Month 25-26	Borehole water yield Water samples	Month 29-36	Geohydrologist
<b>Phase 3: Non-invasive Prospecting</b>						
	Consultation with landowners	Mining Rights officer	Month 24	Legal agreement	Month 24	Land Tenure Specialist
	Data processing and validation	Exploration Geologist	Month 29-30	Stratigraphic correct borehole data Analytical correct borehole data	Month 32 – 36 Month 32 - 36	Exploration Geologist /Database administrator Exploration Geologist /Database administrator
	Lithofacies and Coal	Exploration Geologist	Month 34-36	Contour maps Reserve breakdown	Month 34-36	Exploration Geologist /Modeler
	Inspection/consultation with landowners	Land Tenure Specialist	Month 28-29	Rehabilitation clearance certificate	Month 28 - 36	Land Tenure Specialist / Environmental officer

Table 6 Proposed drilling programme

Drilling method	Diamond core drilling
Number of boreholes	15
Depth of boreholes	110 m
Duration of drilling	A borehole takes about 2 days to complete; 15 boreholes will take about 30 days.
Demarcated working area	600 m <sup>2</sup> (600 m <sup>2</sup> per drilling site based on a 30 m x 20 m grid) which is equals to 0.06 ha per site
Total area to be disturbed	600 m <sup>2</sup> (600 m <sup>2</sup> x 15 boreholes = 9 000 m <sup>2</sup> (0.9 Ha))

## LEGAL FRAMEWORK

### 5. Policy and Legislative Context

The following context includes the legislations that are associated with prospecting processes.

Table 7: Policy and Legislatives

A description of the policy and legislative context within which the development is proposed, including an identification of all legislation, policies, plans, guidelines, spatial tools, municipal development planning frameworks and instruments that are applicable to this activity and are to be considered in the assessment process.		E.g., In terms of the National Water Act a Water Use License has/ has been applied for.
<b>Legislation</b>		
NEMA, No. 107 of 1998 (as amended) Listing Activity 20 of Listing Notice 1 in terms of Regulation 983 of 2014	Prospecting activities	In terms of the NEMA, No. 107 of 1998 (as amended), an application for Environmental Authorization was submitted to the DMRE. The application was accepted by the DMRE Ref: <b>(KZN 30/5/1/1/2/ 11415 PR)</b> . The DMRE, as the administrator, requests the submission of the Basic Assessment Report and EMP within 90 days of the acceptance letter. Kabken mining (Pty) Ltd appointed Singo Consulting as an independent EAP to undertake the Basic Assessment Process associated with the Prospecting Right Application. All potential impacts of the proposed prospecting activities have been assessed. The EMP includes mitigation measure implementation, which will apply throughout prospecting activities.
As per the Constitution of South Africa, specifically, everyone has a right to:	Prospecting activities	An EMP for proposed prospecting activities has been drafted to ensure that prospecting activities are conducted in such a manner that significant environmental impacts are avoided.

an environment that is not harmful to their health or wellbeing; and have the environment protected, for the benefit of present and future generations, through reasonable legislative and other measures that: prevent pollution and ecological degradation promote conservation secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development.		Where significant impacts cannot be avoided, they will be minimized and mitigated to protect the environmental right of South Africans.
MPRDA, No. 28 of 2002 Section 16 (as amended)	Prospecting activities	The applicant submitted a Prospecting Right Application to the DMRE, which the DMRE accepted on the 29 <sup>th</sup> of May 2023 DMRE Ref: <b>(KZN 30/5/1/1/2/ 11415 PR)</b> The conditions and requirements attached to the granting of the prospecting right will apply to the prospecting activities.
NEMA Biodiversity Act, 2004		The EMPr will regulate the applicant's implementation of biodiversity management measures. This is particularly relevant to all species of the Highveld Grassland family and the project area falls under unclassified.
National Water Act (NWA), Act 36 of 1998	N/A	water use license is required for this application. Water required for drilling activities will be obtained from a legal source in the area or brought in via a mobile water tanker. Appropriate dust extraction/ suppression equipment will be a condition imposed on the drill contractor for drill rigs.
National Environmental Management: Waste Act, Act 59 of 2008 (NEMWA) (as amended)	Management measures environmental awareness plan	Waste generation will be minimized by ensuring employees of the drilling contractor are subjected to the appropriate environmental awareness campaign before drilling commences. All waste generated during the drilling activities will be disposed of in a responsible legal manner. Proof of legal disposal will be maintained on site.
National Heritage Resources Act (NHRA), 25 of 1999	Management measures	Should archaeological artefacts or skeletal material be discovered in the area during development activities, activities will be stopped, and the South African Heritage Resource Agency (SAHRA) will be notified for an investigation and evaluation of the discoveries.
<b>Municipal plans and policies</b>		
Local Municipality Integrated Development Plan (IDP) 2022-2023	N/A	The prospecting and mining of key minerals like Coal is highlighted in the IDP. It also highlights the need to preserve the natural environment in the area by conducting mineral exploration that is minimally invasive to the environment.
Municipality 2014-2034 Spatial Development Framework (SDF)		The applicant acknowledges the need to maximize economic benefit from mining, industrial, business, agricultural and tourism development in the area and promote a climate for economic development in line with the municipal development frameworks.
<b>Standards, guidance and spatial tools</b>		

South African National Biodiversity Institute (SANBI) Biodiversity GIS (bgis.sanbi.org)	Baseline environmental description.	Used during desktop research to identify sensitive environments in the prospecting rights area.
QGIS Desktop: Version 2.18.10.	Baseline environmental description and mapping.	Used during desktop research to map the locality and sensitive environments in the prospecting rights area.

## 6. 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).

Mining in South Africa directly contributed to the establishment of the Johannesburg Stock Exchange in the late 19th century, and today it still accounts for a large portion of its market capitalization. From this, mining in South Africa has shaped the country politically, culturally, and economically and that the South African mining sector has provided the critical mass for a number of industries that are either suppliers to the mining industry, or users of its products. These include, but are not limited to, energy, financial services, water and engineering services, and specialist seismic geological and metallurgical services. The proposed coal prospecting right will not only contribute directly to the South African economy but will also contribute to the development and growth of other industries supporting the mining sector.

The proposed prospecting right in search for Coal resources that is prior to mining project, will contribute to favourable economic impacts on both a local, regional and national scale. This will result in numerous job creation and skills development opportunities and provide an economic injection in the region. If the project will not proceed; the additional economic activity, skills development and available jobs would not be created, and the coal reserves would remain unutilized.

Referring to the Endumeni Local Municipality Final 2023/2024 it is indicated that the mining sector has played a critical role in driving the local economy of uMzinyathi. Kabken Mining (Pty) Ltd also interested in adding to the statistics of job creation for the area through mining operations which will boost the economy and create more jobs to local people of Dundee at umzinyathi district. See attached table.

Table 8: Performance of Economic Sectors within umzinyathi district

Average annual growth (% Constant 2010 prices)				
	Umzinyathi			
	2017	2018	2019	2020#
1 Agriculture	29,2%	-5,4%	-7,0%	-0,2%
2 Mining	-7,1%	-17,8%	-3,5%	-1,8%
3 Manufacturing	0,0%	1,5%	-1,9%	-11,8%
4 Electricity	0,6%	0,7%	-2,4%	-6,2%
5 Construction	-1,0%	-2,7%	-4,6%	-26,7%
6 Trade	-0,2%	0,7%	-0,5%	-11,6%
7 Transport	1,2%	1,6%	-1,0%	-10,1%
8 Finance	1,3%	40,6%	16,5%	2,9%
9 Community services	-0,2%	0,7%	0,8%	-5,2%
<b>Total Industries</b>	<b>3,5%</b>	<b>3,5%</b>	<b>1,1%</b>	<b>-5,5%</b>

Source: Edtea KZN 2020

Although prospecting activities are not labour intensive, few people will be hired to assist with general activities. The services required can also be sourced locally depending on their availability thus growing the economy of Endumeni.

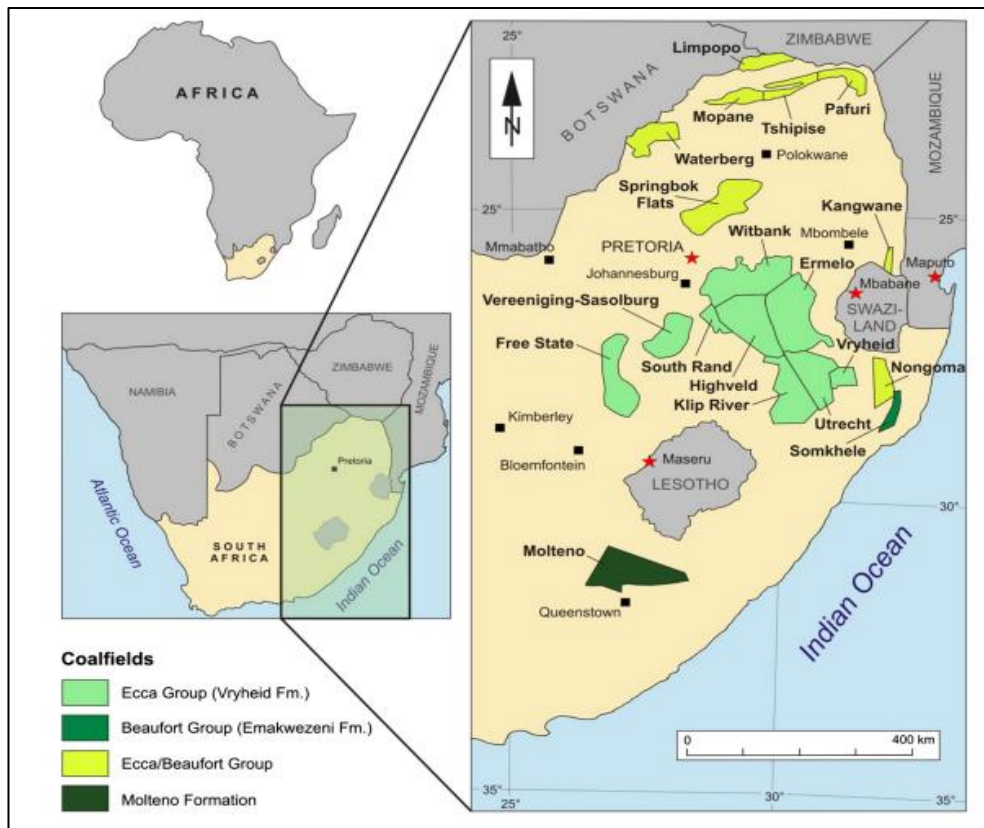


Figure 9: Coalfields Map that shows where Application Area fall under.

## **7. Motivation for the overall preferred site, activities and technology alternative.**

Geophysical surveys, and drilling are the only major methods used in exploring for deposits of this type and for resource definition and evaluation. The technology to be used cannot be replaced by any other methods thus these are the preferred activities.

There is no site or layout alternative as the property provides the ideal geological formation for the presence of the minerals applied for. The positioning of the boreholes is determined by the expected location of the mineral reserve.

There are no technology alternatives considered and the proposed site was identified as the preferred alternative due to the following reasons:

- The site offers the mineral sought after as identified from the PWP with information from CGS
- close-by illegal mining operation areas
- Very little natural vegetation needs to be disturbed to establish the exploration area as most of the area has agricultural activities.
- The prospecting area can be reached by an existing access gravel road from the R68.
- No residual waste because of the prospecting activity will be produced that needs to be treated on site. The Prospecting method that will be adopted is Air flush method which only results to dust components. The dust components will be managed by a sought to take place. The general waste produced on-site will be contained in sealed refuse bins to be transported to the local municipal landfill site.
- Maintenance and servicing of the equipment will be done at an off-site workshop and the amount of hazardous waste to be produced at the site will be minimal and will mainly be because of accidental oil or diesel spillages.
- Contaminated soil will be removed to the depth of the spillage and contained in sealed bins until removed from site by a hazardous waste handling contractor to be disposed of at a registered hazardous waste handling site and more information will be discussed after the granting of the prospecting right.

Soil baseline study, Hydrological baseline study and some Hydrogeological baseline study were conducted, and some specialist studies will not be conducted based on the theme sensitivities from screening tool as some sensitivities were not confirmed during ground truthing. However, boreholes that are in high sensitivity areas will be repositioned to less

sensitivity areas and other studies such as Heritage study will be conducted upon the request from SAHRA.

Geophysical surveys and drilling are the only major methods used in exploring for deposits of this type and also for resource definition and evaluation. The technology to be used cannot be replaced by any other methods, thus these are the preferred activities.

There is no other site alternative as the property provides the ideal geological formation for the presence of the minerals applied for.

## **8. 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.

Details of the development footprint alternatives have been considered. With reference to the site plan provided in Figure 7 and the location of the individual activities on site, provide details of the alternatives considered with respect to:

*The property on which or location where it is proposed to undertake the activity is Farm Winterhoek 17223 GT were the only property(ies) alternative considered.*



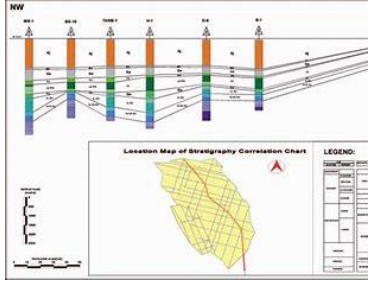
The area is utilized for agricultural activities and having prospecting activities in the area will not impact much of the already existing actions. The location of infrastructures has been designed to ensure that no damaged is caused on agricultural activities that has to be going on during the drilling process. The area of drilling will be demarcated with visible tapes. No objections have been raised by I&AP's with the applied prospecting right. The drilling processed will make use of Core Diamond Drilling Method which will only produce dust and the drill rig will have dust collector and dust that manages to escape will be trapped by having a nest where the demarcation and boundary with visible tapes will be at. The method is as follows:

### **Core Diamond Drilling Method**

The drill rigs are truck-mounted and equipped with diesel driven engines to provide power to the drill. A truck fitted with a water tank is used to provide the water supply for the drilling process. The drill site is not larger than 30m x 20m (600m<sup>2</sup>) and consists of a drill rig, water pump, caravan, and portable chemical toilet.

. See Figure8: above.

Table 9: Drilling method, depth, and number of boreholes to be drilled.

Drilling Method	Depth	No. of Boreholes
Core Diamond Drilling	>110m	15
		
Percussion drilling	N/A	N/A

## 9. Details of the development footprint alternatives considered.

With reference to the site plan provided as Appendix 4 and the location of the individual activities on site, provide details of the alternatives considered with respect to:

- a. the property on which or location where it is proposed to undertake the activity.
- b. the type of activity to be undertaken.
- c. the design or layout of the activity.
- d. the technology to be used in the activity.
- e. the operational aspects of the activity; and
- f. the option of not implementing the activity.

### a) the property on which or location where it is proposed to undertake the activity.

The planned surface work including drilling is important to be done on rocks that have potential to host the minerals to be explored. The proposed area is located at Dundee Coalfield. The Dundee Coalfield in South Africa are found within the Ecca Group, which is a geological formation that dates to the Permian Period. The coal in this region is of a high quality and is used for a variety of purposes, including power generation and metallurgical processes.

The Dundee Coalfield in South Africa has a rich mining history, with coal mining in the region dating back to the late 1800s. The coalfield was an important source of coal during the Second Boer War, when it was used to power the British forces' railways and



ships. Today, the Dundee Coalfield in South Africa continues to be an important coal-producing region, with several active mines in operation.

Properties are used for maize farming and grazing. The Eskom powerlines are cutting through the proposed area. A non-perennial river spotted within the applied area. It is important to note that until such time that the non-invasive activities have been completed the exact location of the drill sites are shown on the layout plan and figure 8 above which if ever, they are any changes, they will be shared with the landowners, all affected departments and stakeholders. However, the following buffers will be applied to the final site selection:

- No drill site will be positioned within 50m of a structure.
- No drill site will be positioned within 100m of a water course or wetland.
- Where possible existing access roads will be utilised to access the drill sites.

#### **b) the type of activity to be undertaken**

Techniques were chosen based on the long-term success of the selected drilling method and prospecting process.

- A total number of 15 drill holes are proposed for the site.
- It will be possible to drill 100m-120m per day, covering about 2 days to drill one hole.
- All holes will be drilled by means of a diamond drill rig.
- The holes will be drilled to an average of 200 m and broadness (diameter) may vary between 60 mm - 75.7 mm. This will allow establishment of the thickness of the overburden.
- Holes will not be drilled closer than 500 m to any stream/river and not within 500 m from a natural wetland. Identified heritage sites will be marked and avoided.
- Overburden will be recorded, and the holes filled back simultaneously.
- Drilling will take place one hole at a time. The drill site will be cleared of obstructions and debris and then drilled. Rehabilitation will occur concurrently with drilling.

### **c) the design or layout of the activity**

Since exploration is temporary in nature no permanent structures will be constructed, Negotiations and agreements will be made with the farm owners to use any existing infrastructure like access roads.

- Portable ablution facilities will be used, and a lining will be placed to avoid any contamination to the ground and ground water.
- Activities will be limited to the drilling of 15 boreholes to be determined by the geological formations found during prospecting.
- It is planned to use one rig for all drill holes. Rehabilitation will be closely controlled, and supervision will be focussed.
- No changes to the layout are considered but with the geophysical survey information, the holes can be orientated to match the shape of the good quality of resource.

### **d) the technology to be used in the activity**

Geophysical surveys and drilling are the only major methods used in exploring for deposits of this type and for resource definition and evaluation. The technology to be used cannot be replaced by any other methods thus these are the preferred activities. Geophysical surveys also provide an added advantage of being done quickly and so execution can commence early. The safety factor of utilising geophysical surveys is also apparent, as there is less time to keep people exposed to moving machinery.

### **e) the operational aspects of the activity**

Due to the nature of the prospecting activities, no permanent services in terms of water supply, electricity, or sewerage facilities are required. The prospecting right is required for a period of three years. Prospecting will take place according to the timeframe presented in Table 5 above and incorporates the information required in respect of Regulations 7(1)(f), 7(1)(h) and 7(1)(i) of the MPRDA.

The applicant shall ensure that this Environmental Management programme report is provided to the Project Manager and any other person or organisation who may work on the site.

#### **f) the option of not implementing the activity**

The option of not approving the activities will result in a significant loss to valuable information regarding the minerals statuses present on these properties. The proposed activities have exceptionally low significance since these are short term activities. The probability of occurrence of an impact was determined and most of these activities can be controlled and impacts can be reduced or avoided. The probability was also used based on looking at other prospecting activities of similar nature. Generally prospecting activities have low impact on the environment. The planned activities negative impacts can be controlled and avoided or minimised therefore the layout does not require revision. Changes in plan will be discussed with the farmers and approvals will be signed. In addition to this, should economical reserves be present and the applicant does not have the opportunity to prospect, the opportunity to utilize the said reserves for future phases will be lost. Loss of potential Employment opportunities for Dundee local community.

### **10. 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.

#### **Regulatory Framework**

This section of the report provides an overview of the tasks undertaken for the public participation process to date. The public participation process was undertaken in accordance with the requirements of the EIA Regulations, 2014 (as amended, 07 April 2017) particularly Chapter 6 of this Regulation. It provides a guideline on how public participation processes must be conducted; it further stipulates timeframes in which these processes must be conducted in accordance with.

##### **➤ Landowner Identification and Notification**

A Landowner was identified through a search conducted online (Windeed Search) that accesses the Title Deeds office database. Through Windeed it was found that the property is owned by the trust (**Mabelaselenge Community Trust-Trustees**) and the representative of the trust was consulted face to face during the day of site assessment and consultation, landowner notification letter together with BID were shared with him.

The Public Participation Process (PPP) mainly comprises the communications and discussions with Interested and Affected Parties (I&APs) and is of utmost importance in any assessment process. The PPP, inter alia, involves the following:

### **Notification of Stakeholders (incl. Interested & Affected Parties)**

#### ➤ **Notification of Stakeholders**

✓ Personnel representing Government departments and non-governmental organizations were consulted using Background Information Document (BID), Consultation letters, and in some instances, consultations were conducted telephonically. The following departments and organization formed part of the consultation process.

- Department of Agriculture, Forestry and Fisheries
- Department of Rural Development and Land Reform
- Department of Water and Sanitation
- Department of Environmental Affairs
- Department of Tourism
- Transnet
- Eskom
- Endumeni Local Municipality
- Sanral
- Department of Labour
- Nhlahleni trust, etc
- Ingonyama trust
- Tribal Authorities
- Sasol
- Amafa

#### ➤ **Notification of I&AP**

These I&APs details were collected using information in the public domain. Using this information these identified I&APs were contacted via email and through site assessment visits with a description of the prospecting operation and a way to contact for further information and how to be part of the process. The deadline for

submitting this report was supposed to be on 29<sup>th</sup> August 2023, given 90 days from the date of the acceptance letter. Unfortunately, the deadline was missed due to studies that were supposed to be conducted. An extension of up to 50 days was requested and granted. Following the grant of an extension, the new date for submission of the final basic assessment report is set for 20<sup>th</sup> October 2023. Stakeholders, upon receiving this report, are given 30 days to review and comment on the BAR and their comments will be incorporated into the final basic assessment.

➤ **Newspaper advertisement**

A newspaper notice was placed in the legal section of *Caxton local media on the 30<sup>th</sup> of June 2023* about the prospecting right application (see proof of placement in Figure 15). Notices about the application were placed around the site of the prospecting right application area inviting interested persons to register as I&APs. See figure 11 below.

# Uelzen pays tribute to dedicated educator

On Thursday, Uelzen Primary School said farewell to one of their longest-serving teachers, Margie Johnson. Mrs Johnson taught at Dundee Junior for 23 years and then at Uelzen Primary for 20 years. The community has been fortunate to have had such a dedicated and hardworking educator who always held the children's best interests at heart. Uelzen Primary wishes her and her family all the best for her retirement.

**Hope for Harry fun run/walk**  
On the same day that Uelzen Primary celebrated Mrs Johnson's retirement, teachers and learners from the school, as well as other members of the community, joined in the 'Hope for Harry' fun run/walk around the farm lands surrounding the school.



A large crowd volunteered to enter the fun run/walk at Uelzen.

This was to raise funds for Ms Johnson's grandson, Harry, who was diagnosed with Acute Lymphoblastic Leukaemia (ALL) in 2021.

Uelzen Primary would like to thank Orange Grove Dairy and Queench water for donating their products for this occasion.



Margie Johnson - a much-loved Uelzen educator.

# Renosters wys hulle staal

Op Saterdag, 27 Mei, is die KwaZulu-Natal streeklampioenskappe in Glencoek gehou. Klubs van reg oor KZN het ingeskryf. Die kompetisie was taa. Sowat 70 goednige stoeiers van vyf klubs het mekaar die stryd aangest. Daar was bloedgewees en gespoek vir die oer om gekroon te word as 2023 se KZN kampioen. Orange Grove KZN Stoei se bog het versker dat die jong vegters goed beloon word vir hulle harde werk. Hierdie medaljes was uitsoeklik mooi en baie groot, heel gepas vir 'n provinsiale kampioen. Elke deelnemer het ook 'n Orange Grove Multi-Go drankie gekry om te help met energie op so 'n veeleisende dag. Die Renosters het weer 'n punke versoening gelever en 19 goue medaljes, sewe silwer medaljes

en twee brons medaljes verower. Die Renosters het ook die meeste KZN kampioene opgedelwer op die dag. **Aantal KZN kampioene behaal deur elke klub:**  
Renosters - 19,  
Richardbaai - 8,  
Vryheid - 7,  
Coegaan - 5,  
Valke - 4.  
**Stoeier van die Dag:**  
Liam Schonken was aangewys as die 'Stoeier van die Dag'. Liam het in die O'S jaar ouderdoms groep v'r seuns onder 36 KG meegeding. Hierdie mees afdeling was baie kompetensend en Liam moes bloed sweet en harde bene koo om die goue medalje te verower.  
**Renoster medalje weners:**  
Goud: Snymananda Zulu, Ton Brown, Lofho Mhembu, Michael Mamee, Lolla Savelz, Terisha Basson, Lanie Du

Plooy, Liam Schonken, Kelly Stolz, Aiden Slabbert, Johannes van der Merwe, Ruben Eloff, JC Botha, Logan Goosen, Shaun Stoltz, TD Cilliers, Snymananda Zulu en Camron Croocamp.  
Silwer: Jayden Fritz, Gumpie Verter, Brian Slabbert, Lou Cilliers, JJ van Zandam, Alex Jansen en Mpho Makutsie.  
Bron: Ruan Eloff en Keagen Kruger.  
**Bedankings:**  
KZN Stoei president Steven Brown het die volgende bedankings geleen: Orange Grove, wonder julle hulp voo KZN n'se hierdie prestieskeoi



Keagen Kruger (brons), Byron Botha (silwer) en Ivan Louw (goud).

kompetisie kon aanbied nie. Dankie vir julle ondersteuning en toewyding tot die ontwikkeling van die stoei jeug in KZN. Sarel Cilliers, dankie vir die beskikbaar stelling van julle skool saal en geriewe. Dankie aan Sinebamba Construction vir julle helpende hand met die minder bevoegte stoeiers.

# VACANCIES

**VACANCY**  
The Aryan Benevolent Home Glencoe seeks a competent and experienced cook as an addition to its team of kitchen staff.  
**Key Responsibilities:**  
1. All prep work before actual meal is prepared.  
2. Preparation of a variety of meals across different cuisines.  
3. Able to prepare meals in accordance to the health and dietary requirements of the elderly.  
4. Cleaning up after preparation of meals.  
5. Timorous requisition of required groceries for meals.  
All applicants are to provide a detailed CV including all work experience and relevant qualifications. To be hand delivered to the ABH Glencoe 38 Biggars Street.  
**Closing date:**  
**7<sup>th</sup> July 2023 by 16h00**

**NOTICE OF PUBLIC PARTICIPATION FOR PROSPECTING RIGHT AND ENVIRONMENTAL AUTHORIZATION APPLICATION**

**ISIZULU**

Isiziso Sohlelo Lokucela Inqanaba Lokuzibeka Ngokufunwa ngokomthetho WoMinesal kanye nePetroleum Resources Development Act (MPRDA) (Act 28 of 2002) mayelana nokufunwa kwamalahle **Kuy ipulazi Wintehook 17223 GT**, edaweni yesiFunda sikaMantshi sase uMzinyathi esifundazweni saKwa-Zulu Natal.

**ISIMEMO SOKUBHALISA & PHAWULA**

Isiziso sikhishwa ngokomthetho wokufuthukiswa kweziMbiwa Nezimbizwam kanye Phehloli (MPRDA) (iMthetho wama-28 wezi-2002) kanye neMithetho ngobu ye-EIA Iia-2014, edaweni yesiFunda sase uMzinyathi esifundazweni esingumntsho 17223 kuGazeti No. 38223 mika zingama-8 kuZibandela kunyaka ka-2014, esachithyelwa mika zingama-7 kuMbasia kunyaka ka-2017 kuni ngu GN 517 ngo-11 Juni 2021, sokuthi **Kabken Mining (Pty) Ltd** lufake isicelo selungelo Lokuzibeka amaminerali ashiwo ngenhla **DMRE Ref: KZN 30/51/1/211415 PR**.

Njengenginye yenqubo ye-EIA, ikhululekazi inqubo yokubamba iqhaza komphakathi kule phehloli eNingizinye. Abanethetho: NabaBantsheko (SBAs) bayamekwa ukuba babhalise futhi bathumete ngomusa noma yikuphi ukuphawula noma ukuthathazeka ukwe kufunyelele ku**Dokotela Wokuhlola Imvelo: uM Ncamiso Mathenjwa**, kusebenziswa imininingwane yokuthumana enikezwe ngesobho. Umphakathi uyamekwa futhi ukuthi ubuyeleke futhi uphawule mayelana Nokuzibeka Lokuzibeka Okuyisiseko kanye ne-EMPR. Ukhala Iwe-BAR & EMPR lufutholalaka ukuthi kubuyezwe esikhathini sekhalenda lozinsuku ezingama-30 kusihlelo **Ngomgqibelo mika zingama-29 ku-July 2023 kuya kuMsimbuluko mika zingama-28 kuAgasti 2023**, (ngokukhishwa kwamaholidi omphakathi).

Lo mliko ufutholalaka e**Dundee Public Library** (Boundary Rd, Dundee, 3000), kunye no**Masipala waseKhaya Endumeni** (64 Victoria Street, Dundee), ikhophi ethambile iyatholalaka kwa-Singo Consulting (Pty) Ltd uma icelwa, kusebenziswa imininingwane yokuthumana yomisi ka-Environmental Assessment Practitioner (EAP) Amazwana nge-DBAR & EMPR.

**ENGLISH**

Notice of the Prospecting Right Application Process as per the Mineral and Petroleum Resources Development Act (MPRDA) (Act 28 of 2002) for the prospecting of **Coal on the farm Wintehook 17223 GT** and situated in the Magisterial District of uMzinyathi in Kwa-Zulu Natal Province.

**INVITATION TO REGISTER & COMMENT**

Notice is hereby given in terms of the Mineral and Petroleum Resources Development Act (MPRDA) (Act 28 of 2002) and EIA regulations 2014, published under Government Notice No. 182 in Gazette No. 3822 of 4 December 2014, amended on 7 April 2017 and by GN 517 on 11 June 2021 that **Kabken Mining (Pty) Ltd** has applied for a Prospecting Right for the above-mentioned mineral with **DMRE Ref: KZN 30/51/1/211415 PR**.

As part of the EIA process, more especially the public participation process for this proposed project, Interested and Affected Parties (I&APs) are invited to register and kindly submit any comments or concerns to reach **Environmental Assessment Practitioner (EAP): M Ncamiso Mathenjwa**, using the contact details provided below. The public is also invited to review and comment on the Draft Basic Assessment Report (DBAR) and Environmental Management Programme Report (EMPR). The DBAR & EMPR will be available for review for 30 days' calendar period from **Saturday the 29th of July 2023 to Monday the 28th of August 2023**, (with the exclusion of public holidays).

This report will be available at **Dundee Public Library** (Boundary Rd, Dundee, 3000) and **Endumeni Local Municipality** (64 Victoria Street, Dundee). A soft copy is available from **Singo Consulting (Pty) Ltd** upon request, using the contact details of the Environmental Assessment Practitioner (EAP) below.

Comments on the Draft BAR & EMPR should be submitted no later than the 28th of August 2023.

**EAP Contact Details:**



**Singo Consulting (Pty) Ltd**

Office 870, 5 Balalala Street,  
Tasbet Park Ext. 2, eMalaheni (Witbank), 1040  
**EAP: Mrs Bongokuhle Sibiywa**  
**PPP Officer: Mr Ncamiso Mathenjwa**  
**Cell No.:** +27 71 233 2725  
**Tel No.:** +27 13 6920 041  
**Fax No.:** +27 86 5144 103  
**Email:** ncamiso@singoconsulting.co.za

**EAP Contact Details:**



**KABKEN MINING (Pty) Ltd**

**Physical Address:** 1172, Lekwa Street, Motibitstad, Kuruman, Northern Cape, 8474  
**Contact person:** Mr Ailsang Kennedy Botscheleng  
**Cell No.:** +27 82 785 5682  
**Email:** kennedy.botscheleng@nd310group.co.za

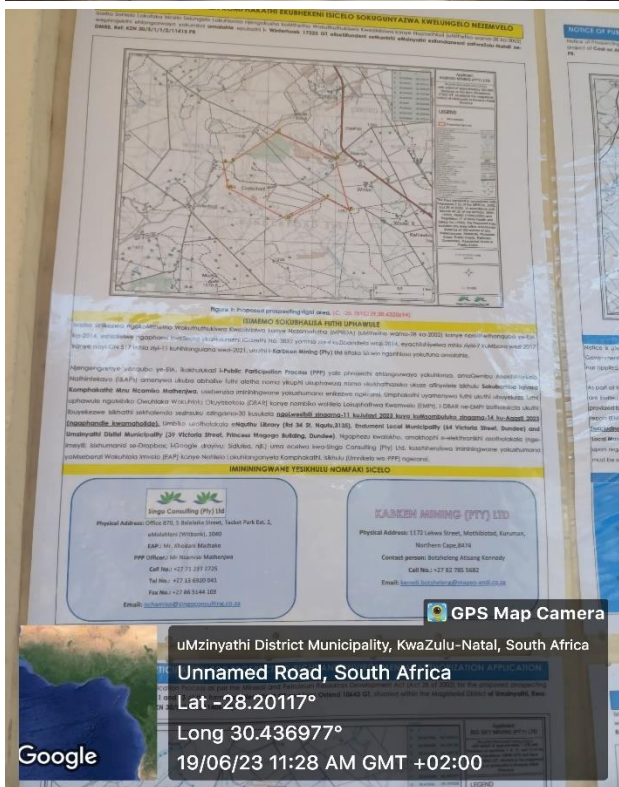
Figure 10: Newspaper placement on Caxton local media

## ➤ Site notice placement

To inform surrounding communities and adjacent landowners of the proposed development, site notices were erected on site and at visible locations around the site on the 17<sup>th</sup> of June 2023. The site notices also clearly stipulated where and how the DBAR and EMPR can be accessed. See appendix 5 for more.



**a. Summary of issues raised by I&As**



(Complete the table summarising comments and issues raised, and reaction to those responses)










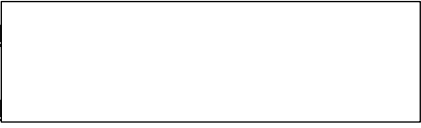
<p><b>Interested and Affected Parties</b></p> <p>List the names of persons consulted in this column, and</p> <p>Mark with an X where those who must be consulted were in fact consulted.</p>	<p><b>Date</b></p> <p><b>Comments</b></p> <p><b>Received</b></p>	<p><b>Issues raised</b></p>	<p><b>EAPs response to issues as mandated by the applicant</b></p>	<p><b>Section and paragraph reference in this report where the issues and or response were incorporated.</b></p>	
<p><b>AFFECTED PARTIES</b></p>					
<p><b>Landowner/s</b></p>					
<p><b>Tribal Authority</b></p>					



<p><b>Chie Sithole</b></p> <p>[Redacted]</p>	<p>X</p>	<p>Telephonically on the 17<sup>th</sup> of June 2023</p>	<p>Chief Sthole directed EAPs to his legal advisor [Redacted]</p>	<p>Induna Skhakhane who is living within the proposed area was consulted but he decided to share the contacts details of the Chief Sthole, then Chief Sthole was consulted via a phone call.</p>	<p>Refer to Appendix 2 for full consultation.</p>
<p><b>Chief's Legal Advisor</b></p> <p>[Redacted]</p>	<p>X</p>	<p>Face to face on the 17<sup>th</sup> of June 2023</p>	<p>[Redacted] suggested that the applicant must follow the right protocol for thing to go the right way. He is also not objecting the project.</p>	<p>Singo consulting further consulted with his advisor on the same day, the 17th of June 2023. The projected was properly introduced to him. A BAID was shared with him.</p>	<p>Refer to Appendix 2 for full consultation.</p>
<p><b>Adjacent Landowners</b></p>					
<p><b>AFT Property trust</b></p> <p>[Redacted]</p>	<p>X</p>		<p>No issues raised.</p>	<p>[Redacted]e, the representative of AFT property, was not available on the day of consultation. EAPs were advised to make an appointment if they wanted to consult him. A BID was shared with his colleague, and further consultation will be done via</p>	<p>Refer to Appendix 2 for full consultation</p>

				email since only email was shared with the EAPs.	
<b>Municipality</b>					
 <p><b>Department of Environment and Waste Management</b></p> <div style="border: 1px solid black; height: 100px; width: 100%;"></div>	X		No issues raised.	<ul style="list-style-type: none"> <li>• Consultation email was sent with BID (03/07/2023)</li> </ul>	Refer to Appendix 2 for full consultation.
<p><b>Department of Town planning</b></p> <div style="border: 1px solid black; height: 100px; width: 100%;"></div>	X		No issues raised.	<ul style="list-style-type: none"> <li>• Consultation email was sent with BID (03/07/2023)</li> </ul>	Refer to Appendix 2 for full consultation.



<div style="border: 1px solid black; height: 26px; width: 100%;"></div>					
 <p><b>Umzinyathi District Municipality</b></p> <p><b>39 Victoria Street, Dundee</b></p> <p><b>Dundee, 3081</b></p> <div style="border: 1px solid black; height: 68px; width: 100%;"></div>	X		No issues raised.	<ul style="list-style-type: none"> <li>• Consultation email was sent with BID (03/07/2023)</li> </ul>	Refer to Appendix 2 for full consultation.
Organs of state (Responsible for infrastructure that may be affected Roads Department, Eskom, Telkom, DW)					
	X		No issues raised.	<ul style="list-style-type: none"> <li>• Consultation email was sent with BID (03/07/2023)</li> </ul>	Refer to Appendix 2 for full consultation.

<p><b>38, 44 Ida Street,</b></p> <p><b>Lynnwood glen, Pretoria</b></p> <p><b>Erstatutory</b></p> <div data-bbox="91 416 443 552" style="border: 1px solid black; height: 85px; width: 157px;"></div>					
<div data-bbox="96 608 396 767" style="border: 1px solid black; padding: 5px;">  </div> <p><b>Kwazulu-Natal Region</b></p> <div data-bbox="105 914 436 1114" style="border: 1px solid black; height: 125px; width: 148px;"></div>	X		No issues raised.	<ul style="list-style-type: none"> <li>• Consultation email was sent with BID (03/07/2023)</li> </ul>	Refer to Appendix 2 for full consultation.

 	X		No issues raised.	<ul style="list-style-type: none"> <li>• Consultation email was sent with BID (03/07/2023)</li> </ul>	Refer to Appendix 2 for full consultation.
 	X		No issues raised.	<ul style="list-style-type: none"> <li>• A consultation email was sent to the department about the proposed project on the 30th of Jun3 2023. BID, KML and Reg 2.2 map were attached.</li> </ul>	Refer to Appendix 2
<div style="background-color: #4a7ebb; color: white; padding: 5px;">Dept. Land Affairs</div>					

 <p><b>Department of Rural Development and Land Reform</b></p> <p><b>200 Street Address: Restitution House, 30 Samora Machel Drive, NELSPRUIT</b></p> <p><b>Lynn Boucher</b></p> <div style="border: 1px solid black; height: 20px; width: 100%;"></div>	x		No issues raised.	<ul style="list-style-type: none"> <li>• Consultation email was sent with BID (03/07/2023)</li> </ul>	Refer to Appendix 2 for full consultation.
<b>Dept. Environmental Affairs</b>					
	x		No issues raised.	<ul style="list-style-type: none"> <li>• Consultation email was sent with BID (03/07/2023)</li> </ul>	Refer to Appendix 2 for full consultation.
<b>Dept. Agriculture land reform &amp; rural development</b>					



	X		No issues raised.	<ul style="list-style-type: none"> <li>• Consultation email was sent with BID (03/07/2023)</li> </ul>	Refer to Appendix 2 for full consultation.
<b>Other Competent Authorities affected</b>					
SAHRA 	X	Online	No issues raised yet.	<ul style="list-style-type: none"> <li>• An online consultation with SAHRA was done on the 08th of August 2023</li> </ul>	Refer to Appendix 2 for full consultation.

b. The Environmental attributes associated with the alternatives. (The environmental attributed described must include socio-economic, social, heritage, cultural, geographical, physical and biological aspects)

a) **Baseline Environment**

(i) **Type of environment affected by the proposed activity.**

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

**Topography**

Topography is the study of the shape and features of land surfaces. The topography of an area could refer to the surface shapes and features themselves, or a description (especially their depiction in maps). Topography is a field of geoscience and planetary science and is concerned with local detail in general, including not only relief but also natural and artificial features, and even local history and culture. The proposed prospecting area is situated within a region with gentle slopes topography. This can be observed on the topology map attached below, the contour lines are widely separated indicating a gentle slope even during ground truthing it was easy for Public Participation Officers to walk to the entire area doing site assessment.

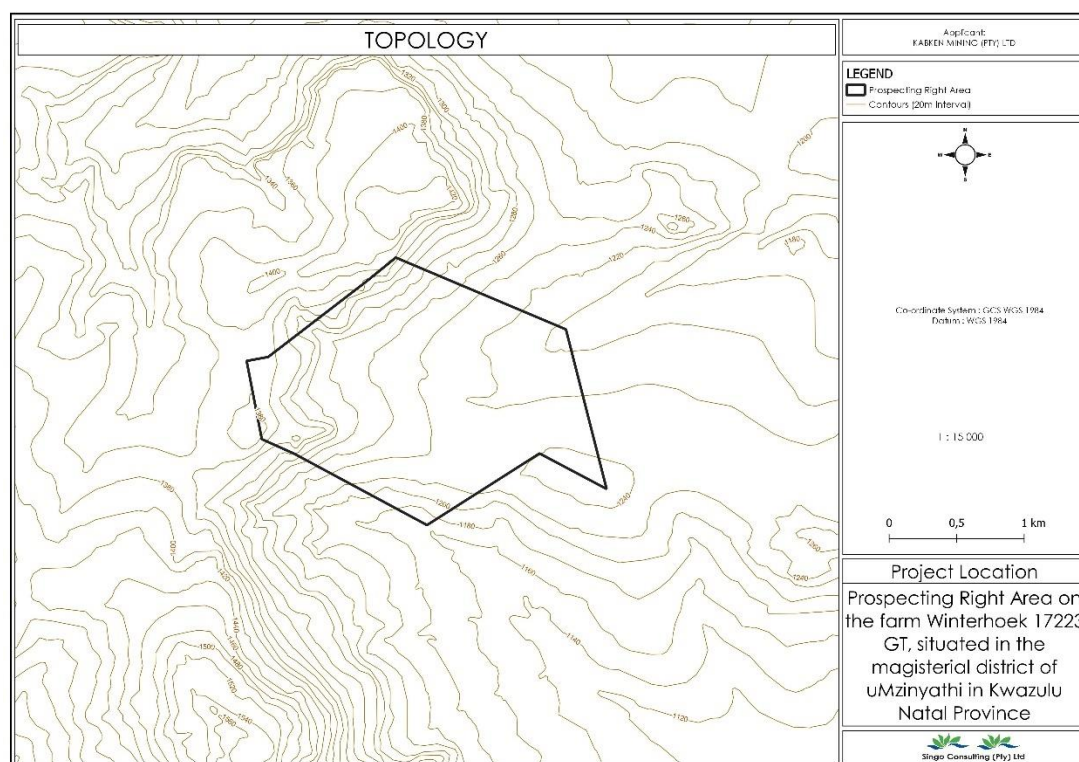


Figure 12: Topography of the area.

## Regional and Local Climate

The municipality has a temperate climate, experiencing warm to hot summers and cold winters. Summers are mostly hot with temperatures exceeding 30 °C. Winters are characterized by frost at the beginning of winter for most of the areas in the municipality. Endumeni Local municipality is situated within the Umzinyathi District Municipality which falls within the Pongola-Umzimkhulu Hydrological Zone, one of six hydrological zones in South Africa (Department of Environmental Affairs 2013a).

These hydrological zones not only reflect water management areas but have been grouped according to common climatic and hydrological characteristics (Department of Environmental Affairs 2013a).

The following four climate change scenarios have been described for the Pongola-Umzimkhulu Hydrological Zone in the Department of Environmental Affairs' Long Term Adaptation Scenarios Reports:

- Warmer Wetter Scenario: Increased rainfall in spring.
- Hotter Wetter Scenario: Strong increase in rainfall in spring.
- Warmer Drier Scenario: Decreased rainfall in spring, a strong decrease in rainfall during summer and autumn.
- Hotter Drier Scenario: Decreased rainfall in spring, a strong decrease in rainfall in summer and autumn

## Temperatures of Dundee per month

Figure 13: High and Low temperature

	January	February	March	April	May	June	July	August	September	October	November	December
Avg. Temperature °C (°F)	20.4 °C (68.8) °F	20.4 °C (68.7) °F	19.3 °C (66.7) °F	16.7 °C (62) °F	14.3 °C (57.7) °F	11.7 °C (53) °F	11.4 °C (52.6) °F	14.1 °C (57.4) °F	16.8 °C (62.2) °F	17.8 °C (64.1) °F	18.8 °C (65.9) °F	20.1 °C (68.1) °F
Min. Temperature °C (°F)	15.6 °C (60.1) °F	15.7 °C (60.3) °F	14.4 °C (58) °F	11.7 °C (53.1) °F	8.5 °C (47.4) °F	5.7 °C (42.3) °F	5.1 °C (41.2) °F	7.4 °C (45.4) °F	9.9 °C (49.7) °F	11.6 °C (53) °F	13.2 °C (55.7) °F	14.8 °C (58.7) °F
Max. Temperature °C (°F)	26.3 °C (79.3) °F	26.1 °C (79.1) °F	25.1 °C (77.2) °F	22.6 °C (72.7) °F	20.9 °C (69.6) °F	18.6 °C (65.5) °F	18.7 °C (65.6) °F	21.7 °C (71) °F	24.5 °C (76.2) °F	25.1 °C (77.1) °F	25.6 °C (78.1) °F	26.3 °C (79.4) °F
Precipitation / Rainfall mm (in)	157 (6)	134 (5)	110 (4)	52 (2)	20 (0)	12 (0)	15 (0)	25 (0)	37 (1)	97 (3)	130 (5)	160 (6)
Humidity(%)	71%	71%	69%	65%	55%	50%	47%	44%	46%	58%	64%	68%
Rainy days (d)	13	11	10	6	3	1	2	3	4	10	13	14
avg. Sun hours (hours)	7.6	7.9	7.6	7.5	8.2	8.1	8.3	8.5	8.4	7.9	7.9	8.2

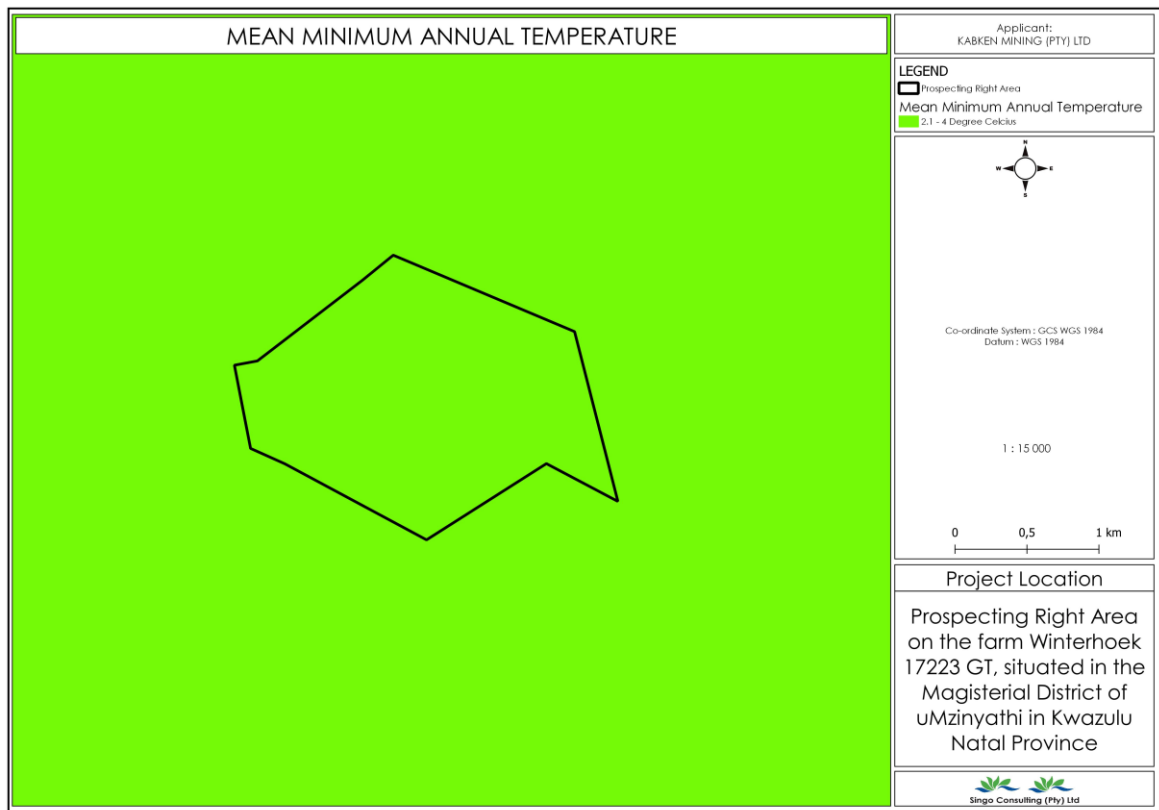


Figure 14: Annual Temperature around the project area

## Rainfall

The district falls within the coastal summer rainfall areas, with medium to low rainfall. Endumeni LM experiences 700- 800 mm/annum. Rainfall Data for the mining permit area was obtained from the eNdumeni IDP. Mean annual rainfall within the project area is 601-800mm.

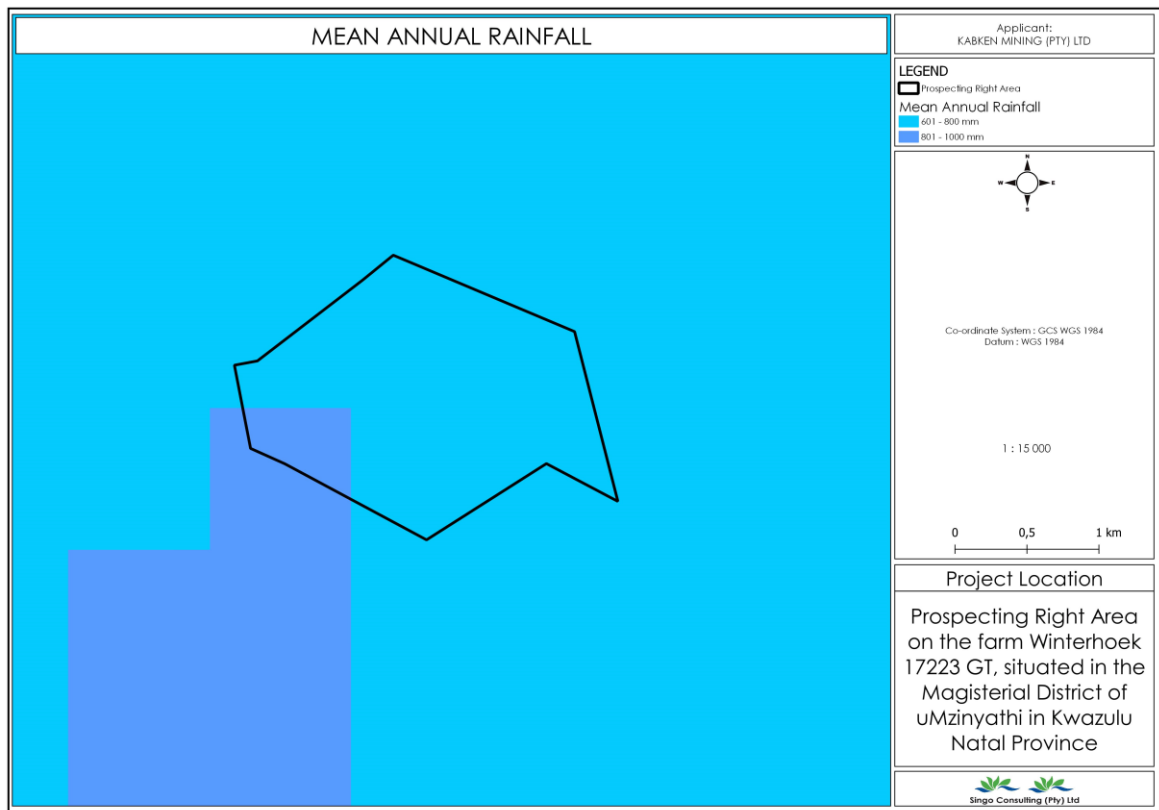


Figure 15: mean annual rainfall.

## Air Quality

The assessment of the ambient air quality is based on available ambient air quality information identified in the literature review and data supplies by the Department of Environmental Affairs (DEA) and the South African Weather Service (SAWS).

## Regional Ambient Air Quality

According to Endumeni Local Municipality Final 2023/2024 IDP no data on ambient air quality data is available at present for the district. There is no Air Quality Management Plan for UDM. According to UDM (2015b), the air quality across most of the district is relatively good, and this may serve as a positive aspect in place marketing efforts and increase tourism competitiveness of the area.

## Public roads

The area has gravel routes that can lead to the site from the nation road R68 that goes from Nquthu to Melmoth. The gravel route needs to be upgraded to accommodate two plants that are entering and existing the proposed project area.



Figure 16: Access Road to project area

## General Geology Regional Geology

The target area is located within the rocks of the Karoo Supergroup, a sequence of sediments. The area is in the Vryheid Formation of the Ecca Group and the Masotsheni Formation. The unit that will be explored is hosted within a sedimentary sequence of sandstones, arenites and shales. The Karoo Supergroup is a sedimentary sequence known for its coal content and has been explored extensively in the KwaZulu-Natal and Mpumalanga provinces. There are still resources of coal and other minerals in this rock sequence that can be explored for.

## **Karoo Supergroup**

The Karoo Supergroup is underlain by the Witwatersrand, Ventersdorp and the Transvaal Supergroups. The latter was deposited during the Archean period (3.1–2.0 MYA) followed by the deposition of the Karoo Supergroup on top of the latter during the Phanerozoic period (60 MYA) (McCarthy and Rubidge, 2005). The main Karoo Supergroup basin covers over 50% of South Africa's surface and it is made up of five groups namely Dwyka which preserves evidence of the widespread Gondwana glaciation in the form of glacial sediments (diamictites & tillite) followed by the Ecca Group which is known as the ice age which preserves records of sedimentation in a shallow, landlocked sea and it is a coal bearer; The overlying Beaufort Group whereby the sediments mark a period of extensive flood plains in warmer and drier climates, with sedimentary input from all directions; followed by the Stormberg Group which marks the return of semi-arid and arid conditions then lastly the Drakensberg Group which is dominated by the flood basalt. The sedimentary sequence represents environments ranging from glacial to arid and it is capped by the basaltic lava of the Drakensberg group. It is dominated by diamictites, conglomerates, black shales, mudstones, siltstones and sandstones with thin coal beds (Paul & Selden, 2012).

## **Dwyka Group**

The Permo-Carboniferous Dwyka Group is the oldest deposit in the Karoo Supergroup and spans the Late Carboniferous to Early Permian. The Dwyka Group overlies the glaciated Precambrian bedrocks in the north and unconformably and paraconformably the Cape Supergroup. Glacial pavements underlying the Dwyka Group has well-developed striations (specifically in the north) (Johnson et al, 2006). The Dwyka Group is believed to be deposited in a marine basin (Visser, 1989). South Africa was covered by an ice sheet during the Dwyka. These deposits were thus deposited in a cold, glacially dominated environment. The group consists primarily of gravelly sediments with subordinate varved mudstones and shales with scraped and faceted pebbles. The retreating glaciers deposited dark grey tillite (Visser et al, 1987). Tillite is mostly a very fine-grained, blue-grey rock comprised of clay matrix with inclusions (or clasts) of many other fragments picked up by glaciers during their travel. The Dwyka is known for its rich assemblage of dropstones of

various sizes as well as its track ways (trace fossils). The rocks that dominate the Dwyka Group are fillites and diamictites.

### **Ecca Group**

The proposed study area is also covered by the Ecca Group (Vryheid formation) of the Karoo Supergroup. The coal bearing group is the Early Permian-age Ecca Group, which primarily consist of siltstones, organic-rich mudstones, sandstones and minor conglomerates which were deposited on the northern shoreline of the Karoo Sea under warm climate conditions in shallow water deltas and wetlands (Catuneanu et al., 2005). The Ecca group produces abundant coals in its marshy depositional environment, mostly in the northern part of the basin. The Ecca group contains almost all of South Africa's coal resources and it is made up of sixteen formations, but our main focus or interest is the Vryheid formation since it covers the proposed prospecting area.

### **Description why the Geological formation substantiates the minerals to be prospected for**

#### **The Vryheid Formation**

The Vryheid Formation is a geological formation located in the Karoo Supergroup of South Africa. It consists of a sequence of predominantly sandstone and shale layers, with subordinate siltstone and coal seams. The formation has been dated to the Late Permian period, approximately 260 million years ago (Rubidge, 2005).

The Vryheid Formation is known for its abundant and diverse flora, which includes gymnosperms such as glossopterids and cordaites, as well as ferns and other seedless vascular plants (Rubidge, 2005). These fossils provide important insights into the evolution and distribution of plant life during the Late Permian, a time of global environmental change and mass extinction.

In addition to its plant fossils, the Vryheid Formation has also yielded a number of tetrapod fossils, including early amniotes and synapsids (Rubidge, 2005). These fossils provide important information about the early evolution of reptiles and mammal-like reptiles during the Late Permian.



The Molteno Formation is a geological formation located in the Karoo Supergroup of South Africa. It consists of a sequence of predominantly sandstone and mudstone layers, with subordinate siltstone and coal seams. The formation has been dated to the Early Jurassic period, approximately 200 million years ago (Rubidge et al., 2013).

### **Masotcheni Formation**

The Masotcheni Formation represents a widespread of colluvial in the Drakensberg foothills, the formation comprises of a lithostratigraphic grouping of sheetwash and gully channel colluvial and buried palaeosols that represent several cycles of colluvium deposition, pedogenesis and erosion during the Quaternary (Bosino et al., 2021). The Masotcheni Formation colluvial deposits are commonly concentrated where the hillslope morphology forces overland flow and sheetwash transported sediments to accumulate in bedrock depressions or colluvial hollows. The Masotcheni Formation includes fine clay, silty and sandy, poorly sorted, stratified colluvial sediments generated by the erosion of weathered regolith and soils from upslope on the Drakensberg foothill interfluvial ridges and deposited along their lower slope.

### **Klip River Coalfield**

The Klip River Coalfield is the most economically important and largest of the coalfields in the KwaZulu Natal region, with an extent of 6,000km<sup>2</sup> and 50% of which bears economically extractable coal. Faulting in the area is known to have disturbed the coal horizons by, in some cases, over 137m in the vertical plane. Two economic seams are present, namely the Top Seam (0.5 to 3.3m thick) of bright coal and the Bottom Seam (0.5 to 1.3m thick) with comparatively less coal. Although the quality varies across the seams, they both yield a generally high-grade product with ranks from bituminous coal to anthracite. The best quality coals are produced in the central part of the field, with qualities decreasing and seams thinning to the north and south. Devolatilization of the coal by dolerite intrusions has caused the formation of lean coal and anthracite for domestic use. Methane gas trapped within fissures associated with dyke intrusions can be hazardous. The Top Seam is often considered the correlation of the Alfred Seam within the Utrecht and Vryheid

Coalfields. Similarly, the Bottom Seam is considered the equivalent of the Gus Seam.

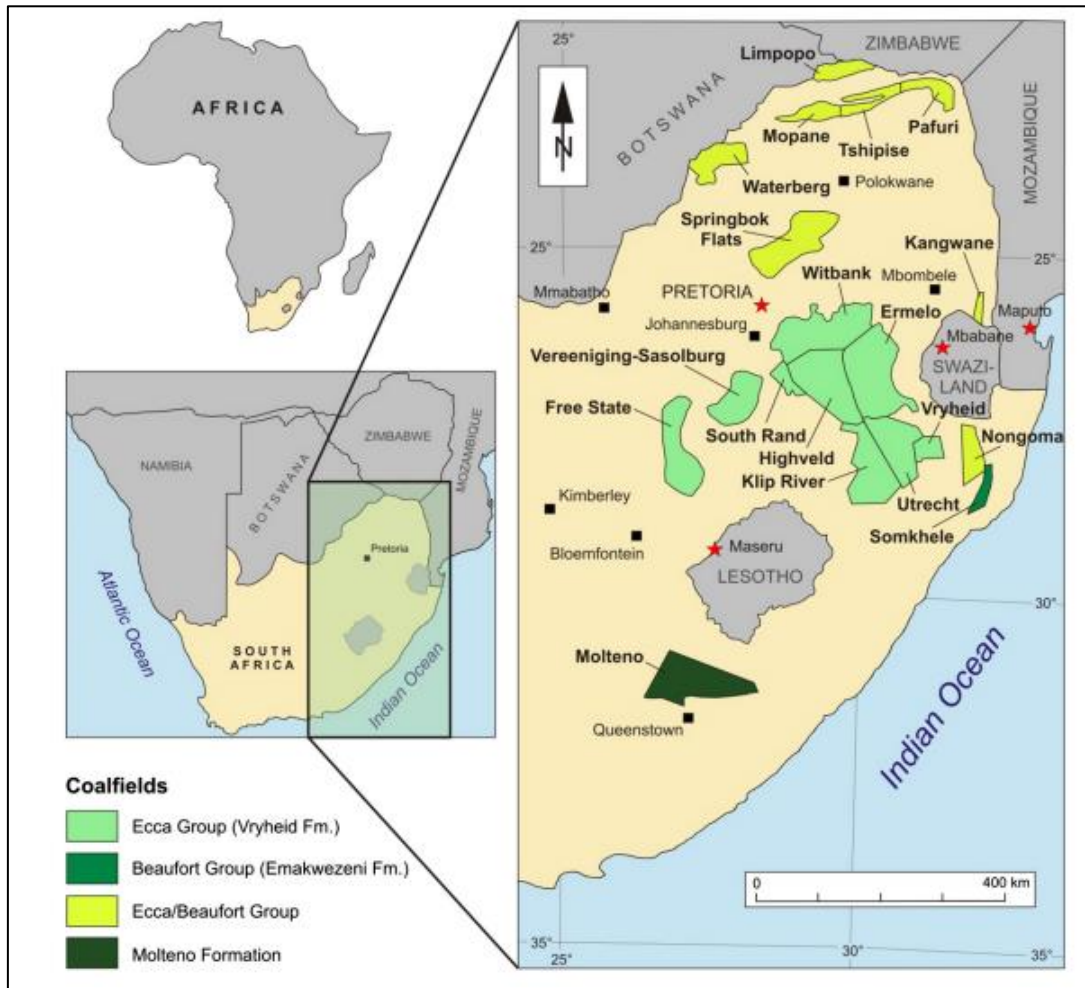


Figure 17: South African coalfields.

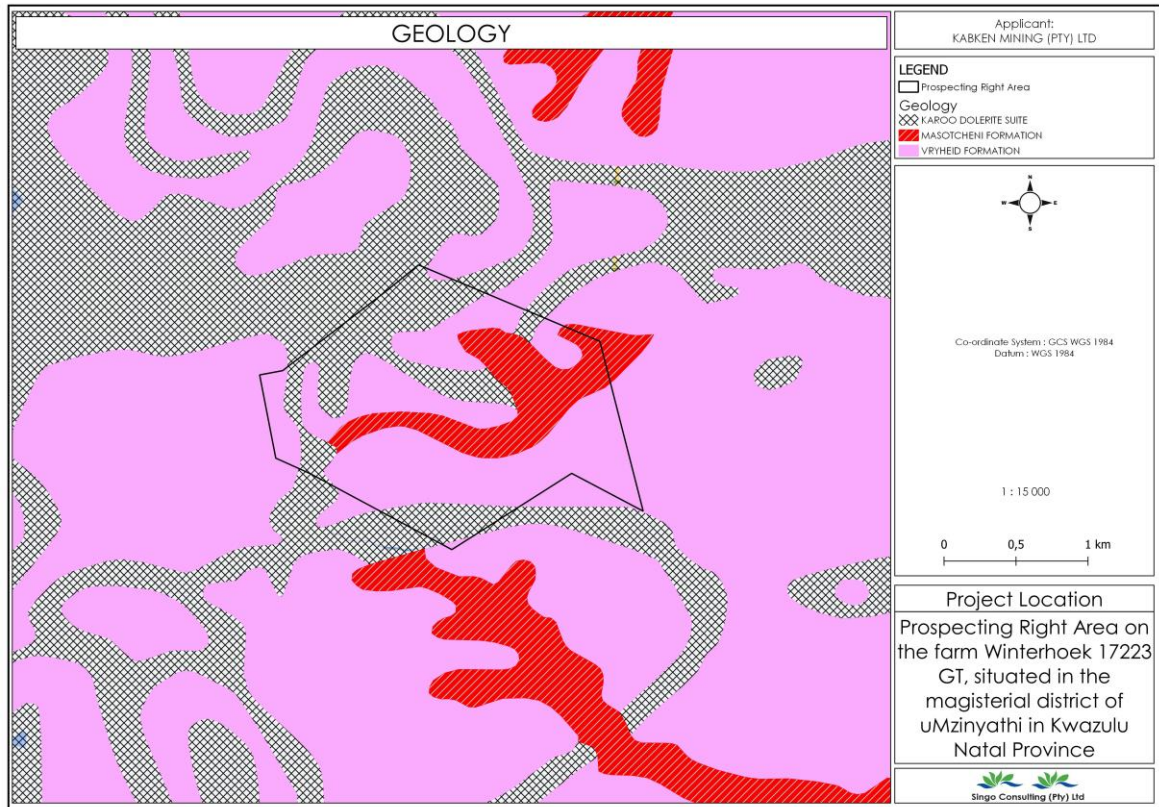


Figure 18. Geological map of the project area

## Soil Study

A baseline Soil study was conducted by Singo consulting for this project. The soil classes map in Figure 25 below, the soils can be defined based on their soil depth, Soil Drainage, erodibility, and natural fertility.

### Soil depth

Depth of the soil profile is from the top to the parent material or bedrock. This type of soil can be classified as a restricted soil depth. A restricted soil depth is a nearly continuous layer that has one or more physical, chemical, or thermal properties.

### Soil Drainage

Soil drainage is a natural process by which water moves across, through, and out of the soil because of the force of gravity.

### Erodibility

Erodibility factor (K-factor) is the inherent yielding or non-resistance of soils and rocks to erosion by runoff and rainfall impact.

### Natural Fertility

Soil fertility refers to the ability of soil to sustain agricultural plant growth, i.e., to provide plant habitat and result in sustained and consistent yields of high quality. The soil, as a

nature of them, contains some nutrients which is known as 'inherent fertility'. Among the plant nutrients, nitrogen, phosphorus, and potassium is essential for the normal growth and yield of crop.

The soil classes map in Figure 21 below shows that the prospecting right area is entirely covered with the Association of Classes 1 to 4: Undifferentiated structureless soils, Association of Classes 13 and 16: Undifferentiated shallow soils and land classes, Association of Classes 17 and 19: Structureless and textural contrast soils and Soils with a pedocutanic horizon.

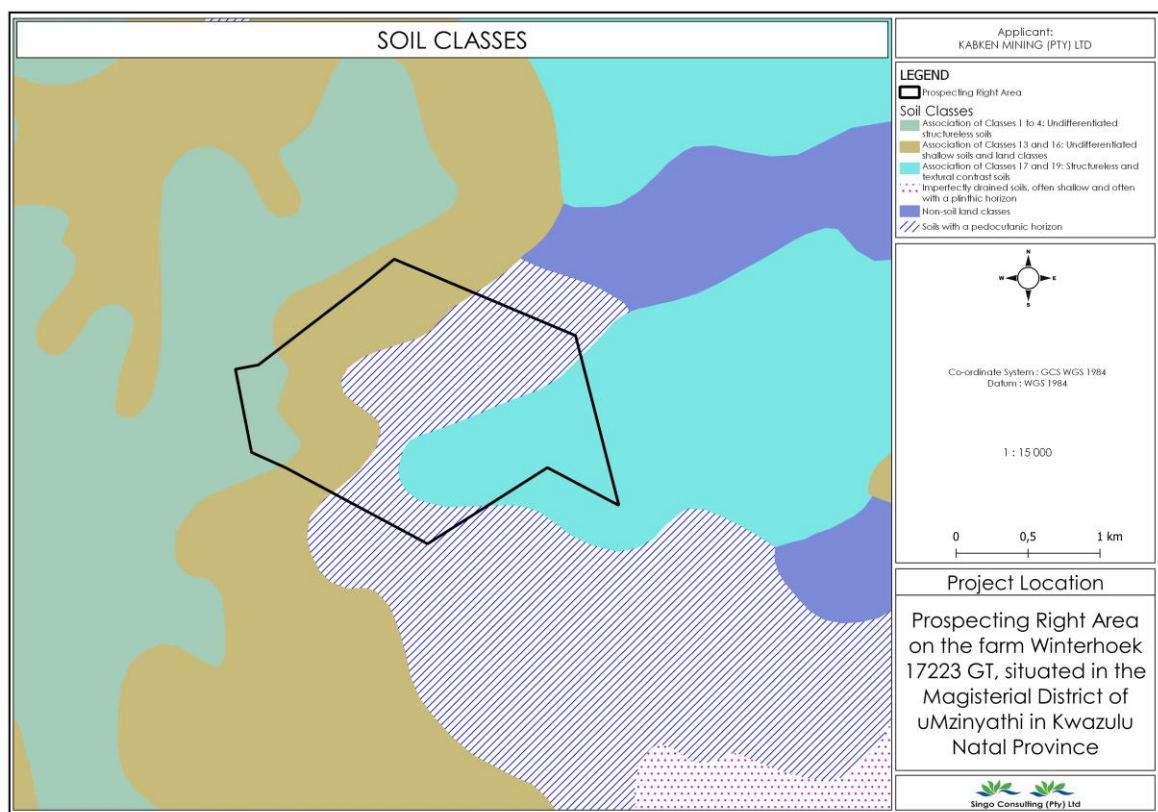


Figure 19: Soil study of the area of interest.



*Photo 1: Soil type observed on site.*

## **Hydrological Description**

### **➤ Catchment**

The prospecting area falls within the Pongola to Mtamvuna Water Management Area (WMA). The farm portions of the prospecting right fall within the quaternary catchment V32F. Figure 26 below illustrates the Quaternary catchment and the Water Management Area (WMA).

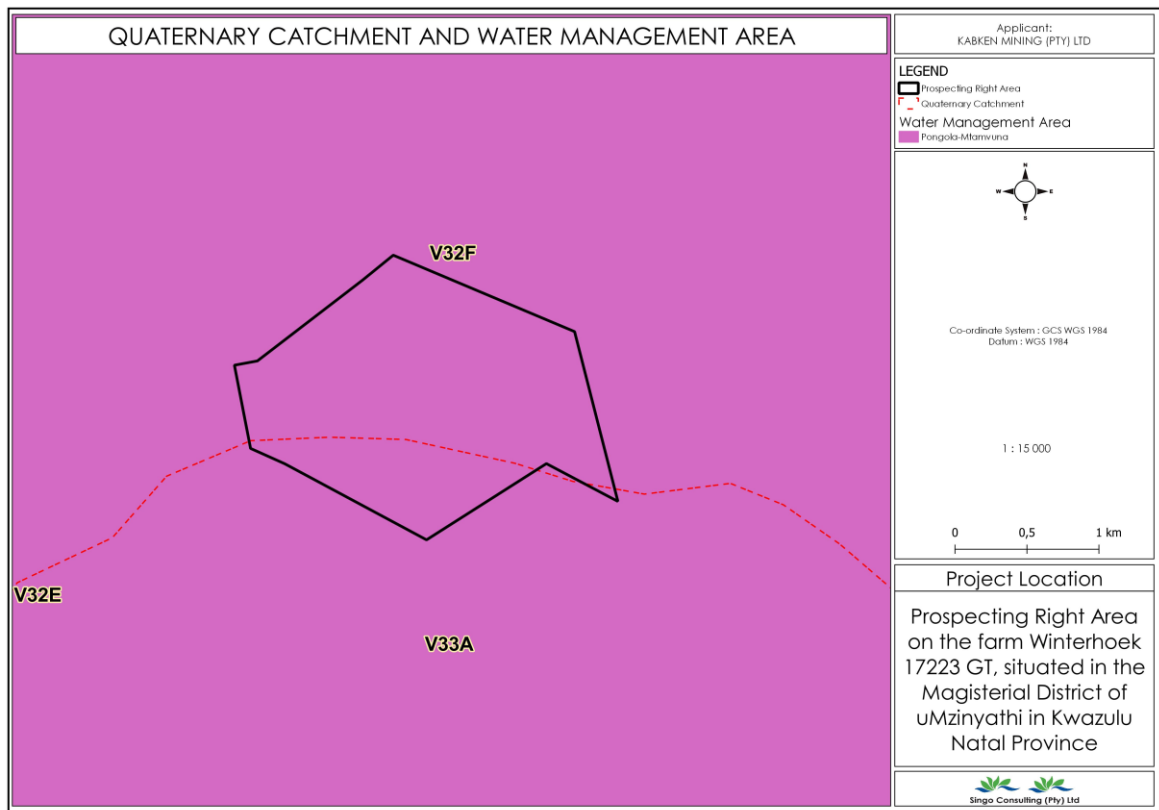


Figure 20: The sub-catchment of the project area inclusive.

The catchment area means annual runoff (MAR) and mean annual precipitation (MAP) as taken from WR2012 is described in Table 8.

Table 10: Catchment Areas, MAR, and MAP

Water management	Quaternary catchment	Catchment Area (km <sup>2</sup> )	MAP (mm)	MAE
Pongola-Mtamvuna <b>Water Management</b>	V32E			

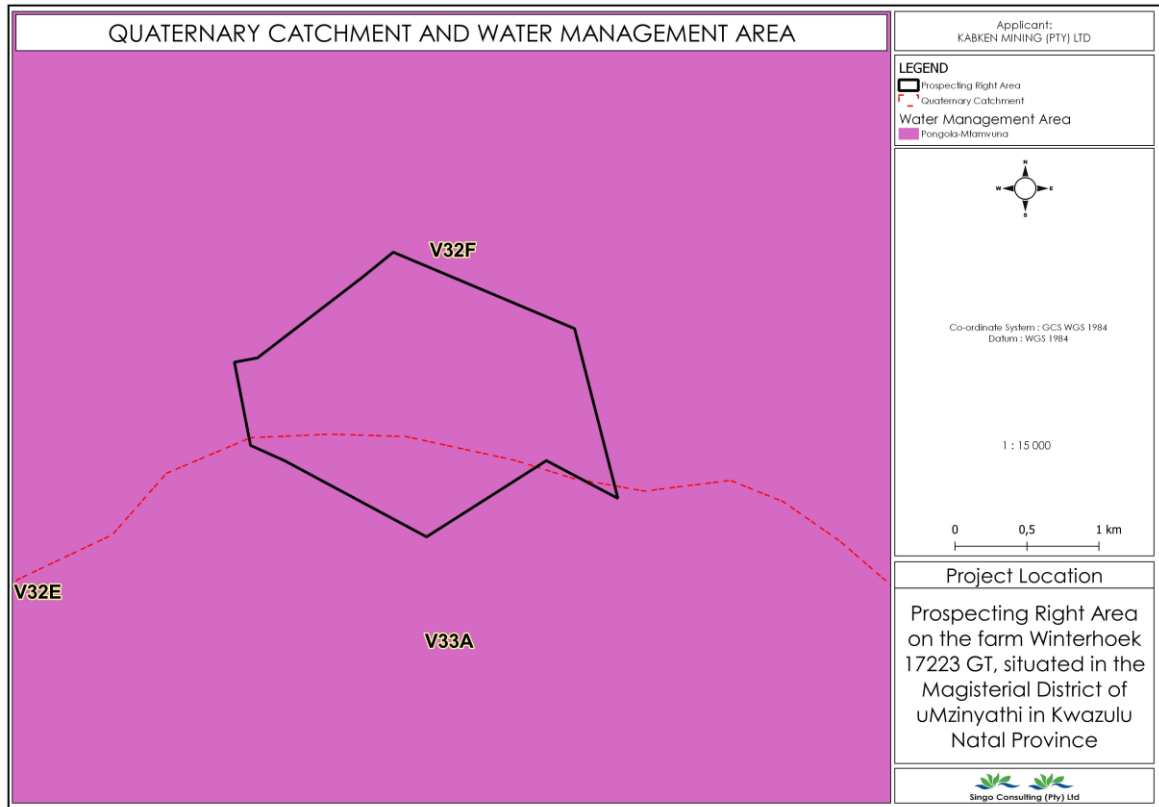


Figure 21: Catchment map

### ➤ Hydrology

The hydrology surrounding the proposed area is very important during prospecting. In this context hydrology is all the surface waters appearing within and nearby the proposed project area, where a potential to be impacted upon by the project exists. The hydrology map, illustrates that the following water bodies exists:

- ❖ non-perennial rivers
- ❖ Perennial rivers
- ❖ depression
- ❖ Floodplain
- ❖ Seep
- ❖ Artificial Wetland

Two non-Perennial Rivers are cutting through the farm. For this project where prospecting right poses a risk on them, there should be measures and guidelines put in place that will protect the water resources in this area to

ensure optimal conservation of water. The prospecting right activities should take place during dry seasons when the water percentages are extremely low. Extreme caution should be taken during prospecting, owing to the rivers and numerous wetlands existing nearby and within the project area. And all the perennial and non-perennial rivers will be buffered as a no-go area. According to Section 21 (c) and (l), the buffer must be 500 meters from wetlands and 100 meters from any other water course to maintain quality. Activities will commence after granting. Fishing and hunting will be prohibited to protect aquatic and terrestrial biodiversity, which also includes avoiding high sensitivity areas.

## **Ground Water**

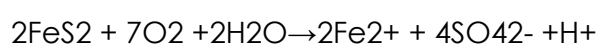
### **Acid generation capacity**

#### ➤ **Acid mine drainage**

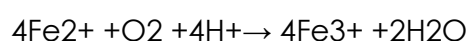
Acid mine drainage (AMD) is a serious problem in projects where sulphate is a by-product, like in this prospecting project, AMD is expected to occur due to the drilling activity that will create cracks and fractures thereby disturbing the lithology which may leach into underground water, however only exploration boreholes will be drilled, and the impact will be minimal.

When contaminants leach to underground water AMD can potentially occur. Therefore, acid mine drainage studies should be included as one of the impacts to be mitigated in this area. Acid mine drainage occurrence in an area will be indicated by a decrease in pH. The equations below show the process of acid mine drainage formation detailed in four steps. This process is self-propagating until the ferric iron or pyrite is depleted. Generally, when pyrite combines with oxygen and water, acid mine drainage forms. Acid mine drainage is dangerous and can destroy aquatic life as well as the aesthetic conditions of an environment.

1. Oxidation of Polysulfide to sulphate by O<sub>2</sub>

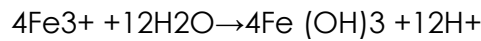


2. Oxidation of Fe<sup>2+</sup> (ferrous iron) to Fe<sup>3+</sup> (ferric iron) by O<sub>2</sub>

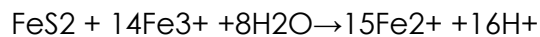


3. Hydrolysis of iron (ferric iron → ferric hydroxide, "yellow boy")








4. Oxidation of polysulfide to sulphate by  $\text{Fe}^{3+}$  at low pH



Acid mine drainage can be treated in various ways including:

-  An increase in pH or raising alkalinity. This can be achieved by neutralization reactions, introducing alkalinity reagents such as  $\text{Na}_2\text{CO}_3$  or  $\text{NaCl}$ ,
-  Removing metals like iron, zinc and aluminium from water.
-  Conducting passive treatments of acid mine drainage (limestone leach beds) as well as conducting active treatment of acid mine drainage (treatment plants)

## Hydrogeology

A baseline Hydrology study was conducted by Singo consulting for this project. The prospecting right area falls the study area falls on Quaternary Catchment V60D

under the Pongola-Mtamvuna Water Management Area, with study area A falling slightly on Quaternary Catchment V32F under the Pongola-Mtamvuna water management area. The identified water bodies within the prospecting right area and in the close proximity of the project include the non-perennial river, Seep wetlands and Perennial River (Sandspruit). For this project where prospecting right poses a risk on them, there should be measures and guidelines put in place that will protect the water resources in this area to ensure optimal conservation of water. The perennial and non-perennial rivers will be buffered as a no-go area and approximately a 100m buffer should apply.

## Potential contaminants

The potential contaminants for the prospecting of coal are minimal and can be controlled easily as this activity will only take place for a short period of time. Fuel and oil handling facilities are likely sources of hydrocarbon related contaminants. Oils, grease and other hydrocarbon products (such as petrol and diesel) handled in these areas may contaminate the environment by spillages and leakages (e.g. from drill rigs).

## Aquifer classification

The figure below illustrates aquifer classification of different areas in South Africa. It can be deduced that the project area comprises of minor aquifers and the dominant water source is a surface water. Table 12 interprets the meaning of the aquifer classification and when an area is said to have a minor aquifer it means that the aquifer is Moderately yielding aquifer of acceptable quality or high yielding aquifer of poor-quality water.

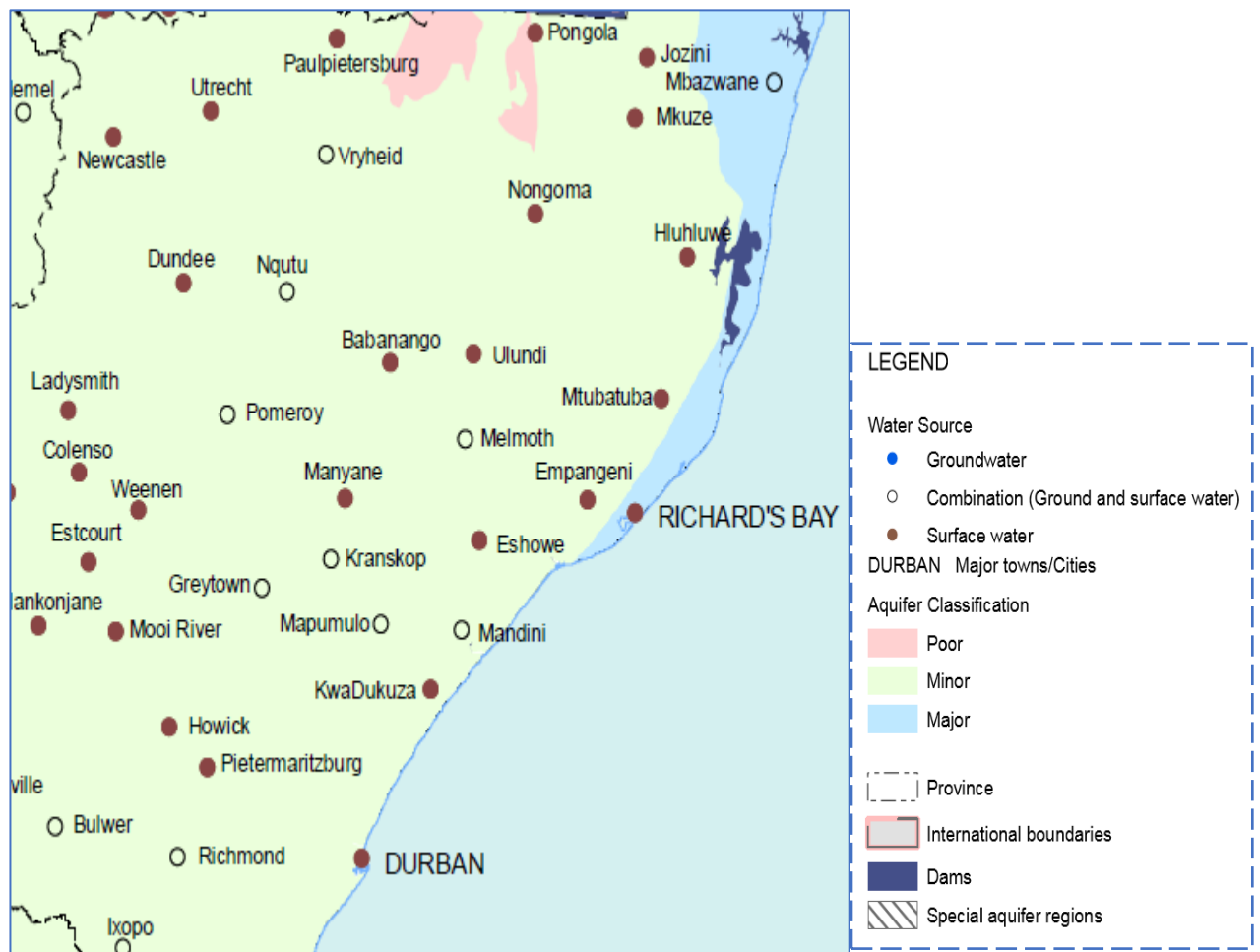


Figure 22: Aquifer classification of South Africa

Table 11: Aquifer characterization

Aquifer		Description
Sole aquifer	source	An aquifer used to supply 50% or more of urban domestic water for a given area, for which there are no reasonably available alternative sources should this aquifer be impacted upon or depleted.
Major region	aquifer	High-yielding aquifer of acceptable quality water.
<b>Minor region</b>	<b>aquifer</b>	<b>Moderately yielding aquifer of acceptable quality or high yielding aquifer of poor-quality water.</b>
Poor region	aquifer	Insignificantly yielding aquifer of good quality or moderately yielding aquifer of poor quality, or aquifer that will never be utilized for water supply and that will not contaminate other aquifers.
Special region	aquifer	An aquifer designated as such by the Minister of Water

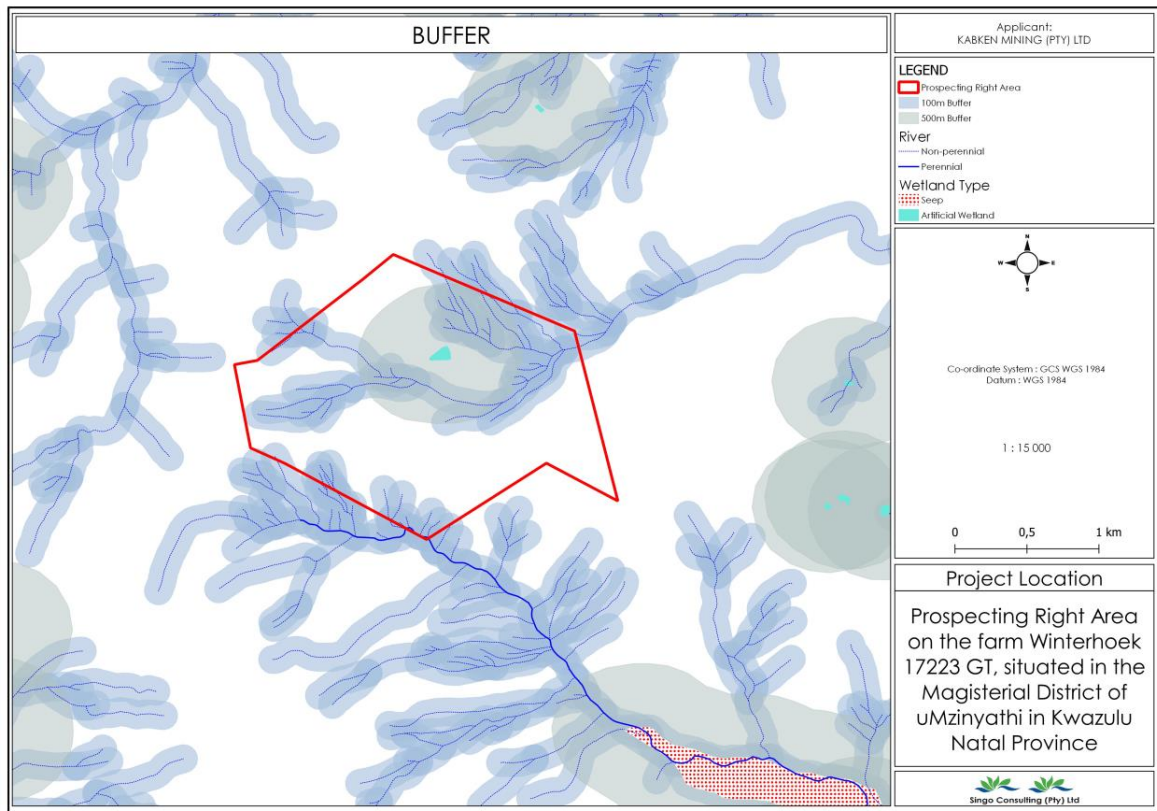


Figure 23: Buffer Map.

## Flora and Fauna

### Flora

Flora is the plant life occurring in a particular region or time, generally the naturally occurring or indigenous—native plant life.

### Natal Central Bushveld

The area consists of the Natal Central Bushveld as seen in figure 29 below. Granger (1996) concluded that this vegetation type is highly transformed and poorly conserved and because of intensive grazing and fire, it requires careful management.

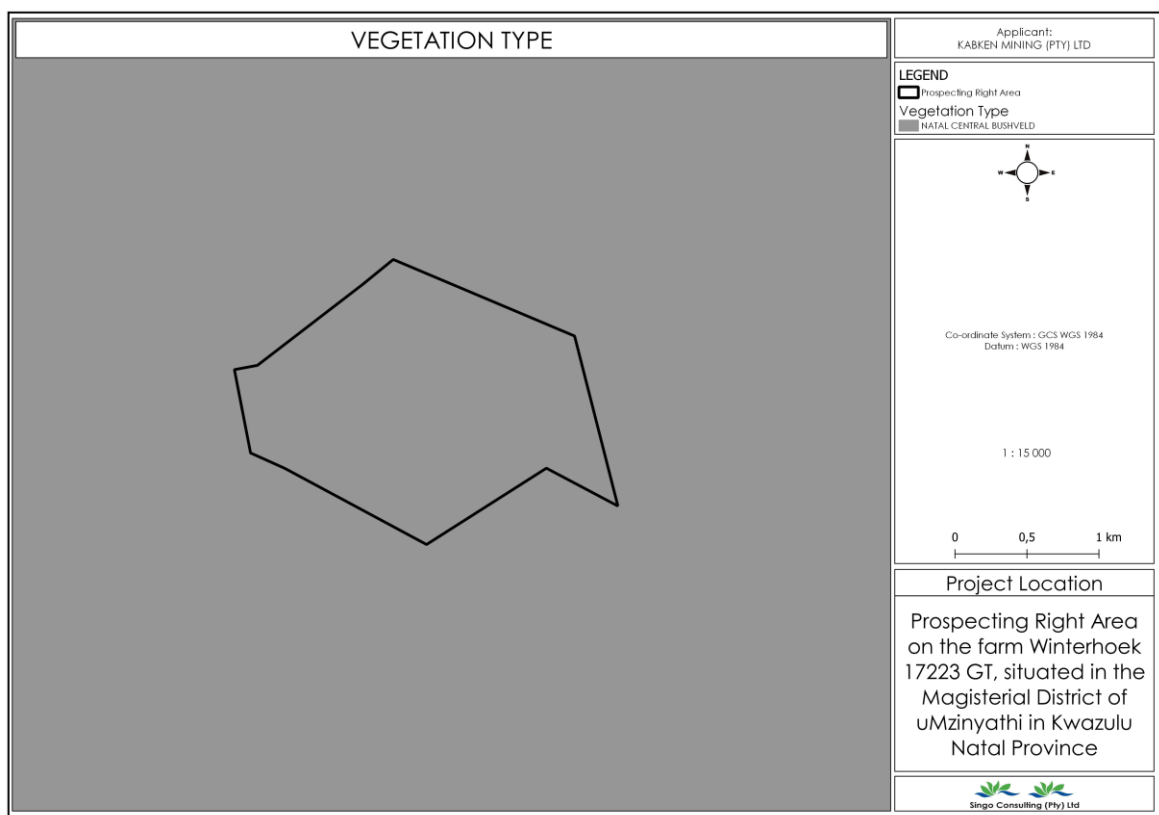


Figure 24: Vegetation type within the project area

## MAP OF RELATIVE PLANT 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](mailto: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)
Low	Low Sensitivity
Medium	Sensitive species 1252
Medium	Sensitive species 1003
Medium	Dierama nixonianum
Medium	Sensitive species 998
Medium	Sensitive species 1086
Medium	Polygala praticola

Figure 25: Plant Species Theme Sensitivity Map (Screening tool, 2023)

Biodiversity data for Winterhoek 17223 GT was requested at KZN Wildlife on the 28th of July 2023, and the biodiversity information was shared with EAPs on the 1st of August 2023. Please refer to figure 26 below.

Figure 26: Biodiversity Information

RE: REQUEST FOR BIODIVERSITY INFORMATION



data enquiry <data.enquiry@kznwildlife.com>  
 To: Thilivhali, Ndou  
 Cc: 'Rudzani, Radebe (RRS)'; 'Dr Singo, Kenneth'; mazithi@singoconsulting.co.za;  
 ncamiso@singoconsulting.co.za; boitumelo@singoconsulting.co.za

Reply
 Reply All
 Forward

Tue 2023/08/01 14:34

Click here to download pictures. To help protect your privacy, Outlook prevented automatic download of some pictures in this message.



Please find the attached for the species list in Farm Winterhoek.

Kind regards Sandile Nkwanyana

**From:** Thilivhali, Ndou <thilivhali@singoconsulting.co.za>  
**Sent:** Friday, July 28, 2023 11:09 AM  
**To:** data enquiry <data.enquiry@kznwildlife.com>  
**Cc:** 'Rudzani, Radebe (RRS)' <rudzani@singoconsulting.co.za>; 'Dr Singo, Kenneth' <kenneth@singoconsulting.co.za>; mazithi@singoconsulting.co.za; ncamiso@singoconsulting.co.za; boitumelo@singoconsulting.co.za  
**Subject:** REQUEST FOR BIODIVERSITY INFORMATION

Good day

Kindly find the attached data request form, requesting for biodiversity information on Farm Winterhoek 17223 GT, situated in the Magisterial District of Umzinyathi in Kwa-Zulu Natal Province.

Your assistance will be highly appreciated.

	A	B	C	D
1	Animal Species List	Plant species list		
2	Sylvicapra Grimmia	Kniphofia Galpinii		
3	Causus Rhombeautus			
4	Anthropoides Paradiseus			
5				
6				
7				

Table 12: the vegetation found within the project area.



## Fauna

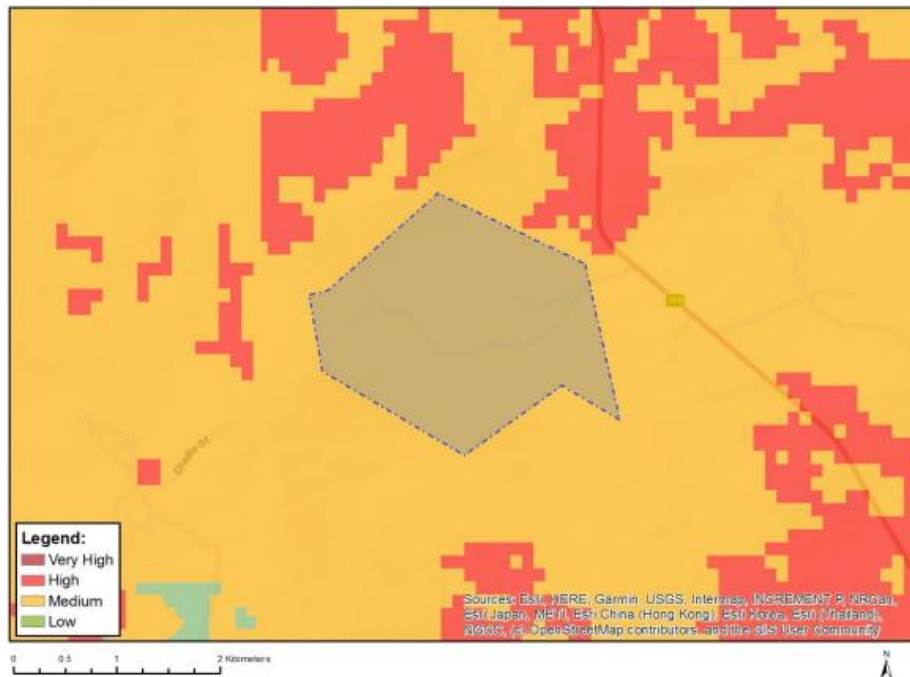
Fauna is all the animal life present in a particular region or time. Fauna expected to occur on site include assemblages within terrestrial and riverine ecosystems, including mammals, birds, reptiles, amphibians and invertebrates. During site assessment, there were animals such as Horses, Birds and Goats that were observed within the proposed area during the site assessment. It is anticipated that various animals exist around the proposed project.



*Photo 2: Animals observed on site.*



## 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](mailto: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)
Medium	Aves-Stephanoaetus coronatus
Medium	Aves-Eupodotis senegalensis
Medium	Aves-Sagittarius serpentarius
Medium	Aves-Geronticus calvus
Medium	Insecta-Chrysoritis phosphor borealis
Medium	Mammalia-Ourebia ourebi ourebi

Figure 27: Animal Species Theme Sensitivity Map (Screening tool, 2023)

All Flora and Fauna species will be conserved, & all potential impacts on Floral and faunal species will be managed using management framework stipulated on the Environmental Management Programme Report.

## **Heritage Resources**

The area of Dundee has low potential for archaeological heritage resources of different classes of significance according to screening report. During ground truthing graves was identified with the proposed area. To ensure that graves are not disturbed a buffer will be implemented, and workers will be well trained to make sure that they do not disturb the graves.

However, should any heritage resources of significance be exposed during the rather operational phase of the project, the South African Heritage Resources Authority (SAHRA) should be notified immediately, all development activities should be stopped, and an archaeologist accredited with the Association for Southern African Professional Archaeologist (ASAPA) should be notified to determine appropriate mitigation measures for the discovered finds. This may include obtaining the necessary authorisation (permits) from SAHRA to conduct the required mitigation measures.

## **Environmental sensitivity**

Referring to the screening report that was generated by Singo Consulting. The environmental sensitivity of the area shows that the prospecting right area has low sensitivity in terms of the aquatic biodiversity theme, the archaeological and Cultural Heritage theme, and the defence theme. During the environmental site assessment, no protected area or high environmental sensitivity was identified. DFFE Portal was also conducted; according to DFFE Portal, the prospecting right area is not protected, but this project will be taken in a way that is not harmful to the environment. Please refer to the figure below.

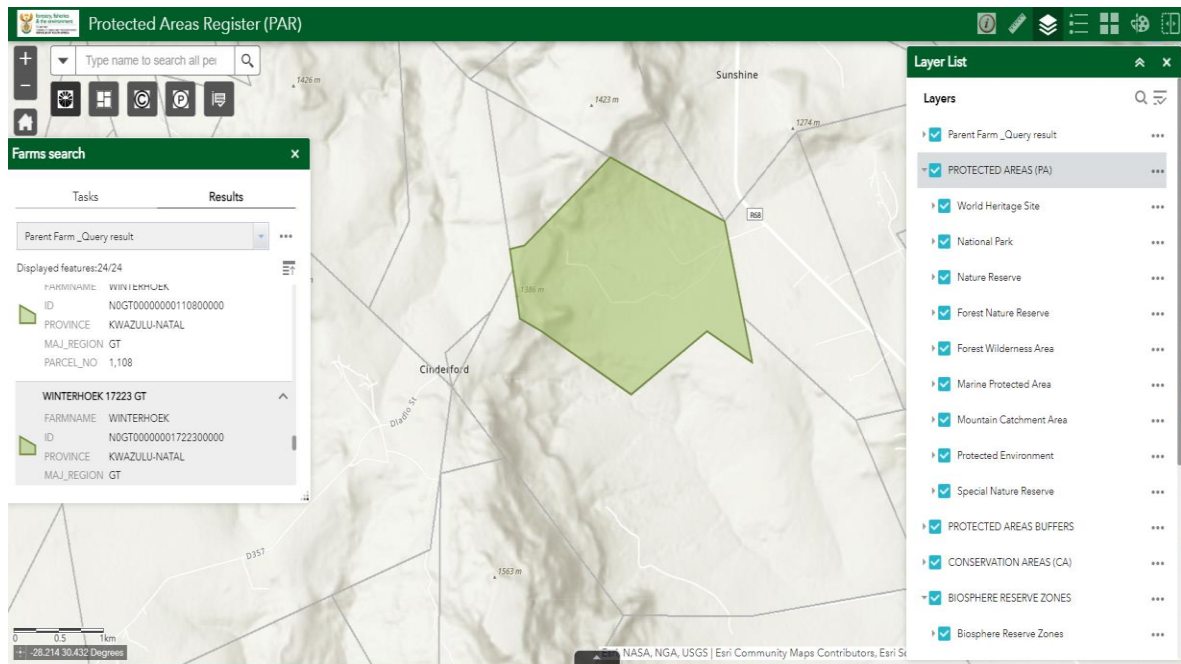


Figure 28: Protected Area Register screenshot

**MAP OF RELATIVE ARCHAEOLOGICAL AND CULTURAL HERITAGE THEME SENSITIVITY**



Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
			X

**Sensitivity Features:**

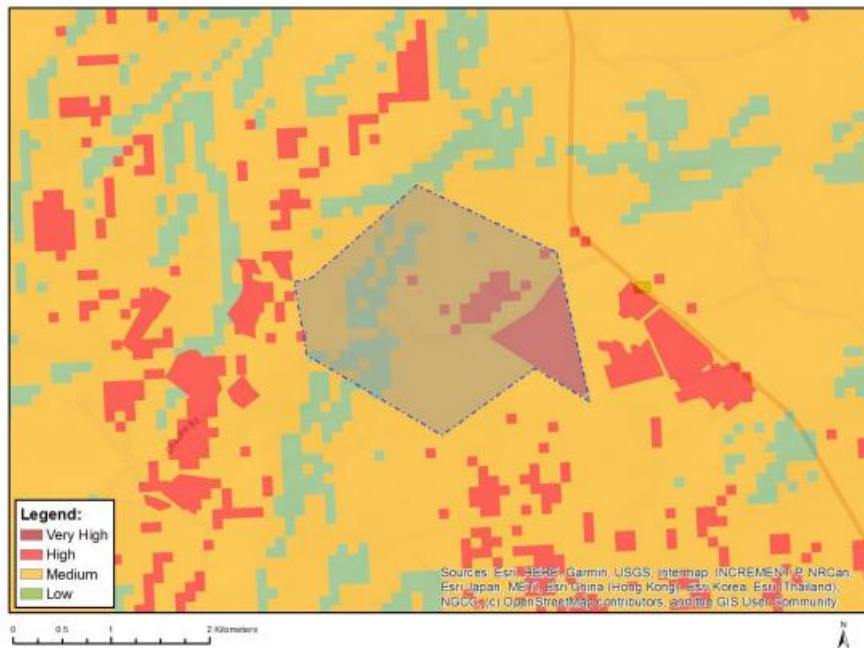
Sensitivity	Feature(s)
Low	Low sensitivity

Figure 29: archaeological heritage sensitivity.

**Agricultural Support Plan**

Agriculture is known to be central in the economic development of rural areas rural communities are particularly vulnerable to climate change and the agricultural support plan is a mechanism to assist farmers to operate and contribute to improved food security and also participate in food value chains. The proposed project area is ranked moderate to high in agricultural support.

MAP OF RELATIVE AGRICULTURE THEME SENSITIVITY



Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
	X		

Sensitivity Features:

Sensitivity	Feature(s)
High	Land capability;09. Moderate-High/10. Moderate-High
High	Annual Crop Cultivation / Planted Pastures Rotation;Land capability;06. Low-Moderate/07. Low-Moderate/08. Moderate
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

Figure 30: Agricultural Sensitivity of the area.

**Socio-Economic**

The study area for the proposed projects in Endumeni local municipality, located in uMzinyathi District. The Endumeni local municipality forms part of the four constituent municipalities in uMzinyathi District. It is a category B municipality, located 290km north of Durban. Covering 1612.6 square Kilometres, the municipality is the geographic centre of the Kwazulu-Natal province.

The municipal economy benefits from its well established and serviced areas for light to medium industry, as well as its variety of service facilities, infrastructure, well established road and rail infrastructure, and a stable labour

supply – which makes the municipality an attraction for upcoming and established businesses.

### Population Size and Age

In 2016, Endumeni hosted a total population of 76,639, most of whom are born in Endumeni (95.5%), they are black (84.3%) and isiZulu speaking (81%). Almost all of the population is South African born. Notably, the Endumeni municipality seems relatively racially diverse (to a limited extent) compared to the district and the province. The percentage of white citizens is twice as high as the province-making whites the second largest population group in Endumeni. Indians and/or Asians consist of 6.1% of the population, just below the provincial size (7.9%). The data is presented below.

Column	Endumeni		uMzinyathi		KwaZulu-Natal	
<b>Black African</b>	84.3%	64,623	96.8%	537,028	87%	9,625,934
<b>Coloured</b>	2.3%	1,767	0.5%	2,894	1.2%	134,089
<b>Indian or Asian</b>	6.1%	4,682	1.3%	7,278	7.9%	873,161
<b>White</b>	7.3%	5,567	1.4%	7,683	3.9%	432,056
<b>Total</b>	100%	76,639	100%	554,883	100%	1439306

Table 13: Population by race

When such data is projected, by 2021, the population is estimated at 88,416, and by 2026 it is expected to increase to 95,482. Thomas (2002) observes that increasing population has the potential to increase poverty, especially in the absence of sound and responsive economic policies.

Such policies include social interventions such as family planning awareness, as well as proactive government planning for infrastructure development. Global trends seem to link population growth to urbanization. Urban renewal / planning is therefore an area which the Endumeni municipality should focus on for the next few years, in preparation for rising urbanization. The population growth projections are presented in figure 30 below.

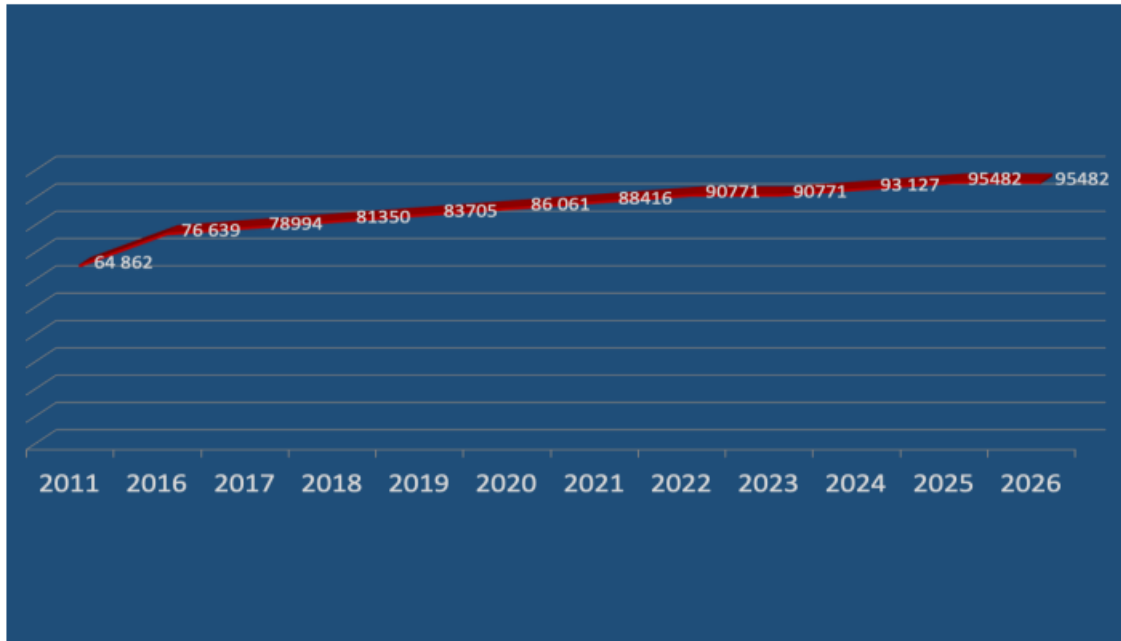


Figure 31: Population Growth projections

Data Source: Statistics South Africa (2016) with Calculations by The Frontline Group

The 2016 Community Survey indicates that the gradient increase of the Endumeni population is expected to rise from 40 people per square kilometre in 2011, to 59 people per square kilometre in 2026. The current population density in the district is 59 people per square Kilometre, while that of the province and national is 100 and 49 respectively. This is to mean that the current population density in Endumeni is lower than the district, province and nationally.

## **Socio-economic Environment**

### **Average Household Income**

Returning to household incomes, the 2014/15 Living conditions survey concluded that the average household income in South Africa was R138 168 in 2015. During the same period, male headed households earned an average of R165 853 per annum while female-headed households earned almost half as much (R98 911).

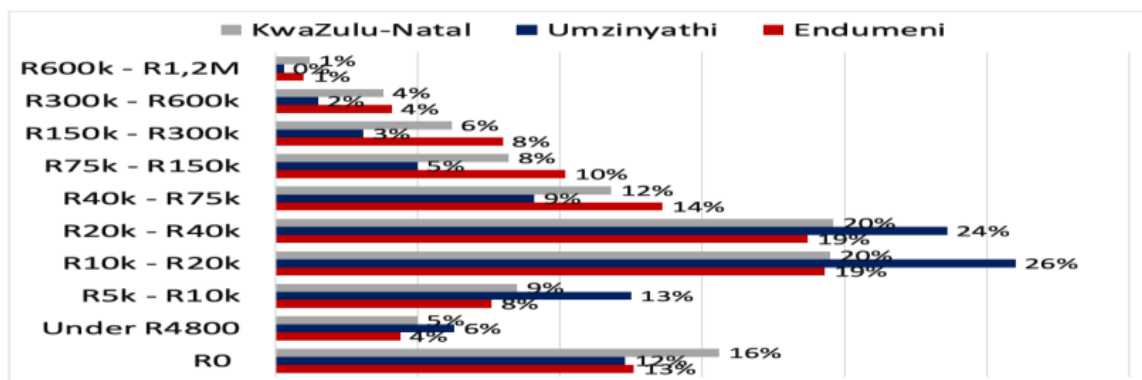
During the following LCS (2015/16), the highest household expenditure category (32.55%) was on housing, water, electricity, gas and other fuels, with transport following (16.29%) (Statistics South Africa, 2015). The same survey

found that 14% of household expenditure goes to miscellaneous goods which include insurance, personal care items and jewellery. Food, beverages, and tobacco is the fourth expenditure category at 13.75%.

The 2015 LCS further noted that the average annual household consumption expenditure for black African-headed households had increased to R67 828 in 2015, compared to R55 920 in 2011. This is an average increase of R2382 per year.

The above in view, as illustrated below, the average household in Endumeni municipality earns between R40,000 and R300,000 annually. This is consistent with the national average. It should be noted however that, as expected in an urban municipality, household incomes in Endumeni are higher than in the district and province. That said, the data below shows that the highest concentration of households is around the R20,000 to R75,000 annual income bracket. Economic development interventions should consider improved income generation.

**Household Incomes**



Data Source: Statistics South Africa (2016)

Figure 32: Households Incomes.

There are only few agricultural households in Endumeni municipality. Evidently, of the 21,134 households in the municipality (in 2016), only 1654 (which translates to 7.8%) are engaged in agricultural activities. Agricultural Value chain development is a timely intervention given this low number of agricultural households. An interesting dynamic is that of inequality. If we consider that most agricultural households claim not to have any income while an



approximately similar number earn between R38000 and R307,000, the inequality gap is wide.

This inequality relates to households which engage in subsistence agriculture on one hand, on the other, those which engage in commercial agriculture. Households engaged in subsistence agricultural activities tend to be trapped in low-income levels. Historically, these would be black households, with limited capital for agricultural inputs, limited access to markets and limited access to credit facilities. This inequality requires state intervention -perhaps of a Keynesian type (massive investments to jump start growth).

## **Education**

The role of education in development is no longer in question, given the trajectory of most developed countries. In this regard, Ilhan (2011) notes that there is no society which can develop without investment in human capital. Increased social and economic benefits are associated with higher educational attainment (Ilhan, 2011). The Endumeni municipality website reports that the municipality hosts ten primary schools, six high schools and 'various pre-primary schools'-without giving the specific number of these pre-primary schools.

There is also a nationally renowned centre for the physically and mentally handicapped – The Pronobis School and Adult Training Centre, as well as the Educational Environmental centre which accommodates learners from across the country. Notwithstanding, the 2019/20 Integrated Development Plan laments the shortage of schools in the municipality, observing that the current educational institutions do not meet the population demand. When educational attainment data for the Endumeni population is compared with the district and the province, the presence of several educational institutions does seem to pay off. This conclusion is arrived at based on the relatively small percentage (4%) who have no formal education in Endumeni, compared to 21% in the district and 9% in the province. Evidently, the municipality records higher percentage of learners who have attained matric, than in the district

and the province. The same applies to undergraduate and postgraduate achievement.

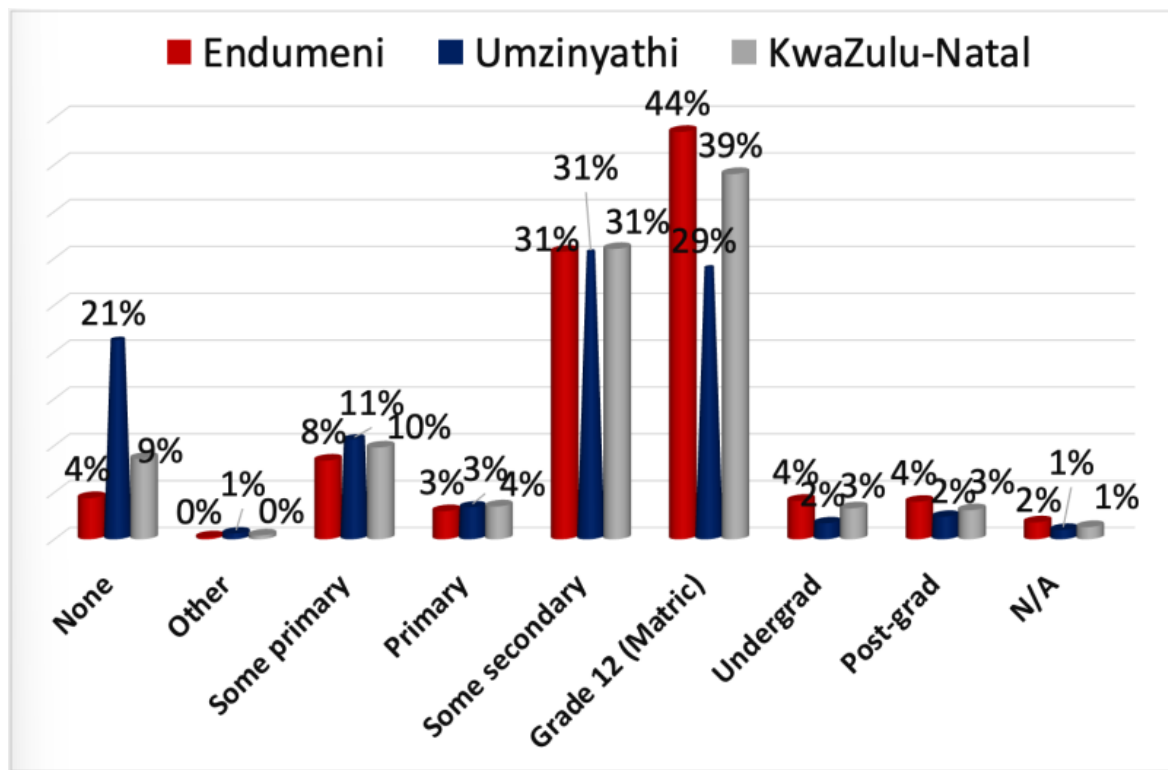


Table 14: Comparative Education Levels

### Employment/ unemployment

Turning to employment, consistent with the national economy, the formal sector is the largest employer in Endumeni, employing three quarters of the labour force. Comparatively, this is a higher percentage than in both the district and the province. The informal economy in Endumeni only employs paltry 10.3%, much lower than the district (18.5%) and province (12.6%). This should be an opportunity for the Endumeni municipality to consider SMME support interventions, or business incubation programmes aimed at achieving SMME growth and expansion. Globally, and particularly in the continent, SMMEs provide the highest percentage of employment. South Africa remains an outlier in this context. The trend of increasing numbers of unemployed labour force could be reversed through SMME support.

	Endumeni		uMzinyathi		KwaZulu-Natal	
<b>Do not know</b>	1,60%	242	2%	1,045	2,70%	56,548
<b>In the formal sector</b>	77,10%	11,988	70%	36,377	75,90%	1,583,687
<b>In the informal sector</b>	10,30%	1,601	18,50%	9,594	12,60%	262,032
<b>Private household</b>	11,10%	1,72	9,50%	4,955	8,80%	184,527

Figure 33: 3 Employment by Sector

Similar to the rest of South Africa, -and particularly urban areas- unemployment rate has increased steadily from 26% in 2015 to 32% in 2020. The impact of the pandemic on employment is yet to be fully realised. However, early indications suggest that Endumeni is likely to reach 38% unemployment by 2026.

#### **b) Description of the current land uses.**

The locality and extent of current land use within and around the prospecting right area is shown in the figure below. The surrounding land uses are associated with cultivated land, wetland built up area, and bare land. The land use in the proposed project area is entirely dominated by natural vegetation.

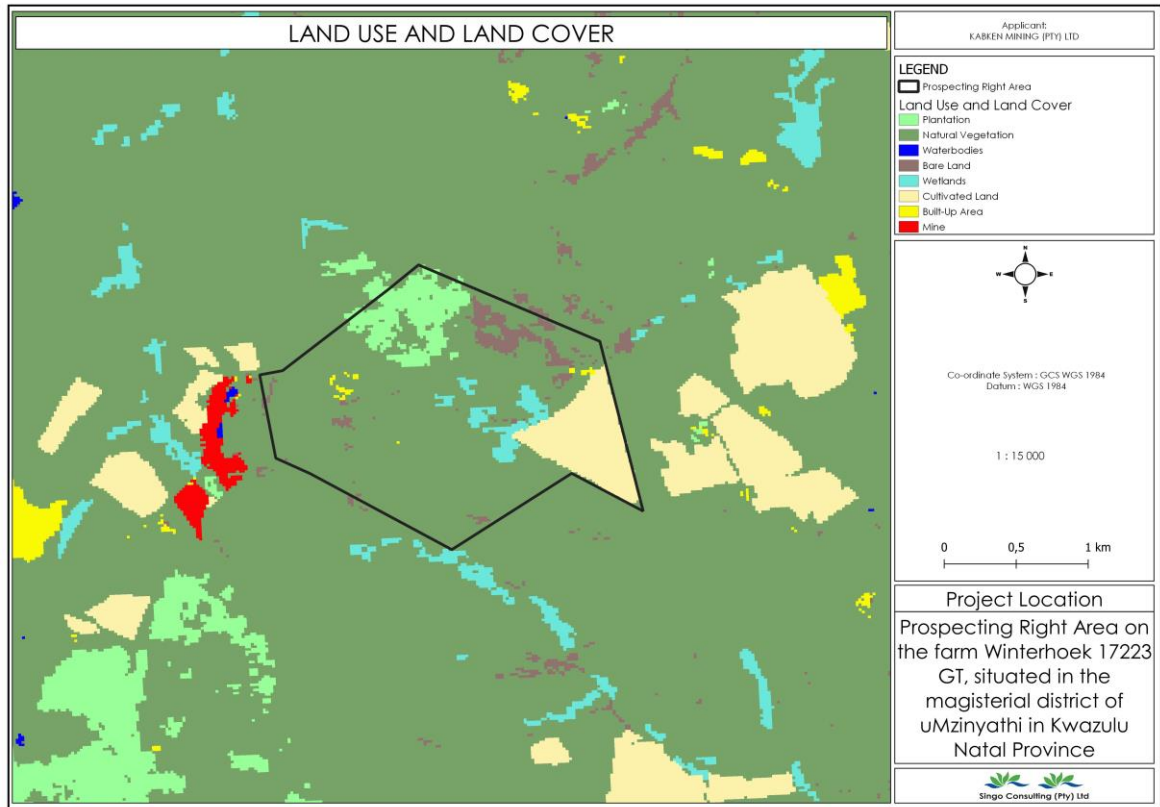


Figure 34: Land use Map of the area of interest.



Photo 3: Land usage images.

Like anywhere in SA, there is no doubt that the gross poverty and inequality in UMhlatuze will lead to people seeking jobs from these operations. The project area could just be a walking distance to seek for Employment to someone eagerly seeking for job. Combined with this landscape of poverty and inequity, the harsh reality of the double family burden carried by many black people in South Africa - together with lack of job creation by our government, will further inspire people to go to the forefront of the strike wave around the proposed area.

**c) Description of specific environmental features and infrastructure on the site.**

Drainage lines, wetlands, rivers and streams, homesteads, roads, cemeteries, water reservoirs, Eskom servitudes, telephone lines, bridges, a communication tower and various buildings occur within the proposed prospecting area. These features have been verified and updated during the Public Participation Process. They should be avoided during invasive prospecting and where avoidance is not possible, impacts must be appropriately managed and remedied.



Photo 4: Infrastructures on and around the site.

## 11. Impact Assessment

**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).

Table 15: Impact Assessment Table

ACTIVITIES	POTENTIAL IMPACT	Extent of impact	Duration of impact	Intensity of impact	Probability of occurrence of impact	SIGNIFICANCE if not mitigated
Vegetation clearance for establishment of drill sites	Removal of / damage to natural vegetation	2	2	1	4	16
Vegetation clearance for establishment of drill sites	Disturbance of riparian habitats, riverbanks or wetland	1	3	3	3	27
Vegetation clearance for establishment of drill sites	The stripping of soil, incorrect stockpiling, erosion and storm water run-off can lead to the loss of topsoil	1	3	3	2	18
Vegetation clearance for establishment of drill sites	Changes to the shape or form of the land	1	1	1	2	2
Vegetation clearance for establishment of drill sites	Impact on current land use	1	1	3	2	6
Vegetation clearance, Site establishment, Drilling activities & movement of people and equipment on site	Destruction of cultural heritage sites and artefacts	3	5	3	1	135
Vegetation clearance for establishment of drill sites	Dust pollution	2	1	3	4	24
Vegetation clearance for establishment of drill sites	Storm water run-off from cleared areas could lead to siltation of surface water	2	2	3	2	24
Workers & material on site	Contamination of soils through spills from sanitation facilities & litter	1	1	2	4	8
Workers & material on site	Fire Hazards	2	3	3	3	54

ACTIVITIES	POTENTIAL IMPACT	Extent of impact	Duration of impact	Intensity of impact	Probability of occurrence of impact	SIGNIFICANCE if not mitigated
Workers & material on site	Collection of firewood, damage to property	2	2	3	2	24
Workers & material on site	Contribution to the economy through employment	2	1	3	4	POSITIVE
Workers & material on site	Spread of HIV/Aids to farm workers and local community	2	4	3	2	48
Use of heavy machinery & vehicles on site for drilling	Resource consumption (diesel - non-renewable resource)	2	3	2	2	24
Use of heavy machinery & vehicles on site for drilling	Contamination of soils through hydrocarbon leaks and spills from machinery & equipment	1	2	3	3	18
Use of heavy machinery & vehicles on site for drilling	Use of groundwater for drilling activities	2	1	3	3	18
Use of heavy machinery & vehicles on site for drilling	Contamination of surface water through hydrocarbon leaks and spills from machinery & equipment	2	3	3	2	36
Use of heavy machinery & vehicles on site for drilling	Contamination of groundwater through hydrocarbon leaks and spills from machinery & equipment	2	3	3	1	18
Use of heavy machinery & vehicles on site for drilling	Compaction of soils through movement of heavy vehicles and machinery on site	1	1	2	4	8



ACTIVITIES	POTENTIAL IMPACT	Extent of impact	Duration of impact	Intensity of impact	Probability of occurrence of impact	SIGNIFICANCE if not mitigated
Use of heavy machinery & vehicles on site for drilling	Damage to vegetation	1	2	3	4	24
Use of heavy machinery & vehicles on site for drilling	Release of gaseous emissions	2	2	3	3	36
Use of heavy machinery & vehicles on site for drilling	Dust Fallout	2	1	3	4	24
Use of heavy machinery & vehicles on site for drilling	Increase in ambient noise levels	2	1	3	4	24
Use of heavy machinery & vehicles on site for drilling	Visual intrusion	1	1	2	4	8
Use of heavy machinery & vehicles on site for drilling	Disturbance of fauna species in the vicinity	2	2	3	4	48
Use of heavy machinery & vehicles on site for drilling	Release of methane gas from exploration boreholes	2	2	2	4	32
Use of heavy machinery & vehicles on site for drilling	Cross-contamination of aquifers due to borehole construction	3	3	4	2	72
Use of heavy machinery & vehicles on site for drilling	Proliferation of invasive plant species	1	3	3	4	36
<b>Closure</b>						
Concurrent rehabilitation	Reducing soil compaction of disturbed area and access roads to improve drainage and control erosion	1	4	1	4	POSITIVE
Concurrent rehabilitation	Use stockpiled topsoil to close sumps	1	5	3	4	POSITIVE
Close drill hole	Restoration of land use and land capability	1	3	2	3	POSITIVE

## **Impact Assessment Methodology**

### **i. 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 in order to decide the extent to which the initial site layout needs revision).

The potential impacts listed were assessed and determined for all activities associated with the different phases of the project (construction, operation and decommissioning).

In order to determine the significance of an activity each activity was rated. The following parameters were used:

#### **1. Extent of impact (E)**

1 = Site specific - Extending only as far as the activity, or limited to the site and its immediate surroundings

2 = Regional - Will have an impact on the region. A development can often have a regional impact on Biodiversity. Example: if a feeding site for birds or mammals is destroyed, the population might leave the area or go extinct if they don't find other suitable areas.

3 = National - Will have an impact on a national scale - particularly if an ecosystem or species of national significance is affected

4 = International - Will have an impact across international borders or will impact on an ecosystem or species of international significance

#### **2. Duration of impact (D)**

1 = Short term (0-5 years)

2 = Medium term (5-15 years)

3 = Long term (16-30 years) - Impact will cease after the operational or working life of the activity, either due to natural process or by human intervention

4 = Discontinuous or intermittent - Impact may only occur during specific climatic conditions or during a particular time of year

5 = Permanent - Impact will be where mitigation or moderation by natural process or by human intervention will not occur in such a way or in such a time span that the impact can be considered transient or temporary

**3. Intensity of impact (I)**

1 = Low Impact - Affects the environment in such a way that natural, cultural and soil functions and processes are not affected

2 = Medium Impact - Affected environment is altered by natural, cultural and soil functions and processes continue although in a modified way

3 = High Impact - Natural, cultural or social functions or processes are altered to the extent that they will temporarily or permanently cease

**4. Probability of impact occurring (P)**

1 = Improbable – Low likelihood

2 = Probable – Distinct possibility

3 = Highly probable – Most likely

4 = Definite - Impact will occur regardless of any prevention measures

**5. Criteria of assigning significance to potential impacts**

Significance is determined by means of the following calculation:

Extent of Impact X Duration of Impact X Intensity of Impact X Probability of Occurrence of Impact = **SIGNIFICANCE**

Significance determination criteria

**Extent of Impact**

**Duration of Impact**

Site Specific	1	Short term	1
Regional	2	Medium term	2
National	3	Discontinuous	3
International	4	Long term	4
		Permanent	5

**Intensity of Impact**

**Probability of Occurrence of Impact**

Low	1	Improbably (low likelihood)	1
Medium	2	Probable (Distinct possibility)	2
High	3	Highly probable (Most likely)	3
		Definite	4

**SIGNIFICANCE**

High	<b>73 - 240</b>
Medium	<b>36 - 72</b>
Low	<b>1 - 35</b>

**ii. 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)

**1. Positive Impact associated with the proposed Prospecting:**

- Employment contributing to the economy.
- Concurrent rehabilitation during prospecting

**2. Negative Impacts associated with the proposed prospecting:**

- Destruction of cultural heritage sites and artefacts
- Loss of soil resources
- Change of current land use
- Removal / damage of natural vegetation
- Damage to sensitive biodiversity areas
- Disturbance of, riparian habitats & non-perennial river
- Contamination of surface water
- Impact on current land use
- Contamination of soils
- Air Quality Impact (Dust)
- Litter
- Disturbance of important bird species and fauna in the vicinity

### **Mitigation Measures**

**iii. 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).

Mitigation measures were identified for all possible impacts even though the destruction of heritage resources is considered a high impact, therefore heritage sites will not be drilled if they are found on site.

Table 16: Impact and Mitigation measures

ACTIVITIES	POTENTIAL IMPACT	MITIGATION MEASURES
Vegetation clearance for establishment of drill sites	Removal of / damage to natural vegetation	1) Boreholes and access tracks will be located in areas that will result in minimal ground disturbance. 2) Permission will be obtained from landowners before trees are felled. 3) Where an access road is needed, the relevant occupant and owner will be consulted prior to the development of that access to ensure that consensus is reached on the matter and the access will be rehabilitated at the end of the drilling programme. 4) Vegetation clearance will be limited to 0.06 ha per drill hole
Vegetation clearance for establishment of drill sites	Disturbance of riparian habitats or riverbanks	1) During the planning phase for each borehole, wetlands, rivers and/or streams will be identified. The prospecting programme will be designed to avoid to leave a buffer zone of 500 m from rivers & streams. 2) Rivers & Streams will not be crossed, accessed, drained, dredged or filled during prospecting. 3) Areas of ecological significance will be avoided and if disturbance is required, it will be undertaken in accordance with legislation.
Vegetation clearance for establishment of drill sites	The stripping of soil, incorrect stockpiling, erosion and storm water run-off can lead to the loss of topsoil	1) Topsoil will be stripped to a depth of 250 mm from all disturbed areas and stored outside the 1:50 year flood levels of rivers and streams, within the firebreak area. 2) Topsoil will be adequately protected from being blown away or being eroded. 3) Boreholes and access tracks will be located in areas that will result in minimal ground disturbance.
Vegetation clearance for establishment of drill sites	Changes to the shape or form of the land	1) During the planning phase for each borehole, specific controls will be identified and implemented, based on site conditions.
Vegetation clearance for establishment of drill sites	Impact on current land use	1) Land disturbed will be rehabilitated to a stable and permanent form suitable for subsequent land use. 2) Exact location of drill holes and new access routes will be determined through communication with landowner
Vegetation clearance, Site establishment, Drilling activities & movement of people and equipment on site	Destruction of cultural heritage sites and artefacts	1) Requirements of SAHRA will be adhered to 2) Potential heritage sites will be identified during the planning phase to ensure that such areas are avoided. Each prospecting site will be visited prior to any work starting to identify possible heritage sites. 3) Prospecting activities will be kept away from excluded and exempted areas. 4) Where boreholes are sited in proximity to heritage sites and depending on the proximity to the drilling site, appropriate measures such as flagging, pegging or installation of temporary fencing will be undertaken to ensure that the site is not impacted on during prospecting.

ACTIVITIES	POTENTIAL IMPACT	MITIGATION MEASURES
Vegetation clearance for establishment of drill sites	Dust pollution	1) Dust will be effectively controlled in all areas cleared from vegetation through water spraying.
Vegetation clearance for establishment of drill sites	Storm water run-off from cleared areas could lead to siltation of surface water	1) Controls will be aimed at minimizing erosion and sediment washing from drill pads, access roads and other disturbed areas. 2) Sediment and erosion controls will be designed to prevent runoff from the prospecting site into rivers & streams. 3) Sediment and erosion controls may include cut-off trenches and drains, culverts for tracks, silt fences, rock armoring or mulching.
Workers & material on site	Contamination of soils through spills from sanitation facilities & litter	1) A chemical toilet will be used on site during prospecting and will be used in such a way as to prevent water pollution. The use of a chemical toilet will be undertaken in consultation with the landowner. 2) Full or leaking toilets must be reported to the Supervisor for corrective action or replacement. 3) Prospecting areas will be maintained in a clean and tidy condition at all times. 4) All waste will be collected, separated and stored in properly constructed containers with lids and removed to an approved landfill or another site according to local municipal requirements. 5) Full waste bins must be reported to the Supervisor for collection and disposal at an approved landfill.
Workers & material on site	Fire	1) Vegetation around each exploration site within a 5m radius will be kept short to create a fire management zone. 2) Collection of firewood will not be allowed. 3) Open fires will be prohibited to people involved in prospecting. 4) No burning cigarettes or matches may be thrown down within the prospecting area. A bucket with sand will be provided for the disposal of cigarettes and matches. 5) No smoking will be allowed near gas, paints or fuel storage areas. 6) Suitable welding blankets are to be used when welding or operating grinders and this equipment is to be serviced regularly. 7) Rubbish or vegetation may under no circumstances be burnt. All waste will be removed off site and disposed of at an approved landfill.
Workers & material on site	Collection of firewood, damage to property	1) Collection of firewood will not be allowed. 2) Only one drill site at any given time. All employees present at the one drill site with appropriate supervision 3) Complaints and outcomes of subsequent investigations will be recorded in a Complaints Register in the format of a spreadsheet. 4) If damage to private property occurs as a result of prospecting activities, such damage will be repaired or owners will be compensated as appropriate.

ACTIVITIES	POTENTIAL IMPACT	MITIGATION MEASURES
Workers & material on site	Contribution to the economy through employment	<p>1) Due to the nature of prospecting, employment opportunities will be minimal. The prospecting crew is small (10 people) with specialised skills. Were possible, local people will however be employed during the project.</p> <p>2) Local people and businesses with appropriate skills will be identified and included in the project tender process. The applicant is committed to employ local people and businesses during the project, where possible.</p>
Workers & material on site	Spread of HIV/Aids to farm workers and local community	<p>1) Due to the nature of prospecting, employment opportunities will be minimal. The prospecting crew is small (10 people) with specialised skills. Were possible, local people will however be employed during the project.</p> <p>2) No employees will be permitted to stay on site.</p> <p>3) Aids awareness talks</p>
Use of heavy machinery & vehicles on site for drilling	Resource consumption (diesel - non-renewable resource)	<p>1) Vehicles and equipment to be serviced regularly and maintained in good working condition</p>
Use of heavy machinery & vehicles on site for drilling	Contamination of soils through hydrocarbon leaks and spills from machinery & equipment	<p>1) All chemicals, fuels and oils to be stored on site will be appropriately banded.</p> <p>2) Precautions will be taken to prevent spills and soil contamination.</p> <p>3) Material Safety Data Sheets for the item(s) spilled will be consulted for information concerning clean-up requirements to ensure correct clean-up procedure.</p> <p>4) Any contaminated soil will be collected into non-permeable bags and disposed of to an approved landfill site.</p>
Use of heavy machinery & vehicles on site for drilling	Use of groundwater for drilling activities	<p>1) Existing water supply locations will be identified for use and agreements will be reached with landowners regarding on-site water use. The drilling rig will require approximately 2,000l/day. Where a suitable water supply is not available, water will be sourced from a commercial supplier and delivered to site by water tanker.</p> <p>2) If required, a water use license will be applied for to DWS for the abstraction of surface- and/or groundwater during prospecting.</p> <p>3) Adequate provision will be made for storing drinking water on site in the form of 2500 litre plastic water tanks.</p>
Use of heavy machinery & vehicles on site for drilling	Contamination of surface water through hydrocarbon leaks and spills from machinery & equipment	<p>1) The drilling fluid that will be used during prospecting must be biodegradable and not pose a water pollution threat.</p> <p>2) Drilling sumps and containment measures will be designed to contain all drilling fluid.</p> <p>3) Material Safety Data Sheets for the item(s) spilled will be consulted for information concerning clean-up requirements to ensure correct clean-up procedure.</p> <p>4) Any contaminated soil will be collected into non-permeable bags and disposed of to an approved landfill site.</p>

ACTIVITIES	POTENTIAL IMPACT	MITIGATION MEASURES
		5) Drill sites to be located 100 m from rivers & stream
Use of heavy machinery & vehicles on site for drilling	Contamination of groundwater through hydrocarbon leaks and spills from machinery & equipment	1) Machinery and equipment will only be maintained over a drip tray, a thin concrete slab or a PVC lining to prevent soil and water contamination. 2) No vehicle will be extensively repaired on site. 3) Material Safety Data Sheets for the item(s) spilled will be consulted for information concerning clean-up requirements to ensure correct clean-up procedure. 4) Any contaminated soil will be collected into non-permeable bags and disposed of to an approved landfill site.
Use of heavy machinery & vehicles on site for drilling	Compaction of soils through movement of heavy vehicles and machinery on site	1) Stay on predefined areas and routes. 2) Scarify access roads and stockpile areas to a depth of 500 mm and restore topsoil cover. 3) Re-seed or plant vegetation indigenous to the area.
Use of heavy machinery & vehicles on site for drilling	Damage to vegetation	1) Vehicles will only stay on dedicated roads (turning circles). 2) No movement of heavy machinery outside dedicated routes. 3) All routes and turning circles will be scarified and re-seeded with seeds from vegetation indigenous to the area.
Use of heavy machinery & vehicles on site for drilling	Release of gaseous emissions	1) Vehicles and equipment will be maintained in a good working order.
Use of heavy machinery & vehicles on site for drilling	Dust Fallout	1) Speed limits on gravel roads will be 40km/hr to minimise dust and noise generation. 2) Dust will be effectively controlled in all disturbed areas through water spraying.
Use of heavy machinery & vehicles on site for drilling	Increase in ambient noise levels	1) Speed limits on gravel roads will be 40km/hr to minimise dust and noise generation. 2) Prospecting activities will be restricted today light hours.
Use of heavy machinery & vehicles on site for drilling	Visual intrusion	1) Only one site to be drilled at any one time 2) Concurrent rehabilitation
Use of heavy machinery & vehicles on site for drilling	Disturbance of fauna species in the vicinity	1) Prospecting activities will be kept away from excluded and exempted areas. 2) A field survey will be undertaken before drilling commences at each drilling site to confirm that no threatened species, ecologically sensitive areas or conservation areas are present in sections to be cleared. 4) One site to be drilled at a time. 5) Concurrent rehabilitation.
Use of heavy machinery & vehicles on site for drilling	Release of methane gas from exploration boreholes	1) Exploration boreholes are to be capped when no drilling work is being undertaken. 2) Exploration boreholes which will not be used during production to be sealed with cement once exploration work has been completed.
Use of heavy machinery &	Cross-contamination of	1) For the purpose of future monitoring programmes, impact assessments and



ACTIVITIES	POTENTIAL IMPACT	MITIGATION MEASURES
vehicles on site for drilling	aquifers due to borehole construction	concurrent rehabilitation, the depth of water strikes will be recorded during exploration drilling. 2) The static groundwater level will be monitored in prospecting boreholes that intersected water after completion and before concurrent rehabilitation for future monitoring, impact assessment and concurrent rehabilitation purposes. 3) Any completed hole that is not required for groundwater monitoring, will be sealed to prevent groundwater contamination.
Use of heavy machinery & vehicles on site for drilling	Proliferation of invasive plant species	1) Machinery will be cleared of dust/mud and seed prior to relocation to the next site to prevent the spread of alien invasive species.
<b>Closure</b>		
Concurrent rehabilitation	Reducing soil compaction of disturbed area and access roads to improve drainage and control erosion	1) Remaining refuse, chemicals, fuels and waste materials will be removed from the site following the completion of the prospecting programme. Such waste will be disposed of to an approved landfill. 2) Erosion and sediment controls as well as the disturbed area will be rehabilitated 3) An inspection on whether there is evidence of weeds or pest invasion as a result of prospecting activities will be undertaken and appropriate remediation actions will be implemented as required.
Concurrent rehabilitation	Use stockpiled topsoil to close sumps	1) Scarify access roads and stockpile storage areas to a depth of 500 mm. 2) Restore topsoil cover. 3) Re-seed or plant vegetation indigenous to the area.
Close drill hole	Restoration of land use and land capability	1) Exploration boreholes are to be capped when no drilling work is being undertaken. 2) Exploration boreholes which will not be used during production to be sealed with cement once exploration work has been completed.

**iv. Motivation where no alternative sites were considered.**

The location of the property is in an area where the geological formation that is known to host the desired mineralisation.

**v. Statement motivating the alternative development location within the overall site.**

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

This is an application for prospecting without bulk sampling where a total of 10 holes will be drilled at locations determined by the geology of the site. Drill holes will be located at least 500 meters from any watercourse and 100m away from formal or informal dwelling or building structure.

**vi. 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 are 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.)

Please refer to Tables 17.

**a) 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 17: Significant and Impact risk

NAME OF ACTIVITY	POTENTIAL IMPACT (Including the potential impacts for cumulative impacts)	ASPECTS AFFECTED	PHASE In which impact is anticipated	SIGNIFICANCE if not mitigated					MITIGATION TYPE (Modify, remedy, control, or stop) Through	SIGNIFICANCE if mitigated
				EXTENT	INTENSITY	DURATION	PROBABILITY	RATING		
<p>(E.g. For prospecting - drill site, site camp, ablution facility, accommodation, equipment storage, sample storage, site office, access route etc...etc...etc</p> <p>(E.g. For mining, - excavations, blasting, stockpiles, discard dumps or dams, Loading, hauling and transport, Water supply dams and boreholes, accommodation, offices, ablution, stores, workshops, processing plant, storm water control, berms, roads, pipelines, power lines, conveyors, etc...etc...etc.)</p>	<p>(E.g. dust, noise, drainage surface disturbance, fly rock, surface water contamination, groundwater contamination, air pollution etc.... etc...)</p>		<p>(E.g. Construction, commissioning, operational, Decommissioning, closure, post closure)</p>						<p>(E.g. noise control measures, storm-water control, dust control, rehabilitation, design measures, blasting controls, avoidance, relocation, alternative activity etc. etc)</p> <p>(E.g. Modify through alternative method. Control through noise control. Control through management and monitoring through rehabilitation)</p>	

<b>Site establishment activities</b> _ Vegetation clearance - Topsoil stripping & stockpiling  _ Drill pad compaction _ Erection of office, toilets, fuel storage (if not by road tanker), water tanker, core storage _ Vehicle movements _ Waste management	Cultural and Heritage (-ve)	Destruction or loss of Cultural and Heritage Resources: No cultural/heritage artefacts have been identified on site	Construction / Set_up	1	1	1	Improbable	3 (Very Low)	<ul style="list-style-type: none"> <li>If concentrations of archaeological heritage material and human remains are uncovered during construction, all work must cease immediately.</li> <li>The find must be reported to a heritage specialist so that systematic and professional investigation/ excavation can be undertaken.</li> </ul>	Negligible
	Noise (-ve)	Noise Generation	Construction / Set_up	1	3	1	Definite	5 (Low)	<ul style="list-style-type: none"> <li>Construction/setup, operational and decommissioning activities will be limited to daylight hours on Mondays to Saturdays and no activities on Sundays and public holidays;</li> <li>Separation of distance of minimum 500m, but preferably 1000m to be maintained between drill sites and dwellings;</li> <li>Noise abatement equipment, such as mufflers on diesel engines, will be maintained in good condition; and</li> <li>If intrusive noise levels are experienced by any person at any point, the source of the noise will be</li> </ul>	3 (Very Low)
<b>NAME OF ACTIVITY</b>	<b>POTENTIAL IMPACT</b>	<b>ASPECTS AFFECTED</b>	<b>PHASE</b>	<b>SIGNIFICANCE</b> if not mitigated				<b>MITIGATION TYPE</b> (modify, remedy, control, or stop)	<b>SIGNIFICANCE</b> if mitigated	

			In which impact is anticipated	EXTENT	INTENSITY	DURATION	PROBABILITY	RATING	Through	
<p><b>(E.g. For prospecting -</b> drill site, site camp, ablution facility, accommodation, equipment storage, sample storage, site office, access route <b>etc...etc...etc</b></p> <p><b>(E.g. For mining,-</b> excavations, blasting, stockpiles, discard dumps or dams, Loading, hauling and transport, Water supply dams and boreholes, accommodation, offices, ablution, stores, workshops, processing plant, storm water control, berms, roads, pipelines, power lines, conveyors, etc...etc...etc.)</p>	<p>(Including the potential impacts for cumulative impacts)</p> <p>(E.g. dust, noise, drainage surface disturbance, fly rock, surface water contamination, groundwater contamination, air pollution etc.... etc...)</p>		<p>(E.g. Construction, commissioning, operational, Decommissioning, closure, post closure)</p>						<p>(E.g. noise control measures, storm-water control, dust control, rehabilitation, design measures, blasting controls, avoidance, relocation, alternative activity etc. etc)</p> <p>(E.g. Modify through alternative method. Control through noise control. Control through management and monitoring through rehabilitation)</p>	
									<p>moved if practical, or it will be placed in an acoustic enclosure, or an acoustic barrier will be erected between the source and the recipient.</p>	
Visual (-ve)	Visual intrusion		Construction / Set-up	1	3	1	Definite	5 (Low)	<ul style="list-style-type: none"> <li>The drilling rig and other visually prominent items on the site will be located in consultation with the landowner;</li> <li>Make use of existing vegetation as far as possible to screen the prospecting operations from view; and</li> <li>If necessary, the operations can be screened from view by erecting a shade cloth barrier.</li> </ul>	3 (Very Low)

	Traffic (-ve)	Increase in traffic volumes in the vicinity of the drilling site	Construction / Set_up	1	2	1	Probable	4 (Very Low)	<ul style="list-style-type: none"> <li>Traffic signs to be put around the site to notify motorist of the activities</li> <li>Construction vehicles to make trips on/off site only when necessary</li> <li>Construction vehicles to adhere to local speed limits as far as possible when driving in around site</li> </ul>	3 (Very Low)
	Dust fall (-ve)	Dust fall & nuisance from activities	Construction / Set_up	2	3	1	Definite	6(Medium)	<ul style="list-style-type: none"> <li>Wet suppression should be applied to ensure that no visible dust is raised by any of the prospecting operations;</li> <li>Separation of distance of minimum 500m, but preferably 1000m to be maintained between drill sites and dwellings; and</li> <li>Low vehicle speeds will be enforced on unpaved surfaces.</li> </ul>	3 (Very Low)
	Soil and	The potential	Construction /	1	3	2	Definite	6	The soil disturbance and clearance of vegetation at	5(Low)
NAME OF ACTIVITY	POTENTIAL IMPACT	ASPECTS AFFECTED	PHASE	SIGNIFICANCE if not mitigated			MITIGATION TYPE (modify, remedy, control, or stop)			SIGNIFICANCE if mitigated

<p><b>(E.g. For prospecting -</b> drill site, site camp, ablution facility, accommodation, equipment storage, sample storage, site office, access route <b>etc...etc...etc</b></p> <p><b>(E.g. For mining,-</b> excavations, blasting, stockpiles, discard dumps or dams, Loading, hauling and transport, Water supply dams and boreholes, accommodation, offices, ablution, stores, workshops, processing plant, storm water control, berms, roads, pipelines, power lines, conveyors, etc...etc...etc.)</p>	<p>(Including the potential impacts for cumulative impacts)</p> <p>(E.g. dust, noise, drainage surface disturbance, fly rock, surface water contamination, groundwater contamination, air pollution etc.... etc...)</p>		<p>In which impact is anticipated</p> <p>(E.g. Construction, commissioning, operational, Decommissioning, closure, post closure)</p>	EXTENT	INTENSITY	DURATION	PROBABILITY	RATING	<p>Through</p> <p>(E.g. noise control measures, storm-water control, dust control, rehabilitation, design measures, blasting controls, avoidance, relocation, alternative activity etc. etc)</p> <p>(E.g. Modify through alternative method. Control through noise control. Control through management and monitoring through rehabilitation)</p>	
	Vegetation (-ve)	impact of the proposed prospecting on the vegetation would occur at proposed drilling sites and the access routes used to get to these sites.	Set_up					(Medium)	<p>drill pad areas will be limited to the absolute minimum required;</p> <ul style="list-style-type: none"> <li>• No clear scraping (dozing) be carried out unless absolutely necessary to establish a level drill pad.</li> <li>• Rather that surface vegetation is cleared to make way for the drilling rig leaving the roots intact so that vegetation can coppice and regrow; and •</li> </ul> <p>Disturbed areas will be re-vegetated with locally indigenous species as soon as possible.</p>	

	Animal life (-ve)	Animal life will be affected in the immediate vicinity of the drilling rig. It is anticipated that the noise and general activity will keep the animal life away from the site while the prospecting is ongoing.	Construction/ Set_up	1	3	2	Definite	6 (Medium)	<ul style="list-style-type: none"> <li>Environmental awareness training sessions should be part of the workers' induction and site workshops; and</li> <li>If any animals are encountered, they must not be killed or injured, but should rather be removed or chased away from the site with the assistance of an animal specialist</li> </ul>	5 (Low)
	Social (-ve)	Friction between local residents/land	Construction / Set_up	1	2	2	Definite	5 (Low)	<ul style="list-style-type: none"> <li>All operations will be carried out under the guidance of a strong, experienced manager with proven skills in public consultation and conflict resolution;</li> <li>All prospecting personnel will be made aware of the</li> </ul>	4 (Very Low)



## **12. 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)

### **Potential impact on heritage resources**

Graves were spotted within the proposed area. To ensure that graves are not disturbed a buffer will be implemented, and workers will be well trained to make sure that they do not disturb the graves in the proposed prospecting area. The area has been extensively used for agriculture in the past. The prospecting is so localised that it is not anticipated that there will be any impact on heritage resources. The major activity involved drilling and it is going to be done along current access routes.

### **Potential impacts on communities, individuals, or competing land uses in close proximity**

The following impacts are regarded as community impacts:

- Potential groundwater and soil pollution resulting from accidental hydrocarbon spills and soil erosion
- Noise during prospecting operations- There are residential housing within the 15 km radius from the prospecting sites therefore noise impact will be limited
- Influx of persons (job-seekers) to site as a result of increased activity and the possible resultant increase in opportunistic crime
- Creation of limited temporary jobs for locals. Impact on current land use: A large majority of the prospecting area is currently used for agricultural activities.

### **Potential impact of vegetation**

Prospecting site will be cleared to a maximum of 600m<sup>2</sup>. Therefore, vegetation clearance will be limited, and sites will be sited as to avoid large trees or shrubs. The site camp will be established at the existing farmhouses that are located near the farm therefore no vegetation clearance will be required. Existing access roads will be utilised.

### **13. 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).

This section contains guidelines, operating procedures and rehabilitation/pollution control requirements which will be binding on the holder of the prospecting right after approval of the Environmental Management Programme Report. It is essential that this area be carefully studied, understood, implemented and adhered to at all time.

The applicant shall ensure that this Environmental Management Programme Report is provided to the Project Manager and any other person or organisation who may work on the site. Kabken Mining (Pty) Ltd Development shall ensure that any person or organisation that works on the site complies with the requirements of this Environmental Management Programme Report.

#### **Responsibility**

- The environment affected by the prospecting operations shall be rehabilitated, as far as is practicable, to its existing state.
- The environment affected by prospecting shall be maintained in a stable condition that will not be detrimental to the safety and health of humans and animals.
- The prospecting shall not result in the pollution of the environment or lead to the degradation thereof.
- It is the responsibility of the Company to ensure that the Project Manager, Employees and contractors are capable of complying with all the statutory requirements which must be met in order to prospect, which includes the implementation of this EMPr.
- The Project Manager will be responsible for the practical implementation of this EMPr.

**Schedule**

Ongoing, during the prospecting period.

**Community relations**

The Company shall notify the landowner two weeks before prospecting operations commence. The notice shall include contact details for any complaints about the actual prospecting activities.

The Company shall keep a "Complaints Register" on site. The Register shall contain the contact details of the person who made the complaint, and information regarding the complaint itself. The Company shall respond to all complaints within seven days. Copies of all responses should be kept together with the Register.

**Layout Plan**

A copy of the layout plan as provided for in Regulation 2(2) must be available at the prospecting site for scrutiny when required.

**Schedule**

Ongoing, during the prospecting period.

**Workers**

Environmental awareness training must be provided to all workers. Workers will not be allowed to trespass onto neighbouring properties.

**Schedule**

Ongoing, during the prospecting period.

**Protection of flora and fauna**

Except to the extent necessary for carrying out the prospecting activities, flora shall not be removed, damaged or disturbed nor shall any vegetation be planted.

It is anticipated that the noise and general activity will keep the animal life away from the site whilst drilling is taking place. If animals are encountered during the prospecting operations, they must not be killed or injured. Trapping, poisoning and / or shooting of animals is strictly prohibited. No domestic pets are permitted on site.

**Schedule**

Ongoing, during the prospecting period.

**Road safety and access**

The access road to and routes in the prospecting area must be established in consultation with the landowner and existing roads and tracks shall be used as far as practicable. The erection of temporary gates in fence lines and the open or closed status of farm gates is not necessary as there is already existing fence and gates. No new roads are to be constructed on this site. Tracks across areas covered by natural vegetation will be kept to the absolute minimum required.

Employees must comply with all speed and traffic regulations on public roads and should not exceed 40km/hour on farm roads. Any changes should be communicated with the stakeholders, landowners and the departments affected.

**Schedule**

Ongoing, during the prospecting period.

**Water**

No water will be sources as the drilling method planned to be used is Core Diamond Drilling Method which has a truck fitted with a water tank that is used to provide the water supply for the drilling process. The drill site is not larger than 30m x 20m (600m<sup>2</sup>) and consists of a drill rig, water pump, caravan, and portable chemical toilet. No groundwater will be used or abstracted during the drilling programme.

**Schedule**

Ongoing, during the prospecting period.

**Office / Camp Site**

In order to minimise impacts in the prospecting area, no temporary office or camp site will be established. All employees will stay offsite. The employees will drive to the site every day when drilling operations are in progress.

A security company may be contracted to protect the drilling equipment overnight or over weekends if the drill contractors have a weekend off.

**Schedule**

Ongoing, during the prospecting period.

## **Vehicles and Fuel**

Vehicles will be kept to the absolute minimum required to complete the prospecting tasks. This will consist of 4WD vehicles (bakkies), a drilling rig, and a fuel bowser. All servicing and refuelling of the support vehicles will take place in town (i.e. outside of the prospecting area).

If emergency maintenance is required in the field, the Company must ensure that no pollution occurs. When servicing equipment, drip trays shall be used to collect the waste oil, hydraulic fluid and other lubricants. Drip trays shall be provided in the prospecting area for stationary plant (such as the drill rig).

Vehicles and equipment used in the prospecting operation must be adequately maintained so that no spillage of oil, diesel, petrol or hydraulic fluid occurs.

Only the drilling rig will need to be refuelled in the prospecting area. The surface under the refuelling point shall be protected against pollution by means of carefully placed drip trays. If any hazardous substances such as fuels and oils etc. are brought to the site and left overnight then they shall be securely stored in an open area with temporary fencing in a previously disturbed area. This area should be located on a facility with a PVC lining to prevent soil and groundwater pollution.

The Company shall ensure that there is always a supply of absorbent material available to absorb / breakdown / encapsulate minor hydrocarbon spills. The quantity of such materials shall be able to handle a minimum of a 200-litre hydrocarbon spill.

Used oil should be collected in a suitable container and this should then be removed from the site, either for resale or for recycling.

Any effluents or waste containing oil, grease or other industrial substances must be collected in a suitable container and removed from the site, either for resale, recycling or for appropriate disposal at a recognised facility.

**Schedule**

Ongoing, during the prospecting period.

**Toilet facilities**

Portable chemical toilets must be brought to the site during the Invasive Prospecting Phases (i.e. Drilling). These toilets must be serviced regularly.

**Schedule**

Ongoing, during the prospecting period.

**Waste management**

Biodegradable waste and non-biodegradable waste (e.g. glass bottles, plastic bags, metal scrap, etc.) shall be disposed of in different containers. All waste must be removed from the site on a daily basis and disposed of at a recognised waste disposal facility (e.g. nearest municipal waste site). Specific precautions shall be taken to prevent waste from being dumped on or in the vicinity of the prospecting site.

If any hazardous waste is generated, then this must be transported to a recognised waste disposal facility.

**Schedule**

Ongoing, during the prospecting period.

**Effluents**

Any effluents or waste containing oil, grease or other industrial substances must be collected in a suitable container and removed from the site, either for resale, recycling or for appropriate disposal at a recognised facility.

**Schedule**

Ongoing, during the prospecting period.

**Access to drill sites**

The project manager will flag the most appropriate access route to each drill site. Drill site access tracks shall be rehabilitated, as far as is practicable, to their original state. A map showing the proposed sites for the second phase of activity must be

submitted to the landowner for approval before the second phase of drilling commences.

### **Schedule**

Peg positions of borehole sites prior to commencement of drilling operations. Vehicle access requirements are ongoing, during each drilling phase.

### **Drilling**

The following procedures at each drilling site must be complied with:

- Every effort must be made to minimise the area needed at each drilling site.
- Vegetation should not be cut or trimmed unless essential.
- The area that was disturbed by the drilling operation at each site shall be rehabilitated, as far as is practicable, to its original state as soon as the drilling is completed.
- Photographs, for monitoring purposes, should be taken before drilling commences and after each drilling site has been rehabilitated. These photographs should be included in the required Performance Assessment Reports.

### **Schedule**

Ongoing, during the prospecting period.

### **Heritage Resources**

If any heritage resources, including graves or human remains, are encountered these should be reported to responsible authorities immediately.

### **Windblown sand and dust**

During prospecting operations all reasonable measures must be taken to minimise the generation of dust and to prevent windblown sand. These measures include:

- Removal or cutting of vegetation shall be avoided unless absolutely essential.
- Vehicles should not exceed 40 km/hour along farm roads.

**Schedule**

Ongoing, during the prospecting period.

**Noise**

The noise levels on the site should be limited by taking the following measures:

- Vehicles and equipment should be regularly maintained.
- Silencers should be installed and maintained on machinery, trucks and prospecting equipment.
- No loud music should be played in the prospecting area.

**Schedule**

Ongoing, during the prospecting period.

**Rehabilitation**

If the access tracks to the drill sites and the drill sites themselves result in new patches of exposed earth, then it will be necessary to re-establish a protective vegetative cover over these areas. This can be achieved by contracting labour to manually cut and prune branches from the local shrubs and spread these over the area to be rehabilitated. Seeds from these branches will fall onto the ground. The spread cut branches will hold the topsoil and sand in place (i.e. protect it from erosion), help to retain moisture in the soil and also initially protect the seedlings of germinating plants.

**Schedule**

Rehabilitation of the drilling sites – immediately after each drilling phase.

**Environmental Related Emergencies and Remediation**

The Company will operate on the principle that "prevention is better than cure" and so will institute procedures to reduce the risk of emergencies taking place. These will include ensuring that all contracts specify that the contractor is required to comply with all the environmental measures specified in this EMPR, environmental awareness training, on-going risk assessment and emergency preparedness.



## **Emergency telephone numbers**

All employees shall have the telephone numbers of emergency services, including the local ambulance and firefighting service. All employees must be made aware of procedures to be followed during the environmental awareness training course.

## **Fire**

The Company shall ensure that there is basic firefighting equipment available on Site at all times. This shall include at least two rubber beaters and at least one fire extinguisher. The Company shall advise the relevant authority of a fire as soon as one starts and shall not wait until the fire is out of control.

## **Hydrocarbon spills**

The Company shall ensure that all employees are aware of the procedures to be followed for dealing with hydrocarbon spills. The Company shall ensure that the necessary materials and equipment for dealing with hydrocarbon spills and leaks is available on Site at all times.

The Company shall ensure that there is always a supply of absorbent material readily available to absorb/ breakdown and where possible is designed to encapsulate minor hydrocarbon spillage. The quantity of such materials shall be able to handle a minimum of 200 l of hydrocarbon liquid spill.

There are a number of different products on the market, which can be used as absorbents and encapsulators of hydrocarbons. The following are examples of these products:

- *Spill-Sorb*
- Drizzt
- Enertech
- Peat Moss

In the event of a significant hydrocarbon spill, the following procedure is required:

- The source of the spillage shall be isolated.
- The spillage must be contained using sand berms, sandbags, pre-made booms, sawdust or absorbent materials.
- The area shall be cordoned off, secured and made safe.

- If a serious spill has occurred in a sensitive environment, then the Department of Environmental Affairs and Development Planning: Directorate Pollution & Waste Management must be notified.

Treatment and remediation of spill areas shall be undertaken to the satisfaction of the Project Manager. Remediation may include in-situ bioremediation using appropriate products (e.g. Enretech-1 and / or the removal of the spillage together with the contaminated soil and the disposal at a recognised facility.

#### **14. Motivation where no alternative sites were considered.**

Since exploration is temporary in nature no permanent structures will be constructed, Negotiations and agreements will be made with the farm owners to use any existing infrastructure like access roads and their farmhouses.

#### **15. Statement motivating the alternative development location within the overall site.**

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

As is clear from the information provided, each of the phases is dependent on the results of the preceding phase. The location and extent of drilling will be determined based on information derived from the desktop investigations and surveys. An estimated number and extent have been provided, but this will be finalised.

Since exploration is temporary in nature no permanent structures will be constructed, Negotiations and agreements will be made with the farm owner to use any existing infrastructure like access roads, farmhouses, and other things like coreshed.

**16. 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 are 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.)

In order to identify the potential impacts associated with the proposed prospecting activities the following steps were undertaken:

- Landowner and stakeholder consultation, Environmental assessment conducted for neighbouring projects.
- A detailed desktop investigation was undertaken to determine the environmental setting in which the project is located. Based on the desktop investigations various resources were used to determine the significance and sensitivity of the various environmental considerations. The desktop investigation involved the use of:
  - South African National Biodiversity Institute (SANBI) Biodiversity
  - Geographic Database LUDS system
  - Geographic Information System base maps
  - Municipal Integrated Development Plan and Spatial Development Framework.
- Site visits conducted in December 2020. The site visit was used to ground truth the desktop information.
- The rating of the identified impacts was undertaken in a quantitative manner as provided in this document. The ratings are undertaken in a manner to calculate the significance of each of the impacts. The EAP also assesses the outcomes of the calculation to determine whether the outcome reflects the perceived and actual views.
- The identification of management measures is done based on the significance of the impacts and measures that have considered appropriate and successful, specifically as Best Practical and Economical Options.

## 17. 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).

NAME OF ACTIVITY  (E.g. For prospecting – drill site, site camp, ablution facility, accommodation, equipment storage, sample storage, site office, access route <b>etc...etc...etc</b>  E.g. For mining,- excavations, blasting, stockpiles, discard dumps or dams, Loading, hauling and transport, Water supply dams and boreholes, accommodation, offices, ablution, stores, workshops, processing plant, storm water control, berms, roads, pipelines, power lines, conveyors, etc...etc...etc.)	POTENTIAL IMPACT  (Including the potential impacts for cumulative impacts)  (e.g. dust, noise, drainage surface disturbance, fly rock, surface water contamination, groundwater contamination, air pollution etc....etc...)	ASPECTS AFFECTED	PHASE  In which impact is anticipated  (e.g. Construction, commissioning, operational Decommissioning, closure, post-closure)	SIGNIFICANCE if not mitigated Pos High (+12-16), Pos Medium (+6 – 11), Pos Low (+1-5), No impact (0), Neg Low (-1-5), Neg Medium (-611), Neg High (-12-16)	MITIGATION TYPE  (modify, remedy, control, or stop) through (e.g. noise control measures, stormwater control, dust control, rehabilitation, design measures, blasting controls, avoidance, relocation, alternative activity etc. etc)  E.g. Modify through alternative method. Control through noise control Control through management and monitoring through rehabilitation..	SIGNIFICANCE if mitigated Pos High (+12-16), Pos Medium (+6 – 11), Pos Low (+15), No impact (0), Neg Low (-1-5), Neg Medium (-611), Neg High (-12-16)
Ground / Airborne Surveys	Poor access control	Loss of cattle	Phase 1	5	Access control measures Consultation with landowner	5
Data collection & assessment	None	Not applicable	Phase 2	0	No mitigation required	0
Data assessment	None	Not applicable	Phase 2	0	No mitigation required	0
Site Camp establishment	None	Not applicable	Phase 3	0	No mitigation required	0

Drilling	Noise	Animals and people	Prospecting Phase 3	7	Noise Control. Ensure vehicles and equipment and maintained. Silencers should be fitted on all engines.	5
Drilling	Surface Disturbance	Animals, Environment	Prospecting Phase 3	10	Rehabilitate each site as soon as the drilling is completed. Avoid significant vegetation such as trees and large shrubs Raised blade clearing will be conducted to minimize disturbance and aid rehabilitation efforts Fire emergency procedure will be developed to contain and minimise destruction of flora and faunal habitat which may result from fire	7
Driving	Air pollution	Animals, people,	Prospecting Phase 3	7	Establish EMPRr procedures to	5

		Environment			minimise the generation of dust. Ensure vehicles drive slowly. Comply with traffic regulations. Keep to speed limits. Ensure compliance with the EMPRr.	
Drilling	Ground water pollution	Animals, people	Prospecting Phase 3	Medium	Establish EMPRr procedures to minimise hydrocarbon spills.	Low
Accommodation and Site camp	Solid Waste	Animals, people and environment	Prospecting Phase 3	Low	Ensure compliance with the EMPRr. Include in environmental awareness training. Workers will not stay overnight at the site.	Low
Access roads	Soil compaction resulting from repeated use of access roads to drill sites	Loss of soil resources	Phase 3	9	Where track clearing is necessary, raised blade clearing be conducted to minimize disturbance and aid rehabilitation efforts As part of rehabilitation, all compacted	6

					roads and drill pads will be ripped and revegetated	
Access roads	Potential destruction of unknown heritage resources	Loss of Cultural and/or Heritage Significant	Phase 3	5	Prior to the establishment of access roads or drill pads, a heritage assessment will be conducted on the selecting drilling sites and access roads. It is anticipated that limited to no heritage resources will be found due to the areas altered and disturbed state	4
GIS & analytical desktop studies	None identified		Phase 4	0	No mitigation required	0

The supporting impact assessment conducted by the EAP must be attached as an appendix, marked **Appendix 3**

### 18. 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):-

LIST OF STUDIES UNDERTAKEN	RECOMMENDATIONS OF SPECIALIST REPORTS	SPECIALIST RECOMMENDATIONS THAT HAVE BEEN INCLUDED IN THE EIA REPORT (Mark with an X where applicable)	REFERENCE TO APPLICABLE SECTION OF REPORT WHERE SPECIALIST RECOMMENDATIONS HAVE BEEN INCLUDED.

BASELINE STUDIES WILL BE AVAILABLE UPON REQUEST

## **19. Environmental impact statement**

### **(i) Summary of the key findings of the environmental impact assessment.**

Most of the prospecting activities are non-invasive and hence will have very low to negligible environmental or social impact. The invasive activities that entail the drilling of approximately 15 exploration holes will have a minimal environmental and social impact as each drill site will be confined to an area of 0.96 hectares. This needs to be viewed in the context of the entire prospecting license area under application, which covers just 363.662Ha.

The proposed prospecting operation will not affect any existing alternative land uses on the property or on adjacent property or non-adjacent property. The following actions are subject to the proposed mitigation measures and require monitoring:

- The clearing of vegetation
- The storage of hydrocarbon-based materials on site
- On-site waste management
- The creation of roads/tracks
- The removal of storage and soil
- The traversing of vehicles through populated areas within the prospecting area
- Groundwater: Monitor the water quality of the boreholes
- Surface Water: Monitor water quality of the stream and stream flow

Monitoring of the required mitigation measures is to take place on site daily by the site geologist. Annual monitoring audits are to take place by an appointed independent environmental assessment practitioner to compile the required annual environmental compliance report required by the DMRE.

**(ii) Final Site Map**

Provide a map at an appropriate scale which superimposes the proposed overall activity and its associated structures and infrastructure on the environmental sensitivities of the preferred site indicating any areas that should be avoided, including buffers. Attached as **Appendix 4**

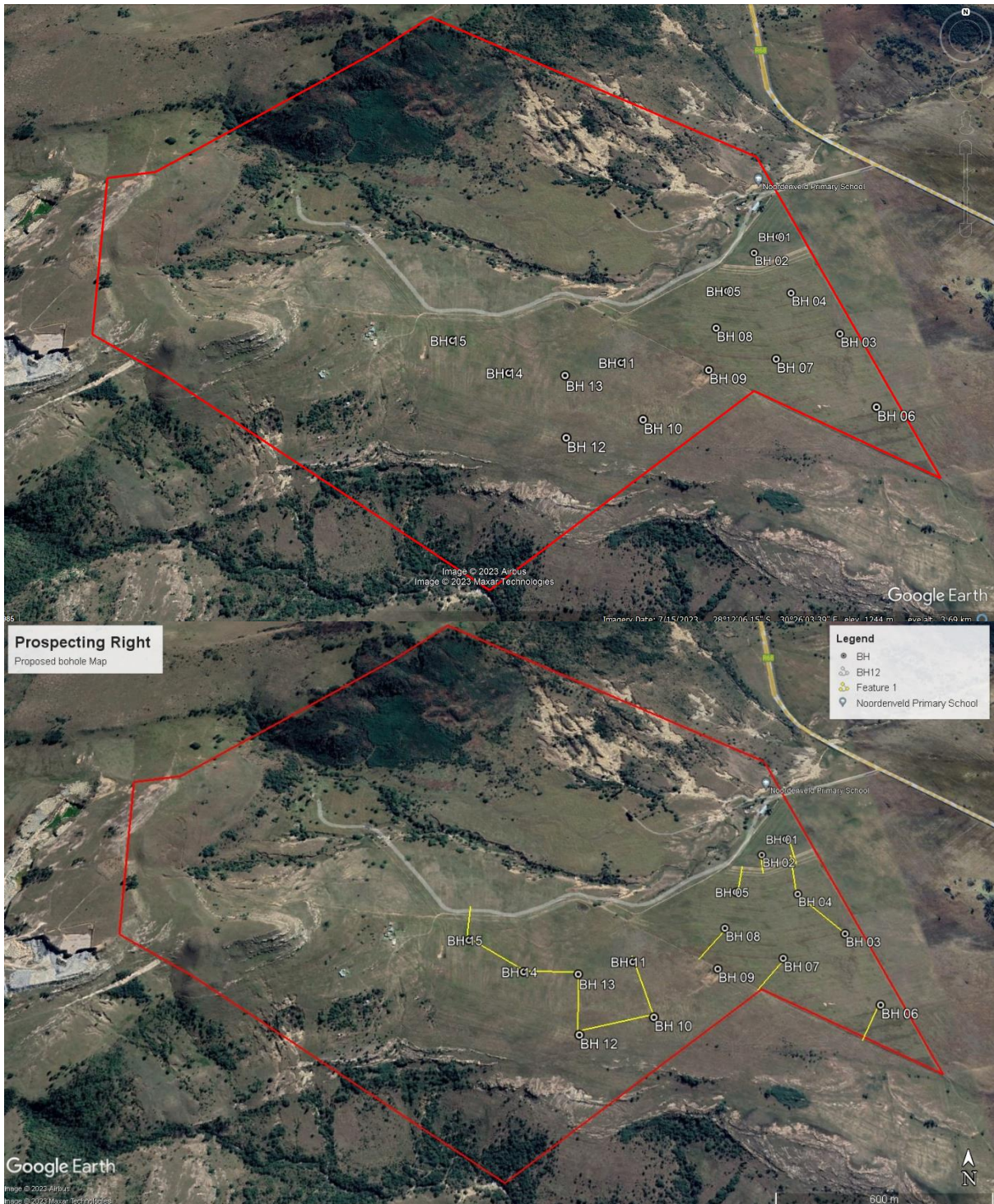


Figure 35: Proposed Borehole Map



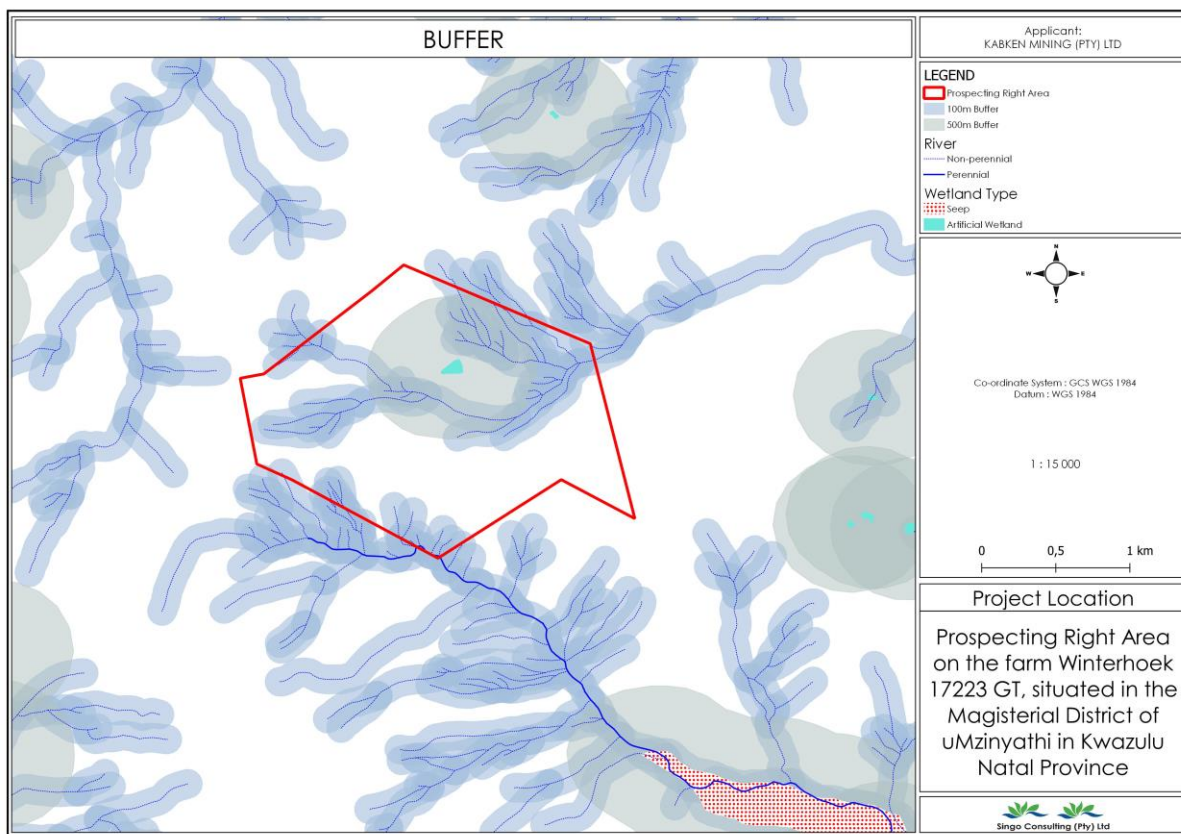


Figure 36: Buffer Map

(iii) **Summary of the positive and negative impacts and risks of the proposed activity and identified alternatives;**

Table 18: Summary of positive and negative impacts

Proposed Activity	Potential Impacts
Desktop Study	No impacts on site
Airborne / Ground Geophysics	<ul style="list-style-type: none"> <li>• Low impacts from short-term staff and vehicle access to the site,</li> <li>• interfering with the animal grazing paddocks</li> <li>• managing fences and gates</li> <li>• Livestock falling into dug trenches</li> <li>• Creation of EMPloyment</li> </ul>
Drilling	<ul style="list-style-type: none"> <li>• Access tracks</li> <li>• Disturbance of vegetation and topsoil</li> <li>• Oil &amp; fuel spills</li> <li>• Dust &amp; noise</li> <li>• Labour issues</li> <li>• Litter</li> <li>• Possible discovery of fossils</li> <li>• Creation of EMPloyment</li> </ul>

Sample processing / evaluation / decision making	No impacts on site.
Rehabilitation	Replacing topsoil, covering with brushwood etc

The proposed activities have very low significance since these are short term activities. The probability of occurrence of an impact was determined and most of these activities can be controlled and impacts can be reduced or avoided. Generally prospecting activities have low impact on the environment. The planned activities negative impacts can be controlled and avoided or minimised therefore the layout does not require revision. Mitigation measures will be used to control any potential impact.

## **20. 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 as to avoid unnecessary social and environmental impacts.
- Provide sufficient information and guidance to plan prospecting activities in a manner that would reduce impacts (both social and environmental) as far as practically possible.
- Ensure an approach that will provide the necessary confidence in terms of environmental compliance.
- Provide a management programme that is effective and practical for implementation. Through the implementation of the proposed mitigation measures it is anticipated that the identified social & environmental impacts can be managed and mitigated effectively. Through the implementation of the mitigation and management measures it is expected that:
  - Noise generation can be managed through consultation and restriction of n operating hours and by maintaining equipment and applying noise abatement equipment if necessary.
  - Dust fall can be managed by application of wet suppression 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.
- Animal life is protected and preserved at all times and the prospecting activities has minimal disturbance to the surrounding habitat.
- Social friction with landowners can be managed by regular engagement with the landowner and the entering into an access agreement with the landowner.

Monitoring of the required mitigation measures is to take place on site daily by the site geologist. Annual monitoring audits are to take place by an appointed independent environmental assessment practitioner to compile the required annual environmental compliance report required by the DMRE.

The Company will operate on the principle that “prevention is better than cure” and so will institute procedures to reduce the risk of emergencies taking place. These will include ensuring that all contracts specify that the contractor is required to comply with all the environmental measures specified in this EMPr, environmental awareness training, on-going risk assessment and emergency preparedness.

All employees shall have the telephone numbers of emergency services, including the local ambulance and firefighting service. All employees must be made aware of procedures to be followed during the environmental awareness training course.

## **21. Aspects for inclusion as conditions of Authorisation.**

Any aspects which must be made conditions of the Environmental Authorisation

Maintain a minimum 500 m buffer from any infrastructure or dwelling; The Landowner should be engaged at least 1 month prior to any site activities being undertaken once drill sites are known; and a map detailing the drilling locations should be provided to the landowner as well as the DMR prior to commencement of prospecting activities.

The company should comply with all environmental legislation. Specific aspects to be adhered to from environmental legislation include National Environmental Management Act, Act 107 of 1998 (NEMA), Minerals and Petroleum Resources Development Act, Act 28 of 2002 (MPRDA),

National Water Act, Act 36 of 1998 (NWA) and Conservation of Agricultural Resources Act, Act No. 43 of 1983 (CARA)

## **22. Description of any assumptions, uncertainties and gaps in knowledge.**

(Which relate to the assessment and mitigation measures proposed)

It is assumed that the description of the proposed project, provided by the applicant is sufficient for providing the authorities with the right information for understanding the proposed project.

## **23. Reasoned opinion as to whether the proposed activity should or should not be authorised**

### **I. Reasons why the activity should be authorized or not.**

It is the opinion of the EAP that the proposed prospecting activities should be authorised. The environmental impacts associated with the limited drilling activities are minimal provided that the proposed mitigation is implemented; The spatial extent of the physical impact is less than 0.96Ha for the whole drill site over a prospecting right area of more than 363.662Ha, 15 drill sites will be established in total throughout the duration of the drilling programme; With appropriate care and consideration the impacts resulting from drilling can be suitably avoided, minimised or mitigated; With implementing the appropriate rehabilitation activities, the impacts associated with the drilling activities can be reversed; and Monitoring of the required mitigation measures is to take place on site daily by the site geologist. Annual monitoring audits are to take place by an appointed independent environmental assessment practitioner to compile the required annual environmental compliance report required by the DMRE.

Without implementation of prospecting activities, the knowledge concerning the potential mineral resource within the prospecting right area will not be confirmed.

### **II. Conditions that must be included in the authorisation.**

The company should comply with all environmental legislation. Maintain a minimum 500m buffer from any infrastructure or dwelling; the landowner should be engaged (re-consulted) at least 1 month prior to any site activities being undertaken once drill sites are known; a map detailing the drilling locations should be provided to the landowners as well as the DMR prior to commencement of prospecting activities.

Record must be kept of the implementation of the EMPr measures and monitoring of the efficiency of the implemented measures; and a suitable closure plan must be submitted to show sufficiently providence for the avoidance, management and mitigation of environmental impacts associated with the decommissioning of the proposed activities.

#### **24. Period for which the Environmental Authorisation is required.**

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

#### **25. 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.**

Confirmed.

#### **26. Financial Provision**

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

A financial provision of approximately, **R71539.00** which includes rehabilitation activities will be made available by Kabken Mining (Pty) Ltd. The applicant undertakes to provide financial provision through funding from the investors of Kabken Mining (Pty) Ltd.

CALCULATION OF THE QUANTUM

Applicant: Kabken Mining (Pty) Ltd  
 Evaluator: Singo Consulting (Pty) Ltd

DMRE REF:  
 KZN 30/5/1/1/2/ 11415 PR  
 28/07/2023

No.	Description	Unit	A Quantity	B Master Rate	C Multiplication factor	D Weighting factor 1	E=A*B*C*D Amount (Rands)
1	Dismantling of processing plant and related structures (including overland conveyors and powerlines)	m3	0	19	1	1	0
2 (A)	Demolition of steel buildings and structures	m2	0	271	1	1	0
2(B)	Demolition of reinforced concrete buildings and structures	m2	0	400	1	1	0
3	Rehabilitation of access roads	m2	5187,43	49	0,2	1	50836,814
4 (A)	Demolition and rehabilitation of electrified railway lines	m	0	471	1	1	0
4 (A)	Demolition and rehabilitation of non-electrified railway lines	m	0	257	1	1	0
5	Demolition of housing and/or administration facilities	m2	0	542	1	1	0
6	Opencast rehabilitation including final voids and ramps	ha	0	284292	1	1	0
7	Sealing of shafts adits and inclines	m3	0	146	1	1	0
8 (A)	Rehabilitation of overburden and spoils	ha	0	189528	1	1	0
8 (B)	Rehabilitation of processing waste deposits and evaporation ponds (non-polluting potential)	ha	0	236054	1	1	0
8 ( C )	Rehabilitation of processing waste deposits and evaporation ponds (polluting potential)	ha	0	685612	1	1	0
9	Rehabilitation of subsided areas	ha	0	158701	1	1	0
10	General surface rehabilitation	ha	0,9	150138	0,001	1	135,1242
11	River diversions	ha	0	150138	1	1	0
12	Fencing	m	0	171	1	1	0
13	Water management	ha	0	57087	1	1	0
14	2 to 3 years of maintenance and aftercare	ha	0,9	19980	0,001	1	17,982
15 (A)	Specialist study	Sum	0			1	0
15 (B)	Specialist study	Sum				1	0
Sub Total 1							50989,9202
1	Preliminary and General		6118,790424		weighting factor 2 1		6118,790424
2	Contingencies			5098,99202			5098,99202
Subtotal 2							62207,70
VAT (15%)							9331,16
Grand Total							71539

Ncamiso Mathenjwa  
 28/07/2023

**a. Explain how the aforesaid amount was derived.**

The drilling contractor will be responsible for rehabilitating the drill pad once the drilling activities have been completed at each exploration hole. The financial guarantee was calculated using the DMRE official financial quantum calculator. This information has been provided in the Prospecting Work Programme that was submitted to the DMRE.

**b. 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).

Work will be approved on a phase-by-phase basis, dependent on the results obtained in the previous phase i.e. although prospecting work may be provided for financially in the budget for a specific year, it will only take place if justified. The amount is also reflected in the Prospecting Work Programme submitted to the DMRE.

## 27. Specific Information required by the competent Authority

### a. 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:-

#### 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**

Current land uses inside the prospecting area, such as maize farming, grazing, may be temporarily impacted through the presence of the fenced areas that drill rigs will operate within. These are, however, small areas, approximately 30m x 20m in total. These areas will be rehabilitated post drilling activities and the areas will once again become available for grazing. The current access roads are useful.

#### 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).

Whilst no heritage resources have been identified within the proposed prospecting area care will be taken to avoid any sensitive heritage resources that may otherwise be identified during the prospecting. Where graves or fossils are identified proposed boreholes will be moved to avoid features of this type. If fossils or graves are discovered, the relevant authorities will be immediately notified, and drilling will be stopped in this area. The area does have protected areas, threatened ecosystems or critical biodiversity, however no sensitive parts will be negatively affected by the drilling procedures owing to the small scale of the prospecting activity (Umhlathuze River), the only potential negative impact is related to the proposed borehole sites that will need to be cleared and possibly access roads to some of these sites. These should be placed on previously disturbed land or tracks. Any natural vegetation should be avoided. The location of the boreholes must be done.

## **28. 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 **Appendix 4**).

The proposed site was selected based on extensive research and also following on information from previous and current prospecting as well as mining activities around the area. The area is known for coal resources and there are mines currently mining close to the application area. In terms of the technologies proposed, the proposed prospecting has been chosen based on the history and current state of coal in the area. The prospecting activities proposed in the Prospecting Works Programme (PWP) is dependent on the preceding phase as previously discussed, therefore no alternatives are indicated, but rather a phased approach of trusted prospecting techniques.

## **PART B**

### **ENVIRONMENTAL MANAGEMENT PROGRAMME REPORT**

#### **1) Draft environmental management programme.**

##### **a) 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 1(a) herein as required).

*Details of EAP are included in PART A section 1(a).*

##### **b) Description of the Aspects of the Activity**

*(Confirm that the requirement to describe the aspects of the activity that are covered by the draft environmental management programme is already included in PART A, section (1)(h) herein as required).*

It is confirmed that the requirement to describe the aspects of the activity that are covered by the environmental management programme which is already included in PART A SECTION (1)(h).

##### **c) Composite Map**

(Provide a map (**Attached as an Appendix**) at an appropriate scale which 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)

Exploration is a temporal activity thus no permanent structures will be erected, however a general layout is enclosed in Figure 4.



d) **Description of Impact management objectives including management statements.**

I. **Determination of closure objectives.**

(ensure that the closure objectives are informed by the type of environment described)

The following section details the goals and objectives that Kabken Mining (Pty) Ltd will aim to achieve. It includes both a commitment to ensure legal compliance and then highlights the goals and objective for those impacts which are deemed most significant for exploration.

**Environmental Legislation**

To comply with all environmental legislation. Specific aspects to be adhered to from environmental legislation include.

**National Environmental Management Act, Act 107 of 1998 (NEMA)**

As the NEMA is the cornerstone of all environmental legislation, the management measures implemented by the Kabken Mining (Pty) Ltd will strive to adhere to the principles of NEMA:

- That the disturbance of ecosystems and loss of biological diversity are avoided, or, where they cannot be altogether avoided, are minimised and remedied.
- that pollution and degradation of the environment are avoided, or, where they cannot be altogether avoided, are minimised and remedied.
- that the disturbance of landscapes and sites that constitute the nations cultural heritage is avoided, or where it cannot be altogether avoided, is minimised and remedied.
- that waste is avoided, or where it cannot be altogether avoided, minimised and reused or recycled where possible and otherwise disposed of in a responsible manner.
- that the use and exploitation of non-renewable natural resources is responsible and equitable and takes into account the consequences of the depletion of the resource.

- that a risk averse and cautious approach is applied, which considers the limits of current knowledge about the consequences of decisions and actions; and
- that negative impacts on the environment and on people's environmental rights be anticipated and prevented, and where they cannot be altogether prevented, are minimised and remedied.

Environmental management must be integrated, acknowledging that all elements of the environment are linked and interrelated, and it must consider the effects of decisions on all aspects of the environment and all people in the environment by pursuing the selection of the best practicable environmental option.

***I. Volumes and rate of water use required for the operation.***

water will be required for drilling purposed as the method to be adopted is Core drilling method.

***II. Has a water use licence has been applied for?***

Yes, Water Use Licence has been applied for this project, since water extraction and diversion will be done from any water source that is nearby the proposed area. All water used on site will be transported to site by a water tank for the sole purpose of this project (i.e., drinking). This water will be bought from the municipality or licensed water supplier that sells potable water or treated industrial water for which a water sale agreement will be provided before work commences and is submitted to the DMRE. The project will make use of Air flush method which does not require water to operate.

**III. Impacts to be mitigated in their respective phases  
Measures to rehabilitate the environment affected by the undertaking of any listed activity**

ACTIVITIES	PHASE	SIZE AND SCALE of disturbance or	MITIGATION MEASURES	COMPLIANCE WITH STANDARDS	TIME PERIOD FOR IMPLEMENTATION
<p><b>(E.g. For prospecting</b> - drill site, site camp, ablution facility, accommodation, equipment storage, sample storage, site office, access route <b>etc...etc...etc</b></p> <p><b>E.g. For mining</b>,- excavations, blasting, stockpiles, discard dumps or dams, Loading, hauling and transport, Water supply dams and boreholes, accommodation, offices, ablution, stores, workshops, processing plant, storm water control, berms, roads, pipelines, power lines, conveyors, etc...etc...etc.)</p>	<p>(of operation in which activity will take place.</p> <p>State; Planning and design, Pre-Construction, Construction, Operational, Rehabilitation, Closure, Post closure).</p>	<p>(volumes, tonnages and hectare m<sup>2</sup>)</p>	<p>(describe how each of the recommendations in herein will remedy the cause of pollution or degradation and migration of pollutants)</p>	<p>(A description of how each of the recommendations herein will comply with any prescribed environmental management standards or practices that have been identified by Competent Authorities)</p>	<p>Describe the time period when the measures in the environmental management programme must be implemented</p> <p>Measures must be implemented when required.</p> <p>With regard to Rehabilitation specifically this must take place at the earliest opportunity. .With regard to Rehabilitation, therefore state either:-</p> <p>..</p> <p>Upon cessation of the individual activity or.</p> <p>Upon the cessation of mining, bulk sampling or alluvial diamond prospecting as the case may be.</p>
<p>Site Office and core shed</p>	<p>Prospecting Phase 3</p>	<p>N/A</p>	<p>No permanent structures for offices and coreshed will be put on site.</p>	<p>N/A</p>	<p>N/A</p>

Accommodation	Prospecting Phase 3	N/A	In order to minimise impacts in the prospecting area, no camp site will be established. All employees will stay outside prospecting area. The employees will drive to the site every day when drilling operations are in progress. A security company may be contracted to protect the drilling equipment overnight or over weekends if the drill contractors have a weekend off.	N/A	N/A
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#### IV Impact Management Outcomes

(A description of impact management outcomes, identifying the standard of impact management required for the aspects contemplated in paragraph ());

ACTIVITY (whether listed or not listed).	POTENTIAL IMPACT	ASPECTS AFFECTED	PHASE In which impact is anticipated	MITIGATION TYPE	STANDARD TO BE ACHIEVED
(E.g. Excavations, blasting, stockpiles, discard dumps or dams, Loading, hauling and transport, Water supply dams and boreholes, accommodation, offices, ablution, stores, workshops, processing plant, storm water control, berms, roads, pipelines, power lines, conveyors, etc...etc...etc.).	(e.g. dust, noise, drainage surface disturbance, fly rock, surface water contamination, groundwater contamination, air pollution etc....etc...)		(e.g. Construction, commissioning, operational Decommissioning, closure, post closure)	(modify, remedy, control, or stop) through (e.g. noise control measures, storm-water control, dust control, rehabilitation, design measures, blasting controls, avoidance, relocation, alternative activity etc. etc)  E.g. <ul style="list-style-type: none"> <li>• Modify through alternative method.</li> <li>• Control through noise control</li> </ul>	(Impact avoided, noise levels, dust levels, rehabilitation standards, end use objectives) etc.

				<ul style="list-style-type: none"> <li>• <b>Control through management and monitoring</b></li> <li>• <b>Remedy through rehabilitation..</b></li> </ul>	
Site Office and core shed	Physical surface disturbance	Visual	Post Closure	No construction on site. If need be to utilise existing building and agreement to be done with farmer	Impact avoided
Accommodation	Physical surface disturbance	Visual	Post Closure	No construction on site. If need be to utilise existing building and agreement to be done with farmer	Impact avoided
Site Establishment	Dust and Noise from Vehicles driving in veld to access the proposed drill site	Air	Operation	Noise control, Reduce dust by driving slow. Ensure vehicles and equipment are maintained. Silencers should be fitted on all engines.	Impact controlled SANS10103 NEM:AQA GNR827
Site Establishment	Carbon emissions due to internal combustion of fuel	Air	Operation	Ensure vehicles and equipment are maintained.	Impact controlled NEM:AQA GNR827

Drilling	Noise	Environmental nuisance	Operation	Ensure vehicles and equipment are maintained. Silencers should be fitted on all engines.	Impact controlled
Drill site	Removal of top soil for sump. Drainage surface disturbance	Biodiversity loss	Operations and Post Closure	<p>Revegetation needs to take place with topsoil that has the surrounding vegetation seedbanks. Badly damaged areas shall be fenced in to enhance rehabilitation. Areas to be rehabilitated must be planted with a mixture of local pioneer species indigenous to the area, as soon as the new growing season starts.</p> <p>To get the best results in a specific area, it is a good idea to consult with a vegetation specialist officer of the Dept of Agriculture or the local extension. Seed distributors can also give valuable advice as to the mixtures and amount of seed necessary to seed a certain area.</p> <p>Re-seeding, as well as fencing in of badly damaged areas, will always be at the discretion of the Environmental Control Officer and in compliance with EMPR.</p>	Impact controlled
Drill Site	Dust	Air pollution	Operation	Put dust control measures	Impact controlled

Drilling	Use of drilling machine	Ground water contamination	Operation and Post Closure	Put control measures	Impact controlled
Drilling	Failure of drill sludge control system	Surrounding environment, Ground water contamination	Operation	Establish EMPr procedures to minimise hydrocarbon spills.	Impact controlled
Drilling	Breakdown of machinery, oil spillages	Surrounding environment and water contamination	Operation	Establish EMPr procedures to minimise hydrocarbon spills.	Impact controlled

## V Impact Management Actions

(B description of impact management actions, identifying the manner in which the impact management objectives and outcomes contemplated in paragraphs (c) and (d) will be achieved).

ACTIVITY whether listed or not listed.	POTENTIAL IMPACT	MITIGATION TYPE	TIME PERIOD FOR IMPLEMENTATION	COMPLIANCE WITH STANDARDS
<p>(E.g. Excavations, blasting, stockpiles, discard dumps or dams, Loading, hauling and transport, Water supply dams and boreholes, accommodation, offices, ablution, stores, workshops, processing plant, storm water control, berms, roads, pipelines, power lines, conveyors, etc...etc...etc.).</p>	<p>(e.g. dust, noise, drainage surface disturbance, fly rock, surface water contamination, groundwater contamination, air pollution etc....etc...)</p>	<p>(modify, remedy, control, or stop) through (e.g. noise control measures, storm-water control, dust control, rehabilitation, design measures, blasting controls, avoidance, relocation, alternative activity etc. etc.)</p> <p>E.g.</p> <ul style="list-style-type: none"> <li>• Modify through alternative method.</li> <li>• Control through noise control</li> <li>• Control through management and monitoring</li> </ul> <p>Remedy through rehabilitation..</p>	<p>Describe the time period when the measures in the environmental management programme must be implemented when required. With regard to Rehabilitation specifically this must take place at the earliest opportunity. .With regard to Rehabilitation, therefore state either:-..</p> <p>Upon cessation of the individual activity or.</p> <p>Upon the cessation of mining, bulk sampling or alluvial diamond prospecting as the case may be.</p>	<p>(A description of how each of the recommendations in 2.11.6 read with 2.12 and 2.15.2 herein will comply with any prescribed environmental management standards or practices that have been identified by Competent Authorities)</p>



Site Office and core shed	Physical surface disturbance	No construction on site. If need be to utilise existing building and agreement to be done with farmer	N/A	N/A
Accommodation	Physical surface disturbance	No construction on site. If need be to utilise existing building and agreement to be done with farmer	N/A	N/A
Site Establishment	Dust and Noise from Vehicles driving in veld to access the proposed drill site	Noise control, Reduce dust by driving slow. Ensure vehicles and equipment are maintained. Silencers should be fitted on all engines.	Ongoing during activity	Kabken Mining (Pty) Ltd will ensure that all employees, contractors, visitors comply with the EMPR
Site Establishment	Carbon emissions due	Ensure vehicles and equipment	Ongoing during activity	Kabken Mining (Pty) Ltd will
	to internal combustion of fuel	are maintained.		ensure that all employees, contractors, visitors comply with the EMPr
Water	Affecting Umhlatuze	No water will be used during drilling	Monitoring ground water	Have annual checking's.
Drilling	Noise	Ensure vehicles and equipment are maintained. Silencers should be fitted on all engines.	Ongoing during activity	Kabken Mining (Pty) Ltd will ensure that all Employees, contractors, visitors comply with the EMPr
Drill site	Removal of top soil for sump. Drainage surface disturbance	Rehabilitate ground soon after drilling.	Upon cessation of individual activity	Kabken Mining (Pty) Ltd will ensure that all Employees, contractors, visitors comply with the EMPr
Drill Site	Dust	Put dust control measures	Ongoing during activity	Kabken Mining (Pty) Ltd will ensure that all Employees, contractors, visitors comply with the EMPR
Drilling	Use of drilling mud during drilling operations	Put control measures	Ongoing during activity	Kabken Mining (Pty) Ltd will ensure that all Employees, contractors, visitors comply with the EMPR

Drilling	Failure of drill sludge control system	Establish EMPR procedures to minimise hydrocarbon spills.	Ongoing during activity	Kabken Mining (Pty) Ltd will ensure that all Employees, contractors, visitors comply with the EMPR
Drilling	Breakdown of machinery, oil spillages	Establish EMPR procedures to minimise hydrocarbon spills.	Ongoing during activity	Kabken Mining (Pty) Ltd will ensure that all Employees, contractors, visitors comply with the EMPR

## **29. Financial Provision**

### **(1) Determination of the amount of Financial Provision.**

#### **(a) Describe the closure objectives and the extent to which they have been aligned to the baseline environment described under the Regulation.**

For a prospecting operation such as this, the primary closure and environmental objectives are to:

- Minimise the area to be disturbed and to ensure that the areas disturbed during the prospecting activities are rehabilitated and stable, as per the commitments made in the EMPR.
- Sustain the pre-prospecting land use.
- To record and communicate the results of the monitoring programme during decommissioning to the participating stakeholders.
- To receive an effective closure certificate (should the prospect indicate that the resource(s) would not support a sustainable mining operation).

#### **(b) Confirm specifically that the environmental objectives in relation to closure have been consulted with landowner and interested and affected parties.**

The environmental objectives in relation to closure were consulted with affected parties. It was explained that should the prospecting yield negative results, then the end use for area will revert to its pre-prospecting land use. The end-use of the area will therefore not be changed by the prospecting operations.

However, should the prospecting operation yield positive results, then the farm could be subject to a mining right application and another more comprehensive Public Participation, Scoping, EIA and EMPR process. If a mining right is granted, then the area will be rehabilitated according to the requirements of the approved Environmental Management Programme that would apply throughout the life of the mine.

**(c) 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.**

The activities involved are for prospecting and will involve no permanent removal of soil and rock.

Should the prospecting yield negative results, then the end use for area will revert to its pre-prospecting land use. The end-use of the area will therefore not be changed by the prospecting operations.

However, should the prospecting operation yield positive results, then the farm could be subject to a mining rights application and another more comprehensive Public Participation, Scoping, EIA and EMPR process. If a mining right is granted, then the area will be rehabilitated according to the requirements of the approved Environmental Management Programme that would apply throughout the life of the mine.

Table 19: Rehabilitation plan.

<b>Aspect / Impact</b>	<b>Rehabilitation Measure</b>	<b>Monitoring Frequency &amp; Responsibility</b>
Removal of construction structures	<ul style="list-style-type: none"> <li>• Clear and completely remove from site all construction plant equipment, storage containers, signage, temporary fencing, temporary services, fixtures and any other temporary works (excluding those already on the site); and</li> <li>• Ensure that all access roads utilised during construction (which are not earmarked for closure and rehabilitation) are returned (as far as possible) to their state prior to construction.</li> </ul>	Once off, Kabken Mining (Pty) Ltd
Vegetation clearing/Replanting	<ul style="list-style-type: none"> <li>• Remove any emerging alien and invasive vegetation to prevent further establishment;</li> <li>• All planting work is to be undertaken by suitably qualified personnel making use of the appropriate equipment;</li> <li>• Transplant during the winter (between April and September); and</li> <li>• Plant indigenous plants to minimise the spread of alien and invasive vegetation.</li> </ul>	When revegetation is done and in blooming season, Kabken Mining (Pty) Ltd

Topsoil replacement	<ul style="list-style-type: none"> <li>• Replace and redistribute stockpiled topsoil together with herbaceous vegetation, overlying grass and other fine organic matter in all disturbed areas of the prospecting site, including temporary access routes and roads. Replace topsoil to the original depth (i.e. as much as was removed prior to construction).</li> <li>• Prohibiting the use of topsoil suspected to be contaminated with the seed of alien vegetation .Alternatively, the soil is to be sprayed with specified herbicides.</li> <li>• Backfill planting holes with excavated material / approved topsoil, thoroughly mixed with weed free manure or</li> </ul>	Once off, Kabken Mining (Pty) Ltd
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	compost (per volume about one quarter of the plant hole), one cup of 2:3:2 fertiliser and an approved ant and termite poison.	
Waste and Rubble Removal	<p>Clear the site of all inert waste and rubble, including surplus rock, foundations and batching plant aggregates.</p> <p><input type="checkbox"/> Remove from site all domestic waste and dispose of in the approved manner at a registered waste disposal site.</p>	Once off, Kabken Mining (Pty) Ltd
Solid & Hazardous Waste	<p>Environmental Management Programme (EMPRR).</p> <p><input type="checkbox"/> Dispose of all hazardous waste not earmarked for reuse, recycling or resale at a registered hazardous waste disposal site.</p> <p><input type="checkbox"/> Remove from site all temporary fuel stores, hazardous substance stores, hazardous waste stores and pollution control sumps. Dispose of hazardous waste in the approved manner.</p> <p><input type="checkbox"/> Do not hose oil or fuel spills into a storm water drain or sewer, or into the surrounding natural environment.</p>	Once off, Kabken Mining (Pty) Ltd

Erosion protection	<ul style="list-style-type: none"> <li>☐ Protect all areas susceptible to erosion and ensure that there is no undue soil erosion resultant from activities within and adjacent to the construction site.</li> <li>☐ Retain shrubbery and grass species wherever possible.</li> <li>☐ Perform regular monitoring and maintenance of erosion control measures.</li> </ul>	After rainfall events
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**(d) Explain why it can be confirmed that the rehabilitation plan is compatible with the closure objectives.**

The amount for rehabilitation is anticipated to be an operating cost and provided for in the Prospecting Work Programme. Drill site rehabilitation will be undertaken by the contract drilling company on completion of every borehole. This will include:

- The removal of all wastes generated on-site by the drilling activity.
- Backfilling of sumps, where applicable
- The ripping of cleared and compacted soils where this may have occurred; and
- The re-contouring of drill sites to resemble the topography similar to that prior to the commencement of drilling activities.
- Take photos of the site before prospecting commences and after prospecting.

**(e) Calculate and state the quantum of the financial provision required to manage and rehabilitate the environment in accordance with the applicable guideline.**

The quantum of the financial provision required is therefore: **R 715239,00**. The Company must annually update and review the quantum of the financial provision (*Regulation 54 (2)*). TABLE FOR CALCULATIONS ATTACHED BELOW

**(f) Confirm that the financial provision will be provided as determined.**

Kabken Mining (Pty) Ltd undertakes to provide financial provision and a Bank Guarantee will be the method of providing for the financial provision. The amount is anticipated to be an operating cost and provided for in the Prospecting Work Programme.

Table 20: Application Quantum Calculation

**CALCULATION OF THE QUANTUM**

Applicant: **Kabken Mining (Pty) Ltd**  
 Evaluator: **Singo Consulting (Pty) Ltd**

DMRE REF:  
**KZN 30/5/1/1/2/ 11415 PR**  
**28/07/2023**

No.	Description	Unit	A	B	C	D	E=A*B*C*D
			Quantity	Master Rate	Multiplication factor	Weighting factor 1	Amount (Rands)
1	Dismantling of processing plant and related structures (including overland conveyors and powerlines)	m3	0	19	1	1	0
2 (A)	Demolition of steel buildings and structures	m2	0	271	1	1	0
2(B)	Demolition of reinforced concrete buildings and structures	m2	0	400	1	1	0
3	Rehabilitation of access roads	m2	5187,43	49	0,2	1	50836,814
4 (A)	Demolition and rehabilitation of electrified railway lines	m	0	471	1	1	0
4 (A)	Demolition and rehabilitation of non-electrified railway lines	m	0	257	1	1	0
5	Demolition of housing and/or administration facilities	m2	0	542	1	1	0
6	Opencast rehabilitation including final voids and ramps	ha		284292	1	1	0
7	Sealing of shafts adits and inclines	m3	0	146	1	1	0
8 (A)	Rehabilitation of overburden and spoils	ha		189528	1	1	0
8 (B)	Rehabilitation of processing waste deposits and evaporation ponds (non-polluting potential)	ha	0	236054	1	1	0
8 ( C )	Rehabilitation of processing waste deposits and evaporation ponds (polluting potential)	ha	0	685612	1	1	0
9	Rehabilitation of subsided areas	ha	0	158701	1	1	0
10	General surface rehabilitation	ha	0,9	150138	0,001	1	135,1242
11	River diversions	ha	0	150138	1	1	0
12	Fencing	m	0	171	1	1	0
13	Water management	ha	0	57087	1	1	0
14	2 to 3 years of maintenance and aftercare	ha	0,9	19980	0,001	1	17,982
15 (A)	Specialist study	Sum	0			1	0
15 (B)	Specialist study	Sum				1	0
<b>Sub Total 1</b>							<b>50989,9202</b>

1	Preliminary and General	6118,790424	<b>weighting factor 2</b>	6118,790424
			1	
2	Contingencies	5098,99202		5098,99202
<b>Subtotal 2</b>				<b>62207,70</b>
<b>VAT (15%)</b>				<b>9331,16</b>
<b>Grand Total</b>				<b>71539</b>

Ncamiso Mathenjwa  
 28/07/2023



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

- h) Monitoring of Impact Management Actions**
- i) Monitoring and reporting frequency**
- j) Responsible persons**
- k) Time period for implementing impact management actions.**
- l) Mechanism for monitoring compliance**

<b>SOURCE ACTIVITY</b>	<b>IMPACTS REQUIRING MONITORING PROGRAMMES</b>	<b>FUNCTIONAL REQUIREMENTS FOR MONITORING</b>	<b>ROLES AND RESPONSIBILITIES (FOR THE EXECUTION OF THE MONITORING PROGRAMMES)</b>	<b>MONITORING AND REPORTING FREQUENCY and TIME PERIODS FOR IMPLEMENTING IMPACT MANAGEMENT ACTIONS</b>
Drilling (Site Establishment)	The clearing of vegetation	Monitor daily	Geologist/ EAP	Daily by Geologist, annually by independent environmental assessment practitioner to compile the required annual environmental compliance report required by the DMR
Drilling	The storage of hydrocarbon-based materials on site	Monitor daily	Geologist/ EAP	Daily by Geologist, annually by independent environmental assessment practitioner to compile the required annual environmental compliance report required by the DMR
Drilling	On-site waste management	Monitor Daily	Geologist/ EAP	Daily by Geologist, annually by independent environmental assessment practitioner to compile the required annual environmental compliance report required by the DMR

Drilling	The creation of roads/tracks	Monitor daily	Geologist/ EAP	Daily by Geologist, annually by independent environmental assessment practitioner to compile the required annual environmental compliance report required by the DMR
Drilling	The removal of	Monitor Daily	Geologist/ EAP	Daily by Geologist, annually by

	storage and soil			independent environmental assessment practitioner to compile the required annual environmental compliance report required by the DMR
Drilling	Driving activities	Monitor Daily	Geologist/ EAP	Daily by Geologist, annually by independent environmental assessment practitioner to compile the required annual environmental compliance report required by the DMR
Drilling	Groundwater: Monitor the water quality of the boreholes	Monitor Daily	Geologist/ EAP	Daily by Geologist, annually by independent environmental assessment practitioner to compile the required annual environmental compliance report required by the DMR

***h) Indicate the frequency of the submission of the performance assessment/ environmental audit report.***

Environmental audit report will be submitted annually.

**i) Environmental Awareness Plan**

**a. Manner in which the applicant intends to inform his or her Employees of any environmental risk which may result from their work.**

All Employees must be provided with environmental awareness training to inform them of any environmental risks which may result from their work and the manner in which the risks must be dealt with in order to avoid pollution or the degradation of the environment.

employees should be provided with environmental awareness training before prospecting operations start. All new employees should be provided with environmental awareness training Induction courses will be provided to all employees by a reputable trainer.

**b. Manner in which risks will be dealt with in order to avoid pollution or the degradation of the environment.**

No risks have been identified other than those that have been identified within this document, these are to be communicated to all contractors and all contractors are to be provided with a copy of the approved EMPR. Environmental training needs for each section should be identified and addressed to ensure environmental management is part of day-to-day operations. The environmental risk responsibilities guide the training requirements of everyone. The responsibility for each level of management according to the Integrated Risk Management and ISO14001 role descriptions are. Environmental training recommended for the different levels of management guide the training needs identification process. This is a minimum guideline, and any additional training can be added where section specific issues or high-risk items require training and awareness It is the responsibility of the line manager to ensure environmental training needs for individual staff members are identified, agreed to, facilitated and tracked.

**j) Specific information required by the Competent Authority**  
(Among others, confirm that the financial provision will be reviewed annually).

The financial provision will be reviewed annually indicating work that would have been completed and money used for rehabilitation as required by the law.

**2) UNDERTAKING**

The EAP herewith confirms.

- a) the correctness of the information provided in the reports
- b) the inclusion of comments and inputs from stakeholders and I&APs;
- c) the inclusion of inputs and recommendations from the specialist reports where relevant; and
- d) 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.

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Signature of the environmental assessment practitioner:

SINGO CONSULTING (PTY) LTD

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Name of company:

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Date:

**-END-**

## Appendix 1: DMR LETTERS



### mineral resources & energy

Department:  
Minerals Resources and Energy  
REPUBLIC OF SOUTH AFRICA

Private Bag X 54307, Durban, 4000, 333 Anton Lembede Street, 3<sup>rd</sup> Floor Durban Bay House, Durban, Tel (031) 335 9600, Fax (031) 305 5801  
Reference: KZN 30/5/1/1/2/ 11414 PR Enquiries: Mrs Nontobeko Ncama Email address: [nontobeko.ncama@dmre.gov.za](mailto:nontobeko.ncama@dmre.gov.za).

#### REGISTERED MAIL

**THE MANAGER**  
**KABKEN MINING (PTY) LTD**  
**P.O BOX 70**  
**MOTHIBISTAD**  
**8474**

**Email: [Kabelo.andreas@and310group.co.za](mailto:Kabelo.andreas@and310group.co.za)**

Dear Sir/Madam

#### **ACCEPTANCE OF AN APPLICATION FOR PROSPECTING RIGHT IN TERMS OF SECTION 16(4) OF THE MINERAL AND PETROLEUM RESOURCES DEVELOPMENT ACT, 2002 (ACT 28 OF 2002)**

1. Please be informed that your application for Prospecting for **Coal** on **the Farm Raemoir A 6942 GT** situated in the Magisterial District of **Umzinyathi**, is hereby accepted on the above- mentioned properties, in terms of section 16 (2) of the Act.
2. Take note that in light of the minimum requirements as stipulated on regulation 16 (1) and 16 (2) of the EIA Regulations, your application for an Environmental Authorisation was deemed incomplete as it was not accompanied by this acceptance letter as per Su Regulation 16 (1) (ix) and considering that it is now completed by this acceptance letter, you are hereby required to submit the documents as stipulated on Regulation 19 (1) to 19 (8) of the EIA Regulation (only in cases where Basic Assessment Report is applicable or Regulation 21 (Scoping Report and Regulation 23 (Environmental Impact Report) (only in cases where applicable). All submission timeframes are effective from the dates of this acceptance letter.
3. Please take further note that in terms of section 16 (4) of the Act, you are required to:-

Acceptance Of An Application For Prospecting Right In Terms Of Section 16 Of The Mineral And Petroleum Resources Development Act, (Act 28 Of 2002) To Prospect For Coal on the Farm Raemoir A 6942 GT Situated in The Magisterial District Of Umzinyathi: Kabken Mining (Pty) Ltd NN

## Extension Email

REQUESTING EXTENSION WITH DMRE REF:KZN 30/5/1/1/2/11415 PR



Mathenjwa, Ncamiso <ncamiso@singoconsultin

To 'Karooon.Moodley@dmre.gov.za'

Cc 'kenneth@singoconsulting.co.za'; 'Rudzani, Radebe (RRS)'; 'boitumelo@singoconsulting.co.za'; 'Thilivhali, Ndou'; 'mazithi@singoconsulting.co.za'



Reply

Reply All

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Mon 2023/06/26 16:35

You forwarded this message on 2023/06/26 16:43.



Winterhoek Extention Letter.pdf  
760 KB

Good day,

Kindly find the attached letter requesting for an extension for the final submission of BAR & EMPR with DMRE Ref: KZN 30/5/1/1/2/11415 PR.

Your assistance will be highly appreciated.

**Kind Regards!**



**CELEBRATING 11 YEARS IN BUSINESS**  
*To manage & protect the best remaining environment*



**Singo Consulting (Pty) Ltd**

**Names: Ncamiso Mathenjwa**

**EAP Intern**

BSc: Geography and Environmental Management

Office No. 870, 5 Balalaika Street

Tasbet Park Ext 2

eMalahleni

1040

Tel.: +27 13 692 0041

Cell: +27 71 233 2725

Fax: +27 86 5144 103

Email: [ncamiso@singoconsulting.co.za](mailto:ncamiso@singoconsulting.co.za)

## Appendix 2: Stakeholder's Consultation.

LAND CLAIM ENQUIRY ON THE FARM WINTERHOEK 17223 GT WITH DMRE REF: KZN 30/5/1/1/2/11415 PR



Mathenjwa, Ncamiso <ncamiso@singoconsultin

To 'Carrin.Parkes@dalrrd.gov.za'

Cc 'kenneth@singoconsulting.co.za'; 'Rudzani, Radebe (RRS)'; 'Thilivhali, Ndou'; 'mazithi@singoconsulting.co.za'; 'boitumelo@singoconsulting.co.za'



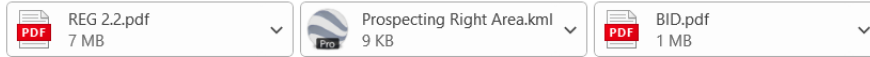
Reply

Reply All

Forward



Tue 2023/07/04 20:05



Good day,

I hope this email finds you well.

You are receiving this email as an inquiry for any possible land claim/s on **the farm Winterhoek 17223 GT, situated in the Magisterial District of Umzinyathi, Kwa-Zulu Natal Province, (DMRE Ref: KZN 30/5/1/1/2/11415 PR).**

Kindly find attached BID, Regulation map 2.2 and KML for visuals of the area/ farm. This is to ensure that all claimants are properly consulted regarding the prospecting right application lodged on the above-mentioned farms and are given the opportunity to:

- Register as an I&APs and to respond to the environmental compliance process;
- Raise issues of concern and provide suggestions for enhanced benefits;
- Contribute to local knowledge;
- Comment on the Basic Assessment Report & Environmental Management Programme report (EMPr); and
- Inform any other person / organization that they may feel should be informed about the project.

Your response will be highly appreciated as they will assist us in developing well-informed Basic Assessment Reports and EMPr.



**Names: Ncamiso Mathenjwa**

**Public Participating Officer (PPP)**

BSc: Geography and Environmental Management

Office No. 870, 5 Balalaika Street

Tasbet Park Ext 2

eMalahleni

1040

Tel.: +27 13 692 0041

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Email: [ncamiso@singoconsulting.co.za](mailto:ncamiso@singoconsulting.co.za)

## INVITATION TO COMMENT ON THE PROSPECTING RIGHT AND ENVIRONMENTAL AUTHORIZATION APPLI...



Mathenjwa, Ncamiso <ncamiso@singoconsultin

To: 'KZNOU-L&R@eskom.co.za'

Cc: 'kenneth@singoconsulting.co.za'; 'Thilivhali, Ndou'; 'Rudzani, Radebe (RRS)'; 'mazithi@singoconsulting.co.za'; 'boitumelo@singoconsulting.co.za'



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Tue 2023/07/04 20:18

You forwarded this message on 2023/07/04 20:33.



BID.pdf  
1 MB



Prospecting Right Area.kml  
9 KB



REG 2.2.pdf  
7 MB

Good day,

Receive warm greetings from Singo Consulting (Pty) Ltd.

**Singo Consulting (Pty) Ltd** on behalf of **Kabken Mining (Pty) Ltd** hereby wishes to inform you that it has applied for a Prospecting right together with an Environmental Authorization to KwaZulu-Natal Department of Mineral Resources & Energy (DMRE) to explore the existence and viability of **Coal on the farm Winterhoek 17223 GT**, situated in the Magisterial District of **Umzinyathi, Kwa-Zulu Natal Province, (DMRE Ref: KZN 30/5/1/1/2/11415 PR)**.

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**Please find the attached Background Information Document for a brief description of the proposed project and timelines, KML, and Reg 2.2 Map for the visuals of the application area.**

**Kind Regards!**



**CELEBRATING 11 YEARS IN BUSINESS**



Should you know anyone who might be interested in this project, kindly forward this email to them.

**Names: Ncamiso Mathenjwa**

**Public Participating Officer (PPP)**

BSc: Geography and Environmental Management

Office No. 870, 5 Balalaika Street

Tasbet Park Ext 2

eMalahleni

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Tel.: +27 13 692 0041

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Fax: +27 86 5144 103

Email: [ncamiso@singoconsulting.co.za](mailto:ncamiso@singoconsulting.co.za)



## INVITATION TO COMMENT ON THE PROSPECTING RIGHT AND ENVIRONMENTAL AUTHORIZATION APPLI...



Mathenjwa, Ncamiso <ncamiso@singoconsulting.com>

To: 'nerissa.pillay@kznwildlife.com'

Cc: 'kenneth@singoconsulting.co.za'; 'Rudzani, Radebe (RRS)'; 'Thilivhali, Ndou'; 'mazithi@singoconsulting.co.za'; 'boitumelo@singoconsulting.co.za'



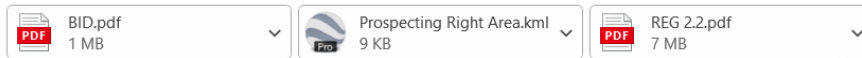
Reply

Reply All

Forward



Tue 2023/07/04 21:21



Good day,

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**Kind Regards!**



**CELEBRATING 11 YEARS IN BUSINESS**

*To manage & protect the best remaining environment*



**Names: Ncamiso Mathenjwa**

**Public Participating Officer (PPP)**

BSc: Geography and Environmental Management

Office No. 870, 5 Balalaika Street

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Tel.: +27 13 692 0041

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Email: [ncamiso@singoconsulting.co.za](mailto:ncamiso@singoconsulting.co.za)

## INVITATION TO COMMENT ON THE PROSPECTING RIGHT AND ENVIRONMENTAL AUTHORIZATION APPLI...



Mathenjwa, Ncamiso <ncamiso@singoconsultin

To 'Mbongeni.Tshabalala@labour.gov.za'

Cc 'kenneth@singoconsulting.co.za'; 'Rudzani, Radebe (RRS)'; 'Thilivhali, Ndou'; 'mazithi@singoconsulting.co.za'; 'boitumelo@singoconsulting.co.za'



Reply

Reply All

Forward



Tue 2023/07/04 21:21



BID.pdf  
1 MB



Prospecting Right Area.kml  
9 KB



REG 2.2.pdf  
7 MB

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**Kind Regards!**



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*To manage & protect the best remaining environment*



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**Public Participating Officer (PPP)**

BSc: Geography and Environmental Management

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Email: [ncamiso@singoconsulting.co.za](mailto:ncamiso@singoconsulting.co.za)

## INVITATION TO COMMENT ON THE PROSPECTING RIGHT AND ENVIRONMENTAL AUTHORIZATION APPLI...



Mathenjwa, Ncamiso <ncamiso@singoconsultin

To 'advocacy@birdlife.org.za'

Cc 'kenneth@singoconsulting.co.za'; 'Rudzani, Radebe (RRS)'; 'Thilivhali, Ndou'; 'mazithi@singoconsulting.co.za'; 'boitumelo@singoconsulting.co.za'



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Tue 2023/07/04 21:21



BID.pdf  
1 MB



Prospecting Right Area.kml  
9 KB



REG 2.2.pdf  
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*To manage & protect the best remaining environment*



**Names: Ncamiso Mathenjwa**

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Email: [ncamiso@singoconsulting.co.za](mailto:ncamiso@singoconsulting.co.za)

## INVITATION TO COMMENT ON THE PROSPECTING RIGHT AND ENVIRONMENTAL AUTHORIZATION APPLI...



Mathenjwa, Ncamiso <ncamiso@singoconsultin

To 'mthethwan@endumeni.gov.za'

Cc 'kenneth@singoconsulting.co.za'; 'Rudzani, Radebe (RRS)'; 'Thilivhali, Ndou'; 'mazithi@singoconsulting.co.za'; 'boitumelo@singoconsulting.co.za'



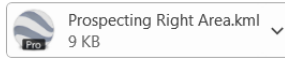
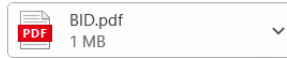
Reply

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Mathenjwa Ncamiso <ncamiso@singoconsultin

To 'planner@endumeni.gov.za'

Cc 'kenneth@singoconsulting.co.za'; 'Rudzani, Radebe (RRS)'; 'Thilivhali, Ndou'; 'mazithi@singoconsulting.co.za'; 'boitumelo@singoconsulting.co.za'



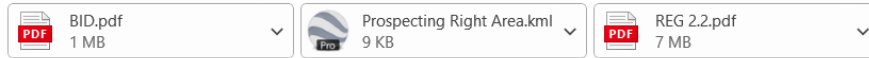
Reply

Reply All

Forward



Tue 2023/07/04 21:40



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Mathenjwa, Ncamiso <ncamiso@singoconsultin

To 'thabani.dlamini@kztransport.gov.za'

Cc 'kenneth@singoconsulting.co.za'; 'Rudzani, Radebe (RRS)'; 'Thilivhali, Ndou'; 'mazithi@singoconsulting.co.za'; 'boitumelo@singoconsulting.co.za'



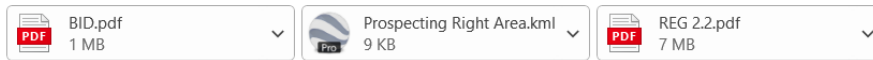
Reply

Reply All

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Tue 2023/07/04 21:40



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This Notification is being given in compliance with the terms of; Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002) (MPRDA), National Environmental Management Act, 1998 (Act No. 107 of 1998), and EIA Regulations (as amended, 07 April 2017 and by GN 517 on 11 June 2021) where one of the requirements is that all stakeholders must be notified of **Kabken Mining (Pty) Ltd.'s** intentions to obtain a Prospecting right for the above-mentioned commodity. This invitation is extended to you as the department you serve may somehow enforce any of the laws of the Republic of South Africa that ensure pollution & environmental degradation prevention, encourage sustainable development & socio-economic development, or might be affected by activities to be taking place during prospecting. Considering the above, you are being offered an opportunity to:

- ✓ Register as an Interested and Affected Party (I&AP) and to respond to the environmental compliance process;
- ✓ Raise issues of concern and provide suggestions for enhanced benefits;
- ✓ Contribute to local knowledge;
- ✓ Comment on the Basic Assessment Report (BAR) & Environmental Management Programme report (EMPr)

Singo Consulting (Pty) Ltd has been appointed as an independent Environmental Assessment Practitioner (EAP) to manage the environmental authorisation process by conducting an Environmental Impact Assessment, Public Participation Process (PPP) for the proposed project and compile a Basic Assessment Report & Environmental Management Programme (BAR & EMPr). A Basic Assessment process has commenced, for your participation kindly fill the registration and comment form at the end of the Background Information Document attached and register your comments, issues, and/or questions that you may have about the proposed project. Should you need any clarity on the attached document or have any queries with regards to the project, please do not hesitate to contact me on the details below.

**Please find the attached Background Information Document for a brief description of the proposed project and timelines, KML, and Reg 2.2 Map for the visuals of the application area.**

Should you know anyone who might be interested in this project, kindly forward this email to them.

**Kind Regards!**



**CELEBRATING 11 YEARS IN BUSINESS**

*To manage & protect the best remaining environment*



**Names: Ncamiso Mathenjwa**

**Public Participating Officer (PPP)**

BSc: Geography and Environmental Management

Office No. 870, 5 Balalaika Street

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Tel.: +27 13 692 0041

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Email: [ncamiso@singoconsulting.co.za](mailto:ncamiso@singoconsulting.co.za)

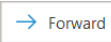
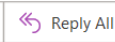
## INVITATION TO COMMENT ON THE PROSPECTING RIGHT AND ENVIRONMENTAL AUTHORIZATION APPLI...



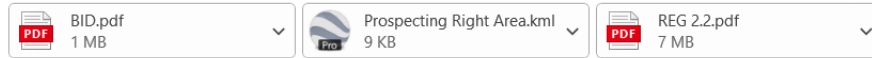
Mathenjwa, Ncamiso <ncamiso@singoconsultin

To 'Gerald.Willis-Smith@kznedtea.gov.za'

Cc 'kenneth@singoconsulting.co.za'; 'Rudzani, Radebe (RRS)'; 'Thilivhali, Ndou'; 'mazithi@singoconsulting.co.za'; 'boitumelo@singoconsulting.co.za'



Tue 2023/07/04 21:48



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**Special Notice**

Following comments received on the proposed Revised Schedule of Fees for applications made to the South African Heritage Resources Agency (SAHRA), made in terms of Section 25(2)(l) of the National Heritage Resources Act No. 25 of 1999 (NHRA) and published in the Government Gazette of 22 July 2022, SAHRA hereby publishes the final Revised Schedule of Fees for Applications made to SAHRA. Applications for provision of services submitted to the South African Heritage Resources Authority (SAHRA), in terms of the National Heritage Resources Act, No. 25 of 1999 (NHRA) must be accompanied by a payment of the appropriate fee, taking effect from 1 January 2023

[Revised Schedule of Fees for Applications made to the South African Heritage Resources Agency \(SAHRA\)](#)

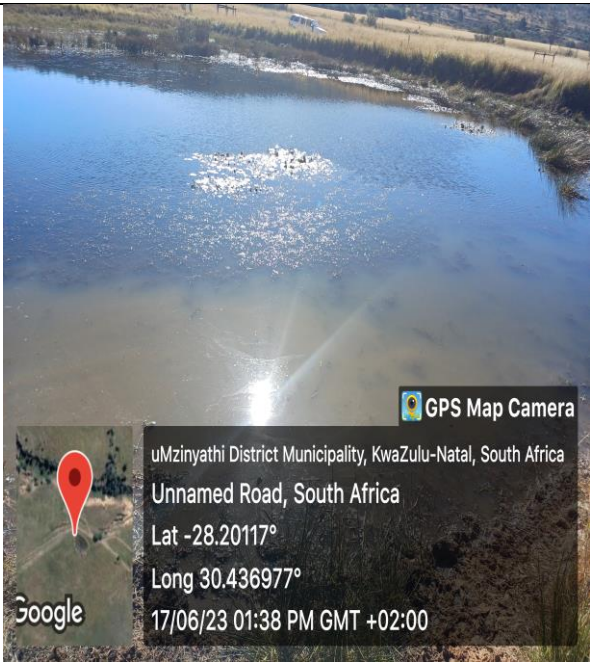
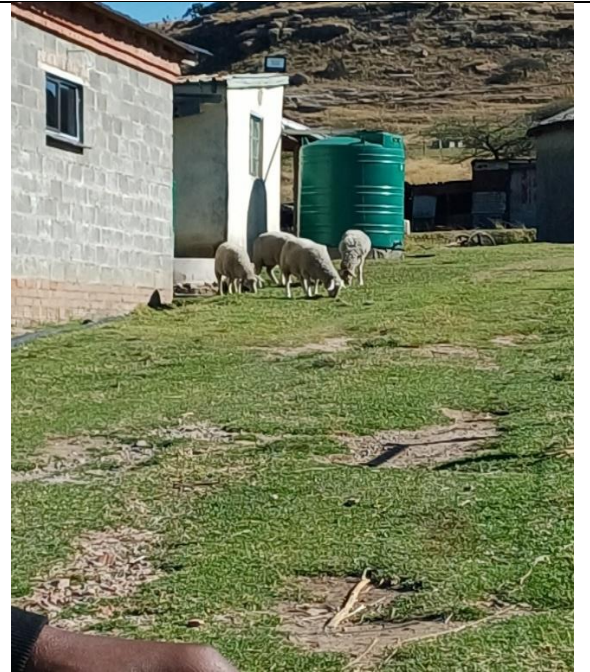
**DMRE Ref: KZN 30/5/1/1/2/11415 PR**

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CaseHeader	LocationInfo	Admin
<b>Status:</b> SUBMITTED		
<b>HeritageAuthority(s):</b> Amafa SAHRA		
<b>Case Type:</b> Section 38 (8) - Statutory Comment Required		
<b>Development Type:</b> Mining		
<b>ProposalDescription:</b> PROSPECTING RIGHT APPLICATION BY KABKEN FOR COAL, RESOURCES ON THE FARM WINTERHOEK 17223 GT SITUATED IN ENDUMENI LOCAL MUNICIPALITY, UNDER UMZINYATHI MAGISTERIAL DISTRICT, IN KWAZULU-NATAL PROVINCE		
<b>ApplicationDate:</b> Tuesday, August 8, 2023 - 12:06		
<b>CaseID:</b> 22107		
<b>Applicants:</b> Kabken Mining (Pty) Ltd		
<b>Consultants/Experts:</b> Ndinannyi Kenneth		
<b>OtherReferences:</b>		
CaseReference	Department	ApplicationType
DMRE Ref: KZN 30/5/1/1/2/11415 PR	Department of Mineral Resources - KwaZulu Natal	Prospecting Rights
<b>ReferenceList:</b>		



**Appendix 3: Site Inspection, Site Notice Plugging and Access routes.**





**GPS Map Camera**  
 uMzinyathi District Municipality, KwaZulu-Natal, South Africa  
 Unnamed Road, South Africa  
 Lat -28.20117°  
 Long 30.436977°  
 19/06/23 11:27 AM GMT +02:00