BASIC ASSESSMENT REPORT & ENVIRONMENTAL MANAGEMENT PROGRAMME REPORT

Prospecting Right Application in respect of Coal Resources on Portion 1 and Remaining Extent of the farm Rietspruit 425 GT Whole Farm, situated in the Magisterial District of Mzinyathi, KwaZulu-Natal Province.

ON BEHALF OF:

BIG SKY MINING (Pty) Ltd

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DMRE REF: KZN 30/5/1/1/2/ 11407 PR

2023

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).

Name of applicant	Big Sky Mining (Pty) Ltd
Email address:	sonwabo@tornowize.co.za
Physical address	654 Kenilworth Street, Kyalami Estates, Kyalami, Gauteng, 1684
File reference number SAMRAD	DMRE REF: (KZN 30/5/1/1/2/11407 PR)

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 Authorization 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 authorization 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 Authorization being refused.

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

OBJECTIVE OF THE BASIC ASSESSMENT PROCESS

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

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

(b) identify the alternatives considered, including the activity, location, and technology alternatives;

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

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

  i. the nature, significance, consequence, extent, duration and probability of the impacts occurring to; and

  ii. the degree to which these impacts—

    a. can be reversed;

    b. may cause irreplaceable loss of resources; and

    c. 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.

Document Control

Document Title: Basic Assessment Report and Environmental Management Programme report for Coal within Portion 1 and the Remaining Extent of the farm Rietspruit 425 GT, situated in the Magisterial District of UMzinyathi in KwaZulu-Natal Province **DMRE REF: KZN 30/5/1/1/2/11407 PR.**

Version 1: Draft Basic Assessment Report and Environmental Management

Quality Control				
Name	M Mangcu	R Shonisani Radebe	Dr NK Singo	Distribution to Stakeholders.
Designation	Candidate EAP	EAP Manager	Principal EAP	

i. Abbreviations

BAR	Basic Assessment Report
BID	Background Information Document
CBA	Critical Biodiversity Area
DWS	Department of Water and Sanitation
DMRE	Department of Mineral Resources and Energy
EIA	Environmental Impact Assessment
EMPr	Environmental Management Programme
GDP	Gross Domestic Product
I&APs	Interested And Affected parties
IDP	Integrated Development Plan
NDP	National Development Plan
PPP	Public Participation Process
PWP	Prospecting Works Programme
SAHRA	South African Heritage Resource Agency
SANAS	South African National Accreditation System
SANS	South African National Standards
WMA	Water Management Area

DISCLAIMER

The opinion expressed in this, and associated reports are based on the information provided by [Big Sky Mining (Pty) Ltd] to Singo Consulting (Pty) Ltd ("Singo Consulting") and is specific to the scope of work agreed with Big Sky Mining (Pty) Ltd.

Singo Consulting acts as an advisor to the Big Sky Mining (Pty) Ltd and exercises all reasonable skill and care in the provision of its professional services in a manner consistent with the level of care and expertise exercised by members of the environmental profession. Except where expressly stated, Singo Consulting has not verified the validity, accuracy or comprehensiveness of any information supplied for its reports. Singo Consulting shall not be held liable for any errors or omissions in the information given or any consequential loss resulting from commercial decisions or acts arising from them.

Where site inspections, testing or fieldwork have taken place, the report is based on the information made available by the Big Sky Mining (Pty) Ltd or their nominees during the visit, visual observations and any subsequent discussions with regulatory authorities. The validity and comprehensiveness of supplied information has not been independently verified and, for the purposes of this report, it is assumed that the information provided to Singo Consulting is both complete and accurate. It is further assumed that normal activities were being undertaken at the site on the day of the site visit(s), unless explicitly stated otherwise.

These views do not generally refer to circumstances and features that may occur after the date of this study, which were not previously known to Singo Consulting (Pty) Ltd or had the opportunity to assess.

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INTRODUCTION AND EXECUTIVE SUMMARY

Singo Consulting (Pty) Ltd submitted an application for a Prospecting Right under Section 16 of the Mineral and Petroleum Resources Development Act, 2002 (Act 28 of 2002) (MPRDA) and an Environmental Authorisation under Chapter 6 of GNR 982 enacted under the National Environmental Management Act (Act 107 of 1998) (NEMA) for coal on behalf of Big Sky Mining (Pty) Ltd.

The proposed project will seek to determine whether or not economically viable mineral deposits exist in the application area. Big Sky Mining (Pty) Ltd will need a Prospecting Right under the Mineral and Petroleum Resources Development Act to carry out the proposed prospecting activities (MPRDA, Act No.28 of 2002). The Applicant must also obtain an Environmental Authorisation (EA) under the National Environmental Management Act (NEMA, Act No. 107 of 1998), which includes submitting a Basic Assessment Report and an Environmental Management Programme report (BAR & EMPr).

Big Sky Mining (Pty) Ltd has appointed Singo Consulting (Pty) Ltd to manage the Environmental Authorisation process by conducting Environmental Impact Assessment, Public Participation for the proposed project, and compiling the Basic Assessment Report and Environmental Management Programme report in support of the Prospecting Right application, which will then be submitted to the Department of Mineral Resources and Energy for adjudication. This BAR & EMPr has been designed to meet the specifications outlined in the NEMA's 2014 EIA Regulations. Stakeholder feedback will be used to develop this BAR and EMPr.

The proposed project area is on Portion 1 and the remaining extent of the farm Rietspruit 425 GT. Stakeholders were consulted through the use of a newspaper article published on June 30, 2023; emails were sent on June 30, 2023; and face-to-face consultations began on the 20th of June 2023. Chief Mbhatha and the community were consulted, and a meeting was held on 21 June 2023. According to the WinDeed search, the landowner for the farm's remaining extent is Dedani Farming and Contracting Cc, and the landowner for Portion 1 is Gwayimane Communal Property Association; a consultation email was sent on 30 June 2023, and no response has been received thus far. However, until a response is received, a follow-up will be conducted. Other stakeholders have made no comments or raised concerns. A draft BAR and EMPR will be shared for 30 days of review.

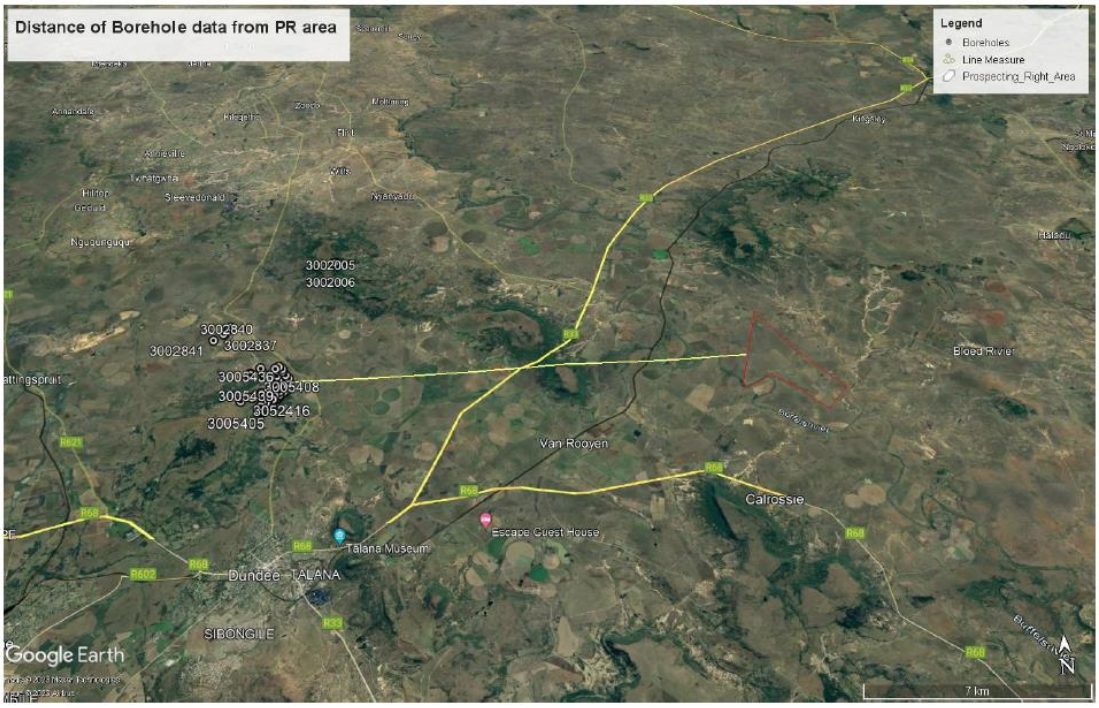
Locality Description: The proposed Prospecting Right Application encompasses Portion 1 and the Remaining Extent of the farm Rietspruit 425 GT, encircling a total of 867, 619 Ha. The proposed project area falls under the jurisdiction of the Endumeni Local Municipality. The project site is approximately 17.88 kilometers northeast of Dundee Town and 35.96 kilometers southwest of Vryheid Town. Under normal conditions, access to the site is convenient via R33 from Dundee, followed by unpaved farm roads leading to the project area. The proposed project's boundary is crossed by two streams: Buffelsriver on the west and Bazangoma River on the east. There are two dams visible, one to the south of the proposed area and one to the north of the farm, as well as wetlands.

The coalfields within the Endumeni Municipality, which are part of the Klip River coalfield, are known for their abundant reserves of high-quality bituminous coal. This coal is widely used for electricity generation and industrial processes, including steel production. This statement is substantiated by the presence of operational coal mines located approximately 18.59 km from the project site, including Aviemore mine, Buffalo Coal, Slater Coal (PTY) Ltd, and C Potco CC.

Some specialist studies will not be conducted based on the theme sensitivities from the screening tool since some sensitivities were not confirmed during ground truthing. Boreholes in high sensitivity areas, on the other hand, will be relocated to less sensitive areas, and other studies, such as the Heritage study, will be conducted at the request of SAHRA.

A Prospecting Work Programme (PWP) that includes both non-invasive and invasive prospecting activities has been developed. The Karoo Supergroup Vryheid formation is the PWP's target geological formation.

Council for Geoscience, located approximately 17.88 km away from the project area, reveals the interception of four coal seams: FRZ, ELD, TOP, BOT, and EXBOT. These seams were intercepted at depths of 125.22 m, 130.25 m, 139.17 m, 151.54 m, and 154.67 m respectively, starting from FRZ and progressing towards EXBOT. The corresponding thicknesses of these seams are 0.24 m, 0.11 m, 0.57 m, 1.65 m, and 0.75 m respectively. Below shows the location of notable data provided by the Council for Geoscience:



The project area exhibits varying topography, with a noticeable decrease in elevation from the northwest to the southeast. The elevation ranges between 1152 m and 1237 m above sea level, with the highest point located in the north and the lowest in the south. The land use and land cover map, reveals that agricultural activities, specifically cultivated land, predominantly occupy the area. Moreover, the area encompasses water bodies such as irrigation dams, while the Buffelsrivier flows alongside the western boundary of the project area and Bazangoma River on the east.

PART A

SCOPE OF ASSESSMENT AND BASIC ASSESSMENT REPORT

1. Contact Person and correspondence address

a) Details of applicant

APPLICANT CONTACT DETAILS

NAME OF APPLICANT	: Big Sky Mining (Pty) Ltd
Contact Person	: Mr. Sonwabo Sellwa Debedu
Cell No.	: 27 13 692 4378
Email	: sonwabo@tornowise.co.za
Physical Address	: 654 Kenilworth Street, Kyalami Estates Kyalami, Gauteng, 1684
DMRE Reference No.	: DMRE REF: KZN 30/5/1/1/2/11407 PR

1.1 Contact person and correspondence address

1.1.1 Details of the compiler

Name of the Practitioner	Mazithi Mangcu
Designation	Candidate EAP
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1.1.2 Details of the Environmental Assessment Practitioner (EAP)

Name of the Practitioner	Rudzani Shonisani Radebe
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1.1.3 Details of the Principal Environmental Assessment Practitioner (EAP)

Name of the Practitioner	N.K Singo
Designation	Principal EAP
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Cell No.	+27 78 2727 839
Fax No.	+27 86 514 4103
Email	*kenneth@singoconsulting.co.za*

1.2 Expertise of the EAP supervisor

Due to POPIA qualifications of the EAP will only be made available for final submission to the competent Authority.

2 Location of the Activity

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

Table 1: Location of the activity

Farm Name:	On Portion 1 and the Remaining Extent of the farm Rietspruit 425 GT
Application area (Ha)	867,619 Ha
Magisterial district:	Mzinyathi
Local Municipality	Endumeni
Distance and direction from nearest town	The project site is located approximately 17.88 km northeast of Dundee Town and 35.96 km southwest of Vryheid Town.
21digit SG Code	N0GT00000000042500000 N0GT00000000042500001

c) Locality map

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

The proposed project area as seen in figure 1, 2 and 3 below, is on Portion 1 and the Remaining Extent of the farm Rietspruit 425 GT, situated under Endumeni Local Municipality, which falls within the Magisterial District of Mzinyathi, in KwaZulu-Natal province. The project site is located approximately 17.88 km northeast of Dundee Town and 35.96 km southwest of Vryheid Town. Access to the site is convenient via R33 from Dundee, followed by gravel roads leading to the project area under normal circumstances.

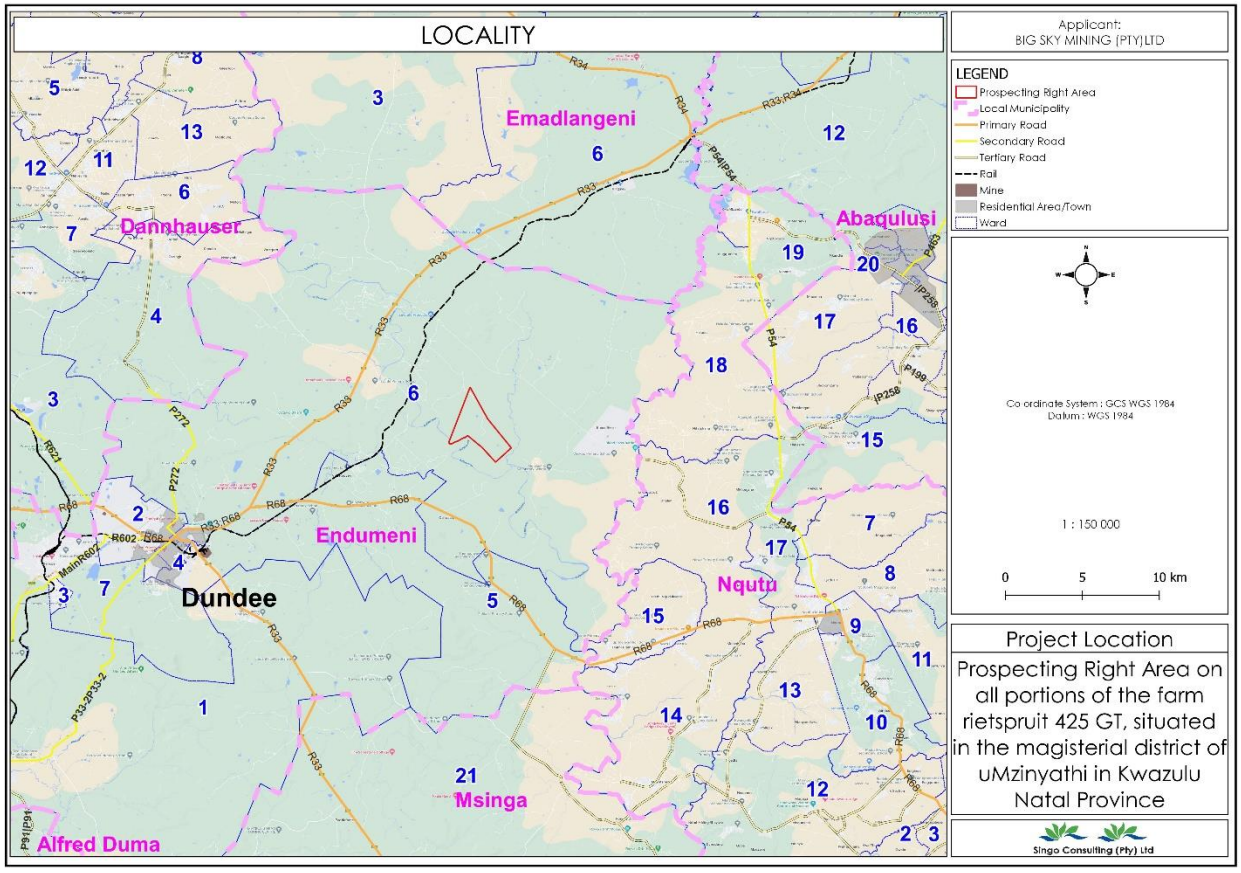


Figure 1: Locality map of the proposed project (Singo GIS, 2023)

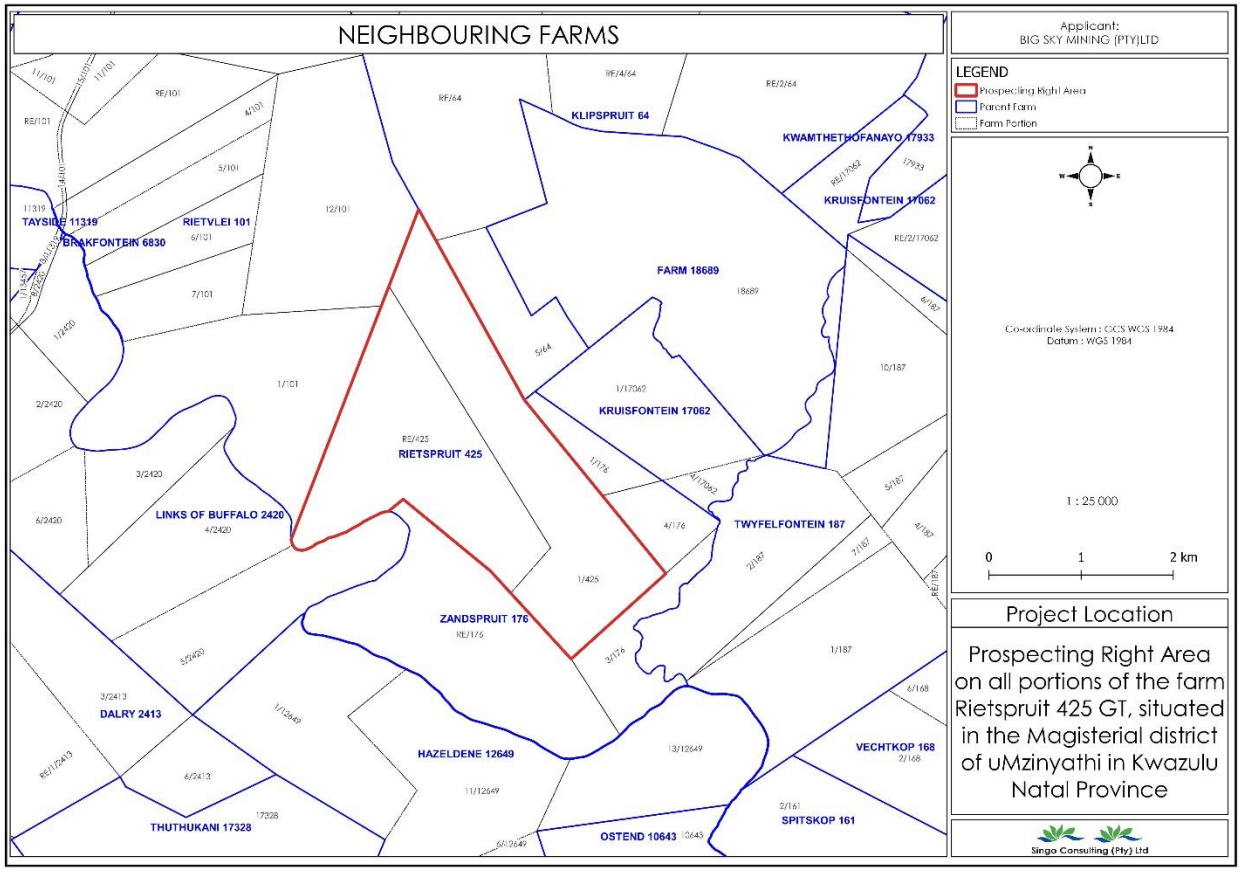


Figure 2: Adjacent Farms of the proposed project *(Singo GIS, 2023)*

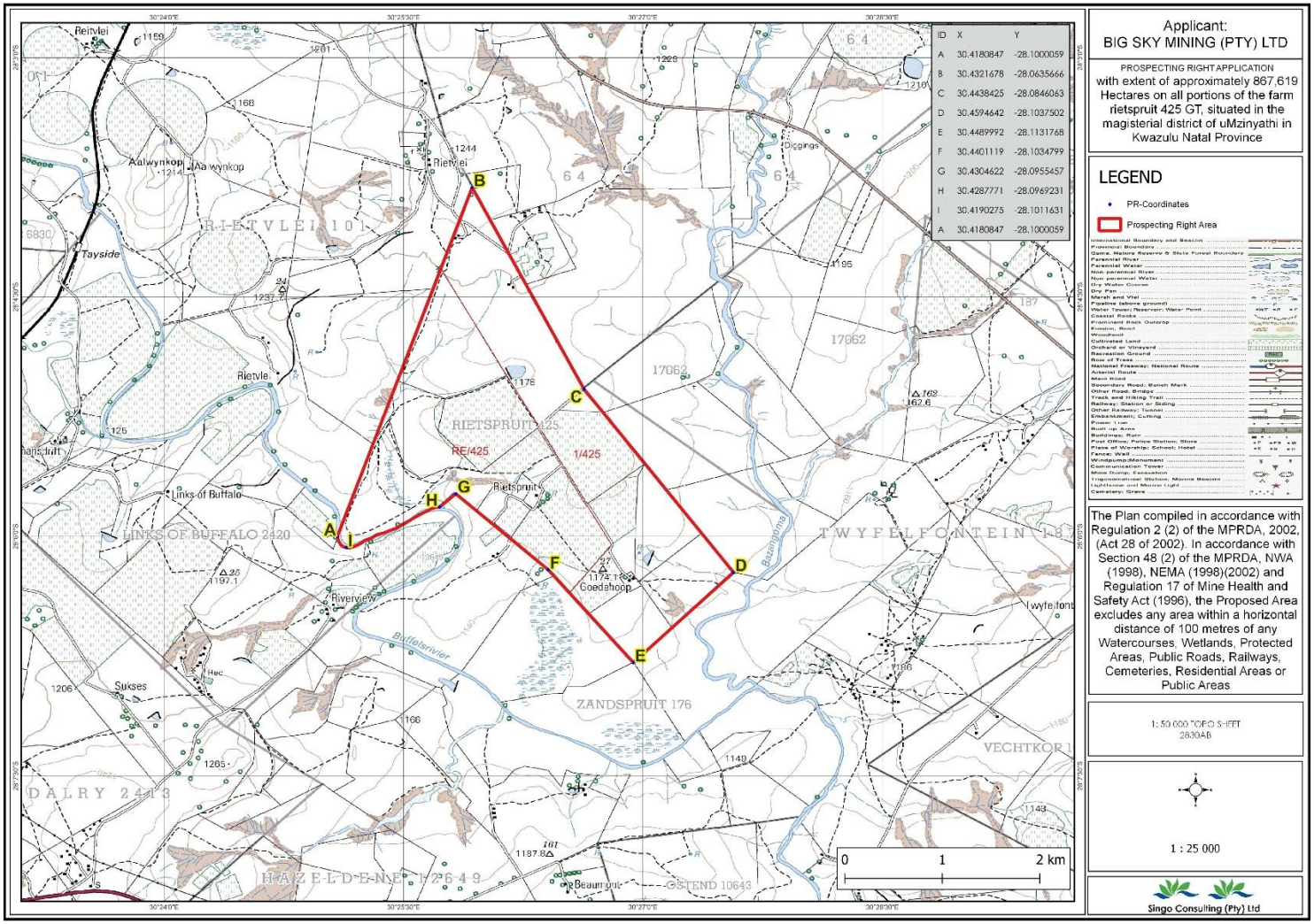


Figure 3: Regulation map showing Regulation Map of the proposed project area (Indicated by red) (-28.1000059, 30.4180847) *(Singo GIS, 2023)*

d) 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 previously mentioned main and listed activities, and infrastructure to be placed on site).

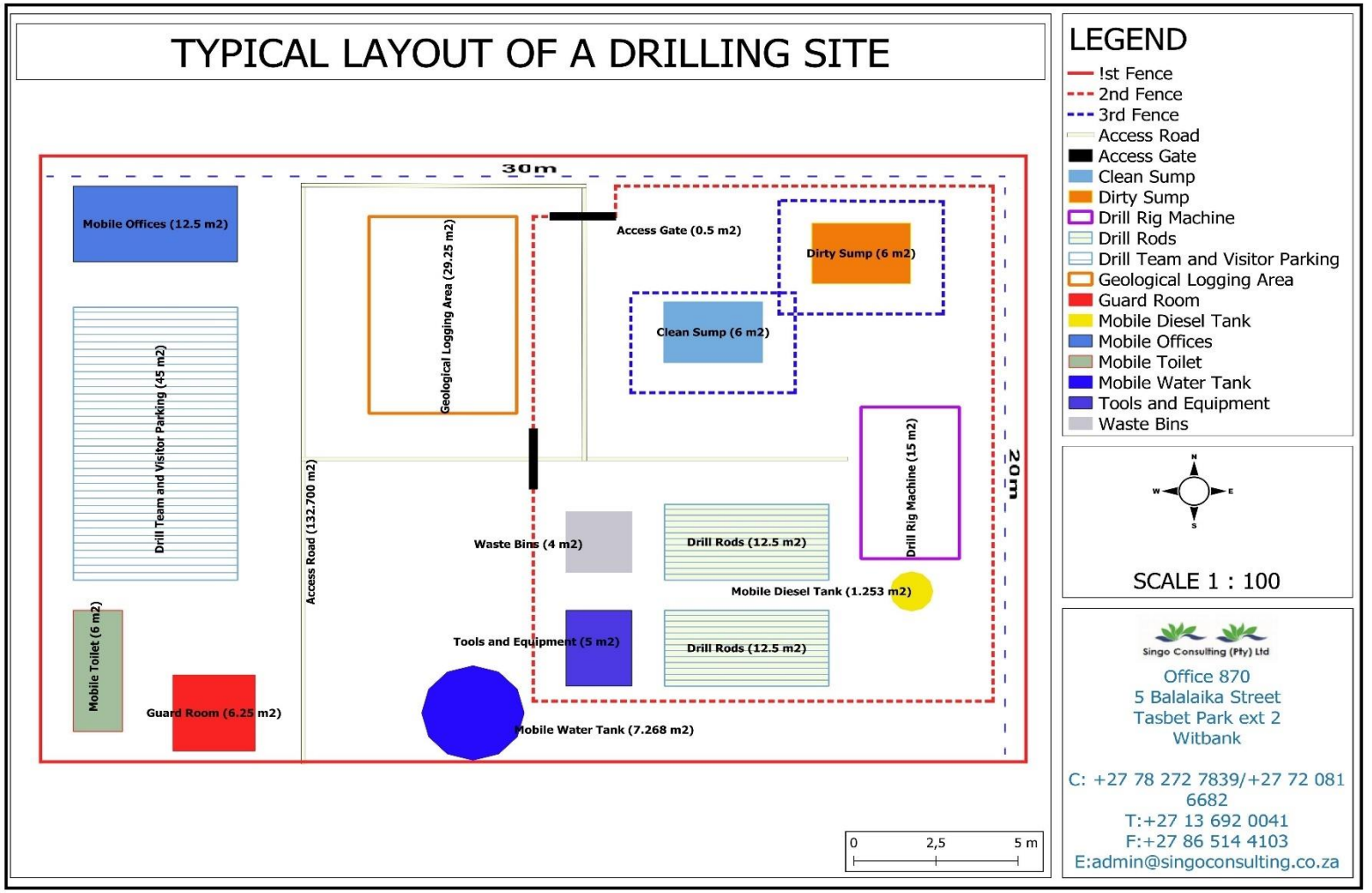


Figure 4: The drill site layout plan showing areas where specific activities will take place in the project area *(Singo GIS, 2023)*

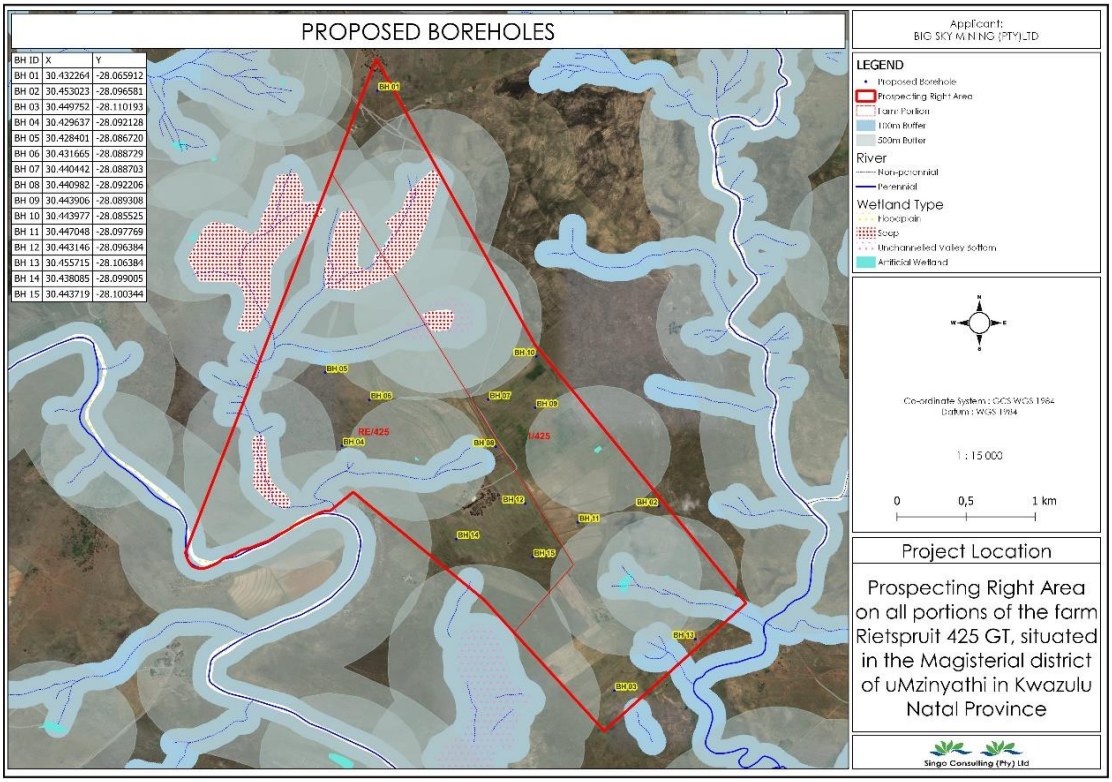


Figure 5: Proposed borehole map *(Singo Consulting (Pty) Ltd, 2023)*

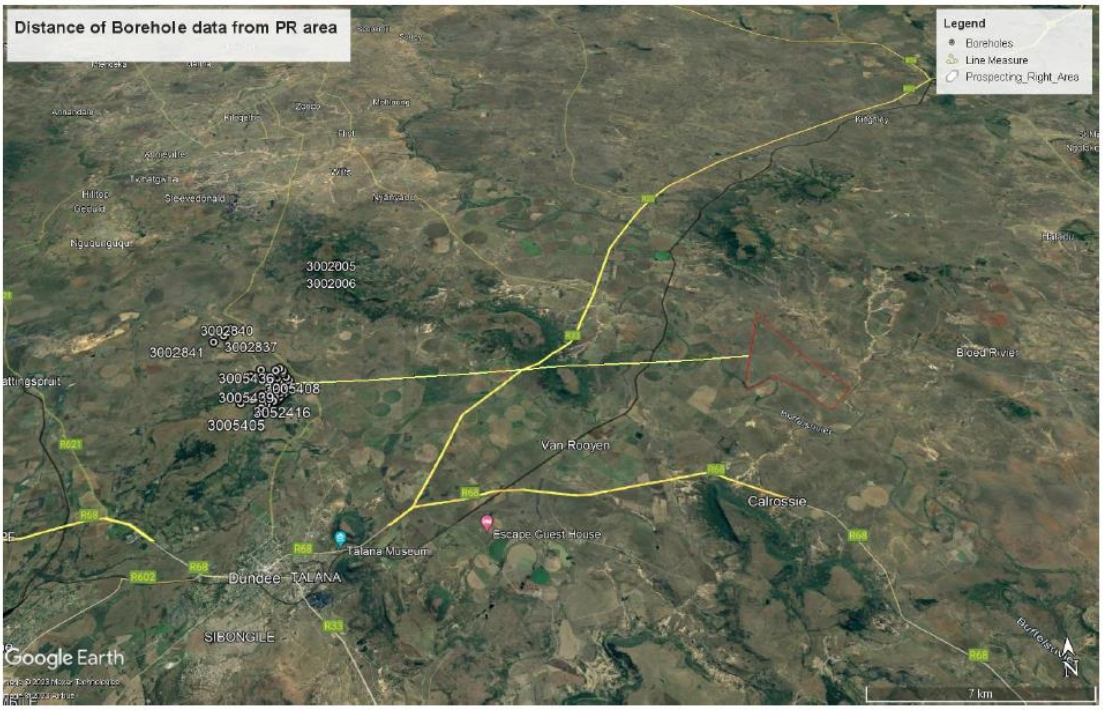


Figure 6: Distance of nearest borehole data from PR Area *(Singo Consulting (Pty) Ltd, 2023)*

Figure 6, shows the location of notable data provided by the Council for Geoscience, located approximately 17.88 km away from the project area, reveals the interception of four coal seams: FRZ, ELD, TOP, BOT, and EXBOT. These seams were intercepted at depths of 125.22 m, 130.25 m, 139.17 m, 151.54 m, and 154.67 m respectively, starting from FRZ and progressing towards EXBOT. The corresponding thicknesses of these seams are 0.24 m, 0.11 m, 0.57 m, 1.65 m, and 0.75 m respectively.

As part of the prospecting phase, physical prospecting is planned to be conducted on site and will involve the use of diamond core drilling to investigate the existence of the expected mineralization, the thickness of the orebodies and its distribution. Core logs will be taken off-site to be sampled and analysed. As shown in **figure 5** on the proposed borehole map, an estimated 15 boreholes will be drilled one at a time at various locations within the proposed project area. The depths of the drill holes will average 110 m and will be determined onsite whilst the drilling programme is underway as influenced by the depths and dips measured in other holes. Boreholes in high sensitivity areas, on the other hand, will be relocated to less sensitive areas. A buffer of 500 m will be kept from identified wetlands. A buffer of 100 meters will be kept from public roads.

The drill site will be fenced off, cleared and drilled. Rehabilitation will occur immediately after drilling. As a site is drilled, it will be rehabilitated, and the drilling crew will move onto the next planned hole. This procedure will be followed until all the holes are drilled. Drilling will be conducted in consultation with the landowners.

The drill site will be surrounded by fencing, cleared, and drilled. Drilling will be followed by rehabilitation. After a hole is drilled, the site is rehabilitated, and the drilling crew proceeds on to the next planned hole. This procedure will be repeated until all of the holes have been drilled. The drilling will take effect in consultation with the landowners.

No excavation, trenching, pitting, or bulk sampling will be done during the prospecting phase.

3 DESCRIPTION OF ACTIVITY

i. Listed and specified activities

Section 16 of the Mineral and Petroleum Resources Development Act (MPRDA) (No. 28 of 2002) states that an Environmental Management Programme must be submitted upon the Minister's request, and that the applicant must notify and consult with Interested and Affected Parties (I&APs). Section 24 of the National Environmental Management Act (NEMA) states that activities that may have an impact on the environment must be approved by the appropriate authority before they can be carried out. Such activities are covered by the NEMA's Regulations Listing Notice 1 Government Notice (GN) 327. See Table 2 for details of the listed activities.

Table 2: NEMA-Triggered Activities

NAME OF ACTIVITY **(E.g. For prospecting - drill site, site camp, ablution facility, accommodation, equipment storage, sample storage, site office, access route etc…etc…etc. 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, plant, storm water control, berms, roads, pipelines, power lines, conveyors, etc…etc…etc.)**	**Aerial extent of the Activity** **Ha or m²**	**LISTED ACTIVITY** **(Mark with an X where applicable or affected).**	**APPLICABLE LISTING NOTICE** **GNR 517, June 2021**	**WASTE MANAGEMENT AUTHORISATION** **(Indicate whether an authorisation is required in terms of the Waste Management Act).** **(Mark with an X)**
Prospecting Area	**867,619 Ha**	**X**	**GNR 517 Listing Notice 1, Activity 20.**	**Not required**
Vegetation clearing	- **600m² * 15 =** - **9000m²** - **0.9 ha**		**GNR 517 Listing Notice 1, Activity 27**	
Drilling	**0.9 ha**		**Not Listed**	
Site Camp	**600m²**		**Not Listed**	
Temporary road creation	**5 725 m²**	**X**	**GNR 517, Listing Notice 1** **Activity 56**	

Total area to be disturbed

9 000 m²÷10000=0.9ha

30*20=600m²

15 boreholes* 600m2=9000 m²

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:

3.1.1 Phase 1: Non-invasive prospecting

Phase 1A: Data collection and review.

This phase entails gathering data and reviewing all available project information, such as property description, tenure and permitting, accessibility, climate, environmentally sensitive areas, historical work, and geology. During this phase, a site visit will be conducted.

Phase 1B: Field Mapping

On a base map, geological mapping involves plotting the location and altitude of various rock units, faults, and folds. Geological maps are used to investigate geological hazards, mineral resources, groundwater aquifers, and other scientific phenomena. Ground mapping of geological features such as rock outcrops, lithological contact zones, any geological structural features, and surface depressions is included in this method.

Phase 1C: Data review report and analysis.

This phase entails confirming the sufficiency of baseline project data to support the preparation of a Bankable Feasibility Study (BFS). After the completion of the gap analysis, recommendations will be made to fill the shortfall in any technical or study area that may have a direct impact on the quality of the Bankable Feasibility study. Phases 1A and 1B (combined) will last about 1-2 months.

3.1.2 Phase 2: Geology and resources.

Drilling, geochemical sample analysis, data verification, and mineral resource estimation are all part of this phase, which accompanies international reporting codes such as the South African Code for Reporting of Exploration Results, Mineral Resources, and Mineral Reserves (SAMREC). To support the study, data acquisition and test work in the form of diamond or directional drilling (for geochemical assay and metallurgical test work) is required. After obtaining the geochemical analytical results, the creation of a geological and resource model, as well as the resulting SAMREC-compliant (or

similar) an estimate of mineral resources may be completed. The drilling program will include at least 15 boreholes (Table 3), with the main objective of validating historical data by obtaining reliable samples from various depths below the surface. The potential drilling method is described further below.

Diamond core drilling

Diamond core drilling uses a diamond-studded drill bit that is mounted on a cylindrical rotating shaft. A hydraulic or mechanical chuck securely holds the drill shaft and mounted drill bit, allowing it to rotate at the desired speed. The feed frame applies the necessary force to the bit to ensure effective cutting. The flush pump pushes water or other flushing fluids down the rod string, past the core barrel and core bit. This cools the bit and moves the cutting up to the surface outside the drill rod, reducing friction between the drill string and the borehole wall. The bit removes a core of rock, which moves up into the core barrel until the barrel is full.

Except for the sump required by the drill rig, no excavations will be required. The sumps are normally 1 m^2 and 50 cm (0.5 m) deep. It is always necessary to separate topsoil from the subsoils. The dimension of the borehole is NQ (±76 mm), and the average depth of Coal is estimated to be 110 m. On completion of the borehole, it is cemented from the bottom up. The only rehabilitation that will specifically be required is borehole capping and revegetation: Drill holes must be permanently capped as soon as is practicable.

Figure 7: Typical example of borehole drilling *(Singo Drilling, 2023)*

Table 3: Proposed prospecting phases and time frames

Phase	Activity	Skill(s) required	Timeframe	Outcome	Timeframe for outcome	What technical expert will sign off on the outcome?
Phase1: Invasive Prospecting						
	Diamond drilling (5 boreholes) Sampling	Exploration Geologist Exploration Geologist	Month 1 (30 days)	Borehole core data coal samples Rock core samples Core analyses Rock core analyses	Month 1 Month 2 – 3	Exploration Geologist Laboratory analyst
Phase 1: Non-invasive Prospecting						
	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
Phase 2: Invasive Prospecting						

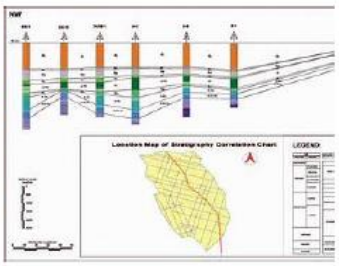
	Diamond drilling (5 borehole)	Exploration Geologist	Month 13	Borehole core data Coal core samples Rock core samples Core analyses Rock core analyses	Month 13 Month 13-14	Exploration Geologist Laboratory analyst
	Geophysical survey (Optional)	Geophysicist Exploration Geologist	Month 13-15	Lithology data Structural data	Month 13-14	Geophysicist
	Geohydrological survey (Optional)	Geohydrologist Exploration Geologist	Month 13-14	Borehole water yield Water samples	Month 17-20	Geohydrologist
Phase 2: Non-invasive Prospecting						
	Consultation with landowners	Mining Rights officer	Month 12	Legal Access Agreement	Month 12	Land Tenure Specialist

Phase	**Activity**	**Skill(s) required**	**Timeframe**	**Outcome**	**Timeframe for outcome**	**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
Phase 3: Invasive Prospecting						

	Diamond drilling (5 borehole)	Exploration Geologist	Month 25	Borehole core data Coal core samples Rock core samples Coal core analyses Rock 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
Phase 3: Non-invasive Prospecting						
	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 4: 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^2 (600 m^2 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 m2 (600 m2 x 15 boreholes = 9 000 m2 (0.9 Ha))

Drilling Method	Depth	No. of Boreholes
Core Diamond Drilling	>110m	15
		

3.1.3 Phase 3: Topographic survey

This phase includes a topographic survey. A detailed Digital Elevation Model (DEM) with 2m accuracy contour levels is required (existing LIDAr survey results to 5cm in the xyz space with a 1cm ortho-image is available).

3.1.4 Phase 4: Geophysical investigations

This phase includes gathering subsurface information about the Karoo Supergroup stratigraphy; this will confirm the exact location and depth of the; the nature and effects of dolerite intrusions; and the characteristics of the bedrock and overburden. Geophysical survey results will be interpreted in accordance with geological and drilling data to provide a solid foundation for analysis of coal characteristics and the potential for conversion from resource to reserve.

3.1.5 Phase 5: Mineral processing and metallurgical testing

This phase entails following standard feasibility study procedures to obtain test work results to determine the Run of Mine (RoM) ore quality. To establish basic

beneficiation plant design criteria and begin with basic engineering, layout planning, preliminary tendering, and cost estimates of initial capital costs for each of the main components, production planning, and operating cost estimates, RoM ore quality is required.

3.1.6 Phase 6: Reporting

This stage comprises reviewing, interpreting, peer reviewing, drawing conclusions and making recommendations, as well as compiling the final Bankable Feasibility report that is signed off on by the Competent Person. During this phase, the Mineral and Ore Reserve Report will be SAMREC-compliant.

3.2 EQUIPMENT

The equipment to be used is as follows:

a) Drill Equipment
b) Mechanical Shovel
c) Temporary Fencing
d) Wooden pegs
e) Safety Cones
f) Field vehicles
g) Spades
h) First aid kit
i) Sample bags
j) PPE (dust mask; gloves; goggles reflector vest)

Equipment will be stored at the active drill site.

3.3 Auxiliary Activities

3.3.1 Access roads

The project site is located approximately 17.88 km northeast of Dundee Town and 35.96 km southwest of Vryheid Town. Access to the site is convenient via R33 from Dundee, followed by gravel roads leading to the project area under normal circumstances.

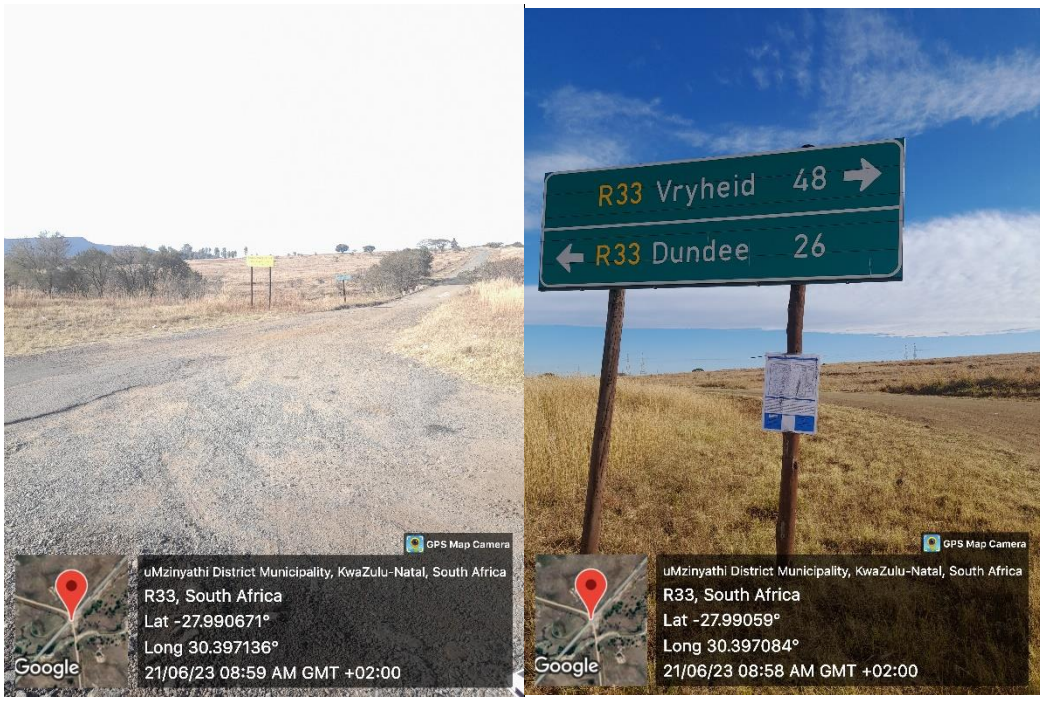


Figure 8: Access roads to the proposed project area *(Singo Consulting (Pty) Ltd, 2023)*

3.3.2 Ablution facilities

Mobile toilets will be installed on site for ablution purposes, and they will be removed after the prospecting period.

Figure 9: An image showing a typical example of mobile toilets *(Singo Consulting (Pty) Ltd, 2023)*

3.3.3 Temporary Office Area

At the drill sites, a shaded temporary site office will be constructed. There will be no on-site electricity generation via generators. Meals will be provided to the staff and

workers as there will be no heating or cold storage facilities. A shaded eating area will be provided.

3.3.4 Accommodation

Staff and workers will be accommodated in nearby towns (such as Dundee) near the proposed project area, where there are lodges and guesthouses. Once the equipment is in place, night security personnel will be hired.

3.3.5 Blasting

As the Prospecting Works Programme (PWP) does not allow for bulk sampling, no blasting will take place.

3.3.6 Storage of dangerous goods

Limited quantities of diesel fuel, oil, and lubricants will be stored on-site during drilling activities. Only diesel fuel will be stored in significant quantities. Aboveground diesel storage tanks will hold no more than $30m^3$.

4 LEGAL FRAMEWORK

e) Policy and Legislative Context.

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

Table 5: Applicable legislation to this application.

Applicable legislation and guidelines used to compile the report	**Reference where applied**	**How does this development comply with and respond to the policy and legislative context**
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., A Water Use License has been applied for in accordance with the National Water Act.
Legislation		
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 and accepted by the DMRE on the **26th of May 2023**. DMRE Ref: **(KZN 30/5/1/1/2/11407 PR)**. Singo Consulting has been appointed as an independent EAP by Big Sky Mining (Pty) Ltd to carry out the Basic Assessment Process associated with the Prospecting Right Application. All possible consequences of the proposed prospecting activities have been evaluated. The EMPr includes the implementation of mitigation measures that will apply throughout prospecting activities.
As per the Constitution of South Africa, specifically, everyone has a right to: 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	Prospecting activities	An EMPr for proposed prospecting activities has been developed to ensure that prospecting activities are carried out in a way that avoids significant environmental impacts. Where significant impacts cannot be avoided, they will be minimized and mitigated to protect South Africans' environmental rights.

Applicable legislation and guidelines used to compile the report	Reference where applied	How does this development comply with and respond to the policy and legislative context
promote conservation secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development.		
MPRDA, No. 28 of 2002 Section 16 (as amended)	Prospecting activities	The applicant submitted a Prospecting Right Application to the DMRE. The conditions and requirements 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 has been applied for in terms of of Chapter 4 of the National Water Act, 1998 (Act 36 of 1998).
National Environmental Management: Waste Act, Act 59 of 2008 (NEMWA) (as amended)	Management measures environmental awareness plan	Waste generation will be reduced by requiring drilling contractor employees to participate in an environmental awareness campaign prior to drilling. All waste generated during the drilling operations will be disposed of legally and responsibly. On-site proof of legal disposal will be kept. Waste management plan (cradle to grave) will be conducted.
National Heritage Resources Act (NHRA), 25 of 1999.	Management measures	If archaeological artifacts or skeletal material are discovered in the area during development, work will be halted and the South African Heritage Resource Agency (SAHRA) will be notified to conduct an investigation and evaluation of the discoveries.
Municipal plans and policies		
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.
Standards, guidance and spatial tools		
South African National Biodiversity Institute (SANBI) Biodiversity GIS (bgis.sanbi.org)	Baseline environmental	Used during desktop research to identify sensitive environments in the prospecting rights area.

Applicable legislation and guidelines used to compile the report	Reference where applied	How does this development comply with and respond to the policy and legislative context
	description.	
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.

5 NEED AND DESIRABILITY

f) 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).

NEED AND DESIRABILITY OF THE PROPOSED PROJECT		
PART I: NEED		
Questions (Notice 792, NEMA, 2012)		Answers
1.	Is the land use associated with the activity being applied for considered within the timeframe intended by the existing approved SDF agreed to be the relevant environmental authority?	Prospecting is an integral part of its rationale to make use of the abundant natural resources in the area to create strong, resilient, and prosperous district. The land use is not associated with prospecting.
2.	Should the development, or if applicable, expansion of the town/area concerned in terms of this land use occurs here at this point in time?	Should a mining right be applied for and be approved in future, the integrity of the existing environmental management priorities of the area may be compromised, and a full Environmental Impact Assessment must then be conducted to determine the sustainability of the prospecting activities. The proposed project will have a positive impact on the socio-economic conditions of the local communities involved, should the results of the prospecting show that feasible reserves are present to mine and a mining right is approved.

3.	Does the community/area need the activity and the associated land use concerned? This refers to the strategic as well as local level.	According to the IDP (2022/2023), The informal economy of the municipalities 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. The Big Sky Mining (Pty) Ltd prospecting will yield positive impact on the socio-economic conditions especially if it graduates to mining, by creating more jobs and providing developments to the local dwellers and more to the farm workers.
4.	Are the necessary services with adequate capacity currently available (at the time of application) or must additional capacity be created to cater for the development?	All service and capacity infrastructure will be temporary and provided for the proposed prospecting/drilling activities. Mobile toilets and temporary shaded areas (in the form of gazebos) are examples of temporary infrastructure. The drilling mechanisms used will be diamond core drilling. The road networks are completely intact, and the project will have no significant impact on traffic congestion. Existing routes will be used and maintained, as will the structures in the areas, for the duration of the drilling project.
5.	Is this development provided for in the infrastructure planning of the municipality, and if not what will the implication be on the infrastructure planning of the municipality (priority and placement of the services and opportunity cost)?	The development is not provided for in the infrastructure planning of the municipality as it is a small development of local importance. Thus, the proposed project will not have any implications for the infrastructure planning, as no services and/or infrastructure needs to be upgraded or created to cater for this project. The proposed project will be making use of mobile structures.

6.	Is the project part of a national programme to address an issue of national concern or importance?	The mining sector is a significant contributor to the National GDP as well as a massive employer of people. This project will contribute to the National Development Plan of eradicating poverty/unemployment. Chapter 6 of the National Development Plan highlights an "inclusive rural economy" and the objectives of this plan are to create jobs in mining and industry and activating rural economies through service to small and micro mining.
PART II: DESIRABILITY		
7.	Is the development the best practicable environmental option for this land/site?	The project area lies on unclassified areas. The activities currently dominated by natural vegetation and little of plantation and cultivation. The disturbed areas (drill sites) will be rehabilitated after prospecting activities.
8.	Would the approval of this application compromise the integrity of the existing approved and credible IDP, and SDF as agreed to by the relevant authorities?	The approval of this prospecting application will not compromise the integrity of the existing environmental management priorities of the area provided that sensitive areas are avoided, and the mitigation measures as recommended in this report and in the EMPr are implemented.
9.	Would the approval of this application compromise the integrity of the existing environmental management priorities for the area (e.g. as defined in EMFs), and if so, can it be justified in terms of sustainability considerations?	The integrity of the existing environmental management priorities for the area will not be compromised by this development.
10.	Do location factors favour this land use at this place? (this relates to the contextualization of the proposed land use on this site within its broader context).	Coal is formed by the accumulation of plant debris, which typically occurs in a swamp environment. The rate of plant debris accumulation must be greater than the rate of decay in order to form the thick layer of plant debris required to produce a coal seam. When a thick layer of plant debris

		forms, it must be buried by sediments like mud or sand. Typically, these are washed into the swamp by a raging river. The weight of these materials compacts plant debris, assisting in its conversion to coal. One foot of coal is equivalent to about ten feet of plant debris.
11.	How will the activity of the land use associate with the activity being applied for, impact on sensitive natural and cultural areas (built and rural/natural environment)?	As far as the Basic Assessment on the area of question, there is known heritage or cultural significance as numerous graves were confirmed on site and Heritage study will be conducted with recommendations to the applicant.
12.	How will the development impact on people's health and well-being? (E.g. In terms of noise, odours, visual character and sense of place, etc.)?	In summary, due to the fact that this area has a low density of residents (Community but has farmers, the impacts on well-being, following mitigation, will be as follows: • Visual: Medium to low • Dust: Low • Noise: Low • Vibrations: Low Strict adherence to the recommendations & mitigation measures identified will be ensured.
13.	Will the proposed activity or the land use associated with the activity being applied for, result in unacceptable opportunity costs?	For a long time, the mining industry in KwaZulu Natal has been a pillar of the economy. South Africa continues to demonstrate that mineral revenues can generate significant economic benefits in the countries where they are extracted. In order to maintain the need for electricity in Endumeni Local Municipality, the applied commodity contributes significantly to the Municipal GDP.
14.	Will the proposed land use result in unacceptable cumulative impacts?	The proposed project only has minimal cumulative impacts that can be mitigated to an acceptable level. The measures outlined in the attached EMP will be used to keep the proposed project from having any significant long-term cumulative impacts on the receiving environment.

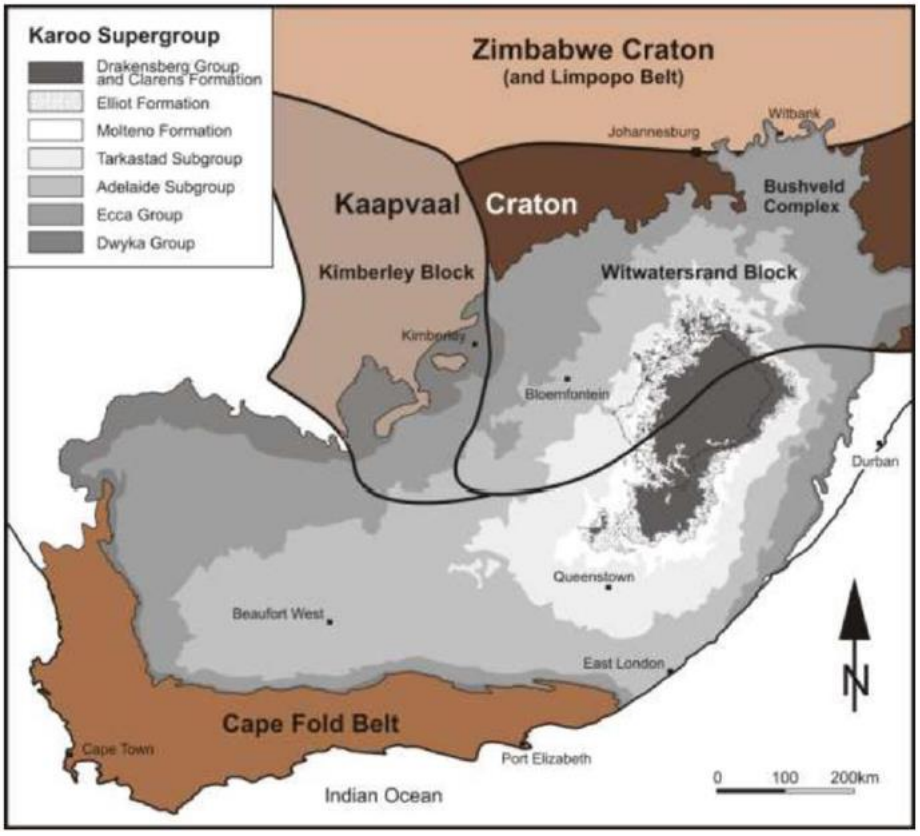


Figure 10: General representation of the Karoo Supergroup (Hancox and Gotz, 2014).

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 Local Municipality.

6 ALTERNATIVES

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

Some studies conducted by experts will not be done based on the theme sensitivities from the screening tool, as some sensitivities were not confirmed through ground truthing. Boreholes in high sensitivity locations, on the other hand, will be moved to less sensitive sites, and other studies, such as the Heritage study, will be done at the request of SAHRA.

The only major methods for prospecting for deposits of this type, as well as resource characterization and appraisal, are geophysical surveys and drilling. Considering the technology utilized cannot be replaced by alternative means, these are the recommended activities.

There is no other site alternative as the property provides the ideal geological formation for the presence of the minerals applied for. Literature review shows that the area is located in geological formations of the Karoo Supergroup known to host coal deposits in the KwaZulu Natal region, particularly the Masotcheni Formation and Vryheid Formation. Therefore, the prospecting right area needs to be explored for the mineral of interest in order to prove its occurrence in the project area.

h) 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.

Each phase depends on the result of the preceding one. As such, mapping of the prospecting activities could not be undertaken for inclusion in this report.

i.Details of the development footprint alternatives considered.

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

a. Property on which or location where it is proposed to undertake the activity;

b. Type of activity to be undertaken;

c. Design or layout of the activity;

d. Technology to be used in the activity;

e. Operational aspects of the activity; and

f. Option of not implementing the activity.

6.1 Property

Big Sky Mining (Pty) Ltd is applying for Coal Prospecting Right on Portion 1 and the Remaining Extent of the farm Rietspruit 425 GT, based on existing knowledge of the geological information of that area. The site was identified based on knowledge of the Coal deposits and as such, no site alternatives have been considered for the proposed activities.

The following buffers will be applied to the final site selection:

- No drill site will be positioned within 100 m of a structure
- No drill site will be positioned within 500 m of a water course or wetland
- Where possible existing access roads will be utilized to access the drill sites.

6.2 Type of Activity

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 110 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.

6.3 Design & Layout

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. No infrastructure will be developed on site; portable ablution facilities will be used.

- 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 focused.
- No changes to the layout are considered but with the geophysical survey information, the holes can be orientated to match the shape of the orebody.

6.4 Technology

The biggest technology intervention is the use of geophysical surveys, which makes the requirement for less holes apparent. Geophysical surveys also provide an

added advantage of being done quickly and so execution can commence early. The safety factor of utilizing geophysical surveys is also apparent, as there is less time to keep people exposed to moving machinery.

6.5 No-Go Option

The existing agricultural livestock activities will continue. If prospecting is not approved, the presence of Coal will not be assessed. The feasibility for mining at the proposed site will not be established. The coal that is important to the on-going industrialization of the South African economy may not be identified, recovered, processed and deployed to grow the economy.

7 PUBLIC PARTICIPATION PROCESS

ii. 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 enough 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).

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 provides people who may be interested in or affected by the proposed development with an opportunity to provide comments and to raise issues or concern, or to make suggestions that may result in enhanced benefits for the project. The PPP, inter alia, involves the following:

The main aspect around public participation is finding the relevant I&APs, in this project the relevant I&APs were.

- Landowners
- Adjacent Landowners
- Local Municipality
- Government Departments

7.1 Notification of potentially interested and affected parties

The stakeholder engagement process was initiated on the 30th of June 2023 and employed several techniques to establish contact and raise awareness amongst stakeholders regarding the application.

7.1.1 Interested and Affected Parties Identification Procedure

The Interested & Affected Parties for this particular project were identified through telecommuting (via e-mail media communications and telecommunications), on the 30th of June 2023. Other means of Identification & notification adopted was through the print media in a form of newspaper advert and placement of A2 size notices in prominent spaces.

7.1.2 Newspaper advertisements

A newspaper advertisement was placed and published in the local paper, Northern Natal Courier on the 30th of July 2023 to notify all the Interested & Affected Parties of the proposed project.

7.1.3 Public Space Notices

Site notices were placed on the farm boundaries and adjacent farms. Endumeni Local Municipality & Dundee Public Library from the 20th of June 2023 to 21st of June 2023.

7.1.4 Conclusion of the consultation process followed

Background Information Documents (BIDs) will be provided to Governmental Departments, to introduce the project and to invite them to forward views, comments and recommendations about the project. Stakeholder engagement & consultation through BID commenced for 30 days from the day of announcement: 30th of June 2023 to 29th of July 2023, unfortunately it could not be released to stakeholders and I&APs for review on the 29th of July 2023 due to additional studies that are needed to be conducted for project.

The Draft BAR and EMPr will released for a period of 30 days, starting from the day of the Draft BAR and EMPr is distributed to stakeholders, excluding public holidays declared in terms of Section 2A of the Public Holidays Act of 1994.

A newspaper advertisement was placed and published in the local paper (Northern Natal Courier), on the 30th of June 2023 to notify all the Interested & Affected Parties of the proposed project as shown on **Figure 11**.

Northern Natal Courier

Classifieds

To advertise here contact Jade 034 2182534 or email class.courier@caxton.co.za

HLALA NATHI
For Construction Workers & Delivery Drivers
Clean, Safe, Affordable & Free Parking
Newcastle, Dundee, Ladysmith, Estcourt, P/MBurg, Durban, Empangeni, Margate, Harding & Port Edward
Tel: 031 205 4113 Cell: 072 779 3000
Email: info@hlalanathilodges.co.za

0040 CONDOLENCES

DU PLOOY
Our deepest sympathy to the family of **ANDRE** of Glencoe on the loss of your loved one
AVBOB Dundee
We're here for you
Member of NFDA
Tel: 034 218 2108
24 Hour Service

MATHABULA
Our deepest sympathy to the family of **NKOSINATHI** of Glencoe on the loss of your loved one
AVBOB Dundee
We're here for you
Member of NFDA
Tel: 034 218 2108
24 Hour Service

ZULU
Our deepest sympathy to the family of **PHINDILE** of Dannhauser on the loss of your loved one
AVBOB Dundee
We're here for you
Member of NFDA
Tel: 034 218 2108
24 Hour Service

Shabalala
Our deepest sympathy to the family of **NOSIPHO** of Ethoteni on the loss of your loved one
AVBOB Dundee
We're here for you
Member of NFDA
Tel: 034 218 2108
24 Hour Service

0300 SERVICES

0360 MISCELLANEOUS

Refurbishing of old wooden furniture. Done at Dundee Adult Centre.
59 Victoria Street.
Tel: 034 - 212 3427.

OPTOMETRIST/ OOGKUNDIGE
Contact Lens Practitioner/ Kontaklens Praktisyn
LANCE M KING and Partners/Vennote
Gladstone Str. 63A
Tel: 034-2123011

PLEASE SUPPORT THE
DUNDEE SPCA
BY DONATING DOG AND CAT FOOD, BLANKETS AND PET TOYS.
CASH DONATIONS ARE ALSO WELCOMED.
SPCA OFFICE:
034 212 2851

0800 LEGAL NOTICES

IN THE ESTATE OF THE LATE: MCDONALD MUNTU MTHABELA
I.D. NO: 6112175723086
DATE OF BIRTH: 1961-12-17
DATE OF DEATH: 2022-05-24
ESTATE NUMBER: 000566/2023/PMB

The First and Final Liquidation and Distribution Account will lie for inspection at Newcastle Magistrate Court and the office of the Master of the High Court, Pietermaritzburg for a period of 21 (Twenty-one) days from date of publication 30TH JUNE 2023.

DATED AT NEWCASTLE THIS DAY 23TH OF JUNE 2023.

D.S. GUMBI ATTORNEYS INC.
OFFICE NO. 1 ITHALA CENTRE
BABANANGO ROAD
NQUTHU, 3135
TEL: 034 312 3227
FAX: 034 312 3233
E-MAIL: lit@gumbi-attorneys.co.za
REF: GUMBI/CVM01/EL/NTU/23

ESTATE NOTICE
ESTATE NO: 0087/27/ 2022/ PMB

In the Intestate Estate of the Late MOHAMED SADEK SADEK, Identity Number: 540705 5117 08 1 of 11 Daffodil Street, Dannhauser, Kwazulu-Natal who died in Utrecht on the 20th August 2010 and is survived by RAZIA BANOO SADEK, Identity Number: 600110 0750 08 4, the spouses having been married in community of property.

Creditors and Debtors in the above Estate are hereby required to lodge their claims with and pay their debts to the undersigned within 30 days of the date of publication hereof.

DATED AT DUNDEE ON THIS 30th DAY OF JUNE 2023

MESSRS RAFIQ KHAN & CO.
ATTORNEY'S FOR THE EXECUTOR
45 MCKENZIE STREET
P.O. BOX 692
DUNDEE, 3000
REF: RAK/S/TR

DID YOU KNOW?
ALCOHOLISM IS A DISEASE
TAKE RESPONSIBILITY TODAY, FIND AN AA MEETING
0861 435 722
24 / 7 HELP LINE

NOTICE OF PUBLIC PARTCIPATION FOR PROSPECTING RIGHT AND ENVIRONMENTAL AUTHORIZATION APPLICATION

ISIZULU

Isaziso Sohlelo Lokucela Ilungelo Lokubheka Ngokufunwa ngokoMthetho WoMineral kanye NePetroleum Resources Development Act (MPRDA) (Act 28 of 2002) mayelana nokufunwa kwamalahle **kwingxenye 1 kunye nengxenye esele yepulazi i- Rietspruit 425 GT Whole Farm**, endaweni yesiFunda sikaMantshi ase**Mzinyathi** Isifundazwe sa**Kwa-Zulu Natal.**

ISIMEMO SOKUBHALISA & PHAWULA

Isaziso sikhishwa ngokomthetho wokuthuthukiswa kweziMbiwa Nezimbiwam kanye Phethiloli (MPRDA) (uMthetho wama-28 wezi-2002) kanye nemithethonqubo ye-EIA ka-2014, eshicilelwe ngaphansi kwesaziso sikahlumeni esingunombolo 982 kuGazethi No. 3822 mhla zingu-8 kuZibandlela kunyaka ka-2014, esachitshiyelwa mhla zingu-7 kuMbasa kunyaka ka-2017 futhi ngu GN 517 ngo-11 Juni 2021, sokuthi **Big Sky Mining (Pty) Ltd** lufake isicelo seLungelo Lokuhlola amaminerali ashiwo ngenhla **DMRE Ref: KZN 30/5/1/1/2/11407 PR.**

Njengengxenye yenqubo ye-EIA, ikakhulukazi inqubo yokubamba iqhaza komphakathi kule phrojekthi ehlongozwayo, Abanentshisekelo Nabathintekayo (I&APs) bayamenywa ukuba babhalise futhi bathumele ngomusa noma yikuphi ukuphawula noma ukukhathazeka ukuze kufinyelele kwi-**Public Participation Officer: uNksz Mazithi Mangcu**, kusetshenziswa imininingwane yokuxhumana enikezwe ngezansi. Umphakathi uyamenywa futhi ukuthi ubuyekeze futhi uphawule mayelana Nohlaka Lombiko Wokuhlola Okuyisisekelo kanye ne-EMPr. Uhlaka lwe-BAR & EMPr luzothola kala ukuthi lubuyekezwe esikhathini sekhalenda lezinsuku ezingama-30 kusukela **ngoMgqibelo mhla ziyi-29 kuNtulikazi wezi-2023 ukuya ngoMsombuluko mhla ziyi-28 kuNcwaba wezi-2023 (ngaphandle kwamaholide).**

Lo mbiko uzotholakala **eDundee Public Library** (Boundary Rd, Dundee, 3000), kunye no**Masipala wasekhaya Endumeni** (64 Victoria Street, Dundee). Ikhophi ethambile iyatholakala kwa-**Singo Consulting (Pty) Ltd** uma icelwa, kusetshenziswa imininingwane yokuxhumana yomsizi ka-Environmental Assessment Practitioner (EAP). Amazwana nge-DBAR & EMPr kufanele athunyelwe ngaphambi komhla ziyi- **28 kuNcwaba 2023.**

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 portion 1 and the Remaining Extent of the farm Rietspruit 425 GT Whole Farm** 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. 982 in Gazette No. 3822 of 4 December 2014, amended on 7 April 2017 and by GN 517 on 11 June 2021 that **Big Sky Mining (Pty) Ltd** has applied for a Prospecting Right for the above-mentioned mineral with **DMRE Ref: KZN 30/5/1/1/2/11407 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 **Public Participation Officer: Miss Mazithi Mangcu**, 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 AND PPP. Officer Contact Details:

Singo Consulting (Pty) Ltd

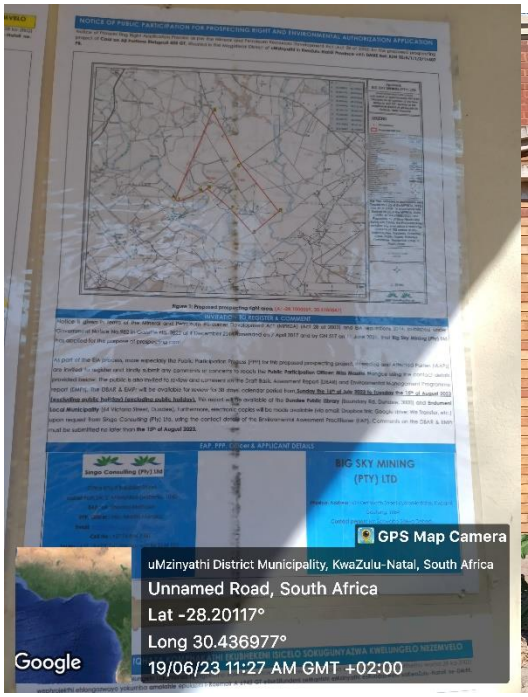
Office 870, 5 Balalaika Street,
Tasbet Park Ext. 2, eMalahleni (Witbank), 1040
EAP.: Mr. Khodani Mathako
PPP Officer.: Miss. Mazithi Mangcu
Cell No.: +27 74 884 1000
Tel No.: +27 13 6920 041
Fax No.: +27 86 5144 103
Email: mazithi@singoconsulting.co.za

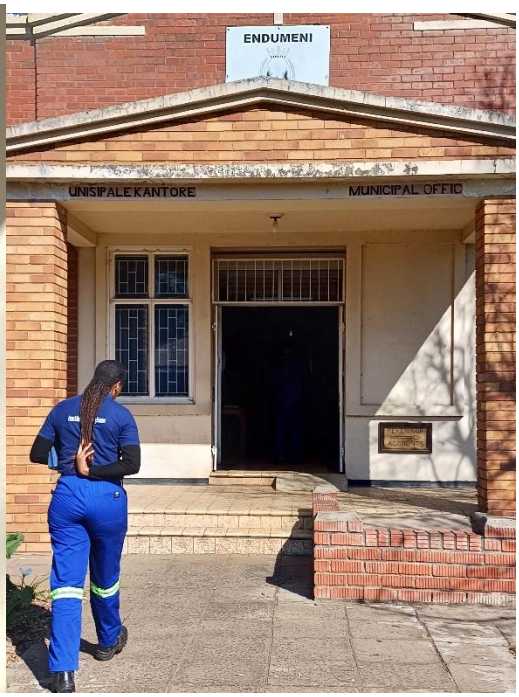
Applicant Details:

BIG SKY MINING (Pty) Ltd

Physical Address: 654 Kenilworth Street Kyalamiestates, Kyalami, Gauteng, 1684
Contact person: Mr. Sonwabo Sellwa Debedu
Cell No.: +27 79 494 0068
Tel No.: +27 13 692 4378
Email: sonwabo@tornowise.co.za

Figure 11: Newspaper Ad on Northern Natal Courier (30th of June 2023)


NOTICE OF PUBLIC PARTICIPATION FOR PROSPECTING RIGHT AND ENVIRONMENTAL AUTHORIZATION APPLICATION
BIG SKY MINING (PTY) LTD
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
Google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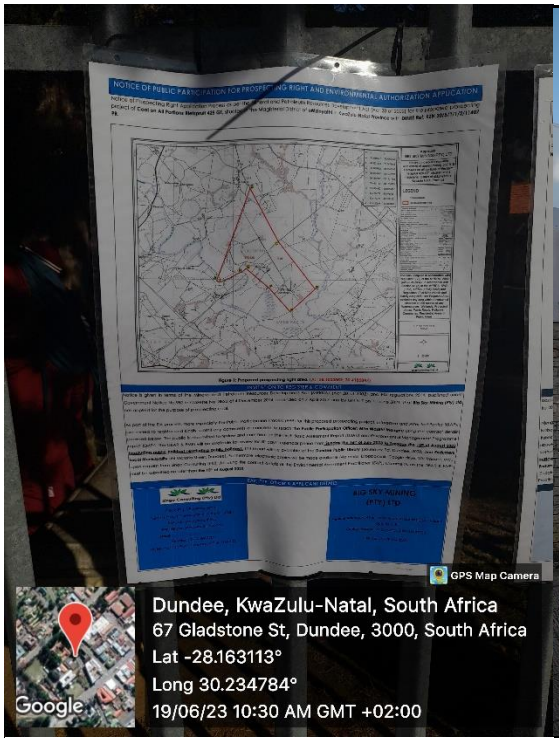
MUNICIPAL OFFIC

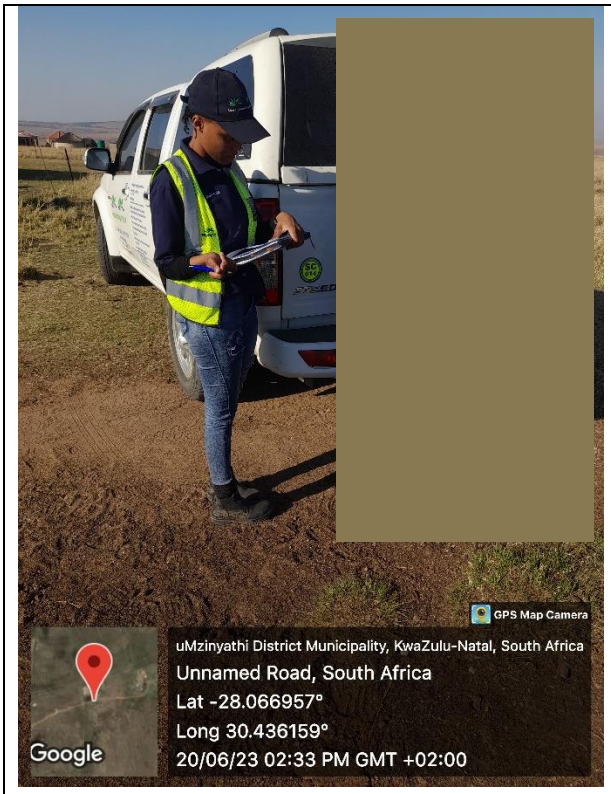

NOTICE OF PUBLIC PARTICIPATION FOR PROSPECTING RIGHT AND ENVIRONMENTAL AUTHORIZATION APPLICATION
GPS Map Camera
Dundee, KwaZulu-Natal, South Africa
67 Gladstone St, Dundee, 3000, South Africa
Lat -28.163113°
Long 30.234784°
19/06/23 10:30 AM GMT +02:00
Google

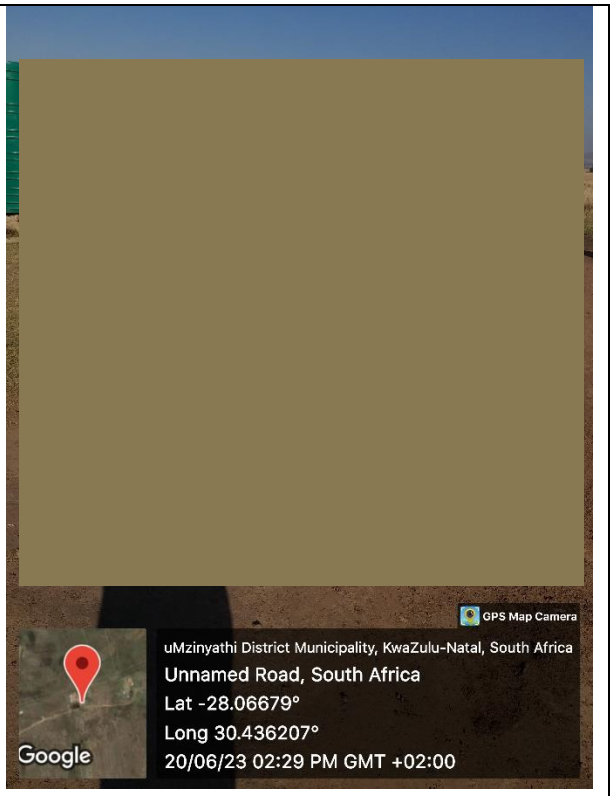

DUNDEE PUBLIC LIBRARY
GPS Map Camera
Dundee, KwaZulu-Natal, South Africa
44 Boundary Rd, Dundee, 3000, South Africa
Lat -28.163246°
Long 30.234726°
19/06/23 10:42 AM GMT +02:00
Google

Figure 12: Plugging of site notices (Singo Consulting (Pty) Ltd, 2023)

7.2 Face to face consultation

Endumeni Local Municipality, Dundee Public Library and Neighbouring landowners were consulted and given the Background information document (BID) pertaining the proposed project on the **20th of June 2023. Refer to Figure 13** for proof of consultation.





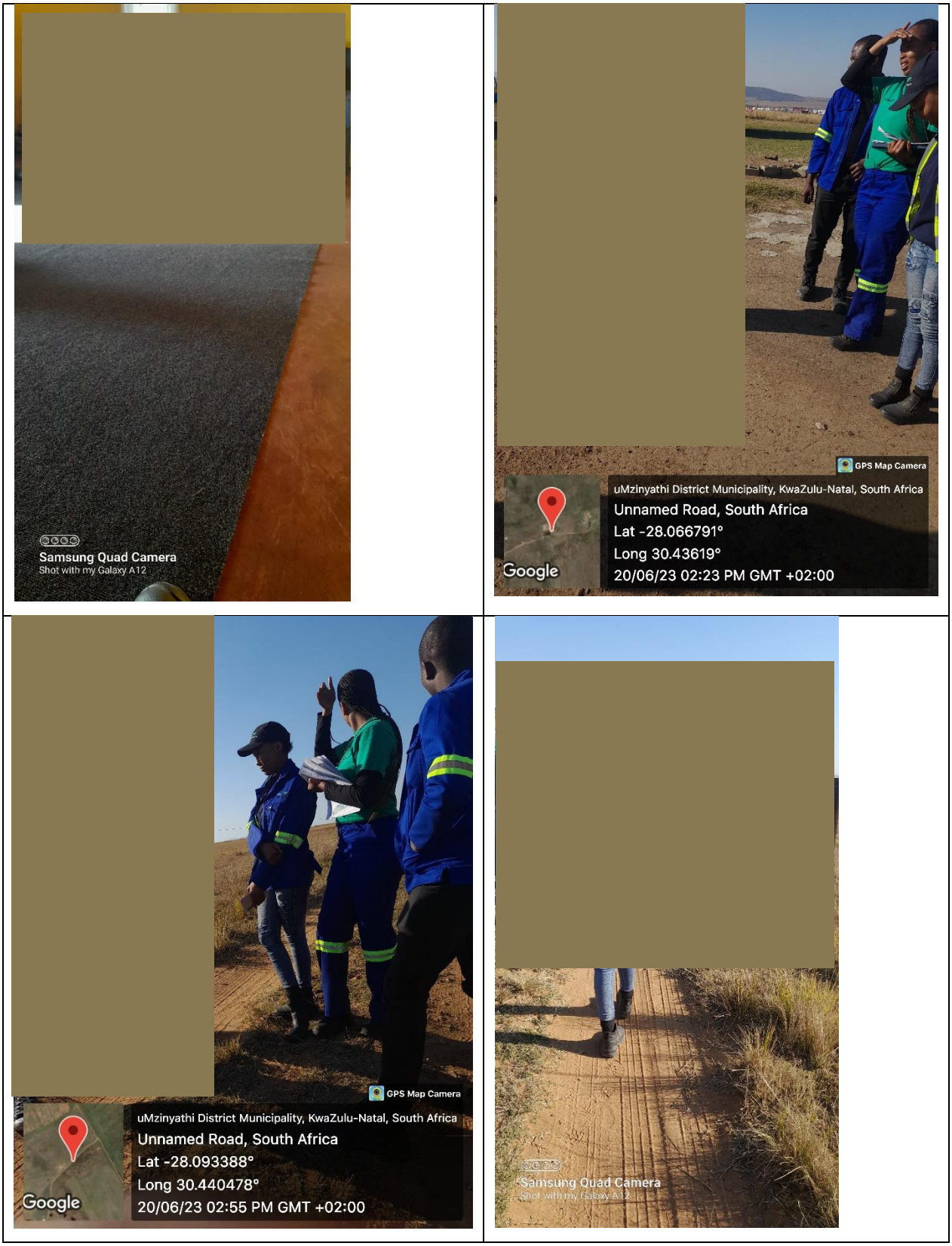


Figure 13: Face to face consultation (Singo Consulting (Pty) Ltd, 2023)

7.3 Community meeting with Tribal Council

A community meeting was held at **eMajuba** on the **21st of June 2023**. Community members were given a chance to raise their concerns as well as their needs pertaining to the proposed project. Attached are the attendance register and pictures of the meeting. Attached **Figure 14** and **Figure 15** are the pictures of the meeting and the attendance register.

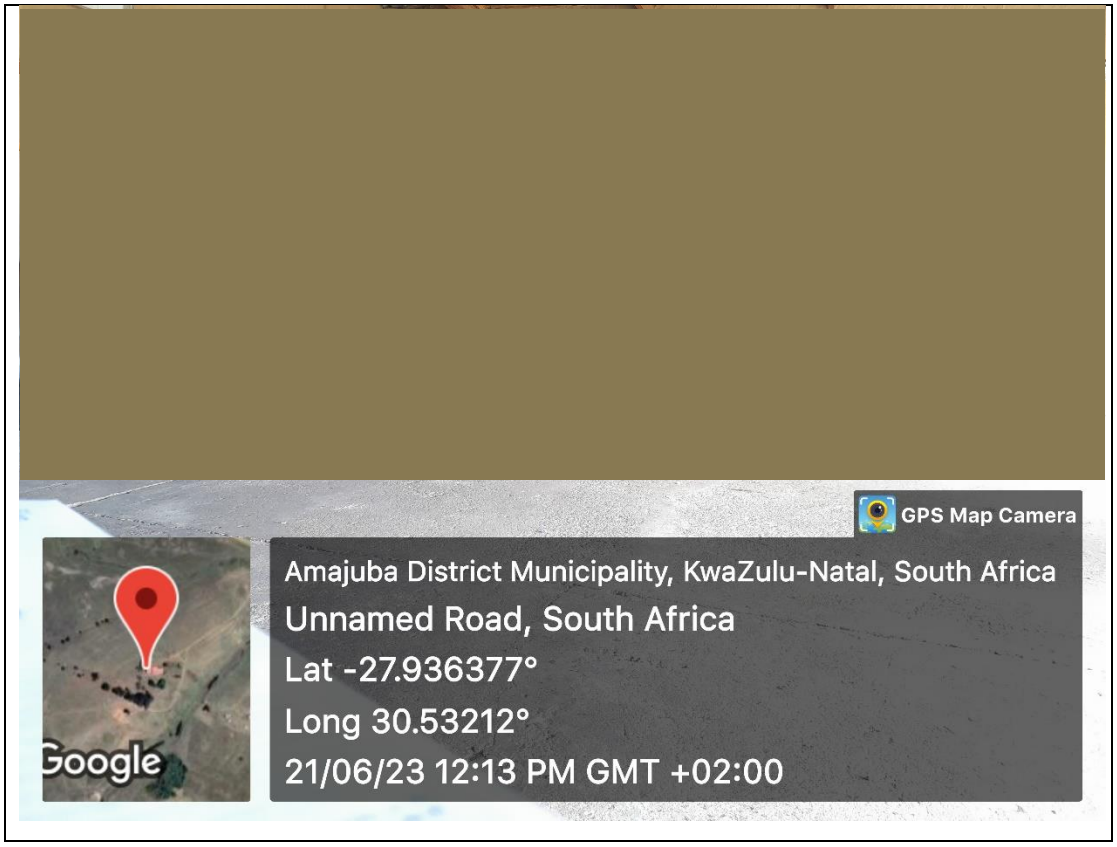


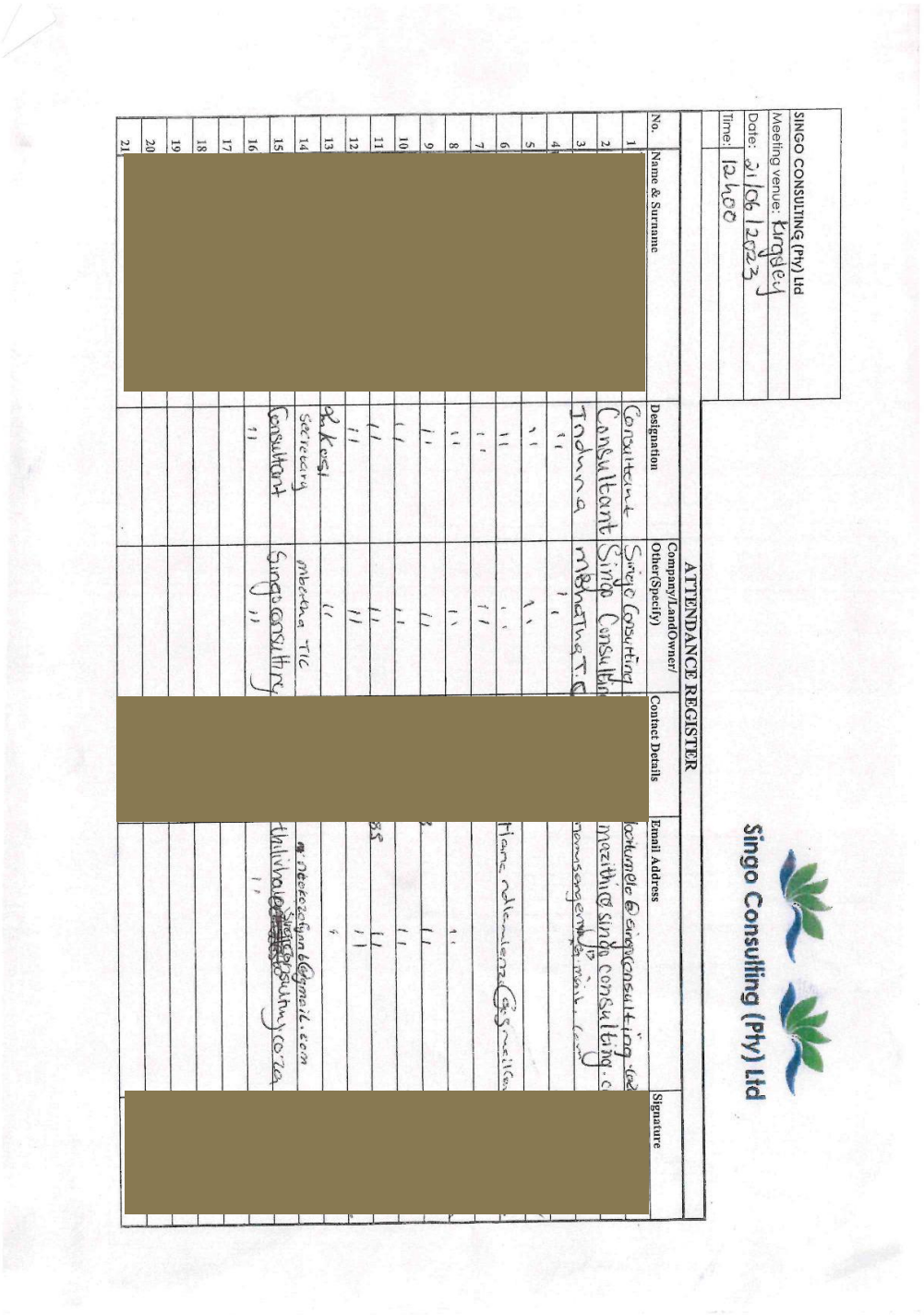
Figure 14: Meeting with the Tribal Council *(Singo Consulting (Pty) Ltd, 2023)*

Singo Consulting Consultants, Tribal Authority Council and the community.

A community meeting was held at eMajuba on the 21st of June 2023. Community members were given a chance to raise their concerns as well as their needs pertaining to the proposed project. Chief Mbatha, Induna Zondo for the affected farm and the community were present.

The following were discussed on the meeting.

- The following were discussed on the meeting.
- Livestock being affected.
- Water being affected by the drilling.
- Applicants not honouring the agreements they have with the community prior drilling when they start operating.



SINGO CONSULTING (Pty) Ltd

Meeting venue: Kriegel

Date: 21/06/2023

Time: 12h00

Singo Consulting (Pty) Ltd

ATTENDANCE REGISTER

No.	Name & Surname	Designation	Company/LandOwner/ Other(Specify)	Contact Details	Email Address	Signature
1	[redacted]	Consultant	Singo Consulting	[redacted]	[redacted]	[redacted]
2		Consultant	Singo Consulting			
3		Indvna	mbhatha T.C			
4		"	"			
5		"	"			
6		"	"			
7		"	"			
8		"	"			
9		"	"			
10		"	"			
11		"	"			
12		"	"			
13		Ward	"			
14		Secretary	mbhatha T/C			
15		Consultant	Singo Consulting			
16		"	"			
17						
18						
19						
20						
21						

Figure 15: Attendance register *(Singo Consulting (Pty) Ltd, 2023)*

The following have been identified as I & Aps.

Table 6: Identified key stakeholders.

Names of I & AP's	Organisation	Email Address
	ENdumeni Local Municipality	
	Ward 6	
	Tribal Authority	
	Landowner (RE)	
	Landowner (Ptn 1)	
	Town Planner	
	SANRAL	
	Eskom	
	Kzndtea	
	Transnet	
	DALRRD	
	UKDM	
	Birdlife	
	Labour	
	Kznworks	
	DWS	
	Kznwildlife	
	Kzntransport	
	DAFF	
	DARD	
	Sanparks	

According to the Windeed search on farm Rietspruit 425 GT, portion 1 title deed number T8500/2016 is owned by Gwayimane Communal Property Association. The remaining extent of the portion 0 title deed number T18406/2014 is owned by Dedani Farming and Contracting CC.

Deeds Office Property - List

GT, 425, PIETERMARITZBURG

Lexis® WinDeed

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.

SEARCH CRITERIA			
Search Date	2023/06/01 09:07	Farm Number	425
Reference	-	Registration Division	GT
Report Print Date	2023/06/01 09:08	Portion Number	-
Farm Name	RIETSPRUIT	Remaining Extent	NO
Deeds Office	Pietermaritzburg	Search Source	Deeds Office

PORTION LIST				
Portion	Owner	Title Deed	Registration Date	Purchase Price (R)
0	DEDANI FARMING AND CONTRACTING CC	T18406/2014	-	-
1	GWAYIMANE COMMUNAL PROPERTY ASSOCIATION	T8500/2016	-	-

Figure 16: Windeed Results.

i) Summary of issues raised by I&APs

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

Table 7: Summary of issues raised during the public comment period.

Interested and Affected Parties List the names of persons consulted in this column, and Mark with an X where those who must be consulted were in fact consulted.		Date Comments Received	Issues raised	EAPs response to issues as mandated by the applicant	Section and paragraph reference in this report where the issues and or response were incorporated.
AFFECTED PARTIES					
Landowner/s:	**X**				
Dedani Farming and Contracting CC			Issues or concerned raised: • Drilling might affect farming as the land is used for farming. • Water will be affected by this operation.	Face to face, consultation was done on the 20th of June 2023 and BIDs were shared.	
Gwayimane Communual Property Association			No issues raised yet.	Consultation email was sent on the 30th of June 2023 to the Chairperson with the attached BID and regulation 2.2 map to raise their comments.	

Local Municipality:					
Endumeni Local Municipality			No issues raised yet.	Consultation email was sent on the 30th of June 2023 with the attached BID and regulation 2.2 map to raise their comments.	
Organs of state (Responsible for infrastructure that may be affected Roads Department, Eskom, DWS)					

SANRAL BUILDING SOUTH AFRICA THROUGH BETTER ROADS	x		No issues raised yet.	A consultation email was sent on the 30th of June 2023 with the attached BID and regulation 2.2 map.	
public works Department: Public Works PROVINCE OF KWAZULU-NATAL	x		No issues raised yet.	A consultation email was sent on the 30th of June 2023 with the attached BID and regulation 2.2 map.	
	x		Comments: • Eskom has no objection to the proposed application if the conditions are adhere to and consideration made for all Eskom's infrastructure when planning or developing the area. • Prior to any construction activity, the applicant is required to contact Eskom and detailed plans are to be submitted to this office.	A consultation email was sent on the 30th of June 2023 with the attached BID and regulation 2.2 map. Thank you, your comments have be acknowledged and all Eskom conditions will be adhered to.	

agriculture & rural development Department: Agriculture and Rural Development PROVINCE OF KWAZULU-NATAL		Via email (02/08/2023)	Comments: • According to the Provincial Department of Agriculture and Rural Development's, land categories map, Portion 1 and Remaining Extent of the farm Rietspruit 425 GT Whole Farm falls under C and D categories. The North part of the area falls under category D that is approximately 15% of the total are for the area for the project and approximately 85% falls under category C. • Surrounding land uses of the proposed project there are subsistence farmers, schools and residences, generally, dust can be so bad that it affects the surroundings, the Department of Agriculture and Rural Development: Land Use Regulatory Units (LURU) would like to know the management techniques for the on-water	A consultation email was sent on the 30th of June 2023 with the attached BID and regulation 2.2 map. Thank you, your comments have been acknowledges and will be incorporated into the Final BAR & EMPr.	

			quality, as well as air pollution. LURU also requires groundwater management measures.		
water & sanitation Department: Water and Sanitation REPUBLIC OF SOUTH AFRICA	x		No issues raised yet.	A consultation email was sent on the 30th of June 2023 with the attached BID and regulation 2.2 map.	
agriculture, forestry & fisheries Department: Agriculture, Forestry and Fisheries REPUBLIC OF SOUTH AFRICA	X		No issues raised yet.	A consultation email was sent on the 30th of June 2023 with the attached BID and regulation 2.2 map.	

South African National Parks	X		No issues raised yet.	A consultation email was sent on the 30th of June 2023 with the attached BID and regulation 2.2 map.	
EZEMVELO KZN WILDLIFE	X	Via email (13/07/2023)	Ezemvelo recommended that: • The guidelines pertaining to prospecting and mining activities in the NFEPA Guideline Document must be implemented and adhered to. • No prospecting and related activities are to occur in ecologically sensitive areas. • 50m ecological buffer must be implemented to all waterbodies. • Ground sheets must be placed under and around the drilling rig to prevent any potential soil pollution from fuel spills. • No servicing of the drilling rig is to take place on site. • All borehole cores should be placed in core boxes and they should not be placed directly on the ground. • Boreholes should either be capped for future access	A consultation email was sent on the 30th of June 2023 with the attached BID and regulation 2.2 map.	

			and downhole logging or be backfilled and rehabilitated to ensure that there is no depression. • Any compacted areas need to be scarified to reduce runoff and vegetated to reduce potential erosion.	Thank you, your comments has been acknowledged, all comments received will be conveyed to the applicant and be adhered to accordingly.	
Birdlife	**X**		No issues raised yet.	A consultation email was sent on the 30th of June 2023 with the attached BID and regulation 2.2 map.	
SANBI Biodiversity for Life South African National Biodiversity Institute	**X**		No issues raised yet.	A consultation email was sent on the 30th of June 2023 with the attached BID and regulation 2.2 map.	

Dept. Land Affairs:					
COMMISSION ON RESTITUTION OF LAND RIGHTS	**X**	Via email (18/07/2023)	We confirm that at the date of this letter, no land claims appear on our database in respect of the properties described as Portion 1 and the Remaining Extent of the farm Rietspruit No. 425	A consultation email was sent on the 30th of June 2023 with the attached BID and regulation 2.2 map. Thank you for your assistance.	
Traditional Leaders:					
Chief Mbatha					

8 DESCRIPTION OF THE ENVIRONMENT

The Environmental attributes associated with the alternatives.

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

i) Baseline Environment

In order to determine the baseline environment of the proposed location in Endumeni, specialist investigations were initiated. The section to follow summarises these findings and recommendations.

Type of environment affected by the proposed activity.

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

8.1 Geographical Character

The regional geology of the area influences the geographical character of the area.

8.1.1 Regional Geology

The main Karoo Supergroup basin covers over 50% of South Africa's surface (**Figure 17**) and consists of five age-based groups, which show a change of depositional environment in time. These groups are the Dwyka (glacial), Ecca (shallow marine and coastal plain), Beaufort (non-marine fluvial), Stormberg (aeolian) and the volcanic Lebombo or Drakensberg groups (Johnson et al., 2006). The proposed project area falls within the Ermelo Coalfield which hosts thinner seams that are more sedimentological and structurally complex. Sediments of Vryheid and Dwyka formations underlay the area which was deposited on a glaciated Pre-Karoo basement consisting of Rooiberg felsites. The deposit is preserved as an outlier underlying the small hill known as Vlooikop, surrounded by strata of the Dwyka Group (mainly tillites and varved mudstones/shales).

8.1.1.1 Dwyka Group

The geological report conducted at Singo Consulting (Pty) Ltd stipulates that, the rocks of the Dwyka Group in South Africa are amongst the most important glaciogenic deposits from Gondwana. This Group is named for exposures along the Dwyka River east of Laingsburg and forms the basal succession of the Karoo Supergroup. Dwyka Group strata are mostly contained within bedrock valleys incised into Archean to lower Palaeozoic bedrock (Visser, 1990; Visser and Kingsley, 1982; Von Brunn, 1996). The lithologies in the areas underlying the coalfields of South Africa consist of a heterolithic arrangement of massive and stratified polymictic diamictites,

conglomerates, sandstones, and dropstone-bearing varved mudstones. The easily identifiable lithologies form a good marker below the coal bearing Ecca Group. In the distal sector of the MKB these sedimentary strata accumulated largely as ground moraine associated with continental ice sheets and is generally composed of basal lodgement and supraglacial tills. These deposits are generally massive, but crude horizontal bedding occurs in places towards the top (Tankard et al., 1982).

Ecca Group

In the 1970s several studies (Cadle, 1974; Hobday, 1973, 1978; Mathew, 1974; Van Vuuren and Cole, 1979) showed that the Ecca Group could be subdivided into several informal units based on the cyclic nature of the sedimentary fills. In 1980 the South African Committee for Stratigraphy (SACS, 1980) introduced a formal lithostratigraphic nomenclature for the Ecca Group in the northern, distal sector of the MKB, which replaced the previously used informal Lower, Middle and Upper subdivisions with the Pietermaritzburg Shale Formation, the Vryheid Formation, and the Volksrust Shale Formation.

In South Africa, based on the literature; only 19 coalfields are generally accepted which cover an area of approximately 9.7 million hectares (ha). The distinction between coalfields is based on geographic considerations and variations in the mode of sedimentation, origin, formation, distribution, and quality of the coals. (Hancox & Annette, 2014).

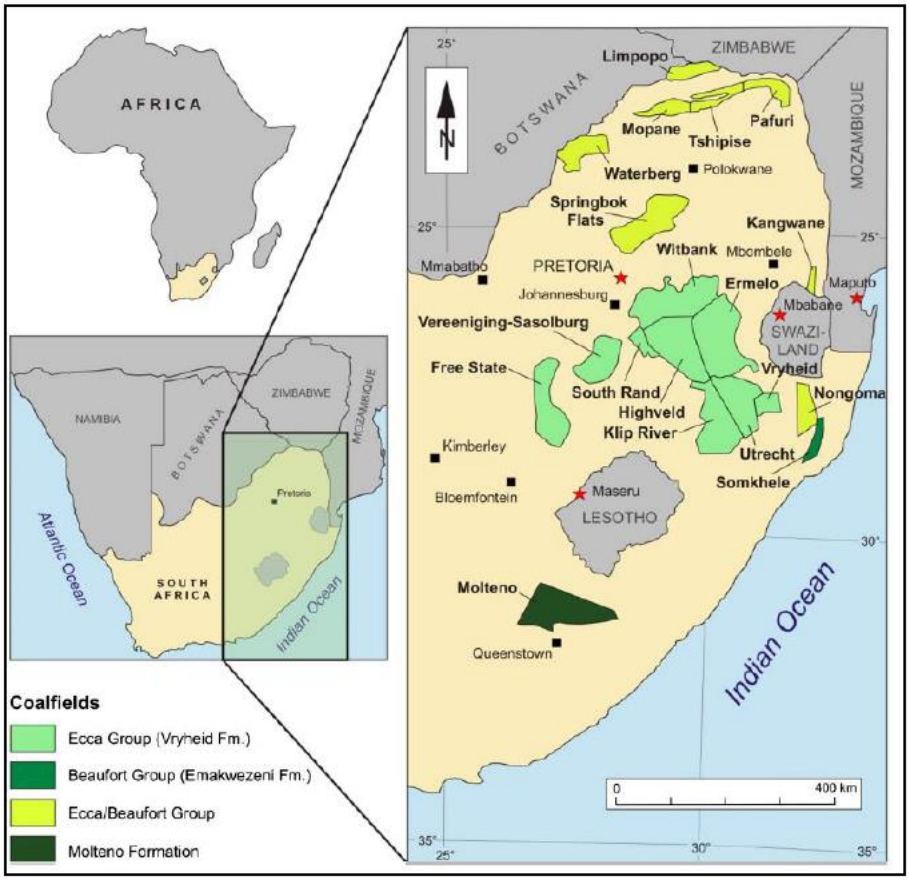


Figure 17: South Africa's coalfields *(Singo Consulting (Pty) Ltd, 2023)*

8.1.2 Local Geology

The Karoo Dolerite Suite

A network of dykes and sills that occur as feeders or tongues to the flood basalt province and are most developed in the major Karoo Basin (Walker & Poldervaart, 1949). These dolerite sills and dykes, central ring complexes (Eales et al., 1984; Galerne et al., 2008), and saucer-shaped sheets (Duncan and Marsh, 2006) intruded the Karoo Supergroup rocks contemporaneously with and immediately following the eruptions of the Drakensberg lavas, as determined by cross-cutting relations (Mountain, 1968; Walker and Poldervaart, 1949)). Multiple dolerite intrusion events occurred in the Karoo, both predating and postdating the flood basalts (Erlank, 1984; Mountain, 1968; Walker and Poldervaart, 1949), making it difficult to link them to a single intrusive or tectonic event (Chevallier and Woodford, 1999; Duncan and Marsh, 2006; van Zijl, 2006a). In the Karoo, sills and sheet intrusions range in thickness from a few metres to 200 metres (Duncan and Marsh, 2006; Walker and Poldervaart, 1949) and frequently crown hills with underlying sedimentary layers. Some sheet intrusions descend virtually vertically and are classified as dykes. True dykes, on the other hand, can be up to 10m broad and run 5 - 30 km along the strike (Duncan and Marsh, 2006). Many dykes appear to

have intruded following the sills and sheet intrusions, as evidenced by cross-cutting connections (Walker and Poldervaart, 1949) and resistivity investigations (van Zijl, 2006b). Central ring complexes are often interpreted as sites of original volcanic activity (Eales et al., 1984).

The dykes in the central and eastern Karoo have an approximate north-northwest tendency, with subordinate tendencies at nearly right angles (Walker and Poldervaart, 1949). Dykes and sills constitute a complex, linked, and anastamosed structure in the western Karoo, coupled with discordant sheets and saucer-shaped intrusions (Chevalier and Woodford, 1999). The dykes are concentrated in swarms in numerous regions of the Karoo Basin, and some have been recognised as feeder systems to the underlying lavas (Eales et al., 1984). The bulk of the dykes, however, do not have a clear favoured orientation (Duncan and Marsh, 2006).

Masotcheni Formation

The Masotcheni Formation consists of colluvial deposits that accumulate in bedrock depressions or colluvial hollows due to the topography of the hillslope, leading to overland flow and sediment transport. Gully cut-and-fill processes have occurred in the region, indicating multiple episodes of erosion and deposition. These colluvial sediments are poorly sorted and include fine clay, silt, and sand, originating from the weathered regolith and soils upslope on the Drakensberg foothill interfluve ridges.

The Masotcheni Formation is often affected by gully erosion, locally referred to as "dongas." The paleosols within the formation are classified as Solonetz according to the FAO soil Group Classification. They exhibit silty-clay soils with a high concentration of sodic clay in the Btn horizon. Some of these paleosols feature columnar, prismatic-shaped peds with a polygonal structure on top of the Btn horizon.

These colluvial deposits were formed under semi-arid conditions, followed by periods of hillslope stability represented by paleosol profiles. The concentration of runoff towards the colluvium-filled bedrock depressions on middle and lower hillslopes leads to the preferential erosion of the colluvium/paleosol succession, which includes dispersive and highly erodible sediment. It should be noted that the information provided is a paraphrased and summarized version based on the given text and may not include all the details from the original sources mentioned.

Vryheid Formation

The local geology of the project area (See Figure 19) is comprised mostly of the Vryheid Formation of the Karoo Basin, which is characterized by five coarsening upward sequences, displaying lateral continuity across the region. Each sequence begins with fine-grained marine facies, transitioning to coarser delta front and delta plain-fluvial facies. Coal seams are associated with the top of each sequence and exhibit lateral continuity but have some correlation discrepancies between coalfields. The economically significant coal in South Africa is primarily found in the Vryheid Formation, with thickness ranging from less than 70.0 m to over 500.0 m. The thickest portions are located south of Newcastle and Vryheid. The Vryheid Coalfield was historically known for high-quality coking coal and anthracite production.

Although extensively mined, there is potential for further extraction, and the coalfield spans approximately 2,500,000 ha, with around 15% considered coal-bearing. The stratigraphy of the Vryheid Coalfield closely resembles that of the Utrecht Coalfield. The basement of the Vryheid Coalfield comprises various rock types, including metasedimentary rocks, metavolcanic rocks, and post-Pongola aged granitic and diabase intrusions. The Dwyka Group, averaging 150 m in thickness, is well developed but variable due to pre-Karoo glacial valleys and basement highs. The overlying Pietermaritzburg Formation is dominated by siltstones and mudstones deposited in deep water.

The research suggests that the basement palaeotopography influences coal seam development in the northern coalfields of the MKB and the Klip River, Utrecht, and Vryheid coalfields. The Klip River Coalfield lacks exposed basement rocks, and the Dwyka Group is limited in outcrop sections. The entire Vryheid Formation in the Klip River Coalfield has an estimated thickness of approximately 310 meters. It can be subdivided into three informal lithostratigraphic subdivisions: Lower Sandstone unit, Coal Zone with associated coal seams, and Upper Zone with lobate or braid deltas. The Volksrust Formation overlies the coalfield, with varying thickness.

Karoo Dolerite Suite

The Karoo Dolerite Suite is a large igneous province that is located in southern Africa, covering an area of about 2 million square kilometers (Erlank et al., 2017). It consists of interconnected networks of dykes and sills and is thought to have formed during the early Jurassic period, about 180 million years ago (Coffin and Eldholm, 1994). The intrusions are believed to have been formed when molten magma concurrently filled in the numerous fractures, and that the dolerite intrusive network probably behaved as a shallow stockwork-like reservoir or storage system where molten magma of different viscosities intruded the fractures.

The dolerite intrusions of the Karoo Dolerite Suite play a significant role in shaping the landscape of southern Africa, as they are more resistant to weathering than the surrounding rocks, so it often forms large, flat-topped hills or "whalebacks" (Erlank et al., 2017). These whalebacks can be seen in many parts of southern Africa, including the Drakensberg Mountains and the Karoo region. These dolerite intrusions are associated with faulting which results in displacement of the coal seams (Greenshields, 1986).

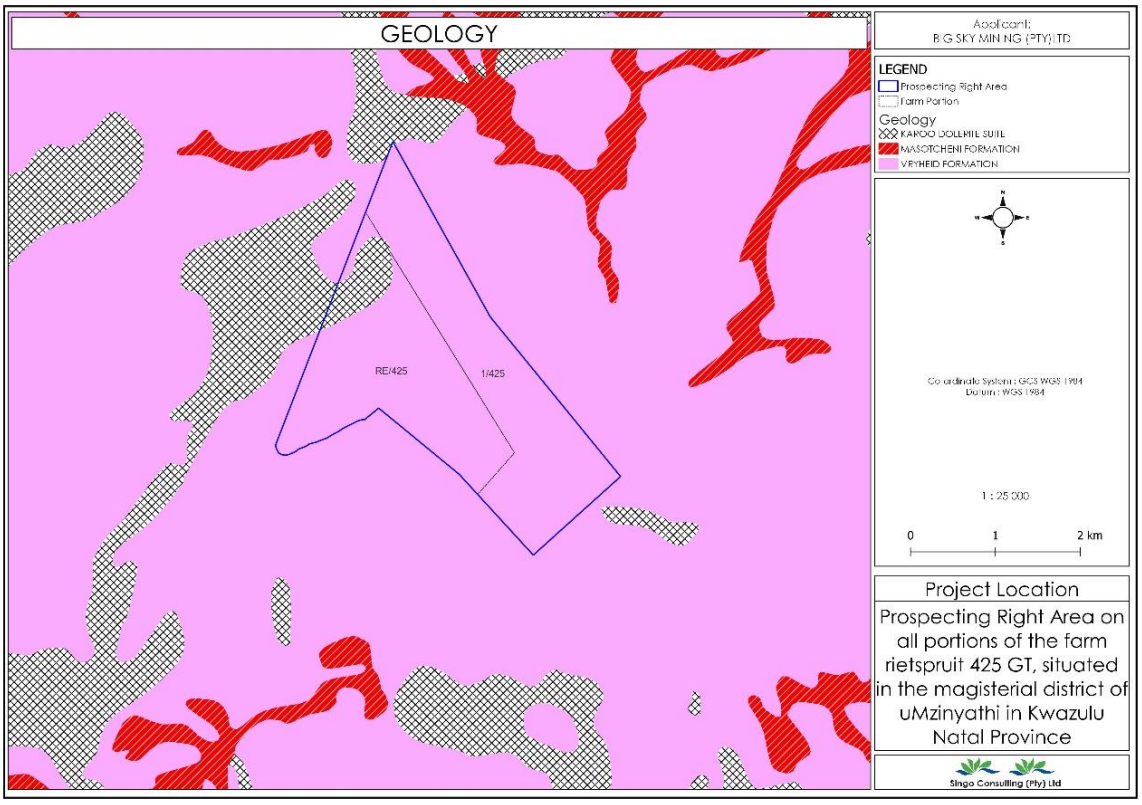


Figure 18: Geological map of the proposed project area *(Singo GIS, 2023)*

Coal Seams

It has been deduced from the desktop geological study that, the Klip River Coalfield in South Africa contains five known coal seams (**Figure 19**). The main seams that are commercially exploited are the Top Seam (No. 3 Seam) and the Bottom Seam (No. 2 Seam). There is also some coal extraction from the Extra-Bottom Seam (No. 1 Seam), although it is not the primary focus due to limited economic viability. These seams are located approximately 200 meters above the top of the Pietermaritzburg Formation and 120 meters below the base of the Volksrust Formation.

The Top and Bottom seams are separated by a layer of cross-stratified sandstone, which ranges in thickness from 0.3 to 15 meters. This sandstone layer gradually transitions into carbonaceous siltstone and mudstone. Minor seams are sporadically present but not consistently developed. The Extra-Bottom Seam, the lowest coal horizon in the coalfield, is rarely encountered in boreholes and is not extensively targeted for extraction. Its distribution is less well-understood compared to the commercially exploited seams. It is most developed in the northern and northeastern regions of Durnacol village.

The study further explains that, in other areas, such as north of Dannhauser, the seam can be found as a single layer with a thickness of approximately 0.60 meters, although it may be split by a sandstone parting. In the region between Dannhauser and Dundee, the seam is discontinuous and complex. Near Dundee and Wasbank, the Extra-Bottom Seam appears as a zone of thin, discontinuous, dull, and shaley coal layers, with individual layers typically less than 0.15 meters thick. This zone is characterized by extensive bioturbation caused by Siphonichnus traces. Overall, the commercially exploited coal seams in the Klip River Coalfield are the Top Seam, Bottom Seam, and to a lesser extent, the Extra-Bottom Seam, while other minor seams occur intermittently.

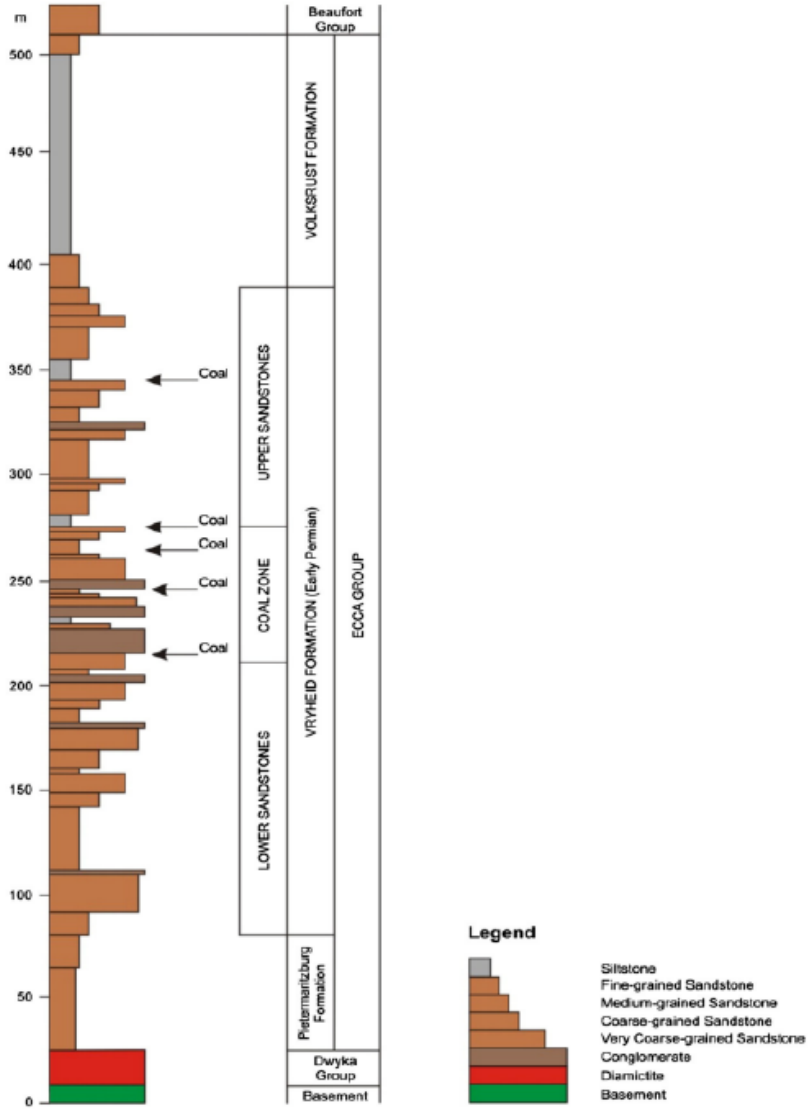


Figure 19: General Stratigraphy of the Klip River Coalfield

8.2 Topography and Landuse

The project area exhibits varying topography, with a noticeable decrease in elevation from the northwest to the southeast. The elevation ranges between 1140 m and 1220 m above sea level, with the highest point located in the north and the lowest in the south (See Figure 21). The land use and land cover map, depicted in **Figure 21 and Figure 22**, reveals that agricultural activities, specifically cultivated land, predominantly occupy the area. Moreover, the area encompasses water bodies such as irrigation dams, while the Buffelsrivier flows alongside the western boundary of the project area.

The slopes identified in the study area are:

➢ Gentle plain: A type of slope in which the angle of incline is less than 10 degrees. The slope % is approximately less than 1%. It covers most of the study area. The study area is characterized by gentle sloping, an elevation ranging between 1140- 1220 mamsl covers most of the study area. There is gradual change of elevation with larger area covered as shown in **Figure 20** below.

Figure 20: The proposed site area (Singo GIS, 2023)

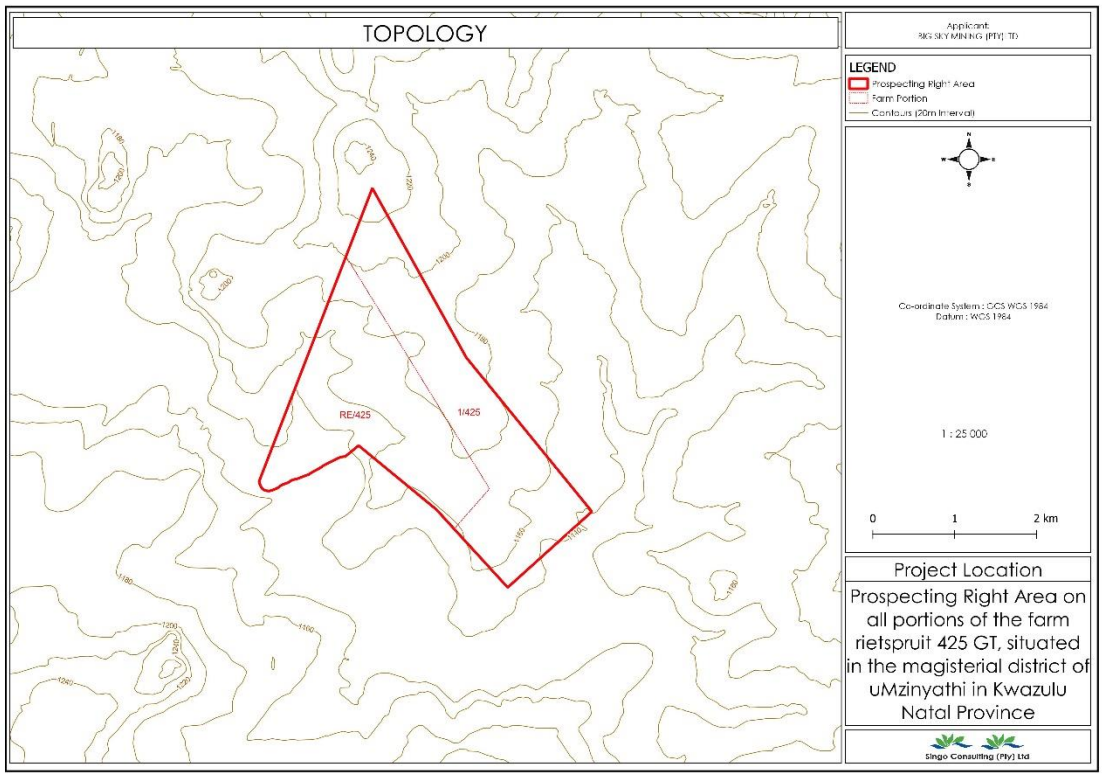


Figure 21: Topological map of the proposed project area *(Singo GIS, 2023)*

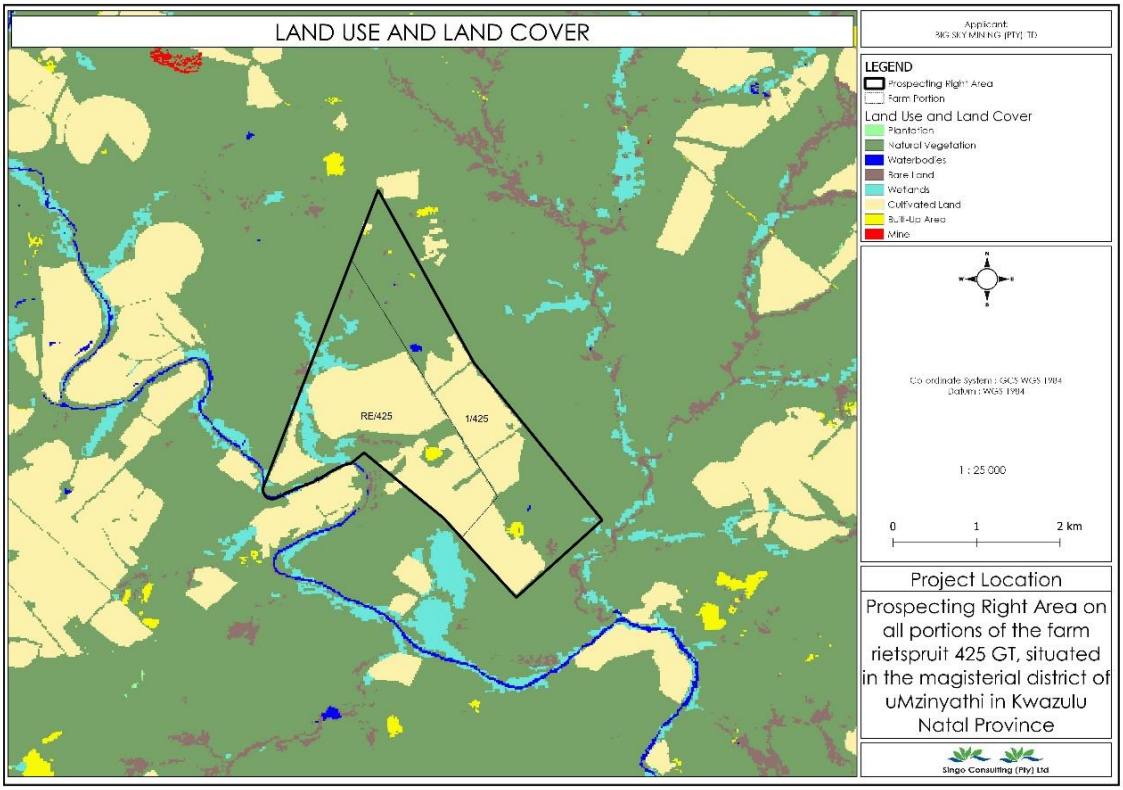


Figure 22: Land Use and Land Cover (Singo GIS, 2023)

Some expert studies will not be done based on the topic sensitivities from the screening tool, as some sensitivities were not confirmed through ground truthing. Boreholes in high sensitivity locations, on the other hand, will be moved to less sensitive sites, and other studies, such as the Heritage study, will be done at the request of SAHRA.

8.3 Climate

Climate, among other elements (Humidity), influences soil-water processes and water availability in open-air systems in a water balance. Temperature and precipitation are the two most influential influences on soil and climate. Temperature and precipitation affect how quickly parent materials weather and, as a result, soil qualities such as mineral composition and organic matter concentration (University of Minnesota, 2018).

A warm and temperate atmosphere characterizes the climatic condition in the proposed area. It has a significant amount of rainfall during the year. This is true even for the driest month. The Köppen-Geiger climate classification is Cfa. The average annual temperature is 20.9 °C. Each year, there is an approximate 893 mm of precipitation that occurs. The mean annual rainfall and mean annual temperature is shown on **Figure 23** and **Figure 24**.

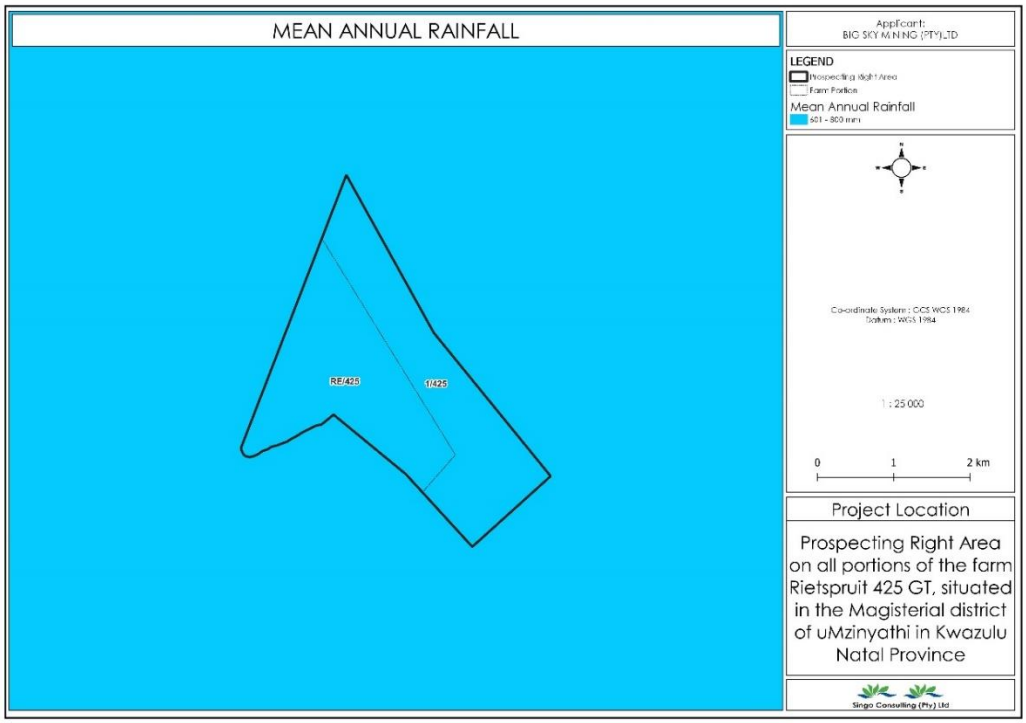


Figure 23: Map shows mean annual Rainfall within proposed project area. (Singo Consulting (Pty) Ltd, 2023)

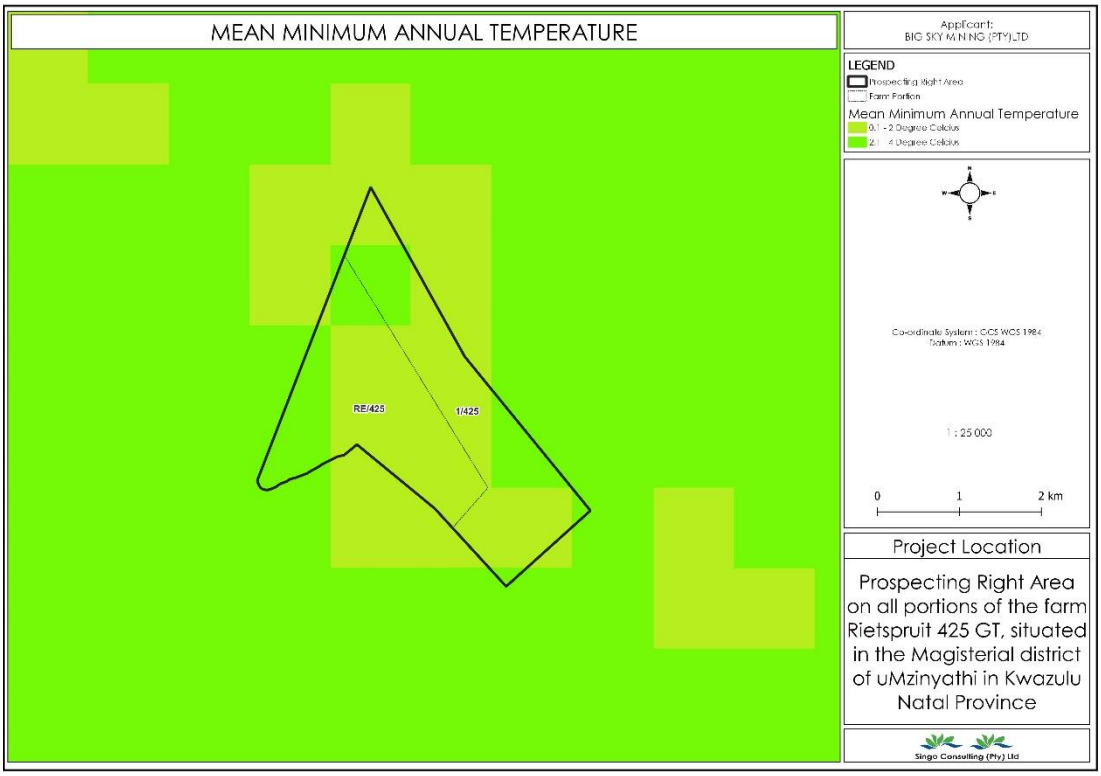


Figure 24:* Mean annual temperature in the project area *(Singo Consulting (Pty) Ltd, 2023)

Temperature

The rate of chemical reactions is directly influenced by temperature. The warmer the temperature, the faster the reactions. Temperature changes accelerate the physical weathering of rocks (University of Minnesota, 2018). The information gathered by the in-house GIS Specialist and the weatherspark website indicates that the project locations have scorching temperatures.

Precipitation regulates water circulation in the soil. Water mobility is influenced by the amount of water received by the soil and the amount of evapotranspiration that happens. January has the most wet days in Dundee, with an average of 11 days with at least 1 millimeter of precipitation. The dry season lasts 5 months, from April 7 to October 4. June has the fewest wet days in Dundee, with an average of 2 days with at least 1 millimeter of precipitation (see **figure 23** above). We show the rainfall gathered over a sliding 31-day period centered on each day of the year to demonstrate variance between the months rather than just the monthly totals. Monthly rainfall in Dundee varies significantly by season.

Dundee receives rain all year. February had the most rain in Dundee, with an average of 88 millimeters. June has the lowest rainfall in Dundee, with an average of 16 millimeters (https://weatherspark.com/). The proposed prospecting right application has an annual rainfall range of 801 mm to 1000 m, as illustrated in **Figure 23**, indicating that the project area has substantial rainfall.

8.4 Baseline Hydrogeological Study

Desktop Study

Desktop or literature review is defined as a task which involves review of existing research/ information which is relevant to the project needs. A literature review of all available relevant data was undertaken to provide more data as needed. The data from the literature review was correctly referenced and incorporated into the final research report. Data was compiled using science literature (journals, textbooks, papers, maps, and so on), GIS data from Singo Consulting (Pty) Ltd, DWS, SAWS weather station records, and other relevant scientific work conducted on the subject region.

Drilling and sitting of boreholes.

Exploration boreholes will be drilled one at a time at various locations throughout the proposed project area. Drill hole depths will average 100 meters and will be determined onsite as the drilling program advances, depending on past hole depths and dips. Between certain wetlands and waterways, a 100-meter buffer will be maintained. A 100-meter buffer must be maintained from public highways. After the drill site has been gated off, cleared drilling will begin. Following the drilling, immediate rehabilitation will take place. The site will be repaired after each hole is drilled before the drilling crew moves on to the next planned hole. This procedure will be repeated until all holes have been drilled.

Groundwater availability assessment

The availability of groundwater as a water source depends largely upon surface and subsurface geology as well as climate. The porosity and permeability of a geologic formation control its ability to hold and transmit water. Porosity is measured as a ratio of voids to the total volume of rock material and is usually described as a percentage. Shallow, weathered and/or fractured rock and relatively low yielding aquifer systems are underlain over 80 percent of South Africa. By contrast, appreciable quantities of groundwater can be abstracted at relatively high rates from dolomitic and quarzitic aquifer systems located in the northern and southern parts of the country respectively, as well as from a number of primary aquifers situated along the coastline.

Groundwater systems

Aquifer types

The aquifer systems in South Africa can be divided into two major types: **primary** and **secondary** aquifers.

Primary aquifers: The primary aquifers are:
1. Coastal sand, gravel and unconsolidated material along the South African coast, such as areas along the west coast at Port Nolloth, Doringbaai, Lambertsbaai, Langebaan, Atlantis, Cape Flats, Gansbaai, Bredesdorp, Stilbaai, Alexandria, Boesmansriviermond, Kidds beach, Richards bay.
2. Sand and gravel along stream beds such as those along the Crocodile and Caledon rivers, at De Aar, De Doorns, Rawsonville, Pietersburg (Polokwane), Messina, and Makatini Flats (Kok, 1991).

Characteristics of Primary Aquifers include but not limited to:
• Usually shallow unconfined systems and groundwater surface in the aquifer is at atmospheric pressure (100 kPa).

•Mostly consist of unconsolidated material, usually less than 30 m thick.
• Contain 1 to 20 percent water by aquifer volume.

• Recharge rate is generally high. Some 15 to 30 percent of rainfall would infiltrate into aquifers.

• Geohydrological characteristics of aquifer do not vary greatly over short distances.
• The transportation of contaminants in the primary aquifers is slow because of high effective porosity.

Secondary aquifers: The degree of fracturing of rocks in South Africa is dependent upon the tectonic history of rocks as well as the rock composition. For example, competent rocks, such as dolerite and quartzite and sandstones, fracture more readily than incompetent or ductile rocks, such as dolomite and shale. The magnitude of fracturing does not necessarily determine how much water an aquifer can transmit. It is estimated that at depths greater than 60 m, about less than one percent of the

fractures transmit significant amounts of water. However within quartzite rocks, significant yields are possible at greater depths.

Typical characteristics of secondary or fracture flow aquifers are:

➢ Fractured flow aquifers are either confined or unconfined aquifers. The confined aquifers are overlain by sediments or rock of confining nature, which limits direct recharge from rainfall.

➢ They belong to shallow systems, usually less than 60 m thick and in exceptional circumstances can be about 200 m thick.

➢ Aquifer characteristics and borehole yields vary greatly over short distances. Groundwater collects in sandstone fractures overlying coal seams, contact zones between different lithologies, and contact zones between coal seams and lithologies.

8.5 Baseline Hydrology Study

Singo Consulting(Pty) Ltd conducted a baseline Hydrology study for this project. The study area is located in the Pongola-Mtamvuna Water Management Area's Quaternary catchment V32F. The area encompasses water bodies such as irrigation dams, while the Buffelsrivier flows alongside the western boundary of the project area and Bangazima River on the east of the proposed project.

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. For the 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 in close proximity to the proposed project area. (See figure 27).

South Africa's water resources are divided into quaternary catchments, which are the country's primary water management units (DWAF 2011). In a hierarchical classification system, a quaternary catchment is a fourth order catchment below the primary catchments. The primary drainages are further classified as Water Management Areas (WMA) and Catchment Management Agencies (CMA). In accordance with Section 5 subsection 5(1) of the National Water Act, 1998, the Department of Water and

Sanitation (DWS) has established nine WMAs and nine CMAs as outlined in the National Water Resource Strategy 2 (2013)(Act No. 36 of 1998).

Table 8: Quaternary Information data

Water management	Quaternary catchment	Catchment Area (km^2)	MAP (mm)	MAE
Pongola-Mtamvuna **Water Management**	V32F	187.3	782.7	1400

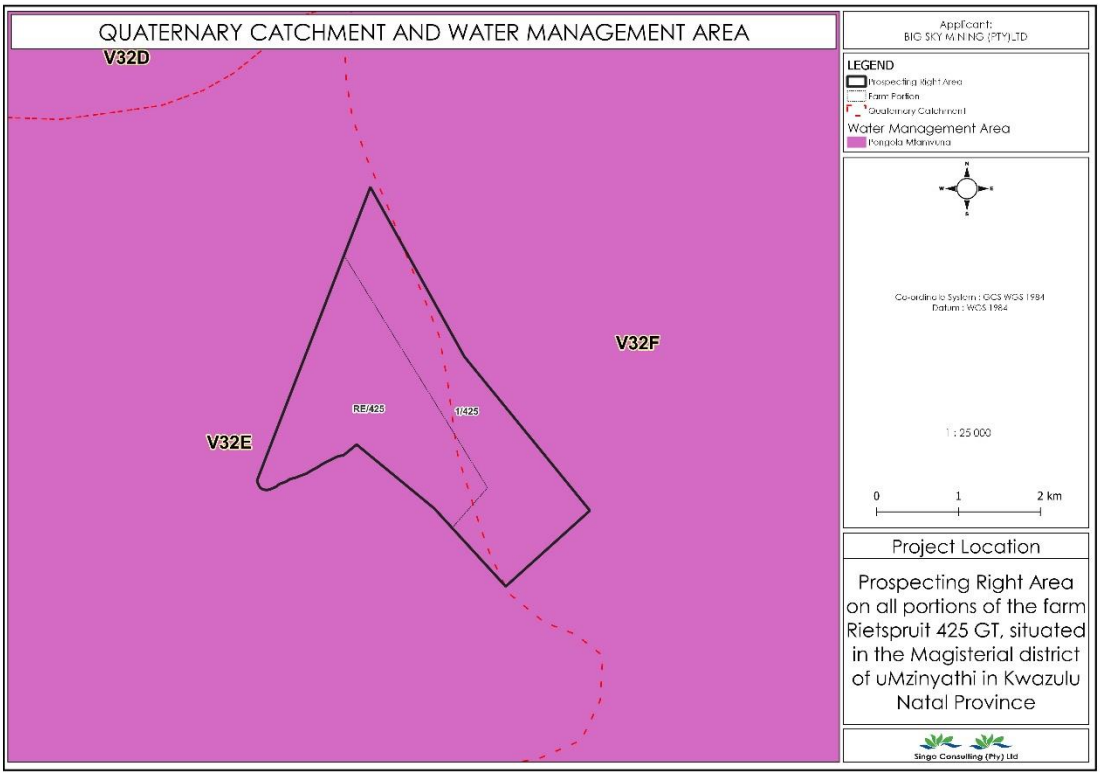


Figure 25: Catchment and Drainage map of the area ***(Singo Consulting (Pty) Ltd, 2023)***

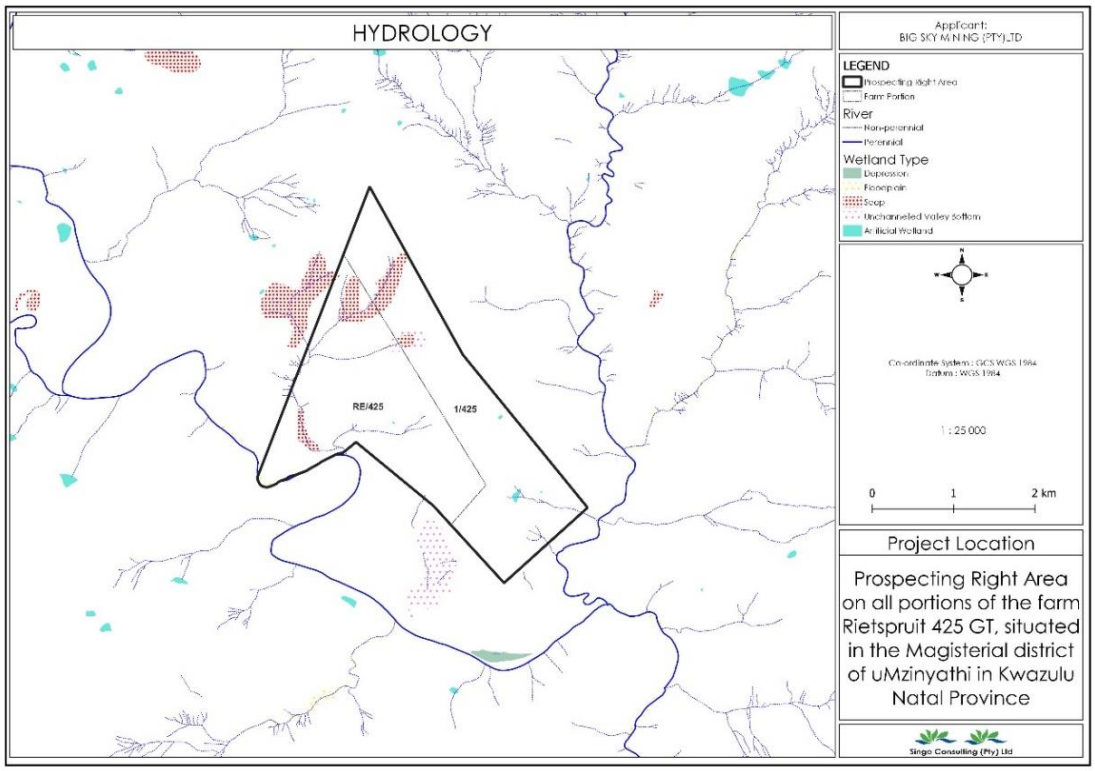


Figure 26: Hydrological map of the proposed project area. **(Singo Consulting (Pty) Ltd, 2023)**

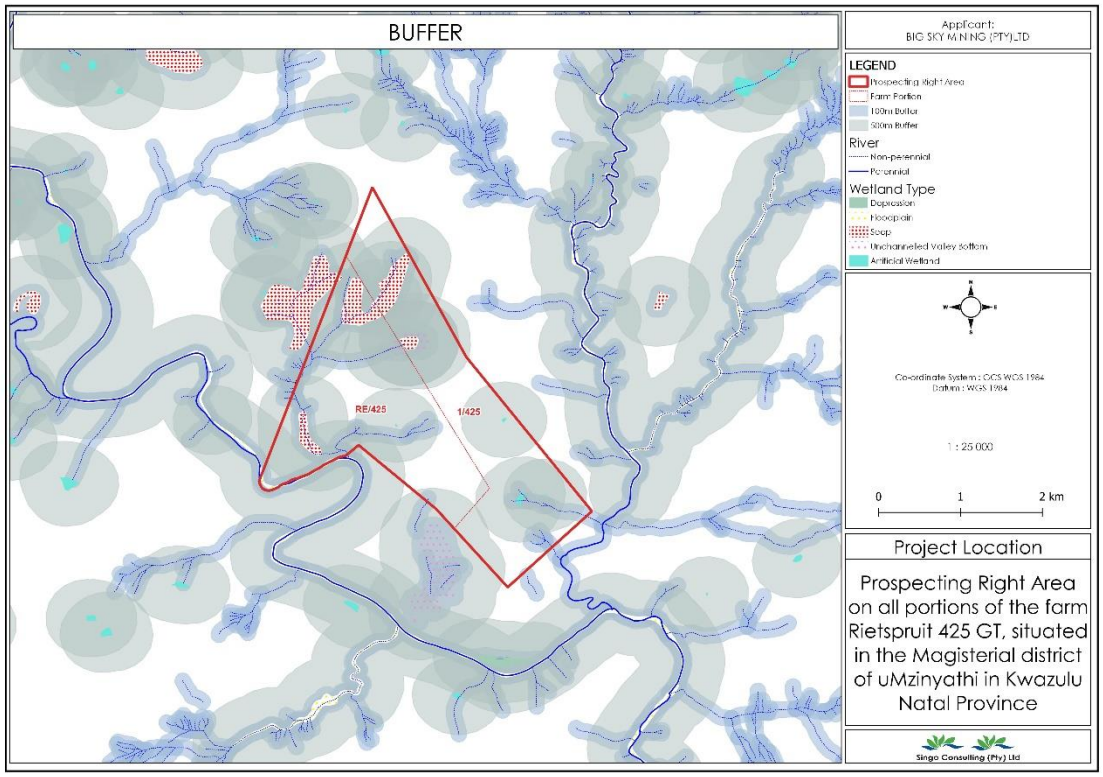


Figure 27: Buffer map of the proposed project area. (Singo Consulting (Pty) Ltd, 2023)

8.6 Baseline Soil Study

Singo consulting for this project conducted a baseline Soil study. The soil classes map in **Figure 28** 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, though, 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 28 below shows that the prospecting right area is largely The Association of Classes 17 and 19: Structureless and textural contrast soils. The Geology & Soils are Sandstones and shale of the Madzaringwe Formation (Ecca Group of Karoo Supergroup) supporting poorly drained sandy soils, mostly of the Glenrosa form. Most important land types of Ca, Bb and Fb.

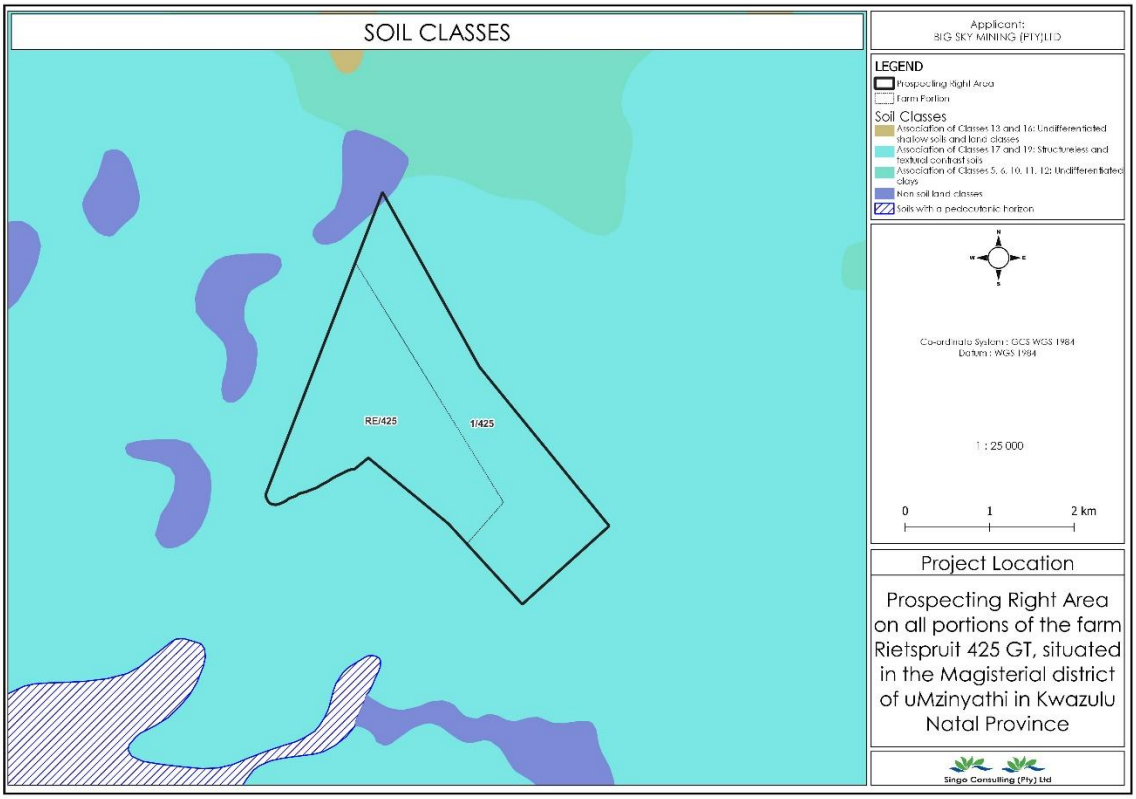


Figure 28: Soil Classes map of the proposed project area. (Singo Consulting (Pty) Ltd, 2023)

Figure 29: Soil type of the proposed project area *(Singo Consulting (Pty) Ltd, 2023)*

8.7 Vegetation (Flora)

The proposed project area is situated on a Savanna Biome, which consist of the Natal Central Bushveld vegetation.

8.7.1 Natal Central Bushveld

The area consists of the Natal Central Bushveld as seen in **figure 32** below. Granger (1996) concluded that Natal Central Bushveld vegetation type is highly transformed and poorly conserved because of intensive grazing and fire, it requires careful management.

8.7.2 Savanna Biome

The savanna biome is characterised by its large grasslands and scattered trees, and it is found predominantly in tropical and subtropical regions. The presence of fire, which is a natural aspect of the ecosystem and plays a crucial role in maintaining its equilibrium, is one of the savanna's distinguishing traits. Savanna have extreme wet and dry seasons. They can get up to four feet of rain during the wet season and as little as a few inches during the dry season. Large plants, such as trees, struggle to grow in savanna due to a lack of precipitation. Elephants, giraffes, zebras, rhinoceroses, buffalo, lions, leopards, and cheetahs are all common visitors to the savanna. Baboons, crocodiles, antelopes, meerkats, ants, termites, kangaroos, ostriches, and snakes are among the other animals. According to the screening report on Figure 33, indicates that the proposed area as a medium sensitivity of plants.

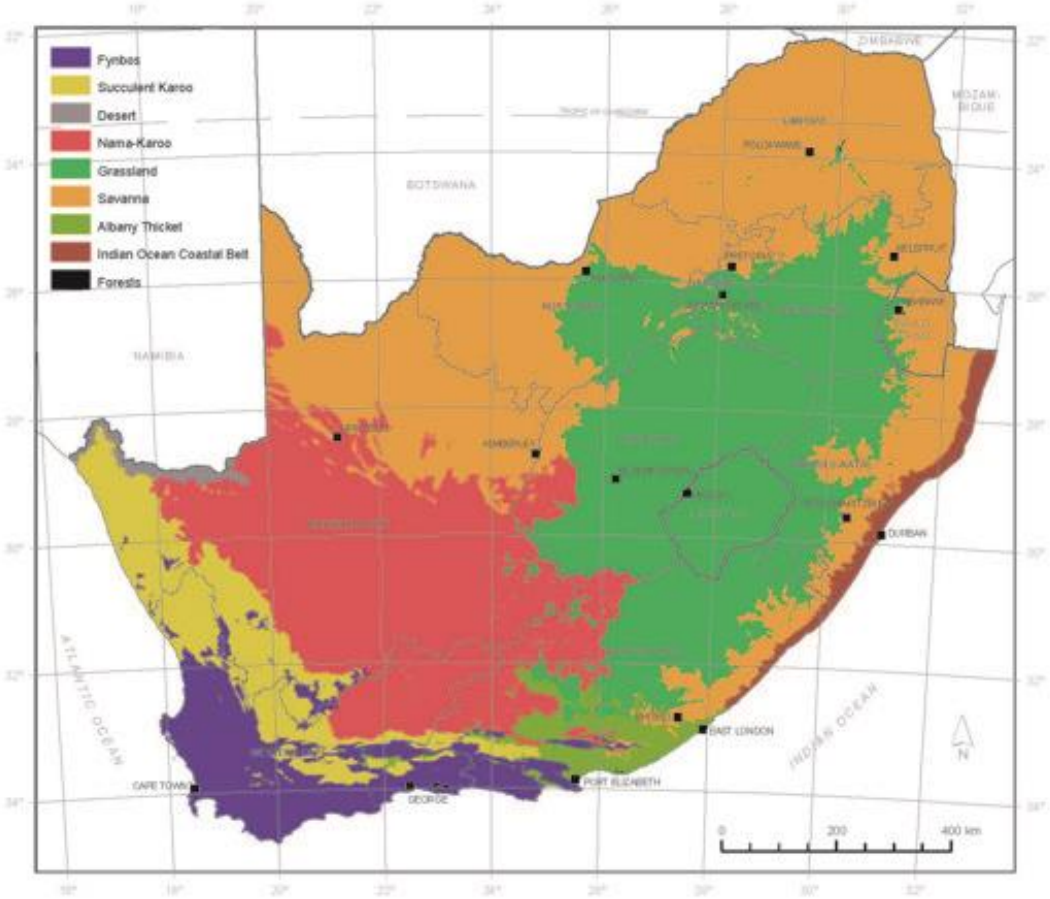


Figure 30: Map of South Africa's 9 Biomes

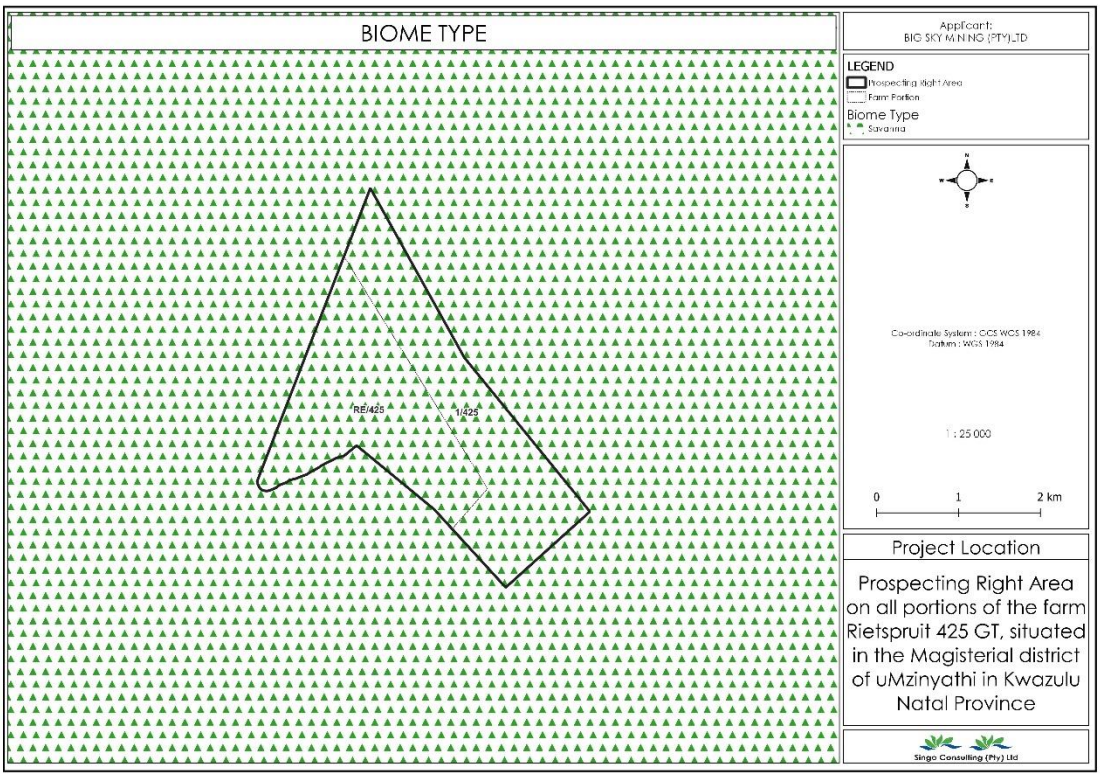


Figure 31: Biome type map of the proposed project area *(Singo GIS, 2023)*

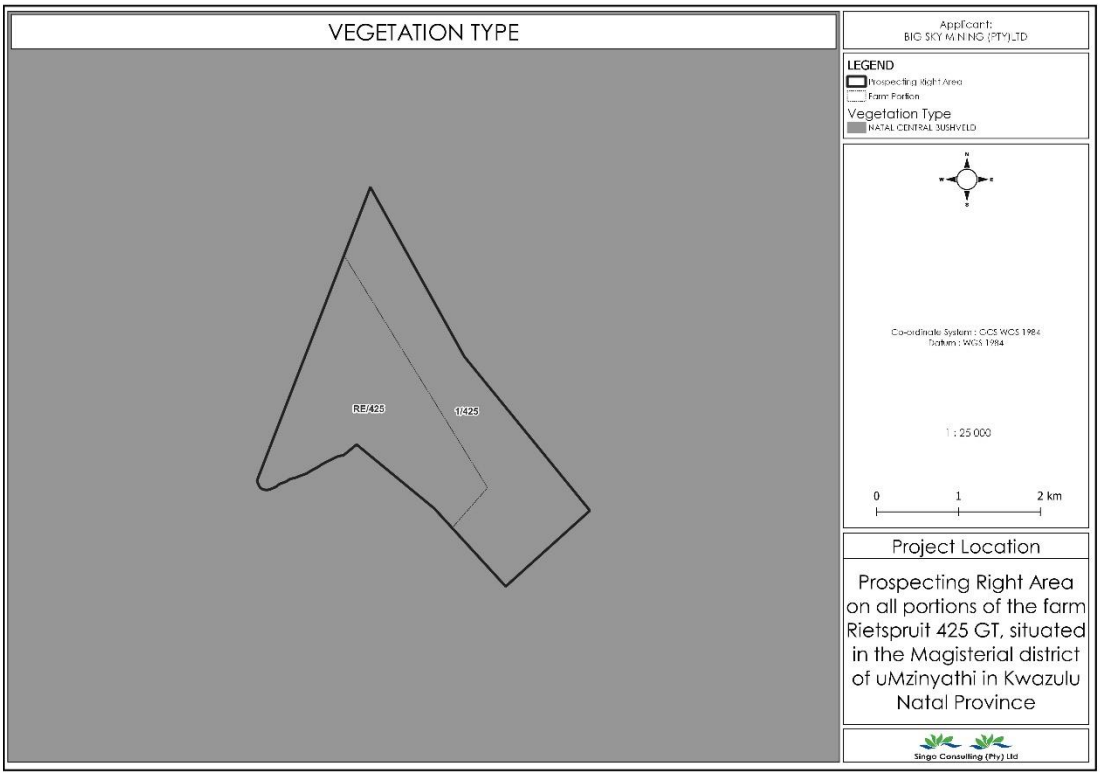
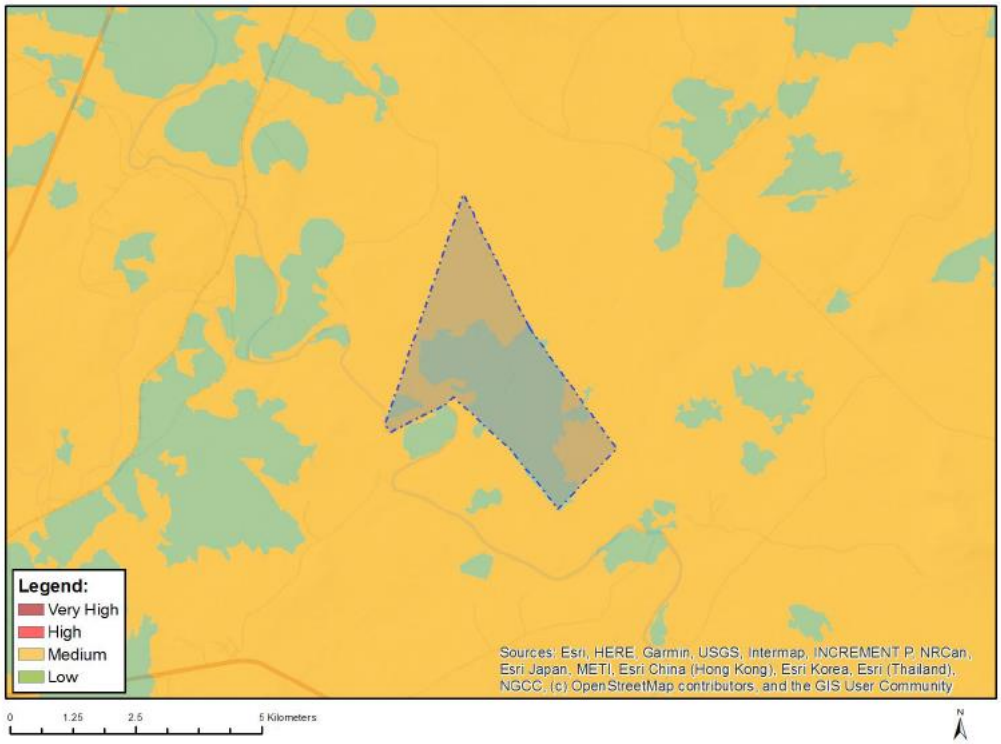


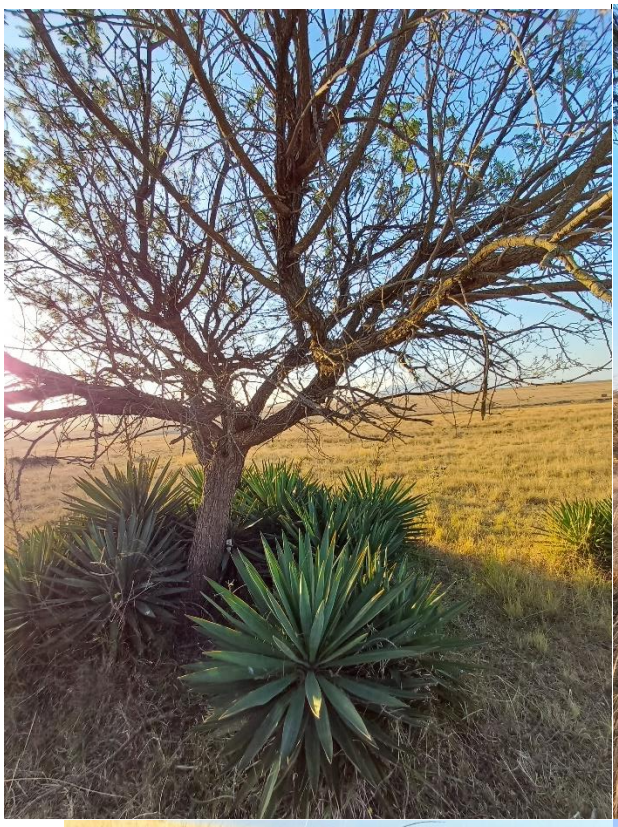
Figure 32: Vegetation type map of the proposed project area (Singo GIS, 2023)

MAP OF RELATIVE PLANT SPECIES THEME SENSITIVITY



Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
		x	

Figure 33: Plant Species Theme Sensitivity Map *(Screening tool, 2023)*



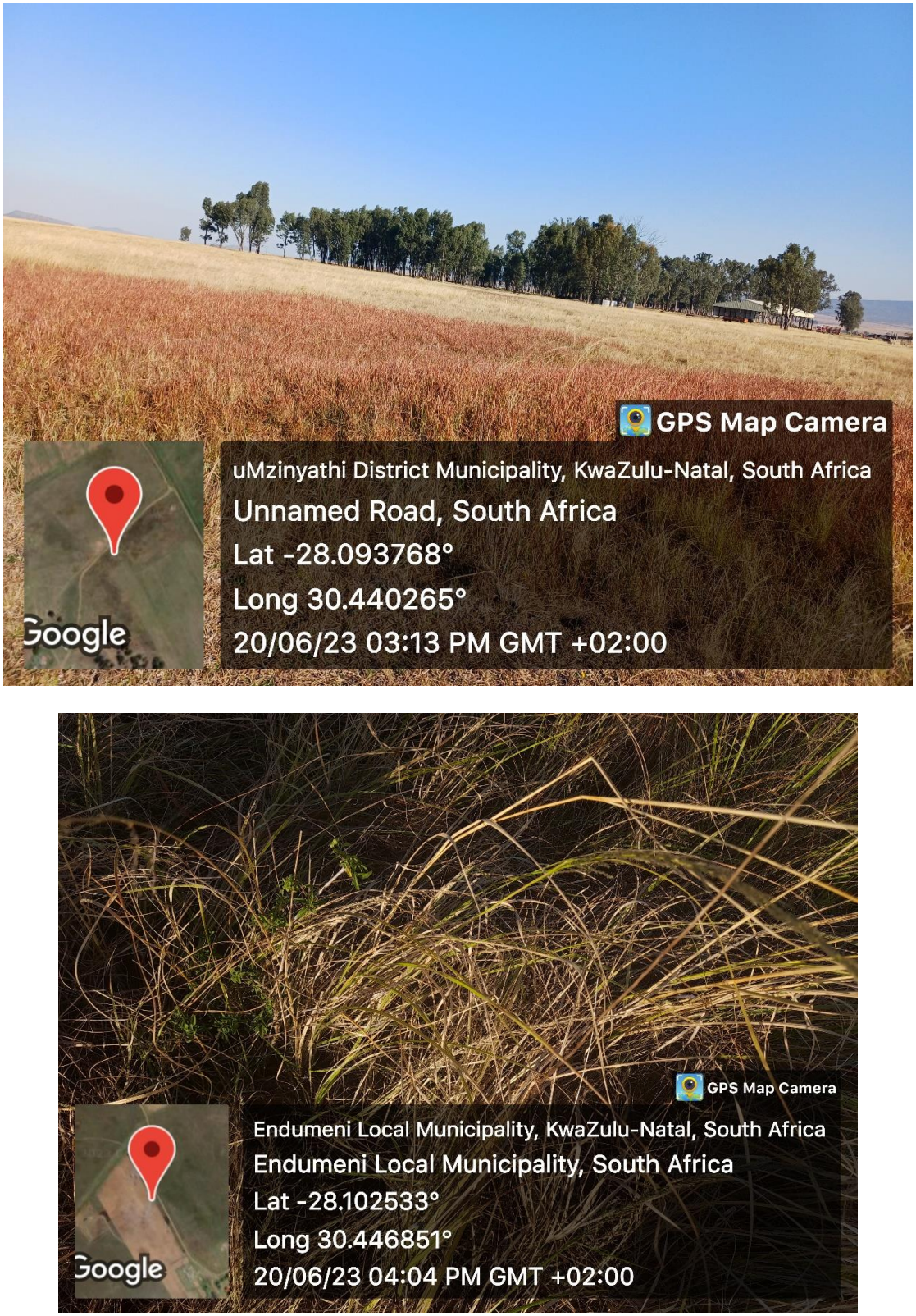


Figure 34: Vegetation type of the proposed project area *(Screening tool, 2023)*

8.8 Animal Life (Fauna)

Domestic fauna, such as cattle, horses, dogs, and goats, were observed during the site assessment, but no wild fauna was observed. Any wild fauna that enters the prospecting area will have no effect on the proposed prospecting activity because they will be able to move away or through the site without being harmed.

The proposed processing activity will have no effect on the fauna at the proposed site given that it will be free to travel away from or through it unharmed. Workers must be educated and managed to guarantee that no fauna at the site is affected. When the projected processing activities begin, the processing area will be fenced off to prevent livestock, such as cattle, from wandering into the work areas.

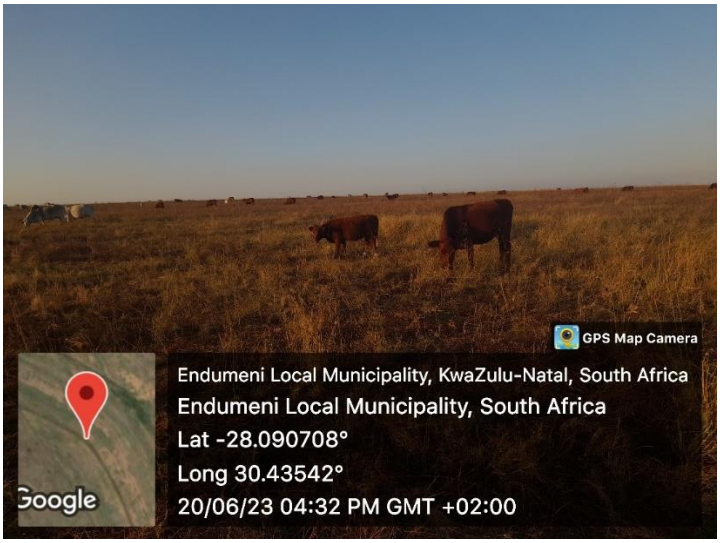
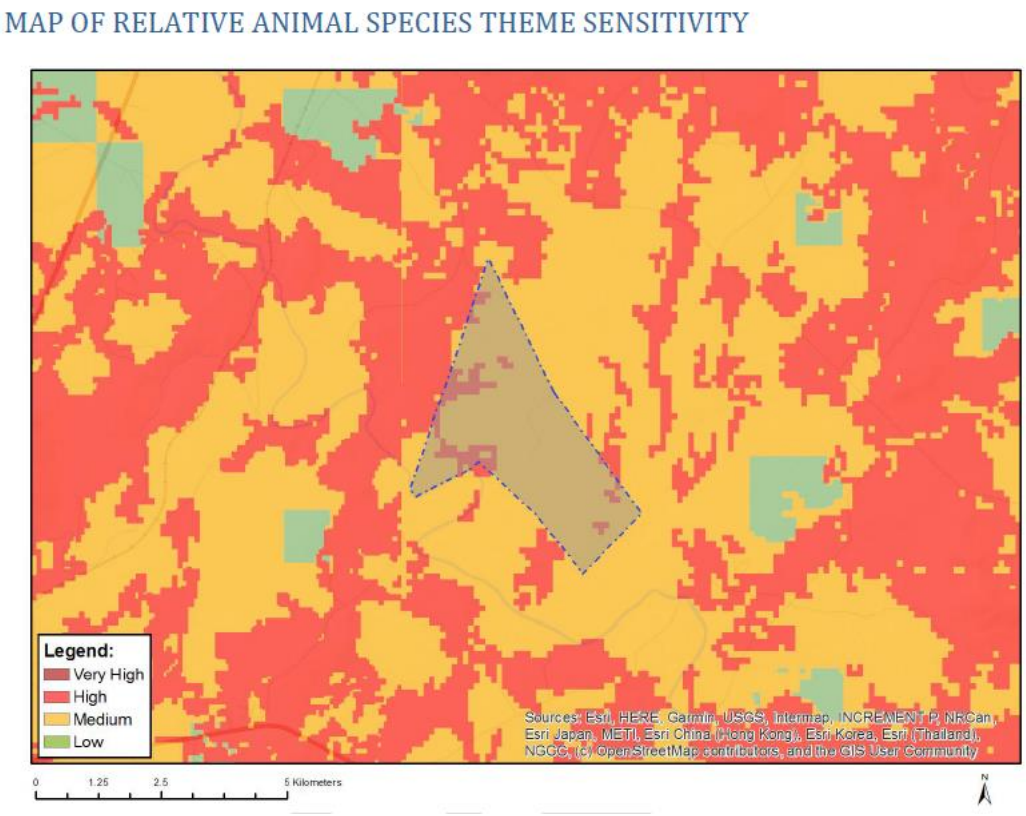


Figure 35: Animals found within the proposed project area (Singo Consulting (Pty) Ltd, 2023)

According to the screening report done for this project, the location of the proposed project lies in an area of high animal sensitivity. This is illustrated in **figure 36** below.



Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
	x		

Figure 36: Animal Theme Sensitivity *(Screening tool, 2023)*

Figure 37: Typical example of Aves-Sagittarius Serpentarius

8.9 Biodiversity

Biodiversity refers to the variety of life in a particular region, including the number of different species, the genetic wealth within each species, their interrelationships, and the natural areas in which they occur.

Critical Biodiversity Areas are areas that must be protected in order to meet biodiversity targets for ecosystems, species, and ecological processes identified in a systematic biodiversity plan. Ecological Support Areas are not required to meet biodiversity targets, but they do play an important role in assisting the ecological functioning of Critical Biodiversity Areas and/or providing ecosystem services. Biodiversity data for the proposed site has been requested, and it will aid in the compilation of an ecology study for the proposed area. The guidelines pertaining to prospecting activities in the NFEPA Guideline will be implemented and adhered to.

The proposed prospecting site falls within an unclassified biodiversity area. (**Figure 38 below**).

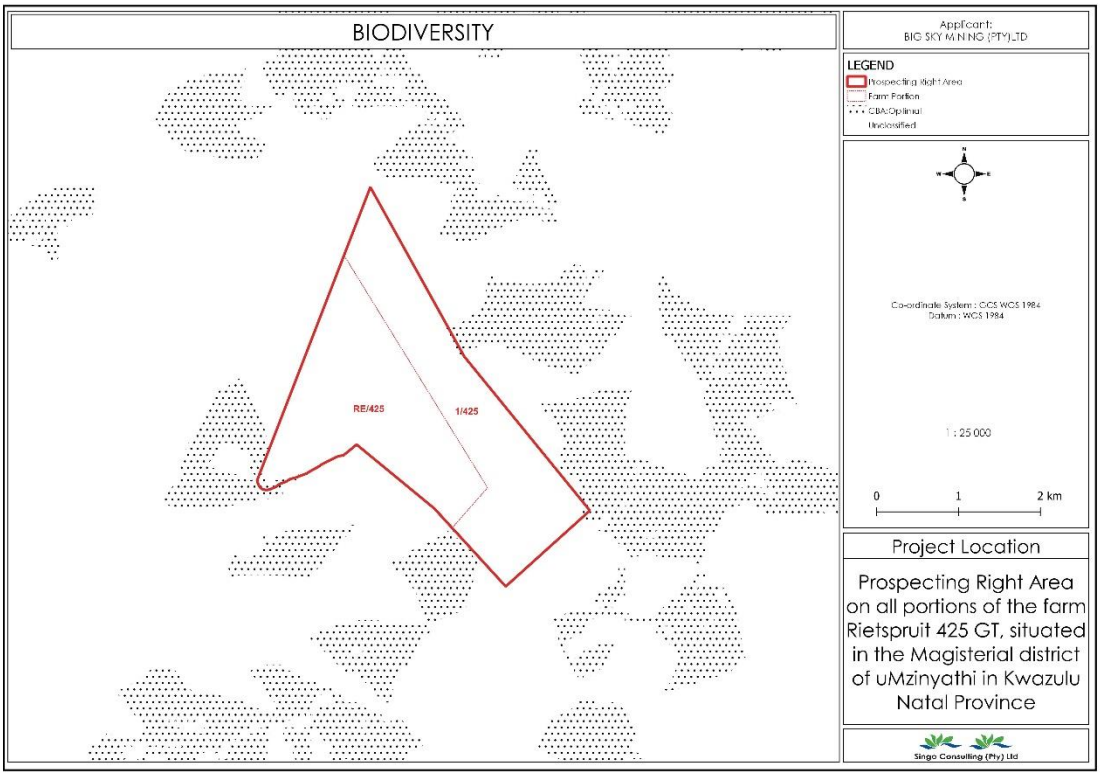


Figure 38: Critical Biodiversity map of the proposed project area. *(Singo GIS, 2023)*

8.10 Graves, heritage, archaeological and cultural resources

During site assessment, a few graves were discovered near the proposed prospecting right area. The archaeological and cultural heritage theme sensitivity is low, according to the screening report shown in **Figure 39**. The South African Heritage Resources Agency (SAHRA) was consulted through their website. If more significant heritage resources are discovered during the project's prospecting, the South African Heritage Resources Agency (SAHRA) should be notified immediately, all development activities should be halted, and an archaeologist accredited by the Association of Southern African Professional Archaeologists (ASAPA) should be notified to determine appropriate mitigation measures for the discovered finds. This may include obtaining SAHRA approval to carry out the necessary mitigation measures.

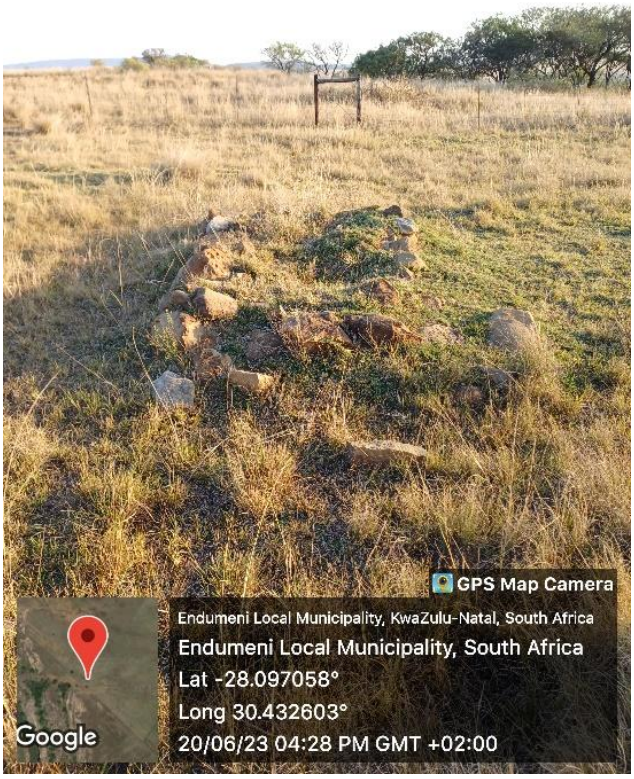
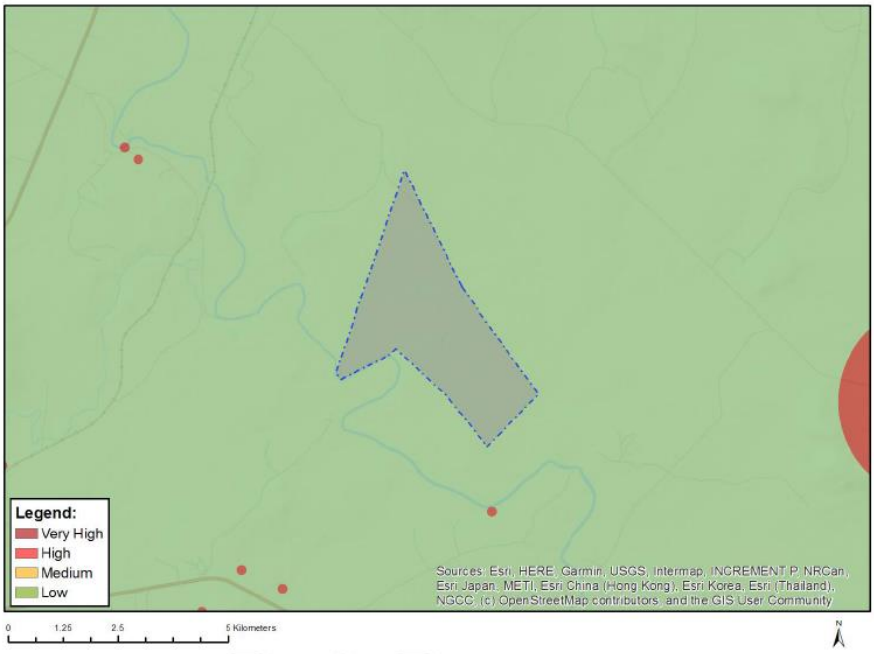


Figure 39: Graves observed near the proposed project area (Singo Consulting (Pty) Ltd, 2023

MAP OF RELATIVE ARCHAEOLOGICAL AND CULTURAL HERITAGE THEME SENSITIVITY



Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
			X

Figure 40: Map of Archaeological and Cultural Heritage theme sensitivity *(Screening tool, 2023)*

8.10.1 Socio-Economic Environment

Figure 41: Map of UMzinyathi District Municipality

8.10.2 Population

KZN is home to an estimated 11.6 million people, making up for 19.9 percent of the South African population. The table below shows that the KZN province is the second most densely populated after Gauteng, which has an estimated 13.4 million people, accounting for 24% of the total national population. In 2006, KZN had 9.9 million people, followed by Gauteng with 9.5 million. Migration is cited as one of the main factors contributing to the decline in the share of the national population and, as a result, affecting its equitable share grant allocation. Migration patterns from KZN to Gauteng have frequently been attributed to better opportunities (job, education, and Business) available in Gauteng, particularly in the urban areas of Johannesburg and Pretoria. The economic growth and development in Gauteng have attracted many individuals from KZN seeking employment, education, and business prospects. This trend has resulted in a significant shift in population dynamics between the two provinces, influencing the equitable share grant allocation for KZN.

Table 9: Population by District Municipality

Districts	Census 2011		CS 2016	
	N	%	N	%
ETH: eThekwini	3442361	34	3702231	33
DC22: Umgungundlovu	1017763	10	1095865	10
DC28: Uthungulu	907519	9	971135	9
DC26: Zululand	803575	8	892310	8
DC21: Ugu	722484	7	753336	7
DC23: Uthukela	668848	7	706588	6
DC27: Umkhanyakude	625846	6	689090	6
DC29: iLembe	606809	6	657612	6
DC24: Umzinyathi	**510838**	**5**	**554882**	**5**
DC25: Amajuba	499839	5	531327	5
DC43: Sisonke	461419	4	510865	5
KwaZulu-Natal	**10267300**	**100**	**11065240**	**100**

Source: CS 2016 (Stats SA)

8.10.3 Education Profile

The uMzinyathi District Municipality has played an important role in stimulating the economy, which will meet the needs of the majority of the population. The majority of young people in this category reside in rural regions where education, skills, and opportunities are scarce. A continuation of this trend undermines the growth of the uMzinyathi economy by accumulating unskilled labor in the labor market. Efforts should be directed toward raising the level of education in the municipality.

The relationship between the levels of employment and the education levels of the population older than 20 years of age is reflected in Table 10. In the year 2012 the number of people with no schooling was 56580 and 55146 in 2016 this indicates a decrease of 1434 whilst the number of 20 + people with Matric only increased from 52428 in 2012 to 59938 in 2016, which indicates an increase of 7510. This data suggests that there was a shift in the education levels of the population older than 20 years of age between 2012 and 2016. The decrease in the number of people with no schooling may indicate an increase in educational opportunities or a higher emphasis on obtaining an education during this period. Additionally, the significant increase in the number of individuals with Matric only suggests a growing importance placed on this level of education for employment purposes.

While the number of people with Matric only is rapidly increasing, it is also important to note that completion of secondary school education provides very little guarantee of finding any form of formal employment within the district. It also emphasizes the importance of tertiary education for successfully entering the labor market, even in districts where formal sector employment opportunities are scarce.

Table 10: Education levels in the district

Education	2006	2011	2016	2006-2016 growth rate
No school	25.8%	21.0%	21.7%	-0.4%
Primary school	39.5%	37.0%	37.6%	0.9%
Secondary school	32.4%	39.4%	38.1%	3.0%
Higher	2.3%	2.7%	2.7%	3.2%
Total	100.0%	100.0%	100.0%	1.4%

Source: uMzinyathi Local Economic Development Strategy 2017

8.11 Heritage

8.11 Heritage Resources

In the study area, graves were discovered. To protect the graves, a buffer will be set up to indicate a no-go zone. Workers will be instructed and managed so that the no effect may occur to the Graves during the prospecting process.

If any other heritage resources of significance are discovered during the project's operational phase, the South African Heritage Resources Agency (SAHRA) should be notified immediately, all development activities should be halted, and an archaeologist accredited by the Association of Southern African Professional Archaeologists (ASAPA) should be notified to determine appropriate mitigation measures for the discovered finds. This may include obtaining the necessary SAHRA authorization to carry out the necessary mitigation measures.

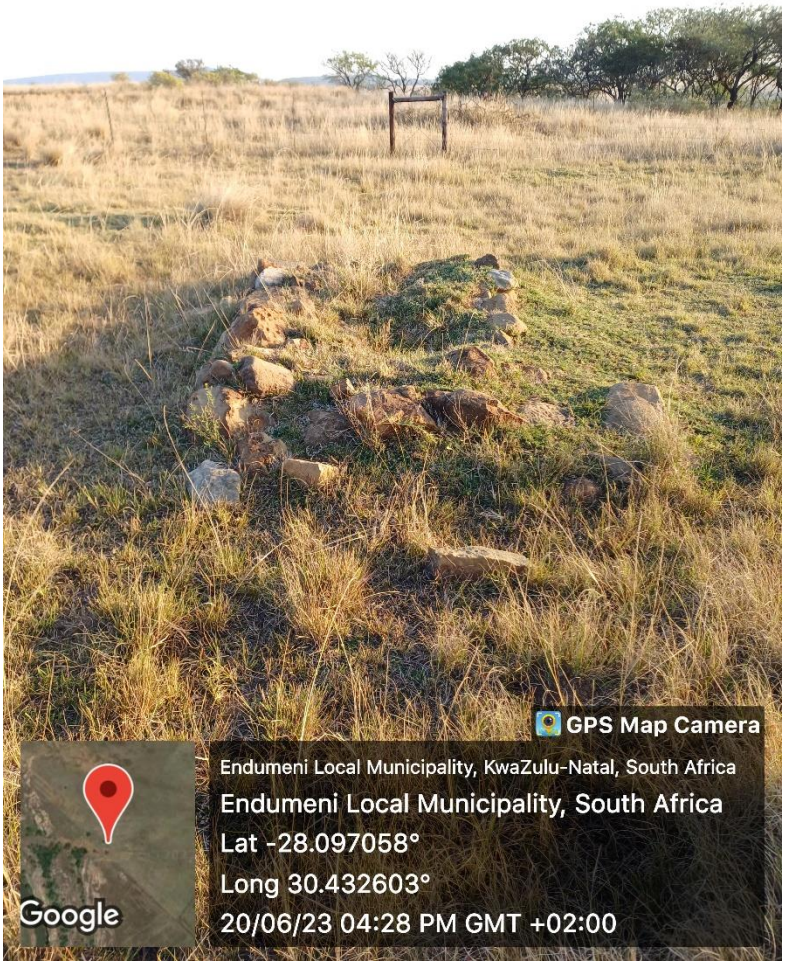


Figure 42: Graves observed during site assessment *(Singo Consulting (Pty) Ltd, 2023)*

8.12 Land Use

Natural vegetation, built-up areas, cultivated land, waterbodies, and mines, according to the GIS Specialist's map, dominate the proposed project area's land use. An ecology study will be conducted, and a 100m buffer will be implemented to the water bodies, with the area marked as a "No-Go Zone."

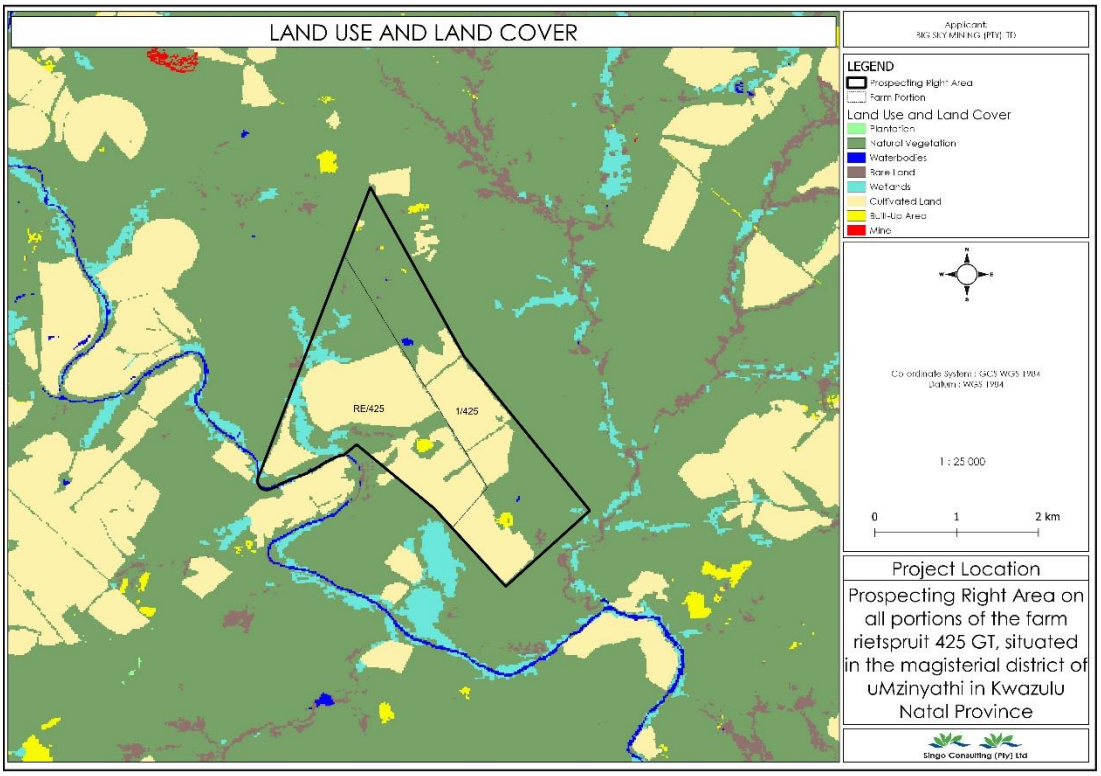


Figure 43: Land use map of the proposed project area (Singo GIS, 2023)

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

8.13.1 Environmental features

The proposed prospecting area consist of perennial and non-perennial river. The perennial and non-perennial rivers will be buffered as a no-go area and approximately a 100m buffer should apply. The presence of operational coal mines located approximately 18.59 km from the project site, including Aviemore mine, Buffalo Coal, Slater Coal (PTY) Ltd, and C Potco CC.

Wetlands and rivers

There are rivers (Perennial and Non-Perennial) and depression, floodplain and seep wetland within the proposed prospecting area. (**See figure 44 and figure 45 below**).

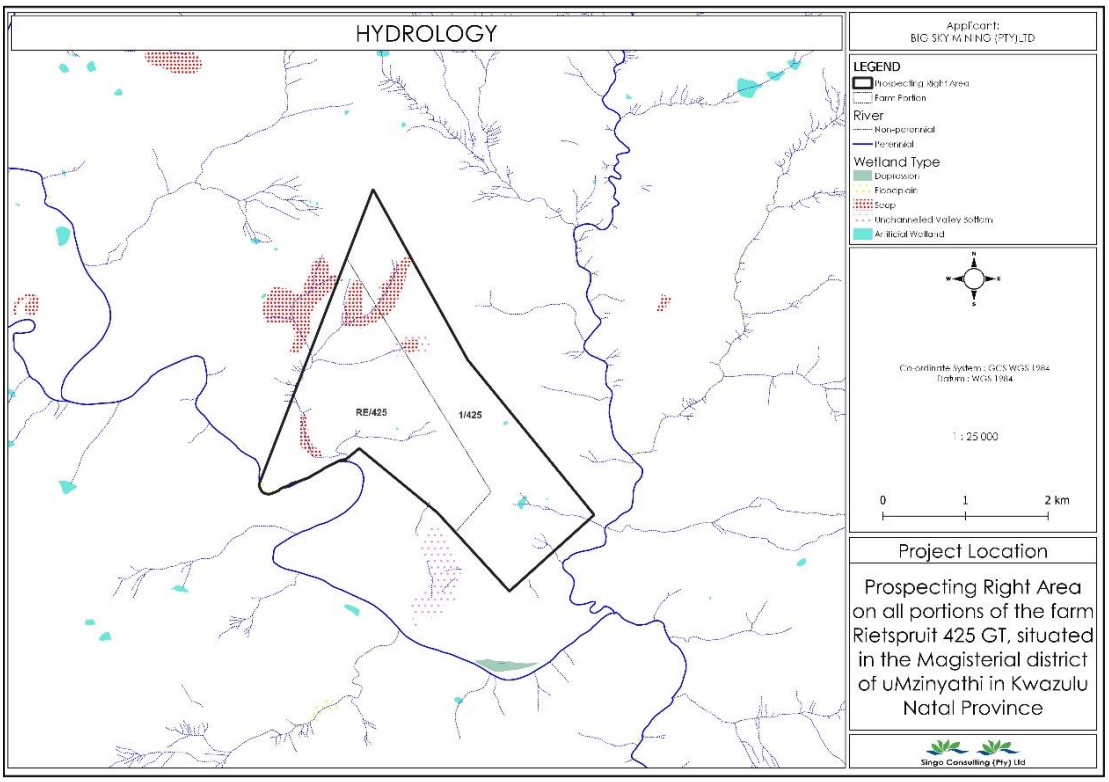


Figure 44: Hydrology map of the proposed area (Singo GIS, 2023)

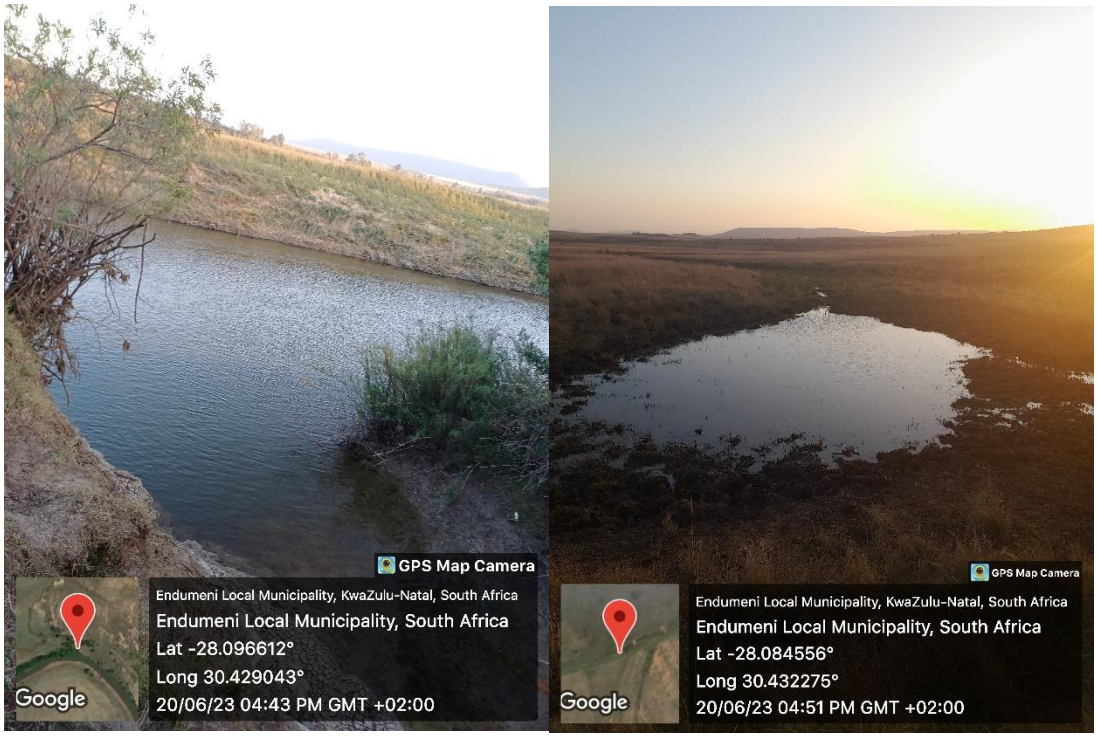


Figure 45: Waterbodies observed on site **(Singo GIS, 2023)**

Infrastructure

Infrastructure is defined as the basic physical systems of a business, region, or nation, and it frequently involves the production of public goods or production processes. Transportation systems, communication networks, sewage, water, and school systems are examples of infrastructure.

Roads

The project site is located approximately 17.88 km northeast of Dundee Town and 35.96 km southwest of Vryheid Town (refer to **Figure 46**). Access to the site is convenient via R33 from Dundee, followed by gravel roads leading to the project area under normal circumstances.

Figure 46: Access road to the proposed site *(Singo Consulting (Pty) Ltd, 2023)*

Electric power line

There are electric power lines within the proposed project area.

Figure 47: Power line identified within the proposed project area (Singo Consulting (Pty) Ltd, 2023)

9 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).

9.1 Impact Assessment

The impact Assessment is presented in the table below.

Table 10: 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 for establishment of drill sites	Destruction of cultural heritage sites and artefacts	3	5	3	1	135
Vegetation clearance, Site establishment, Drilling activities & movement of people and						

equipment on site						
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
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
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
Closure						
Concurrent rehabilitation	Reducing soil compaction of disturbed area and access roads to improve	1	4	1	4	POSITIVE

	drainage and control erosion					
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

9.2 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	**73 - 240**
Medium	**36 - 72**
Low	**1- 35**

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:

- Contributing to the economy through employment
- Prospecting with concurrent rehabilitation

2. Negative Impacts associated with the proposed prospecting:

- Cultural heritage sites and artifacts are being demolished.
- Soil resource depletion
- Current land use transformation
- Natural vegetation removal or damage
- Environmental damage to sensitive biodiversity areas
- Riparian habitat disruption and non-perennial river
- Surface water contamination
- The effect on current land use
- Soil contamination
- The Effect of Air Quality (Dust)
- Litter
- Disturbance of important bird and fauna species in the area

9.3 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 although the destruction of heritage resources is considered a high impact, heritage sites will not be drilled if they are discovered on site.

Table 11: 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 100 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.

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.

Workers & material on site	Contribution to the economy through employment	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. 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.
Workers & material on site	Spread of HIV/Aids to farm workers and local community	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. 2) No employees will be permitted to stay on site. 3) Aids awareness talks
Use of heavy machinery & vehicles on site for drilling	Resource consumption (diesel - non-renewable resource)	1) Vehicles and equipment to be serviced regularly and maintained in good working condition
Use of heavy machinery & vehicles on site for drilling	Contamination of soils through hydrocarbon leaks and spills from machinery & equipment	1) All chemicals, fuels and oils to be stored on site will be appropriately bunded. 2) Precautions will be taken to prevent spills and soil contamination. 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	Use of groundwater for drilling activities	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. 2) Water use license has been applied for to DWS for the abstraction of surface- and/or groundwater during prospecting. 3) Adequate provision will be made for storing drinking water on site in the form of 2500 litre plastic water tanks.
Use of heavy machinery & vehicles on site for drilling	Contamination of surface water through hydrocarbon leaks and spills from machinery & equipment	1) The drilling fluid that will be used during prospecting must be biodegradable and not pose a water pollution threat. 2) Drilling sumps and containment measures will be designed to contain all drilling fluid. 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. 5) Drill sites to be located 500 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 & vehicles on site for drilling	Cross-contamination of aquifers due to borehole construction	1) For the purpose of future monitoring programmes, impact assessments and 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.
Closure		
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 of the Karoo Supergroup is known to host the desired mineralisation. The coalfields within the Endumeni Municipality, which are part of the Klip River coalfield, are known for their abundant reserves of high-quality bituminous coal. This coal is widely used for electricity generation and industrial processes, including steel production. This statement is substantiated by the presence of operational coal mines located approximately 18.59 km from the project site, including Aviemore mine, Buffalo Coal, Slater Coal (PTY) Ltd, and C Potco CC.

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

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

This is a prospecting application without bulk sampling in which 15 holes will be drilled at locations determined by the geology of the site. Drill holes will be at least 500 meters away from any watercourse and at least 100 meters away from any 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 Table 12.

k) 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 12: 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		
(E.g. For prospecting - **drill site, site camp, ablution facility, accommodation, equipment storage, sample storage, site office, access route** etc…etc…etc (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.)**	**(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)**						**(E.g. noise control measures, storm-water 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)**	

Site establishment activities **- 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)	• If concentrations of archaeological heritage material and human remains are uncovered during construction, all work must cease immediately. • The find must be reported to a heritage specialist so that systematic and professional investigation/ excavation can be undertaken.	Negligible
	Noise (-ve)	Noise Generation	Construction / Set up	1	3	1	Definite	5 (Low)	• Construction/setup, operational and decommissioning activities will be limited to daylight hours on Mondays to Saturdays and no activities on Sundays and public holidays; • Separation of distance of minimum 500m, but preferably 1000m to be maintained between drill sites and dwellings; • Noise abatement equipment, such as mufflers on diesel engines, will be maintained in good condition; and • If intrusive noise levels are experienced by any person at any point, the source of the noise will be	3(Very Low)
NAME OF ACTIVITY	**POTENTIAL IMPACT**	**ASPECTS AFFECTED**	**PHASE**	**SIGNIFICANCE** if not mitigated					**MITIGATION TYPE** (modify, remedy, control, or stop)	**SIGNIFICANCE** if mitigated

(E.g. For prospecting - **drill site, site camp, ablution facility, accommodation, equipment storage, sample storage, site office, access route** etc…etc…etc (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.)**	(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…)		In which impact is anticipated (E.g. Construction, commissioning, operational, Decommissioning, closure, post closure)	EXTENT	INTENSITY	DURATION	PROBABILITY	RATING	Through (E.g. noise control measures, storm-water 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)	
									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.	

	Visual (–ve)	Visual intrusion	Construction / Set_up	1	3	1	Definite	5 (Low)	• The drilling rig and other visually prominent items on the site will be located in consultation with the landowner; • Make use of existing vegetation as far as possible to screen the prospecting operations from view; and • If necessary, the operations can be screened from view by erecting a shade cloth barrier.	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)	• Traffic signs to be put around the site to notify motorist of the activities • Construction vehicles to make trips on/off site only when necessary • Construction vehicles to adhere to local speed limits as far as possible when driving in around site	3 (Very Low)
	Dust fall (-ve)	Dust fall & nuisance from activities	Construction / Set_up	2	3	1	Definite	6(Medium)	• Wet suppression should be applied to ensure that no visible dust is raised by any of the prospecting operations; • Separation of distance of minimum 500m, but preferably 1000m to be maintained between drill sites and dwellings; and • Low vehicle speeds will be enforced on unpaved surfaces.	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

(E.g. For prospecting - **drill site, site camp, ablution facility, accommodation, equipment storage, sample storage, site office, access route** etc…etc…etc (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.)**	(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…)		In which impact is anticipated (E.g. Construction, commissioning, operational, Decommissioning, closure, post closure)	EXTENT	INTENSITY	DURATION	PROBABILITY	RATING	Through (E.g. noise control measures, storm-water 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)	
	Vegetation (-ve)	impact of the proposed prospecting on the vegetation would occur at proposed drilling sites and the access routes	Set_up					(Medium)	drill pad areas will be limited to the absolute minimum required; • No clear scraping (dozing) be carried out unless absolutely necessary to establish a level drill pad. • Rather that surface vegetation is cleared to make way for the drilling rig leaving the roots intact so that vegetation can coppice and	

		used to get to these sites.							regrow; and • Disturbed areas will be re-vegetated with locally indigenous species as soon as possible.	
	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)	• Environmental awareness training sessions should be part of the workers' induction and site workshops; and • 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	5 (Low)
	Social (-ve)	Friction between local residents/land	Construction / Set_up	1	2	2	Definite	5 (Low)	• All operations will be carried out under the guidance of a strong, experienced manager with proven skills in public consultation and conflict resolution; • All prospecting personnel will be made aware of the	4(Very Low)

9.4 Specialist Studies

ix) 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): -

Table 13: Summary of specialist reports.

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 Hydrogeology study	➢ The mobile toilets will be serviced on a regular basis on-site. After drilling, the team will rehabilitate the area and relocate the core. ➢ Drilling will be prohibited within 100 meters of water resources. The drilling machine will have low vibrations to avoid creating fissures in the underlying rocks, which could affect groundwater migration and lead to water contamination. ➢ Clearing a large amount of vegetation will be avoided in order to preserve infiltration. ➢ Constant availability of waste bins; Compliance of National Environmental Management: Waste	X	8.2 on Page 39

	Management Act 59 of 2008. ➢ Compliance of GN 704 4(b) and 7(a) and National Water Act 36 of 1998 (Chapter 3 – Part 4, Section 1 (a)(b). ➢ There will be no on-site vehicle or machinery repairs, such as oil changes. There is no onsite storage of oil, diesel, or gasoline. ➢ Cores will be logged on an impervious surface and removed from the site immediately after logging. There will be no vehicle washing on site. ➢ The sump will not overflow and will be lined with an impervious layer.		
Baseline Hydrology study	➢ The mobile toilets will be serviced on a regular basis on-site. ➢ After drilling, the team will rehabilitate the area and relocate the core. ➢ Drilling will be prohibited within 100 meters of water resources. ➢ Stormwater will be prioritized, and surface water contamination will be avoided. ➢ Clearing large areas of vegetation will be avoided in order to preserve infiltration.	**X**	8.2 on Page 38

	➢ Stormwater measures such as the identified rivers, dams, and wetlands will not be implemented. ➢ Buffer zone will be followed as they manage surface runoff in an area. ➢ The drilling activity will also take into account the region's fractured aquifers. ➢ Vehicle washing on-site should be prohibited. ➢ The prospecting team will be given access to the identified sampling locations, and the drilling process will be paused during rainy periods to avoid possible contamination of water leading to surface water bodies.		
Baseline Soil study	➢ It is recommended that the financial provision for closure and rehabilitation be updated annually in accordance with the MPRDA requirements. ➢ Surface water monitoring of the pans and associated wetlands surrounding the project area will be conducted to determine the impacts of the proposed prospecting project operations. ➢ Regular audits should be conducted to monitor the progress of rehabilitated areas.	**X**	10.2 on Page 62

	➢ Long-term management of the rehabilitated areas will be implemented. ➢ Required via contractual agreements with landowners in the area and rehabilitation should also be undertaken to best practice. To ensure compliance with the requirements of the Final Rehabilitation, Decommissioning, and Closure Plan, an independent Environmental Assessment Practitioner (Singo Consulting Pty Ltd) will be appointed. ➢ All affected divisions must be invited for input during and after rehabilitation.		
Rehabilitation Study	➢ It is recommended that the financial provision for closure and rehabilitation be updated annually in accordance with the MPRDA requirements. ➢ Surface water monitoring of the pans and associated wetlands surrounding the project area will be conducted to determine the impacts of the proposed prospecting project operations. ➢ Regular audits should be conducted to monitor the progress of rehabilitated areas.		10.2 on Page 62

	➢ Long-term management of the rehabilitated areas will be required through contractual agreements with local landowners, and rehabilitation should be done in accordance with best practices. ➢ An independent Environmental Assessment Practitioner (Singo Consulting Pty Ltd) will be appointed to ensure compliance with the Final Rehabilitation, Decommissioning, and Closure Plan requirements. All affected departments will be invited to provide input during and after rehabilitation.		

9.5 Additional research will be conducted:

- Ecology study
- Waste Management Plan (Cradle to Grave)

9.6 Environmental Impact Assessment

x) The key findings of the environmental impact assessment;

The potential environmental impacts of the proposed prospecting are deemed insignificant. Drilling will be done with a diamond core drill rig. The drill team will not need any site infrastructure and will not be staying on site. The main impacts are related to the onsite heritage resources and river. During the planning phase, each borehole buffer zone will be designed to avoid negative impacts on identified heritage sites, rivers, and/or streams.

xi) 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.

xii) Summary of the positive and negative impacts and risks of the proposed activity and identified alternatives;

Positive Impact associated with the proposed Prospecting:

- Employment contributing to the economy (about 10 people per drill site)
- Positive contribution to the South African Gross Domestic Product
- Prospecting with concurrent rehabilitation

Negative Impacts associated with the proposed prospecting

- Soil resource depletion
- Damage to sensitive biodiversity areas
- Disturbance of riparian habitats and non-perennial river
- Contamination of surface water
- Soil pollution
- Litter

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 authorization.

The objectives of the impact management process are as follows:

Air Quality:

To ensure that the prospecting activities has a minimal adverse impact on air quality, dust limitation and suppression to be applied.

Groundwater:

To ensure that the prospecting activities have minimal adverse impact on the surrounding groundwater water quality and prevents pollution of existing groundwater resources.

Surface Water

To ensure that the prospecting activities effectively utilize the consumption of freshwater, have minimal adverse impacts on the surrounding surface water quality and prevent pollution of surrounding surface water resources. A buffer of 500m to be observed from the water course.

Soils

To ensure that the prospecting activities have a positive impact on land and soils by mitigating potential erosion, preventing contamination and pollution.

Biodiversity

To ensure that the prospecting activities do not have an adverse impact on the current biodiversity.

Socio-Economic

To aid in the improvement of the current local economy and improve the social environment of communities affected by the prospecting activities.

Visual

To limit the visual impact of the prospecting activities. Only one drill rig to be used and concurrent rehabilitation to be implemented.

Noise

To control noise pollution stemming from the prospecting activities through the restriction of operational hours.

Heritage

To ensure that the prospecting activities avoid adverse impacts on the heritage resources of significance. Interaction with SAHRA and local residents to identify and confirm heritage sites. Marking and avoidance of sites if identified.

Waste

To ensure that the proposed prospecting operation adopts and implements waste management principles that are environmentally responsible.

l) Aspects for inclusion as conditions of Authorisation.

Any aspects which must be made conditions of the Environmental Authorisation

- A field survey must be undertaken before drilling commences at each drilling site to confirm that no cultural heritage site is present in sections to be cleared.
- Prospecting should not occur within 500m from any watercourse.
- Boreholes and access tracks will be located in areas that will result in minimal ground disturbance.
- During the planning phase for each borehole, specific controls must be identified and implemented, based on site conditions.
- No employees will be permitted to stay on the site.
- Collection of firewood will not be allowed.
- 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.

m) Description of any assumptions, uncertainties, and gaps in knowledge.

(Which relate to the assessment and mitigation measures proposed)

The location of the final planned boreholes designed were identified through the approach of the prospecting work programme. This assessment is therefore based on a desktop approach at a broad scale and assuming that drilling could occur anywhere within the proposed prospecting license area except on Critical Biodiversity Area 1. Once drill sites have been identified, then it is recommended that focus should be given to these sites in order to identify any cultural or heritage resources of significance, any ecologically significant areas that may occur as well as re-engaging landowners regarding the intention to access and conduct drilling activities on their property.

n) Reasoned opinion as to whether the proposed activity should or should not be authorised

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

According to the impact assessment undertaken for the proposed project, the key impacts of the project are on soils, natural vegetation and landowners/occupiers. The project will also have positive impacts due to the employment to be created although for a short term.

The public will also be requested for their comments. All comments to be received during Public Participation Process will be included in this BAR and EMPr. These comments will be addressed as far as possible to the satisfaction of the interested and affected parties.

The management of the impacts identified in the impact assessment for all phases of the proposed project will be undertaken through a range of programmes and plans contained in the EMPr. In consideration of the programmes and plans contained within the EMPr, layouts and method statements compiled for the project, which is assumed will be effectively implemented, there will be significant reduction in the significance of potential impacts.

Based on the above, it is therefore the opinion of the EAP that the activity should be authorized.

b. Conditions that must be included in the authorisation

- A field survey must be undertaken before any drilling may commence at each proposed drilling site to confirm that no cultural heritage sites are present in sections demarcated to be cleared.
- No prospecting should occur within 500m from any watercourse
- The positioning of boreholes and access tracks should be in areas that will result in minimal ground disturbance
- During the planning phase for each borehole, specific controls must be identified and implemented, based on site conditions
- No employees will be permitted to stay on the site.
- Collection of firewood will not be allowed.
- 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.

o) Period for which the Environmental Authorisation is required

The authorization is required for the duration of the prospecting right which is 5 years.

p) 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.

An undertaking is provided at the end of this report.

9.7 Financial Provision

A financial provision of approximately R 56 466.00 has been budgeted for the prospecting programme over 5 years as PWP, which includes rehabilitation activities.

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. This is typically a contractual arrangement between Big Sky Mining (Pty) Ltd, and the drilling contractor employed to implement drilling activities which include construction / set-up of drill pad, operational drilling activities and the rehabilitation of the drill site after drilling has ceased. The financial guarantee was calculated using the DMRE official financial quantum calculator below.

Table 14: Financial Quantum

CALCULATION OF THE QUANTUM

DMRE REF: KZN 30/5/1/1/2/11407 PR

Applicant: **Big Sky Mining (Pty) Ltd** Date **27/07/2023**

Evaluator: **Mazithi Mangcu**

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
3,00	Rehabilitation of access roads	m2	16 288,95	49	0,01	1	7981,5855
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		685612	1	1	0
9	Rehabilitation of subsided areas	ha	0,9	158701	0,1	1	14283,09
10	General surface rehabilitation	ha		150138	1	1	0
11	River diversions	ha	0	150138	0,1	1	0
12	Fencing	m	0	171	1	1	0
13	Water management	ha		57087	1	1	0
14	2 to 3 years of maintenance and aftercare	ha	0,9	19980	1	1	17982
15 (A)	Specialist study	Sum	0			1	0
15 (B)	Specialist study	Sum				1	0
					Sub Total 1		40246,6755

1	Preliminary and General	4829,60106	weighting factor 2: 1	4829,60106
2	Contingencies	4024,66755		4024,66755
			Subtotal 2	49100,94
			VAT (15%)	7365,14
			Grand Total	**56466**

Sign Mazithi Mangcu

Date 27/07/2023

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

The financial support provided by Big Sky Mining (Pty) Ltd submitted their financial support demonstrates the availability of funds to undertake prospecting of the desired mineral.

q) Specific Information required by the competent Authority

i) 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: -

ix) 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) .

There are no anticipated direct impacts on the socio-economic conditions of the landowners. Private owners of portions that are used for agricultural purposes will be compensated fairly for any loss due to the drilling programme. Drill holes will be immediately closed to avoid any contamination to the groundwater.

As the final positioning of the drill sites cannot be confirmed without completion of phase 1 of the prospecting programme, a recommendation has been made to ensure that the directly affected landowners are re-consulted a minimum of 1 month prior to implementing invasive activities (drilling). The purpose of the re-consultation is to ensure that socio-economic impacts on directly affected persons can be raised and where possible addressed.

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

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

Since the positioning of the drill sites will only be determined after phase 1 of the prospecting works programme, and in order to ensure that there is no impact on unknown heritage sites, a recommendation has been made to undertake a heritage survey of the drill sites once these are known in order to identify any cultural or heritage resources of significance.

Mitigation measures proposed in this report include that no drill site will be located within 500m of any identified heritage site (which may occur during the prospecting programme). Furthermore, few graves were observed within the proposed prospecting area during site assessment. The South African Heritage Resources Agency (SAHRA) has been consulted via their online website. If more heritage resources of significance are exposed during the operational phase of the project, the South African Heritage Resources Agency (SAHRA) should be notified immediately, all development activities should be stopped, and an archaeologist accredited with the Association for Southern African Professional Archaeologists (ASAPA) should be notified to determine appropriate mitigation measures for the discovered finds. This may include obtaining the necessary authorization from SAHRA to conduct the required mitigation measures.

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

PART B

ENVIRONMENTAL MANAGEMENT PROGRAMME

10 Environmental management programme.

a) Details of the EAP

Due to POPIA qualifications of the EAP will only be made available for final submission to the competent Authority.

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).

The aspects of the activity are described 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)

Please refer to Appendix A.

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 overall goal for closure of the prospecting site is to re-instate the predetermined land-use of the landowners, neighbors, and community, ensuring that the land is stable and safe in the long-term.

The closure objectives apply to the prospecting area in its final closed state and not whilst the site is in transformation towards this state. They nevertheless provide guidance during the operational phase. Closure objectives relate to the following:

Physical stability: To back-fill boreholes and pits on the prospecting site to ensure continuation of the land use after completion of prospecting activities.

Environmental quality: To ensure that local environmental quality is not adversely affected by possible physical effects and chemical contaminants arising from the prospecting site after completion of prospecting activities.

Health and safety: To limit the possible health and safety threats to humans and animals using the rehabilitated prospecting area after completion of prospecting activities.

Land capability/land-use: To ensure continuation or to the re-instate a suitable land capability over as large as possible area affected during prospecting.

Aesthetic quality: To leave behind a rehabilitated prospecting site that is neat and tidy, giving an acceptable overall aesthetic appearance.

Biodiversity: To encourage the re-establishment of indigenous and/ or appropriate vegetation on the rehabilitated prospecting site such that the biodiversity is largely re-instated over time, as well as protect the undisturbed areas to maintain/enhance the biodiversity of these areas. Prospecting area rehabilitated to limit impact on current land use.

ii) Volumes and rate of water use required for the operation.

After careful consideration of the scale of operation it has been deduced that approximately 18 000 L will used as potable water. It is anticipated that water will be purchased from a private water filter dealer and brought onto the site.

iii) Has a water use license been applied for?

Yes, water use license is being applied for in terms of Chapter 4 of the National Water Act, 1998 (Act 36 of 1998). The project is for a coal prospecting right, exploration boreholes will be located 100m from the non-perennial and perennial rivers within and around the project area.

The proposed project will trigger the following sections:

Section 21(c): Impeding or diverting the flow of water in a watercourse.

Section 21(i): Altering the bed, banks, course, or characteristics of a watercourse.

iv) Impacts to be mitigated in their respective phases

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

Table 15: Impact mitigation and rehabilitation

Activities	**Phase**	**Size and scale of disturbance**	**Mitigation measures**	**Compliance with standards**	**Implementation period**
E.g. for prospecting: Drill site, site camp, ablution facility, accommodation, equipment storage, sample storage, site office, access route, etc. E.g. for mining: Excavations, blasting, stockpiles, discard dumps/dams, loading, hauling, transport, water supply dams, boreholes, accommodation, offices, ablution, stores, workshops, processing plant, storm water control, berms, roads, pipelines, power lines, conveyors, etc.	In which impact is anticipated, e.g. construction, commissioning, operational, decommissioning, closure and post-closure.	Volumes, tonnages and ha/m^2	Describe how each of the recommendations herein will remedy the cause of pollution or degradation and migration of pollutants.	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.	Describe the period when the measures in the environmental management program must be implemented. Measures must be implemented when required. Rehabilitation must take place at the earliest opportunity. With regard to rehabilitation, state whether it will take place upon cessation of the individual activity or cessation of mining, bulk sampling or alluvial diamond prospecting.
Site establishment activities Vegetation clearance Topsoil stripping and stockpiling Drill pad compaction Placement of temporary portable toilets and resting place Vehicle movements	Construction/setup and operational phase	600m^2 diamond drill holes	Any buried artifacts that may be uncovered during site activities will require such activities to stop and a qualified archaeologist will be commissioned to assess their significance and determine appropriate mitigation measures.	Heritage Act	Before and during drilling activities

Activities	Phase	Size and scale of disturbance	Mitigation measures	Compliance with standards	Implementation period
Waste management	Construction/setup and operational phase	600m^2 diamond drill holes	Control noise generation by maintaining equipment. Limited to daylight hours on Mondays to Saturdays and no activities on Sundays and public holidays. Maintain a buffer of 500m between drill sites and dwellings. The resting place shall be located outside of the 82dB Zone of the drill site.	SANS 10103 guideline	Before and during drilling activities
Exploration drilling: Drilling Drill maintenance and re-fueling Core sample collection and storage Vehicle movements Waste generation and management	Construction/setup and operational phase	600m^2 diamond drill holes	The drilling rig and other visually prominent items on the site will be located in consultation with the landowner; Make use of existing vegetation as far as possible to screen the prospecting operations from view; and If necessary, the operations can be	N/A	Before and during drilling activities

Activities	Phase	Size and scale of disturbance	Mitigation measures	Compliance with standards	Implementation period
			screened from view by erecting a shade cloth barrier		
	Construction/setup and operational phase	600m^2 diamond drill holes	Control dust emission by ensuring drill rig employs dust suppression system. Low vehicle speeds will be enforced on unpaved surfaces. Maintain a buffer of 500m between drill sites and dwellings	GN R. 827 (NEMAQA)	Before and during drilling activities
	Construction/setup and operational phase	600m^2 diamond drill holes	The soil disturbance and clearance of vegetation at drill pad areas will be limited to the absolute minimum required and will not be dozed or scraped with vegetation roots left intact for later re growth; and Disturbed areas will be vegetated with locally indigenous species as soon as possible.	N/A	Before and during drilling activities

Activities	Phase	Size and scale of disturbance	Mitigation measures	Compliance with standards	Implementation period
	Construction/setup and operational phase	0.06 Ha per drill site	All operations will be carried out under the guidance of a strong, experienced manager with proven skills in public consultation and conflict resolution, including environmental coordinator where applicable; All prospecting personnel will be made aware of the local conditions and sensitivities in the prospecting area and the fact that some of the local residents may not welcome the prospecting activities in the area.	NEMA	Before and during drilling activities

r) Impact Management Outcomes

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

2.1 Impact Management Outcomes

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

Table 16: Impact management

Activities	Potential impact	Aspects affected	Phase	Mitigation type	Standard to be achieved
E.g. for prospecting: Drill site, site camp, ablution facility, accommodation, equipment storage, sample storage, site office, access route, etc. E.g. for mining: Excavations, blasting, stockpiles, discard dumps/dams, loading, hauling, transport, water supply dams, boreholes, accommodation, offices, ablution, stores, workshops, processing plant, storm water control, berms, roads, pipelines, power lines, conveyors, etc.	Including the potential impacts for cumulative impacts. E.g. dust, noise, drainage surface disturbance, fly rock, surface water contamination, groundwater contamination, air pollution etc.		In which impact is anticipated, e.g. construction, commissioning, operational, decommissioning, closure and post-closure.		
Site establishment activities (-ve) Vegetation clearance Topsoil stripping and stockpiling	Cultural and heritage	Destruction or loss of Cultural and Heritage Resources: No cultural/ heritage artefacts have	Construction/ set-up	If concentrations of archaeological heritage material and human remains are uncovered during construction, all work must cease	Heritage Act

Activities	Potential impact	Aspects affected	Phase	Mitigation type	Standard to be achieved
Drill pad compaction Erection of office, toilets, fuel storage (if not by road tanker), water tanker, core storage Vehicle movements Waste management		been identified on site.		immediately. The find must be reported to a heritage specialist so that systematic and professional investigation/ excavation can be undertaken.	
	Noise	Noise generation	Construction/ set-up	Construction/setup, operational and decommissioning activities will be limited to daylight hours on Mondays to Saturdays and no activities on Sundays and public holidays. Separation of distance of minimum 500m, but preferably 1 000m to be maintained between drill sites and dwellings. Noise abatement equipment, such as mufflers on diesel engines, will be maintained in good condition. If intrusive noise levels are experienced by any person at any point, the source of the noise will be moved if practical, or it will be placed in an acoustic enclosure, or an acoustic barrier will be erected between the source and the	SANS 10103

Activities	Potential impact	Aspects affected	Phase	Mitigation type	Standard to be achieved
				recipient.	
	Visual	Visual intrusion	Construction/ set-up	The drilling rig and other visually prominent items on the site will be located in consultation with the landowner. Make use of existing vegetation as far as possible to screen the prospecting operations from view. If necessary, the operations can be screened from view by erecting a shade cloth barrier.	N/A
	Traffic	Increase in traffic volumes in drilling site vicinity	Construction/ set-up	Traffic signs to be put around the site to notify motorist of the activities. Construction vehicles to make trips on/off site only when necessary. Construction vehicles to adhere to local speed limits as far as possible when driving in around site.	National Traffic Act Regulations
	Dust fall	Dust fall and nuisance from activities	Construction/ set-up	Wet suppression should be applied to ensure that no visible dust is raised by any of the prospecting operations. Separation of distance of minimum	GN R. 827 (NEMAQA)

Activities	Potential impact	Aspects affected	Phase	Mitigation type	Standard to be achieved
				500m, but preferably 1 000m to be maintained between drill sites and dwelling. Low vehicle speeds will be enforced on unpaved surfaces.	
	Soil and vegetation	The potential impact of the proposed prospecting on the vegetation would occur at proposed drilling sites and the access routes used to get to these sites.	Construction/ set-up	The soil disturbance and clearance of vegetation at drill pad areas will be limited to the absolute minimum required; No clear scraping (dozing) be carried out unless necessary to establish a level drill pad. Rather that surface vegetation is cleared to make way for the drilling rig leaving the roots intact so that vegetation can coppice and regrow. Disturbed areas will be re-vegetated with locally indigenous species as soon as possible.	NEMBA
	Animal life	Animal life will be affected in the immediate vicinity of the drilling rig. It is anticipated that the noise and	Construction/ set-up	Environmental awareness training sessions should be part of the workers' induction and site workshops. If any animals are met, they must	NEMBA

Activities	Potential impact	Aspects affected	Phase	Mitigation type	Standard to be achieved
		general activity will keep the animal life away from the site while the prospecting is ongoing.		not be killed or injured, but should rather be removed or chased away from the site with the assistance of an animal specialist.	
	Social	Friction between residents/landowners and construction personnel.	Construction/ set-up	All operations will be carried out under the guidance of a strong, experienced manager with proven skills in public consultation and conflict resolution. All prospecting personnel will be made aware of the local conditions and sensitivities in the prospecting area and the fact that some of the residents may not welcome the prospecting activities in the area. There will be a strict requirement to treat residents with respect and courtesy at all times.	NEMA
	Job creation	Employment will be created for the clearing of the land and establishing the drilling site.	Construction/ set-up	No mitigation measures required.	NEMA

Activities	Potential impact	Aspects affected	Phase	Mitigation type	Standard to be achieved
Exploration drilling (ve) Drilling Drill maintenance and refuelling Core sample collection and storage Vehicle movements Waste generation and management	Noise	Noise generation	Operations	Activities will be limited to daylight hours on Mondays to Saturdays and no activities on Sundays and public holidays. Separation of distance of minimum 500m, but preferably 1 000m to be maintained between drill sites and dwellings; Noise abatement equipment, such as mufflers on diesel engines, will be maintained in good condition. If intrusive noise levels are experienced by any person at any point, the source of the noise will be 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.	Heritage Act
	Visual	Visual intrusion	Operations	The drilling rig and other visually prominent items on the site will be located in consultation with the landowner. Make use of existing vegetation as	SANS 10103

Activities	Potential impact	Aspects affected	Phase	Mitigation type	Standard to be achieved
				far as possible to screen the prospecting operations from view. If necessary, the operations can be screened from view by erecting a shade cloth barrier.	
	Traffic	Increase in traffic volumes in the drilling site vicinity	Operations	Traffic signs to be put around the site to notify motorist of the activities. Construction vehicles to make trips on/off site only when necessary. Construction vehicles to adhere to local speed limits as far as possible when driving in around site.	N/A
	Dust fall	Dust fall and nuisance from activities	Operations	Wet suppression will be applied to ensure that no visible dust is raised by any of the prospecting operations. Separation of distance of minimum 500m, but preferably 1000m to be maintained between drill sites and dwellings. Low vehicle speeds will be enforced on unpaved surfaces.	National Traffic Act regulations
	Soil and	Soil and vegetation	Operations	The soil disturbance and clearance	GN R. 827

Activities	Potential impact	Aspects affected	Phase	Mitigation type	Standard to be achieved
	vegetation	disturbance from drill pad preparation		of vegetation at drill pad areas will be limited to the absolute minimum required. No clear scraping (dozing) be carried out unless necessary to establish a level drill pad. Rather that surface vegetation be cleared to make way for the drilling rig leaving the roots intact so that vegetation can coppice and regrow. Disturbed areas will be re vegetated with locally indigenous species as soon as possible.	(NEMAQA)
	Animal life	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.	Operations	Measures implemented during site establishment should apply in this phase as well.	NEMBA
	Social	Friction between residents/landowners and construction personnel	Operations	All operations will be carried out under the guidance of a strong, experienced manager with	NEMBA

Activities	Potential impact	Aspects affected	Phase	Mitigation type	Standard to be achieved
				proven skills in public consultation and conflict resolution. All prospecting personnel will be made aware of the local conditions and sensitivities in the prospecting area and the fact that some of the residents may not welcome the prospecting activities in the area. There will be a strict requirement to treat residents with respect and courtesy at all times.	
	Job creation	Employment will be created for the clearing of the land and establishing the drilling site.	Operations	No mitigation measures required.	NEMA

s) Impact Management Actions

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

Table 17: Impact management actions

Activities	Potential impact	Mitigation type	Implementation period	Compliance with standards
Whether listed or not. E.g. excavations, blasting, stockpiles, discard dumps/dams, loading, hauling and transport, water supply dams/boreholes, accommodation, offices, ablution, stores, workshops, processing plant, storm water control, berms, roads, pipelines, power lines, conveyors, etc.	E.g. dust, noise, drainage surface disturbance, fly rock, surface water contamination, ground water contamination, air pollution, etc.	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. E.g., modify through alternative method, control through noise control, control through management and monitoring, and remedy through rehabilitation.	State when the environmental management programme measures must be implemented. Measures must be implemented when required. This must take place as soon as possible. Regarding rehabilitation, state upon cessation of the individual activity or mining, bulk sampling or alluvial diamond prospecting.	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.
Site establishment activities Vegetation clearance Topsoil stripping and stockpiling Drill pad compaction Erection of office, toilets, fuel storage (if not by road tanker), water	Cultural and heritage	Undertake heritage survey prior to site activities to identify cultural/heritage features and cordon these off with Chevron tape. Avoid cultural/heritage impacts by maintaining 100m buffer from any identified heritage feature. Any buried artifacts that may be uncovered during site activities will require such activities to stop and a qualified archaeologist will be commissioned to assess their significance	Before and after drilling activities.	Heritage Act

Activities	Potential impact	Mitigation type	Implementation period	Compliance with standards
tanker, core storage Vehicle movements Waste management		and determine appropriate mitigation measures.		
Exploration drilling Drilling Drill maintenance and refueling Core sample collection and storage Vehicle movements Waste generation and management	Noise	Control noise generation by maintaining equipment and limiting operation hours to daylight hours from Mondays to Saturdays (no activities on Sundays and public holidays). Maintain a buffer of 500m-100m between drill sites and dwellings. If intrusive noise levels are experienced by any person at any point, the source will be moved if practical, or placed in an acoustic enclosure, or an acoustic barrier will be erected between the source and the recipient.	Before and after drilling activities.	SANS 10103
	Visual	The drilling rig and other visually prominent items on site will be placed in consultation with the landowner. Existing vegetation will be used as far as possible to screen the prospecting operations from view. Operations can be hidden from view by erecting a shade cloth barrier.	Before and after drilling activities.	N/A
	Dust fall	Control dust emission by ensuring drill rig employs dust suppression system. Low vehicle speeds will be enforced on unpaved surfaces.	Before and after drilling activities.	GN R. 827 (NEMAQA)
	Soil and vegetation	Soil disturbance and vegetation clearance at drill pads will be kept to the minimum required and not be dozed/scraped; vegetation roots will be left intact for regrowth. Disturbed areas will be re-	Before and during drilling activities; disturbed areas to re-vegetated as soon as possible.	N/A

Activities	Potential impact	Mitigation type	Implementation period	Compliance with standards
		vegetated with indigenous species as soon as possible.		
	Social	Operations will be carried out under the guidance of an experienced manager with public consultation and conflict resolution skills. All prospecting personnel will be made aware of conditions and sensitivities in the prospecting area and of the fact that some residents may not welcome the prospecting activities. Residents will be treated with respect and courtesy at all times.	Before and after drilling activities.	NEMA

i) 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.

The following closure objectives will be applicable for concurrent rehabilitation:

- Land disturbed will be rehabilitated to a stable and permanent form suitable for subsequent land use e.g. crop farming and cattle grazing.
- The final land use will be like surrounding land-use i.e. crop farming & cattle grazing
- There will be no adverse environmental effect outside the small disturbed areas (0.6ha) and the affected area will be shaped to ensure effective drainage.

The closure objectives are to minimize disturbance wherever possible so that normal land use can continue after closure.

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

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 and return the site to its near natural state as far as possible.

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

After drilling has been completed in one area, the drilling team will ensure the site is

(a) Reverted to its original state by implementing the measures listed in Table 16 below.

Table 18: Rehabilitation measures

Aspect/Impact	Rehabilitation Measure	Monitoring Frequency and Responsibility
Removal of construction structures	• Clear and completely remove from site all construction plant equipment, storage containers, signage, temporary fencing, temporary services, fixtures and any other temporary works; and • Ensure that all access roads utilised during construction (which are not earmarked for closure	Once-off, Big Sky Mining (Pty) Ltd

	and rehabilitation) are returned (as far as possible) to their state prior to construction.	
Vegetation clearing/Replanting	• Remove any emerging alien and invasive vegetation to prevent further establishment; • All planting work is to be undertaken by suitably qualified personnel making use of the appropriate equipment; • Transplant during the winter (between April and September); and • Plant indigenous plants to minimise the spread of alien and invasive vegetation.	When revegetation is done and in blooming season,
Topsoil replacement	• 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). • 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. • Backfill planting holes with excavated material / approved topsoil, thoroughly mixed with weed free manure or compost (per volume about one quarter of the plant hole), one cup of 2:3:2 fertiliser and an approved ant and termite poison.	Once-off, Big Sky Mining (Pty) Ltd

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

The Company is required to make the prescribed financial provision for the rehabilitation or management of negative environmental impacts. If the Company fails to rehabilitate or manage any negative impact on the environment, the DMRE may, upon written notice to the Company, use all or part of the financial provision to rehabilitate or manage the negative environmental impact in question. The Company will specify that the drilling contractor is required to comply with all the environmental measures specified in the EMP. This will include avoiding unnecessary disturbance of natural vegetation and the rehabilitation of each drill site, immediately after drilling has been completed. All tracks to the drill sites must be rehabilitated at the end of the prospecting programme. The financial provision provides for the final checking of all sites before site clearance.

Safety after the completion of the prospecting activities will be done by concurrent rehabilitation of drill holes. Overburden will be recorded, and the holes filled back simultaneously.

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 R 56 466,00. The Company must annually update and review the quantum of the financial provision (as per Regulation 54 (2) of the MPRDA). The financial Quantum Calculation is found under Appendix I.

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

Big Sky Mining (Pty) Ltd herewith confirms both its capacity and willingness to make the financial provision required should the prospecting right be granted.

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

g. Monitoring of Impact Management Actions

h. Monitoring and reporting frequency

i. Responsible persons

j. Time period for implementing impact management actions

k. Mechanism for monitoring compliance

Table 19**:** Mechanism for monitoring

SOURCE ACTIVITY	IMPACTS REQUIRING MONITORING PROGRAMMES	FUNCTIONAL REQUIREMENTS FOR MONITORING	ROLES AND RESPONSIBILITIES (FOR THE EXECUTION OF THE MONITORING PROGRAMMES)	MONITORING AND REPORTING FREQUENCY and TIME PERIODS FOR IMPLEMENTING IMPACT MANAGEMENT ACTIONS
All Prospecting Activities	N/A	Ensure that the prospecting programme is being implemented in line with the approved prospecting works programme.	Big Sky Mining (Pty) Ltd Geologist	Submit an annual prospecting progress report to DMRE
	All commitments contained in the BA Report and accompanying EMPr	Ensure commitments made within the approved BAR and EMPr are being adhered to.	Internal environmental control officer and independent EAP	Undertake and submit an environmental performance audit every two years to DMRE
Drilling Activities	Noise	Weekly inspections will cover the following: - Implementation of effective waste management - Establish and implement a stakeholder compliant register on site and ensure that all complaints are responded to promptly. - Ensure that an oil spill kit is readily available.	Appointed drilling contractor	Weekly inspection and reporting
	Dust fall			
	Visual			
	Soil & vegetation			
	Social			
	Housekeeping & maintenance			
	Waste management			

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

The result of environmental monitoring and compliance to the approved EMPR will be undertaken every second year and submitted to the DMRE in the form of an environmental performance assessment. Included in the report will be the following relevant information:

- The period when the performance assessment was conducted.
- The scope of the assessment.
- The procedures used for conducting the assessment.
- Interpreted information gained from monitoring the EMPR.
- Evaluation criteria used during the assessment.
- Results of the assessment are to be discussed and mention must be made of any gaps in the EMPR and how it can be rectified.
- Yearly updated layout plans.

Any emergency or unforeseen impacts will be reported immediately to the DMRE and other relevant government departments.

11 ENVIRONMENTAL AND SOCIAL MANAGEMENT SYSTEM

Management of operational risk is a key consideration for drill operating within the social and economic context of South Africa. Operational risk is defined as the risk of loss resulting from inadequate or failed internal processes, people and systems or from external events. Operational risks and impacts are usually managed through the implementation of the Environmental and Social Management System (ESMS) and Safety, Health and Environmental (SHE) system. A formal, effective ESMS is an important requirement for establishing and maintaining effective environmental management and should be undertaken during the planning phase of the Project. As such the Applicant shall be required to appoint a suitably qualified specialist to develop the ESMS to be implemented on the mine. Adequate resources (people, financial and technical) need to be made available to ensure effective establishment, implementation, maintenance and continual improvements of the ESMS. The roles and responsibilities for these key environmental personnel should be clearly defined and communicated throughout the organisation. The ESMS should include the requirement to constantly monitor environmental performance and assess the adequacy of environmental resources provided for the Mine. If required, the Mine would need to procure further environmental resources to ensure the successful implementation of the ESMS and EMPR. The development and implementation of an ESMS is a requirement in terms of compliance with international standards of best practice such as the IFC Performance Standards and Equator principles.

11.1 Stakeholder Engagement

Social impacts occur immediately in the planning phase of a project and as such it is imperative to start with stakeholder engagement as early in the process as possible. Stakeholder engagement is required on an ongoing basis throughout the operation of the mine. As such, the mine will need to develop and implement a detailed Stakeholder Engagement Plan, designed to work as a living document for implementation over the entire duration of the project.

The following stakeholder engagement framework outlines the principles and objectives for stakeholder engagement during all phases of the prospecting operation.

- To identify and assess the processes and/or mechanisms that will improve the communication between local communities, the wider community and the small-scale mine.
- To improve relations between mine staff and the people living in the local communities.
- To provide a guideline for the dissemination of information crucial to the local communities in a timely, respectful and efficient manner.
- To provide a format for the timely recollection of information from the local communities in such a way that the communities are included in the decision making process.

This stakeholder engagement plan will assist the mine to outline their approach towards communicating in the most efficient way possible with stakeholders throughout the life of the project. Such a plan cannot be considered a once off activity and should be updated on a yearly basis to ensure that it stays relevant and to capture new information. The Stakeholder Engagement Plan should be compiled in line with IFC Guidelines (IFC) and should consist of the following components:

- Stakeholder Identification and Analysis – time should be invested in identifying and prioritising stakeholders and assessing their interests and concerns. Information Disclosure – information must be communicated to stakeholders early in the decision-making process in ways that are meaningful and accessible, and this communication should be continued throughout the life of the project.
- Stakeholder Consultation – each consultation process should be planned out, consultation should be inclusive, the process should be documented and follow-up should be communicated.
- Negotiation and Partnerships – add value to mitigation or project benefits by forming strategic partnerships and for controversial and complex issues, enter into good faith negotiations that satisfy the interest of all parties.

- Grievance Management – accessible and responsive means for stakeholders to raise concerns and grievances about the project must be established throughout the life of the project.
- Stakeholder Involvement in Project Monitoring – directly affected stakeholders must be involved in monitoring project impacts, mitigation and benefits. External monitors must be involved where they can enhance transparency and credibility.
- Reporting to Stakeholders – report back to stakeholders on environmental, social and economic performance, both those consulted and those with more general interests in the project and parent company.
- Management Functions – sufficient capacity within the company must be built and maintained to manage processes of stakeholder engagement, track commitments and report on progress.

It is of critical importance that stakeholder engagement takes place in each phase of the project cycle and it must be noted that the approach will differ according to each phase.

11.2 Grievance Mechanism

In accordance with international good practice the mine shall establish a specific mechanism for dealing with grievances. A grievance is a complaint or concern raised by an individual or organisation that judges that they have been adversely affected by the project during any stage of its development. Grievances may take the form of specific complaints for actual damages or injury, general concerns about project activities, incidents and impacts, or perceived impacts. The IFC standards require Grievance Mechanisms to provide a structured way of receiving and resolving grievances. Complaints should be addressed promptly using an understandable and transparent process that is culturally appropriate and readily acceptable to all segments of affected communities, and is at no cost and without retribution. The mechanism should be appropriate to the scale of impacts and risks presented by a project and beneficial for both the company and stakeholders. The mechanism must not impede access to other judicial or administrative remedies.

The proposed grievance mechanism shall be based on the following principles:

- Transparency and fairness.
- Accessibility and cultural appropriateness.
- Openness and communication regularity.
- Written records.
- Dialogue and site visits.
- Timely resolution.

Based on the principles described above, the grievance mechanism process involves four stages:

- Receiving and recording the grievance.
- Acknowledgement and registration.
- Site inspection and investigation.
- Response.

11.3 Internal Grievance Procedure

The mine shall develop a detailed internal grievance mechanism designed to receive and facilitate resolution of workplace concerns and grievances raised by employees (and their organizations, where they exist). Employees must be informed of the grievance mechanism at the time of recruitment and it must be made easily accessible to them. The mechanism should involve an appropriate level of management and address concerns promptly, using an understandable and transparent process that provides timely feedback to those concerned, without any retribution. The mechanism should also allow for anonymous complaints to be raised and addressed. The mechanism should not impede access to other judicial or administrative remedies that might be available under the law or through existing arbitration procedures, or substitute for grievance mechanisms provided through collective agreements.

Document Control

A formal document control system should be established during the development of the ESMS. The document control system must provide for the following requirements:

- Documents are approved for adequacy prior to use.
- Review and update documents as necessary and re-approve documents.
- Ensure that changes and the current version status of documents are identified.
- Ensure that relevant versions of applicable documents are available at points of use.
- Ensure that documents remain legible and readily identifiable.
- Ensure that documents of external origin necessary for the ESMS are identified and their distribution controlled.
- Prevent unintended use of obsolete documents and apply suitable identification to them if they are retained for any purpose.

11.4 Record Keeping

It is essential that an official procedure for control of records be developed to ensure records required to demonstrate conformity to environmental and social standards are maintained. This project is therefore required to develop and maintain a procedure for the identification, storage, protection, retrieval, retention and disposal of records as part of the ESMS. Records must be legible, identifiable and traceable.

11.5 Auditing and Reporting Procedures

The Prospecting right holder shall develop and auditing and reporting procedure, for conveying information from the compliance monitoring activities and to ensure that management is able to take rapid corrective action should certain thresholds be exceeded. The sections below present a framework for the development of the necessary procedures. Different reporting mechanisms may include:

- Inspections
- Accidents and emergencies
- Measuring performance indicators and interpreting and acting on the indicators
- Records of monitoring activities to test the effectiveness of mitigation measures and impact controls, as well as for compliance auditing purposes
- Training programmes and evidence of appropriate levels/amount of skills/capacities created
- All monitoring and auditing must be accompanied by applicable records and evidence (e.g. delivery slips, photographic records, etc.). All reports must be retained and made available for inspection by the ECO, the Applicant and /or the Relevant Competent Authorities. All reports shall be signed by the relevant parties to ensure accountability. The Prospecting right holder must use the audit report findings to continually ensure that environmental protection measures are working effectively on site through a system of self-checking. The EMPR should be viewed as a dynamic document aimed at continual environmental performance improvement.

The following auditing and reporting shall be required throughout the operation phase:

- Weekly Compliance Reports: These reports must be prepared by the designated Drill EO and must aim to monitor and report on-site environmental performance
- Quarterly Compliance Audit Reports: The ECO must compile quarterly compliance audit reports which are to be submitted to the Prospecting right holder for his review and correction of non-compliance issues. It is the responsibility of the ECO to report any non-compliance, which is not correctly rectified.

11.6 Responding to Non-Compliances

Non-compliance will be identified and managed through the following four key activities including:

- Inspections of the site and activities across the site
- Monitoring of selected environmental quality variables
- Audits of the site and relevant documentation as well as specific activities
- Reporting on a monthly basis

An environmental non-conformance and incident register must be prepared and maintained by the ECO throughout the lifespan of the small-scale mine in order to monitor environmental concerns, incidents, and non- conformances. The register must include details of date, location, description of the NC or Incident, applicable environmental commitment/standard, corrective action taken, adequacy of corrective action, date rectified, etc.

Non-compliance with the EMPR or any other environmental legislation, specifications or standards shall be recorded by the ECO in the non-conformance register. This register shall be maintained by the ECO and will be sent to the Prospecting right holder and Contractor on a regular basis (quarterly), and the Prospecting right holder shall ensure that the responsible party takes the necessary corrective actions. Non-conformances may only be closed out in the register by the ECO upon confirmation that adequate corrective action has been taken. The register should be utilised to measure overall environmental performance.

11.7 Environmental Incidents

For the purposes of this project, an environmental incident can be divided into three levels, i.e. major, medium and minor. All major and medium environmental incidents shall be recorded in the incident register. Minor incidents do not need to be reported but require immediate rectification on site. Definitions and examples of environmental incidents are provided in Table 20.

Table 20: Description of incidents and non-conformances for the purpose of the project.

Non-conformance	Any deviation from work standards, practices, procedures, regulations, management system performance etc. That could either directly or indirectly lead to injury or illness, property damage, damage to the workplace. Environment, or a combination of these.
Major environmental incident	An incident or sequel of incidents, whether immediate or delayed, that results or has the potential to result in widespread, long-term, irreversible significant negative impact on the environment and/or has a high risk of legal liability.
	A major environmental incident usually results in a significant pollution and may entail risk of public danger. Major environmental incidents usually remain an irreversible impact even with the involvement of long-term external intervention i.e. Expertise, best available technology, remedial actions, excessive financial cost etc. Major environmental incidents may be required to be reported to the authorities. The eco shall make the final decision as to whether a particular incident should be classified as a major incident. An example of a major environmental incident would be a significant spillage (e.g. 500 litres) of fuel into a watercourse.
Medium environmental incident	An incident or sequel of incidents, whether immediate or delayed, that results or has the potential to result in widespread or localised, short term, reversible significant negative impact on the environment and/or has a risk of legal liability. A medium environmental incident may be reported to the authorities, can result in significant pollution or may entail risk of public danger. The impact of medium environmental incidents should be reversible within a short to medium term with or without intervention. The eco shall make the final decision as to whether a particular incident should be classified as a medium incident.

	An example of a medium environmental incident would be a large spill of fuel (e.g. 20 – 50 litres) onto land.
Minor environmental incident	An incident or sequel of incidents, whether immediate or delayed, where the environmental impact is negligible immediately after occurrence and/or once-off intervention on the day of occurrence. An incident where there is unnecessary wastage of a natural resource is also classified as a minor environmental incident. An example would be leaking water pipes that result in the wastage of water. A minor environmental incident is not reportable to authorities. An example of a minor incident is day to day spills of fuel or oil onto the ground where the spill is less than one or two litres.

The following incident reporting procedures shall apply to this project:

- All environmental incidents shall be reported to Contractor's EO and Drill EO who shall ensure that the appropriate rectification is undertaken.
- The Drill EO shall record all medium and major incidents in the incident register and advise on the appropriate measures and timeframes for corrective action.
- An incident report shall be completed by party responsible for the incident for all medium and major incidents and the report shall be submitted to the Drill Manager and Drill EO within 5 calendar days of the incident.
- The Drill EO shall investigate all medium and minor incidents and identify any required actions to prevent a recurrence of such incidents.

In the event of an emergency incident (unexpected sudden occurrence), including a major emission, fire or explosion leading to serious danger to the public or potentially serious pollution of or detriment to the environment, whether immediate or delayed, the Applicant shall notify the relevant authorities in accordance with legal requirements (e.g. Section 30 of NEMA and Section 20 of the NWA). In the event of a dispute in terms of the classification of a such an incident, the Applicant shall engage the ECO to advise on the potential reporting requirements in terms of the above.

12 ENVIRONMENTAL AWARENESS PLAN AND TRAINING

No Training and environmental awareness is an integral part of a complete EMPR. The overall aim of the training will be to ensure that all site staff is informed of their relevant requirements and obligations pertaining to the relevant authorisations, licences, permits and the approved EMPR and protection of the environment.

The applicant and contractor must ensure that all relevant employees are trained and capable of carrying out their duties in an environmentally responsible and compliant manner, and are capable of complying with the relevant environmental requirements.

To obtain buy-in from staff, individual employees need to be involved in:

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

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

- General background and definition to the environment.
- The environmental impacts, actual or potential, of their work activities.
- Compliance with mitigation measures proposed for sensitive areas.
- The environmental benefits of improved personal performance.
- Their roles and responsibilities in achieving compliance with the environmental policy and procedures and with the requirement of the applicant's environmental management systems, including emergency preparedness and response requirements.
- The potential consequences (legal and/or other) of departure from specified operating procedures.
- The mitigation measures required to be implemented when carrying out their work activities.
- All operational risks must be identified and processes established to mitigate such risk,

proactively. Thus, the applicant needs to inform the employees of any environmental risks that may result from their work, and how these risks must be dealt with in order to avoid pollution and/or degradation of the environment.

- In the case of new staff (including contract labour) the contractor / applicant shall keep a record of adequate environmental induction training. he importance of compliance with all environmental policies.

Manner in Which Employees will be Informed of Environmental Risks

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

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

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

- Waste collection and disposal.
- EMPR management options and application.

Figure 48: Example of environmental awareness & training

12.1 Manner in which Risks will be Dealt with to Avoid Pollution or Degradation

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

- Contain potential pollutants and contaminants (where possible) at source.
- Handling of potential pollutants and contaminants (where possible) must be conducted in bunded areas and on impermeable substrates.
- Ensure the timeous clean-up of any spills.
- Implement a waste management system for all waste present on site.
- Investigate any I&AP claims of pollution or contamination as a result of prospecting activities.
- Implement the impact management objectives, outcomes and actions, as described in Section 12 above.

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

13 SPECIFIC INFORMATION REQUIRED BY THE COMPETENT AUTHORITY

No additional information was requested or is deemed necessary.

14 ENVIRONMENTAL MONITORING

14.1 Functional Requirements of Monitoring Programmes

The purpose of monitoring is not merely to collect data, but to provide information necessary to make informed decisions on managing and mitigating potential impacts. Monitoring therefore serves the following functions:

- Serve as early warning system to detect any potential negative impacts.
- To provide information to feedback into management controls to avoid, prevent or minimise potential negative impacts.
- Provide quantitative data that can serve as evidence for the presence of negative impacts or the lack thereof.
- Allows for trending, modelling and prediction of future conditions or potential impacts

Based on the above, the small-scale mine must ensure that monitoring programmes comprise of the following (at a minimum) in order to obtain valuable environmental data:

- Environmental aspect monitoring must be a formalised procedure.
- All equipment used in monitoring must be correctly calibrated and serviced regularly.
- Samples required for analysis will be sent to an independent and accredited laboratory.
- Monitoring data must be stored.
- Data must be checked and interpreted and tending undertaken on a quarterly basis.
- Both the date and reports on environmental monitoring must be kept on record for the life of mine and where relevant provided to I&APs.
- The general and site specific parameters to be monitored must be identified by an independent specialist, the authorities and where relevant I&APs.

14.2 List of Aspects that Require Monitoring Plans

The list of aspects that require on-going environmental monitoring includes the following:

- Surface water.
- Groundwater.
- Rehabilitation.

As drills and the environment are both dynamic it is likely that future scenarios may require the monitoring of additional or unforeseen impacts. As such, the list provided is by no means conclusive and must instead be used as a guideline for the impacts that require monitoring.

14.3 Monitoring Plans for Environmental Aspects

The monitoring of various environmental aspects and the impact on them as a result of the proposed project shall take place by means of both quantitative and qualitative techniques in order to determine whether or not the requirements of the Environmental Management Programme are being complied with. The importance and value of detailed environmental monitoring networks cannot be overstated.

Environmental monitoring serves as a tool to track compliance, assist with potential liability identification, and mitigation throughout the life of the proposed project. This is achieved through the provision of actual evidence based monitoring and reporting thereof. In essence, monitoring is a continuous data-gathering, data interpreting, and control procedure that ranges from visual inspection to in-depth investigative monitoring and reporting. These monitoring plans need to be drawn into standalone plans that can be updated and amended as per authority requirements and additional data requirements identified during the prospecting activities. These plans need to include the site specific roles and responsibilities for actions.

14.4 **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.

Signature of the environmental assessment practitioner:

Singo Consulting (Pty) Ltd

Name of company:

2023

Date:

-END-

APPENDICES

Appendix 1: Acceptance letter

mineral resources
& energy
Department:
Minerals Resources and Energy
REPUBLIC OF SOUTH AFRICA

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Email: kenneth@singoconsulting.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 Portion 1 and Remaining extent of the Farm Rietspruit 425 GT Whole Farm** 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:-

3.1 Upload unto the SAMRAD system one copy and submit three (03) hard copies of the requisite environmental reports as required by section 16 of the MPRDA within **ninety (90) days** from the date of this letter.

3.2 to consult in the prescribed manner with the landowner, lawful occupier and any interested and affected party including the Land Restitution Commission and include the result of such consultation in the relevant environmental reports to be submitted and uploaded on the SAMRAD system on or before **06th July 2022 (within 30 days from the date of this letter)**
Please note that the consultation process referred to in paragraph 2.2 above does not imply issuing letters and requesting the affected parties to indicate whether they support your proposed project or not.

It includes among others an extensive process of giving and discussing the specific details of the proposed project, giving the I & A Parties an opportunity to table their comments, objection and support, it also involves ***your written responses and specific commitments made*** *in dealing with the issues raised during the consultation.*

Note that it is important to ensure that your consultation process is comprehensive so that your Environmental Impact Assessment and Environmental Management Plan can be informed by all potential impacts that your project may have.

4. Should the land be owned by the communities or a Trust on behalf of the community, a proper and thorough consultation process must be engaged upon and a legitimate Tribal Resolution or consent must be obtained from the Traditional Authority / Council or Trust and be submitted with the results of consultation. *Should you need any assistance or guidance relating to the required consultation process & procedure in traditional institutions, please contact the District office of the Department of Cooperative Governance and Traditional Affairs in* ***Umzinyathi District Municipality.***

5. Further note that the acceptance of your application does not grant you the right to commence with **prospecting activities**. It only signifies that your application will be processed and evaluated. The Minister or his delegate will make a decision

once the process of the evaluation and appeal on the Environmental Authorization application has been finalized.

6. You are in terms of Section 17(1) of the Act required to give effect to the objects referred to in Section 2 (d) of the Act. Therefore please submit on or before **19th August 2023 (within 60 days from the date of this letter)** to this office for the attention of Regional Manager any documentation proving such including but not limited to:-

6.1 Duly signed shareholders agreements with your empowerment partner in which provision **shall** be made for entrepreneurs, local community and employees,
6.2 Share certificates,
6.3 Details relating to the equity by the BEE shareholders, Any other agreement relating to the BEE shareholding including the voting pool agreement where applicable,
6.4 Articles and memorandum of association of the company.
6.5 Any other information that may be necessary to explain and serve as evidence that the applicant meets the appropriate HDSA ownership and/or compliance requirements of the aforesaid Act and Mining Charter.

7. Please submit within 60 days **(19th August 2023)** from date of this letter for the attention of Regional Manager a complete prospecting work programme prepared in terms of Regulation 7 of the Mineral and Petroleum Resources Development Act, 2002 (Act no 28 of 2002): Mineral and Petroleum Development Regulation.

8. You are also required to adhere with the requirements of Mine Health and Safety Inspectorate and upload on system the required information and details on **07th July 2023 (within 30 days from the date of this letter).**

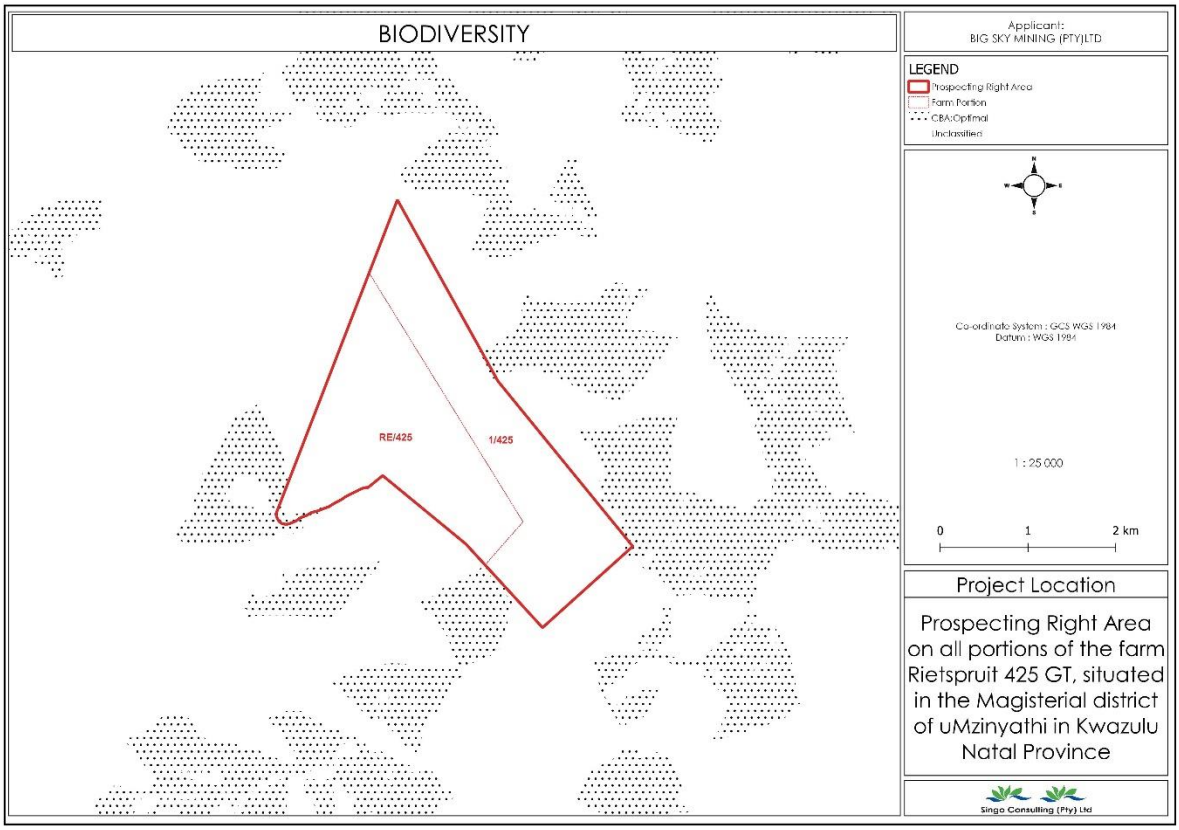
9. Please be advised that your application might be processed in terms of section 9 (1) (b) of the Act. If this office discovers that there is an existing or pending application on the same properties and for the same mineral, this application shall discontinue.

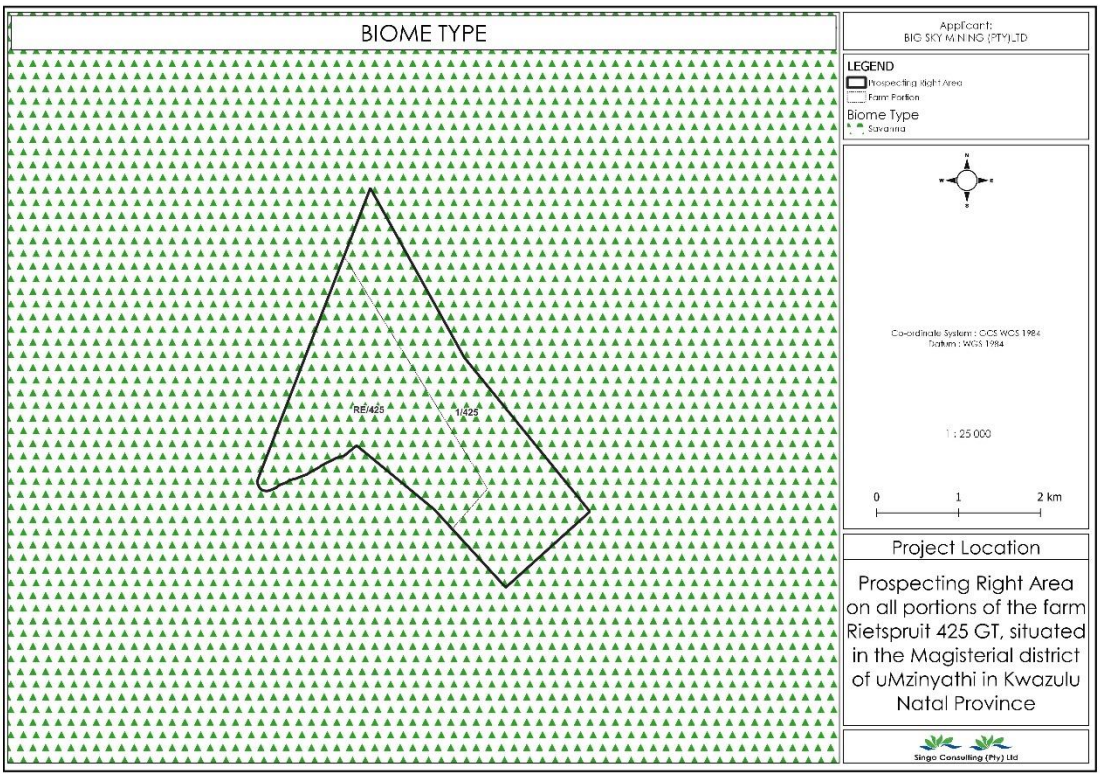
10. Please take note that failure to adhere to the timeframe stipulated above and to submit any documentation required in terms of this notice will result into non-compliance with the provision of the Act and the Amendment Act and will result in the refusal of your application.

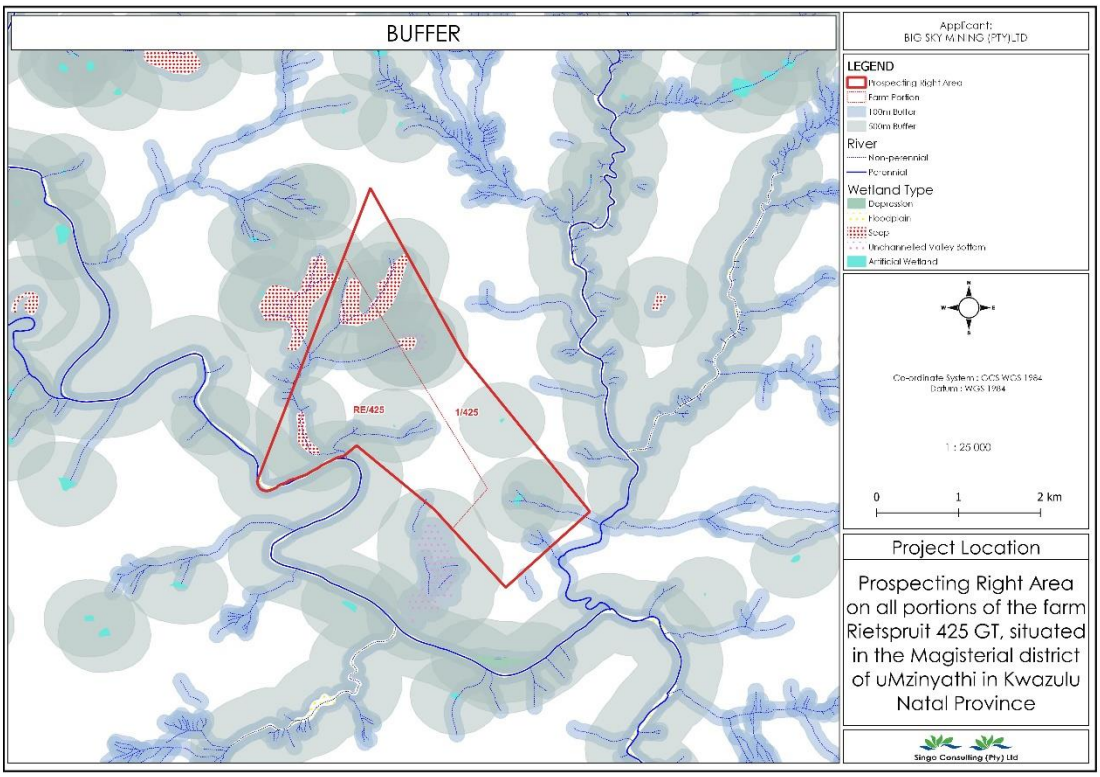
Yours faithfully

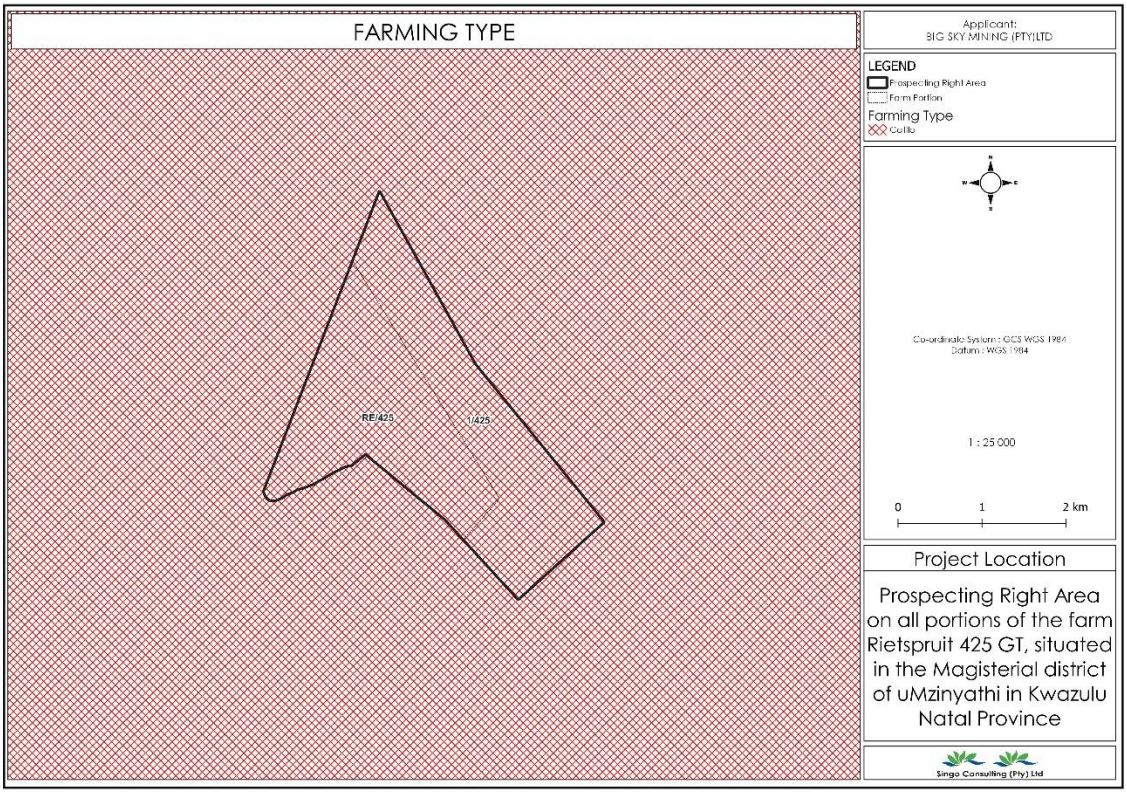
REGIONAL MANAGER
KWAZULU NATAL REGION
DATE: 26/05/2023

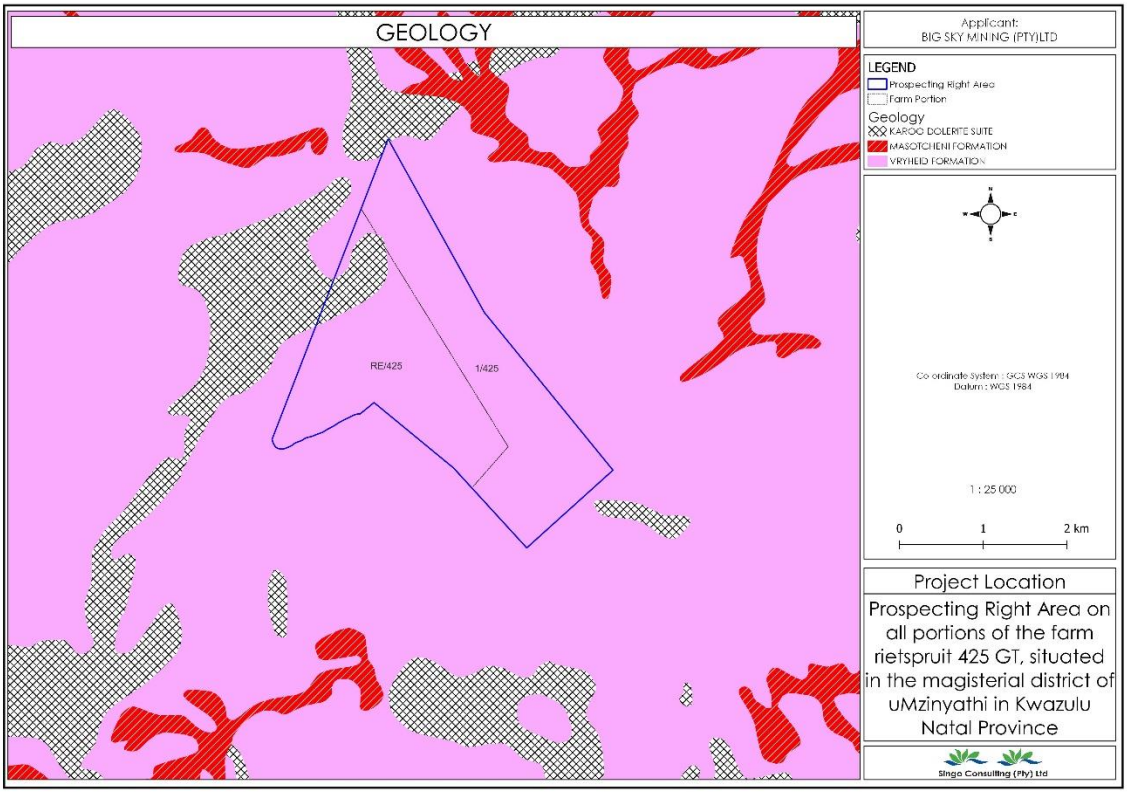
Appendix 2: Project maps

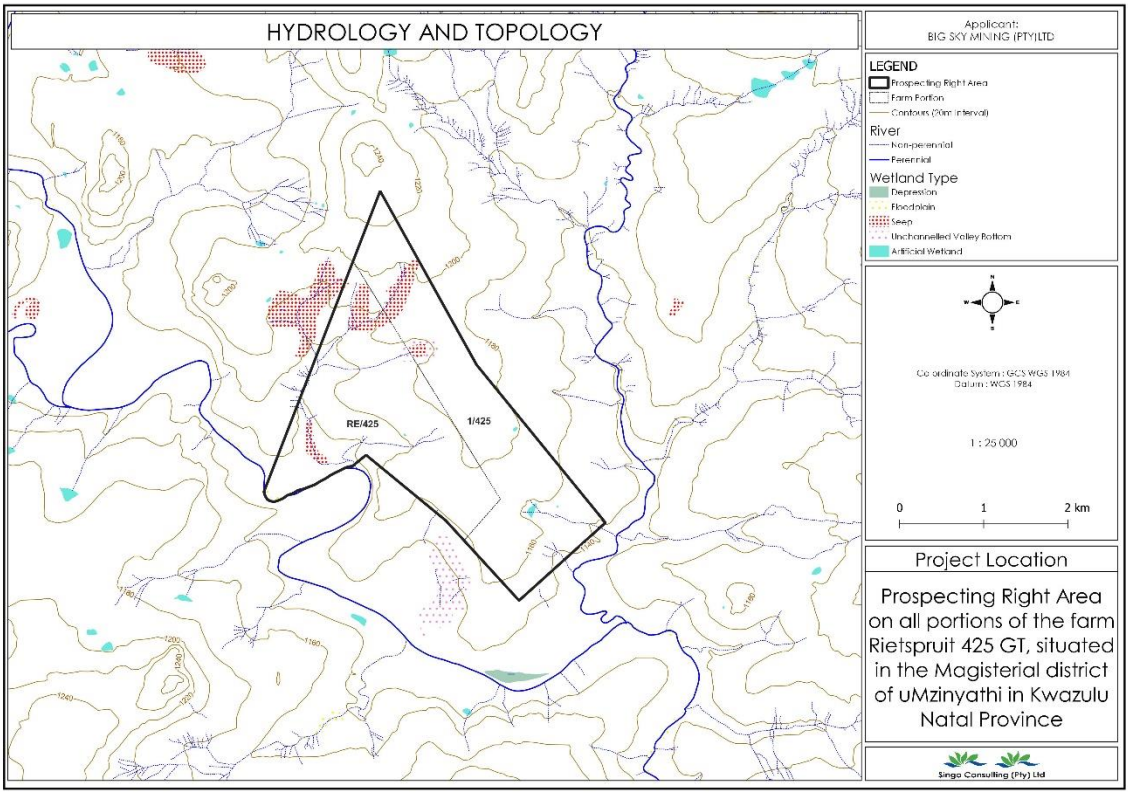


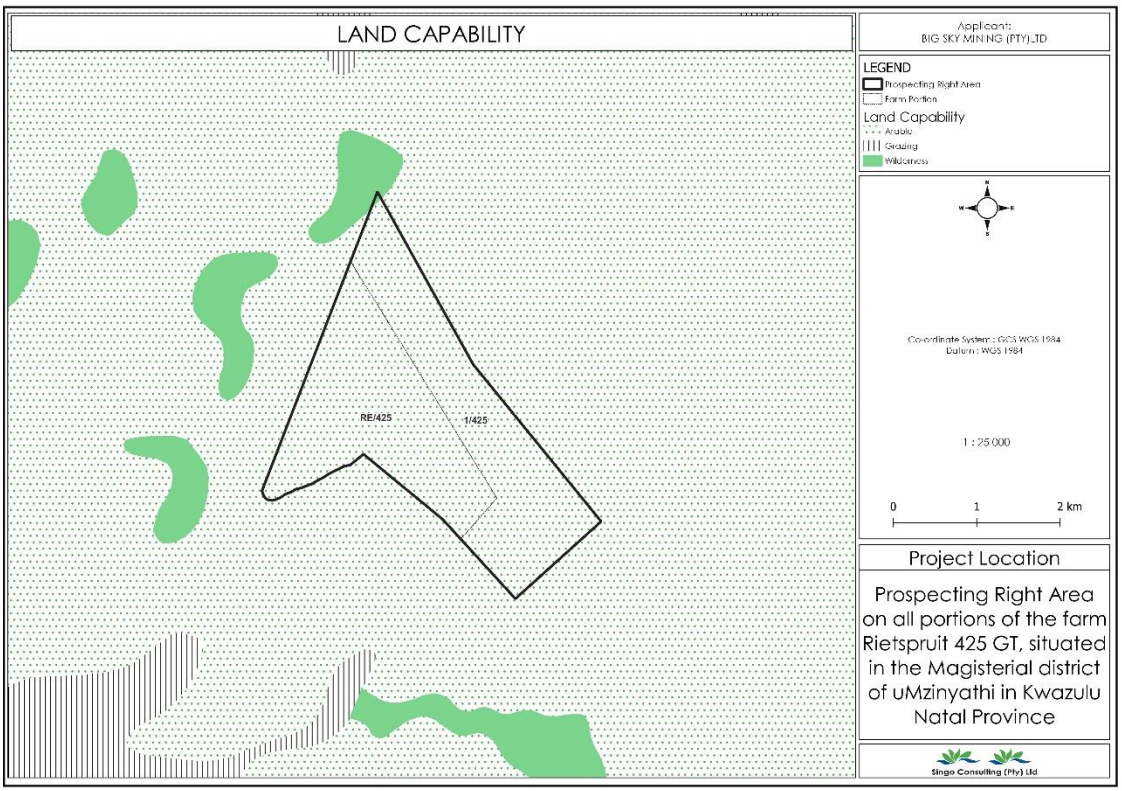

BIOME TYPE
Applicant:
BIG SKY MINING (PTY)_LTD
LEGEND
Prospecting Right Area
Farm Portion
Biome Type
Savanna
RE/425
1/425
Co-ordinate System : GCS WGS 1984
Datum : WGS 1984
1 : 25 000
0
1
2 km
Project Location
Prospecting Right Area on all portions of the farm Rietspruit 425 GT, situated in the Magisterial district of uMzinyathi in Kwazulu Natal Province
Singo Consulting (Pty) Ltd

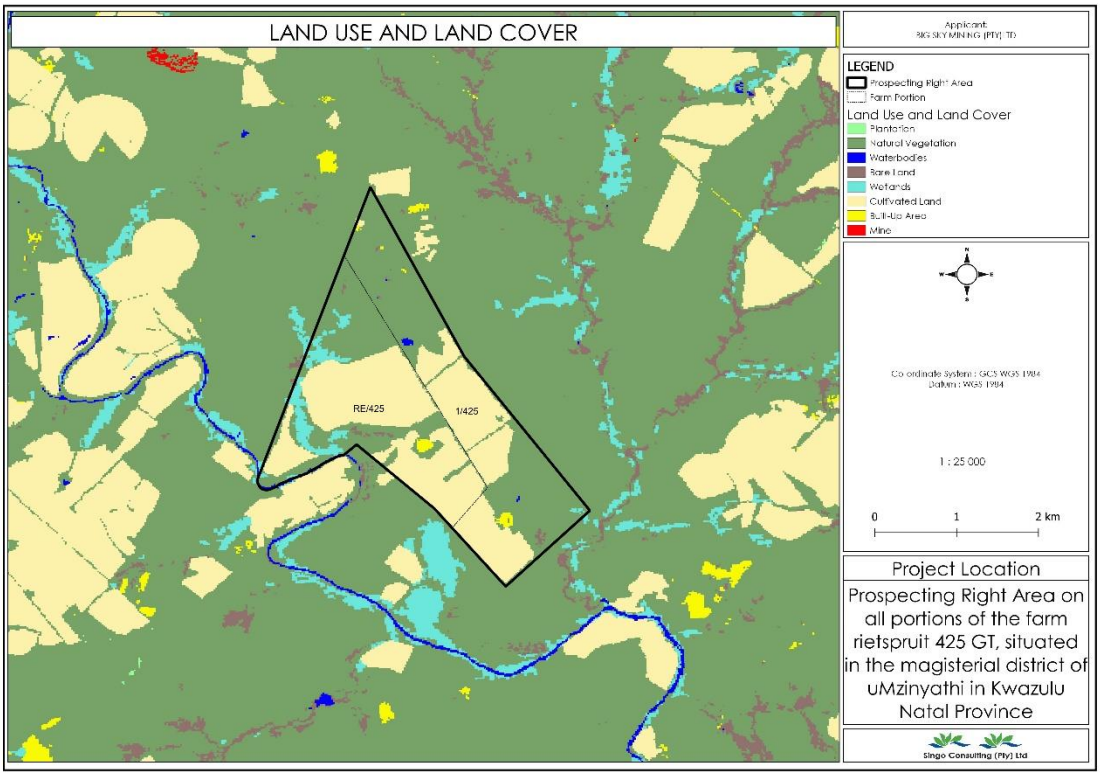

BUFFER
Applicant:
BIG SKY MINING (PTY)_LTD
LEGEND
Prospecting Right Area
Farm Portion
100m Buffer
500m Buffer
River
Non-perennial
Perennial
Wetland Type
Depression
Floodplain
Seep
Unchannelled Valley bottom
Artificial Wetland
RE/425
1/425
Co-ordinate System : GCS WGS 1984
Datum : WGS 1984
1 : 25 000
0
1
2 km
Project Location
Prospecting Right Area on all portions of the farm Rietspruit 425 GT, situated in the Magisterial district of uMzinyathi in Kwazulu Natal Province
Singo Consulting (Pty) Ltd

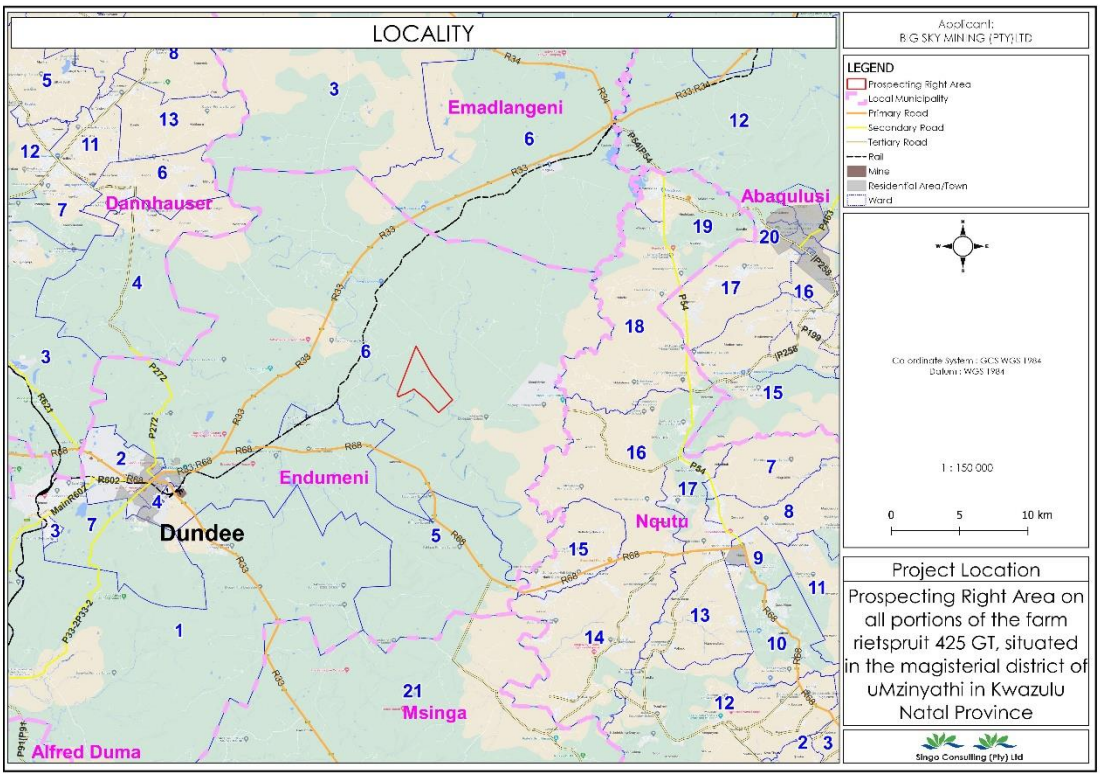

FARMING TYPE
Applicant:
BIG SKY MINING (PTY)LTD
LEGEND
Prospecting Right Area
Farm Portion
Farming Type
Cattle
RE/425
1/425
Co-ordinate System : GCS WGS 1984
Datum : WGS 1984
1 : 25 000
0
1
2 km
Project Location
Prospecting Right Area on all portions of the farm Rietspruit 425 GT, situated in the Magisterial district of uMzinyathi in Kwazulu Natal Province
Singo Consulting (Pty) Ltd

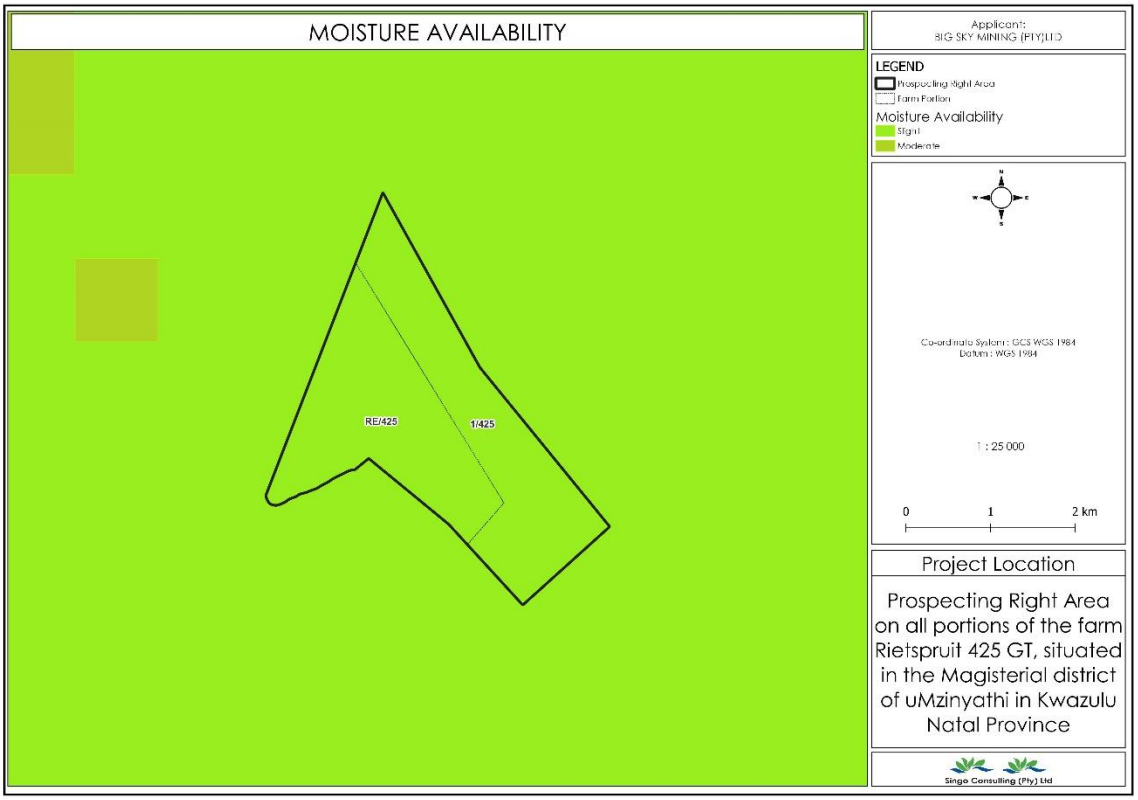

GEOLOGY
Applicant:
BIG SKY MINING (PTY)LTD
LEGEND
Prospecting Right Area
Farm Portion
Geology
KAROO DOLERITE SUITE
MASOTCHENI FORMATION
VRYHEID FORMATION
RE/425
1/425
Co-ordinate System : GCS WGS 1984
Datum : WGS 1984
1 : 25 000
0
1
2 km
Project Location
Prospecting Right Area on all portions of the farm rietspruit 425 GT, situated in the magisterial district of uMzinyathi in Kwazulu Natal Province
Singo Consulting (Pty) Ltd

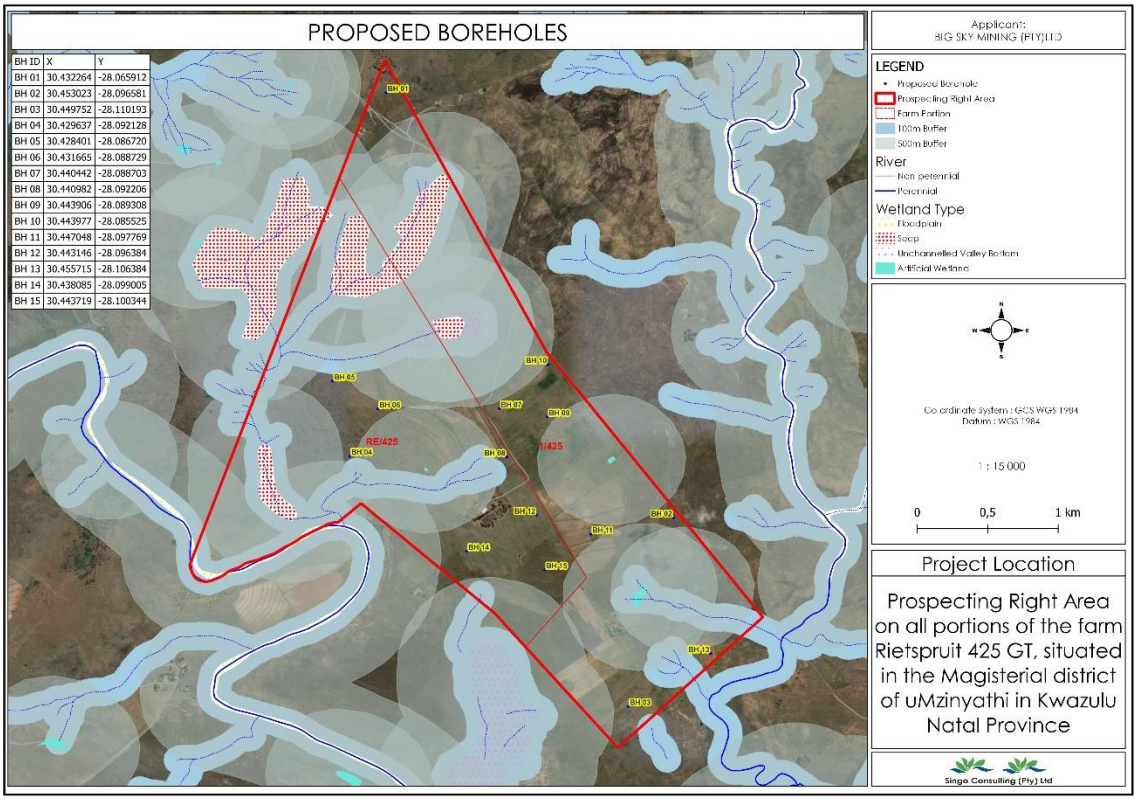

HYDROLOGY AND TOPOLOGY
Applicant:
BIG SKY MINING (PTY)LTD
LEGEND
Prospecting Right Area
Farm Portion
Contours (20m interval)
River
Non-perennial
Perennial
Wetland Type
Depression
Floodplain
Seep
Unchannelled Valley Bottom
Artificial Wetland
RE/425
1/425
Co-ordinate System : GCS WGS 1984
Datum : WGS 1984
1 : 25 000
0
1
2 km
Project Location
Prospecting Right Area on all portions of the farm Rietspruit 425 GT, situated in the Magisterial district of uMzinyathi in Kwazulu Natal Province
Singo Consulting (Pty) Ltd

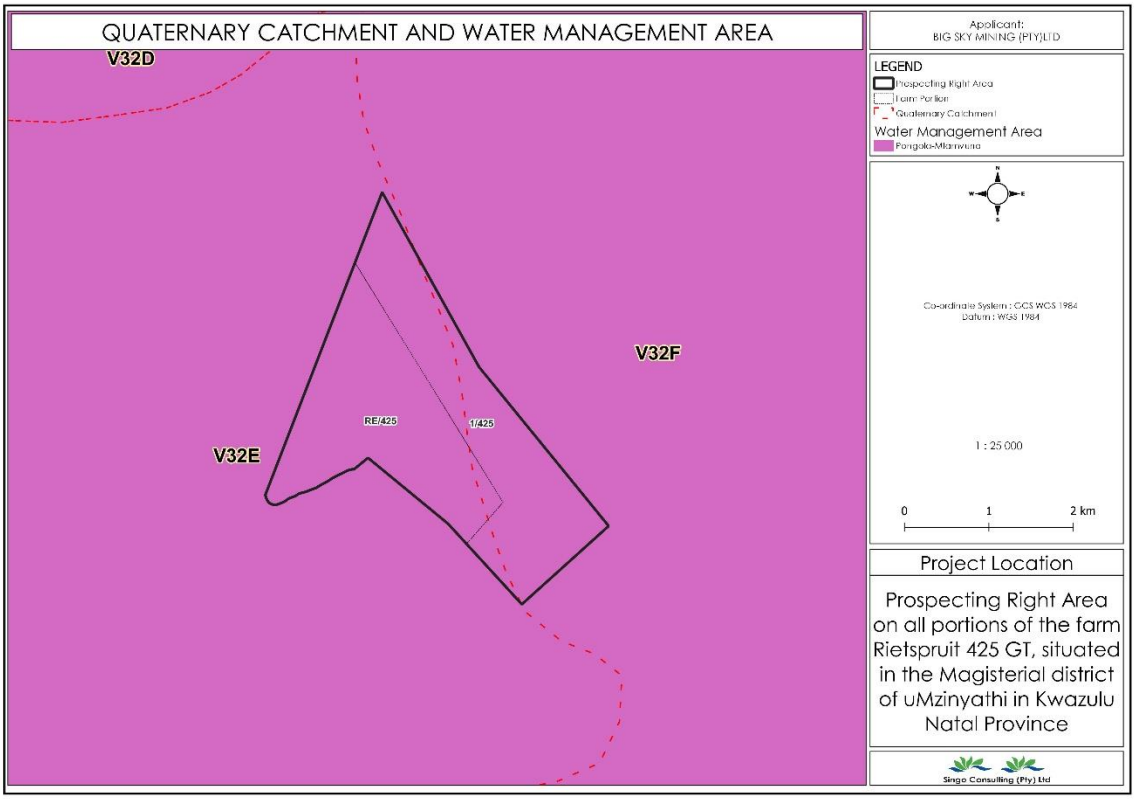

LAND CAPABILITY
Applicant:
BIG SKY MINING (PTY)LTD
LEGEND
Prospecting Right Area
Farm Portion
Land Capability
Arable
Grazing
Wilderness
RE/425
1/425
Coordinate System : GCS WGS 1984
Datum : WGS 1984
1 : 25 000
0
1
2 km
Project Location
Prospecting Right Area on all portions of the farm Rietspruit 425 GT, situated in the Magisterial district of uMzinyathi in Kwazulu Natal Province
Singo Consulting (Pty) Ltd

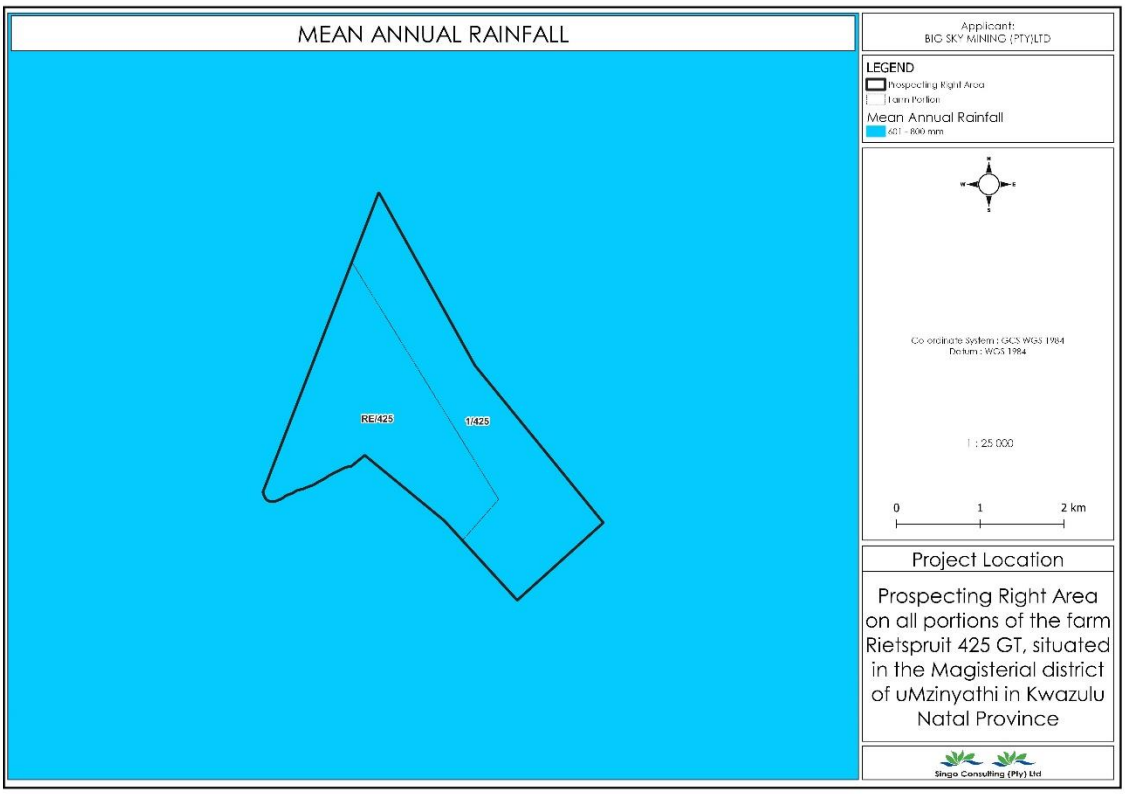

LAND USE AND LAND COVER
Applicant:
B/G SKY MINING (PTY) LTD
LEGEND
Prospecting Right Area
Farm Portion
Land Use and Land Cover
Plantation
Natural Vegetation
Waterbodies
Bare Land
Wetlands
Cultivated Land
Built-Up Area
Mine
RE/425
1/425
Co-ordinate System : GCS WGS 1984
Datum : WGS 1984
1 : 25 000
0
1
2 km
Project Location
Prospecting Right Area on all portions of the farm rietspruit 425 GT, situated in the magisterial district of uMzinyathi in Kwazulu Natal Province
Singo Consulting (Pty) Ltd

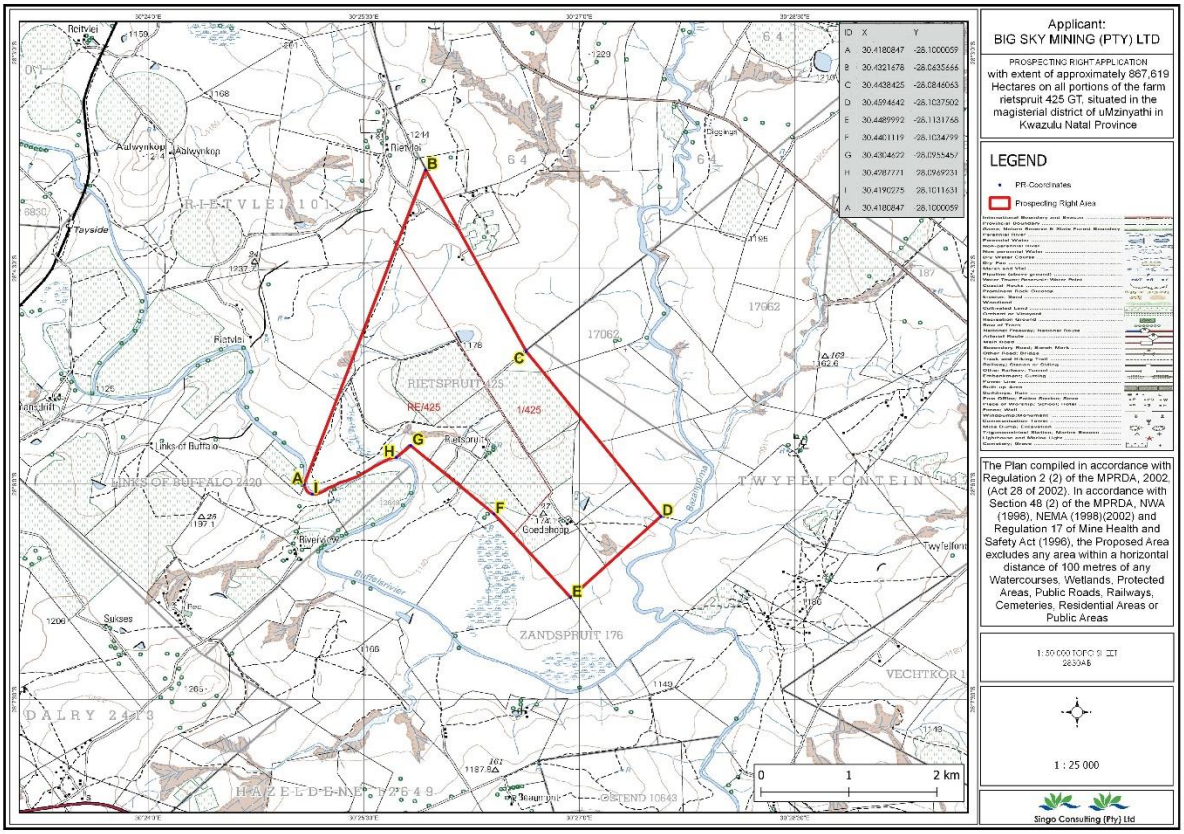

LOCALITY
Applicant:
B/G SKY MINING (PTY) LTD
LEGEND
Prospecting Right Area
Local Municipality
Primary Road
Secondary Road
Tertiary Road
Rail
Mine
Residential Area/Town
Ward
Emadlangeni
Dannhauser
Abaqulusi
Endumeni
Dundee
Nquthu
Msinga
Alfred Duma
Co-ordinate System : GCS WGS 1984
Datum : WGS 1984
1 : 150 000
0
5
10 km
Project Location
Prospecting Right Area on all portions of the farm rietspruit 425 GT, situated in the magisterial district of uMzinyathi in Kwazulu Natal Province
Singo Consulting (Pty) Ltd

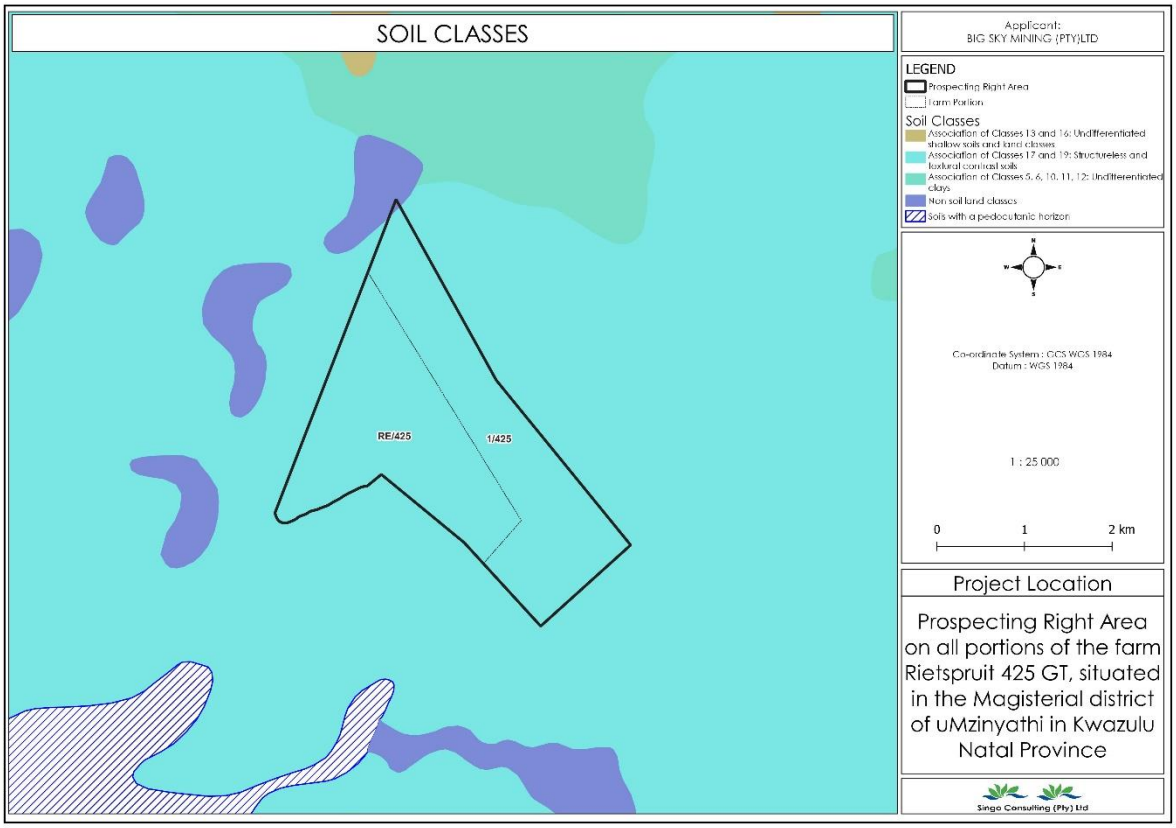

MOISTURE AVAILABILITY
RE/425
1/425
Applicant:
BIG SKY MINING (PTY)LTD
LEGEND
Prospecting Right Area
Farm Portion
Moisture Availability
Slight
Moderate
Co-ordinate System : GCS WGS 1984
Datum : WGS 1984
1 : 25 000
0
1
2 km
Project Location
Prospecting Right Area on all portions of the farm Rietspruit 425 GT, situated in the Magisterial district of uMzinyathi in Kwazulu Natal Province
Singo Consulting (Pty) Ltd


PROPOSED BOREHOLES
BH ID X Y
BH 01 30.432264 -28.065912
BH 02 30.453023 -28.096581
BH 03 30.449752 -28.110193
BH 04 30.429637 -28.092128
BH 05 30.428401 -28.086720
BH 06 30.431665 -28.088729
BH 07 30.440442 -28.088703
BH 08 30.440982 -28.092206
BH 09 30.443906 -28.089308
BH 10 30.443977 -28.085525
BH 11 30.447048 -28.097769
BH 12 30.443146 -28.096384
BH 13 30.455715 -28.106384
BH 14 30.438085 -28.099005
BH 15 30.443719 -28.100344
RE/425
1/425
Applicant:
BIG SKY MINING (PTY)LTD
LEGEND
Proposed Borehole
Prospecting Right Area
Farm Portion
100m Buffer
500m Buffer
River
Non perennial
Perennial
Wetland Type
Floodplain
Seep
Unchannelled Valley Bottom
Artificial Wetland
Co-ordinate System : GCS WGS 1984
Datum : WGS 1984
1 : 15 000
0
0,5
1 km
Project Location
Prospecting Right Area on all portions of the farm Rietspruit 425 GT, situated in the Magisterial district of uMzinyathi in Kwazulu Natal Province
Singo Consulting (Pty) Ltd


QUATERNARY CATCHMENT AND WATER MANAGEMENT AREA
V32D
V32F
V32E
RE/425
1/425
Applicant:
BIG SKY MINING (PTY)LTD
LEGEND
Prospecting Right Area
Farm Portion
Quaternary Catchment
Water Management Area
Pongola-Mtamvuna
Co-ordinate System : GCS WGS 1984
Datum : WGS 1984
1 : 25 000
0
1
2 km
Project Location
Prospecting Right Area on all portions of the farm Rietspruit 425 GT, situated in the Magisterial district of uMzinyathi in Kwazulu Natal Province
Singo Consulting (Pty) Ltd


MEAN ANNUAL RAINFALL
RE/425
1/425
Applicant:
BIG SKY MINING (PTY)LTD
LEGEND
Prospecting Right Area
Farm Portion
Mean Annual Rainfall
601 - 800 mm
Co-ordinate System : GCS WGS 1984
Datum : WGS 1984
1 : 25 000
0
1
2 km
Project Location
Prospecting Right Area on all portions of the farm Rietspruit 425 GT, situated in the Magisterial district of uMzinyathi in Kwazulu Natal Province
Singo Consulting (Pty) Ltd


Applicant:
BIG SKY MINING (PTY) LTD
PROSPECTING RIGHT APPLICATION
with extent of approximately 867,619 Hectares on all portions of the farm rietspruit 425 GT, situated in the magisterial district of uMzinyathi in Kwazulu Natal Province
LEGEND
PR Coordinates
Prospecting Right Area
The Plan compiled in accordance with Regulation 2 (2) of the MPRDA, 2002. (Act 28 of 2002). In accordance with Section 48 (2) of the MPRDA, NWA (1998), NEMA (1998)(2002) and Regulation 17 of Mine Health and Safety Act (1996), the Proposed Area excludes any area within a horizontal distance of 100 metres of any Watercourses, Wetlands, Protected Areas, Public Roads, Railways, Cemeteries, Residential Areas or Public Areas
1 : 25 000
Singo Consulting (Pty) Ltd
RIETSPRUIT 425
RE/425
1/425
ZANDSPRUIT 176
MINES OF BUFFALO 2420
TWYFELFONTEIN
DALRY 2413
0
1
2 km


SOIL CLASSES
Applicant:
BIG SKY MINING (PTY)LTD
LEGEND
Prospecting Right Area
Farm Portion
Soil Classes
Association of Classes 13 and 16: Undifferentiated shallow soils and land classes
Association of Classes 17 and 19: Structureless and fossil conical soils
Association of Classes 5, 6, 10, 11, 12: Undifferentiated clays
Non soil land classes
Soils with a pedocutanic horizon
Co-ordinate System : GCS WGS 1984
Datum : WGS 1984
1 : 25 000
0
1
2 km
RE/425
1/425
Project Location
Prospecting Right Area on all portions of the farm Rietspruit 425 GT, situated in the Magisterial district of uMzinyathi in Kwazulu Natal Province
Singo Consulting (Pty) Ltd

Appendix 3: Background Information Document (BID)

BACKGROUND INFORMATION DOCUMENT

For Prospecting Right application on Portion 1 and Remaining Extent of the farm Rietspruit 425 GT Whole Farm, situated in Magisterial District of Mzinyathi in KwaZulu-Natal Province.

DMRE Ref: KZN 30/5/1/1/2/11407 PR

PREPARED FOR:

BIG SKY MINING (PTY) LTD

Physical Address: 654 Kenilworth Street Kyalamiestates, Kyalami, Gauteng, 1684
Contact person: Mr. Sonwabo Sellwa Debedu
Tel No.: 013 692 4378
Email: sonwabo@tornowize.co.za

PREPARED BY:

Singo Consulting (Pty) Ltd
Office 870, 5 Balalaika Street, Tasbet Park Ext. 2, eMalahleni (Witbank), 1040
EAP.: Mr. Khodani Mathako
PPP Officer.: Miss. Mazithi Mangcu
Cell No.: +27 74 884 1000
Tel No.: +27 13 6920 041
Fax No.: +27 86 5144 103
Email:
mazithi@singoconsulting.co.za

2023

INTRODUCTION AND THE PURPOSE OF THIS DOCUMENT

Singo Consulting (Pty) Ltd has been appointed as an independent Environmental Consultant by **Big Sky Mining (Pty) Ltd** to conduct Environmental Impact Assessment (EIA), compile a Basic Assessment Report (BAR), compile an Environmental Management Programme report (EMPr), and undertake Public Participation Process (PPP). This is done for the process of acquiring Environmental Authorization for the proposed Prospecting Right Application on **Portion 1 and Remaining Extent of the farm Rietspruit 425 GT Whole Farm, situated within the Magisterial District of uMzinyathi, KwaZulu-Natal Province. (KZN 30/5/1/1/2/11407 PR).**

The Purpose of this Background Information Document (BID) is to provide a perfunctory description of the project and outline EIA processes to be followed and contributions from Interested and Affected Parties (I&APs) on the issues related to the project in question, allowing comments and concerns to be raised.

Results of the EIA, both negative and positive will be submitted and made available to the relevant Departments such as the Department of Mineral Resources and if requested, Environmental Affairs, Water and Sanitation, Landowner and other interested stakeholders.

This Background Information Document therefore requests and invites I&APs to comment on the environmental, physical, social and economic impacts associated with the proposed Prospecting Activities. Be assured that your comments are of great value as they ensure that relevant issues are taken into consideration. Attached at the end of this document is a registration form, kindly complete it and send it back to **Ms Mazithi Mangcu** through given means of communication also attached there.

PROJECT DESCRIPTION

Prospecting right Application has been submitted for the searching(drilling) of coal resource on the properties mentioned above. This proposed prospecting Area, as seen in Figure 2 and Figure 3, is situated approximately 20.79 km northeast of Dundee.

Prospecting activities will be undertaken over a period of five (5) years and are designed in phases, each phase conditional on the success of the previous phase. Both invasive and non-invasive methods will be implemented. Invasive are those activities which have footprint or cause harm (if not mitigated or managed properly) or those that have a physical impact on the environment, while non-invasive do not cause any harm or effects on the environment. See **Figure 1** for drilling setting and equipments example.

Non-invasive: Desktop study of the area has commenced, and this incorporates desktop geographical and geological mapping. This will be followed by detailed geochemical and geotechnical surveys. In turn, this is followed by detailed geophysical studies.

Invasive: A detailed drilling, sampling, assaying and mineralogical study will be carried out. Diamond method will be utilized to prospect Coal. To ensure or minimize impacts on the receiving environment, All the activities will be guided by the project's BAR & EMPr.

Figure 1: Example of drilling equipment and site setting (Singo Consulting (Pty) Ltd, 2023)

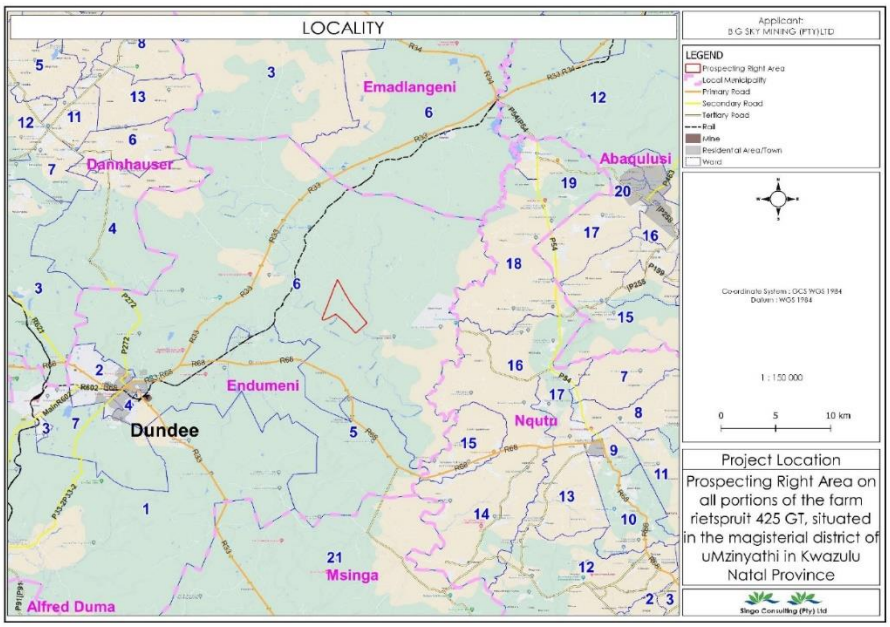


Figure 2: Locality map for Proposed Prospecting Right Area.

4

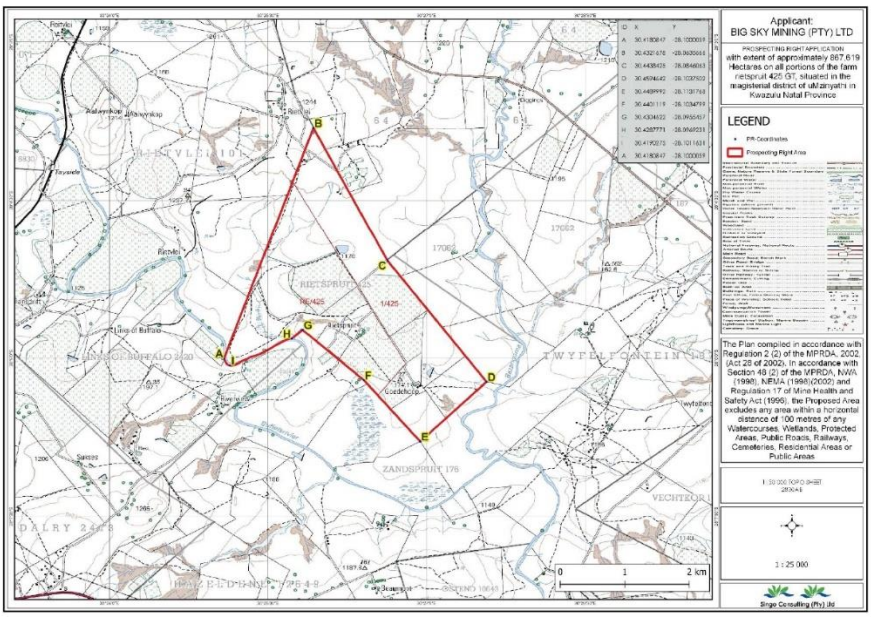


Figure 3: Regulation 2.2 Map for the proposed Area. ***(A: -28.1000059, 30.4180847)***

5

BASIC AND ENVIRONMENTAL IMPACT ASSESSMENT PROCESSES

These are planning and decision-making tools used in identifying potential environmental, economic and social consequences of a proposed activity prior the commencement of the activity.
These together with the public issues and concerns are to be identified sufficiently early so that they can be assessed and incorporated into the final reports when/if necessary.
These tools are regarded as crucial because they are utilized to demonstrate to the relevant stakeholders about the potential impacts, which in turn leads to the prospecting application process being a success or declined.

REGULATORY FRAMEWORK

Therefore, EIA through BAR & EMPr to be undertaken will be conducted in accordance with the National Environmental Management Act (Act 107 of 1998) and Environmental Impact Assessment regulations as amended (April 2017).

The activity is to prospect the existence and occurrence of coal therefore, this will be conducted in accordance with Mineral and Petroleum Resources Development Act, (Act 28 of 2002). Other regulatory guidelines to be followed include National Water Act, 1998 (Act 36 of 1998), National Air Quality Standards (GN 1210: 2009) and National Dust Control Regulations (GN 827 of GG NO. 36974).

PUBLIC PARTICIPATION PROCESS

Public Participation remains a cornerstone of the Environmental Impact Assessment process. It ensures provision of relevant and enough information with openness and transparency. Public Participation process presents to I&APs, an opportunity to understand what the project is about, and affords them an opportunity to make valuable contributions towards the EIA process.

I&APs can be any person, group of persons or organization interested in or affected by the proposed activity, and any organ of state that may have jurisdiction over any aspect of the activity.
The key objective of PPP is to afford the I&APs with an opportunity to comment and provide valuable inputs during the planning phase of the project.
For this specific proposed project, I&APs will be given a period of 30 days to comment and raise issues/concerns with regards to the BAR and EMPr which will be available at the **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) and Public **Participation Process Officer (PPP Offer) Miss Mazithi Mangcu**.
Kindly note the following dates:

- Announcement of the Prospecting Right Application: **30th of June 2023.**
- Review of Draft BAR & EMPr: **Saturday the 29th of July 2023 to Monday the 28th of August 2023 (with the exclusion of public holidays).**

Singo Consulting (Pty) Ltd

Office No: Office 870
5 Balalaika Street, Tasbet park, Ext 2
Witbank, 1035.
Cell: +27 74 884 1000
Tel: +27 13 692 0041
Fax: +27 86 5144 103
Email:mazithi@singoconsulting.co.za
admin@singoconsulting.co.za

REGISTRATION & COMMENT SHEET

Proposed Prospecting Right Application for Coal on Portion 1 and Remaining Extent of the farm Rietspruit 425 GT Whole Farm, situated within the Magisterial District of uMzinyathi, KwaZulu-Natal Province. (KZN 30/5/1/1/2/11407 PR).

Attention: **Mazithi Mangcu** Email: **mazithi@singoconsulting.co.za**

Date				
Title		Name	Surname	
Company				
Designation				
Address				
Tel No.			Fax No.	
E-mail			Cell No.	
I would like to receive my notifications be (mark with "X"):			Post ☐ E-mail: ☐ Fax: ☐	
Please indicate why you would have an interest in the above-mentioned project.				
Please provide your comments and questions here:				
Please feel free to attach a separate document				
Please add any person you think may be interested and affected parties:				
Full name			Company	
Address				
E-mail			Contact No.	

Appendix 4: Site Notice

NOTICE OF PUBLIC PARTICIPATION FOR PROSPECTING RIGHT AND ENVIRONMENTAL AUTHORIZATION APPLICATION

Notice of Prospecting Right Application Process as per the Mineral and Petroleum Resources Development Act (Act 28 of 2002) for the proposed prospecting project of **Coal on All Portions Rietspruit 425 GT**, situated in the Magisterial District of **uMzinyathi** in **KwaZulu-Natal Province** with **DMRE Ref: KZN 30/5/1/1/2/11407 PR.**

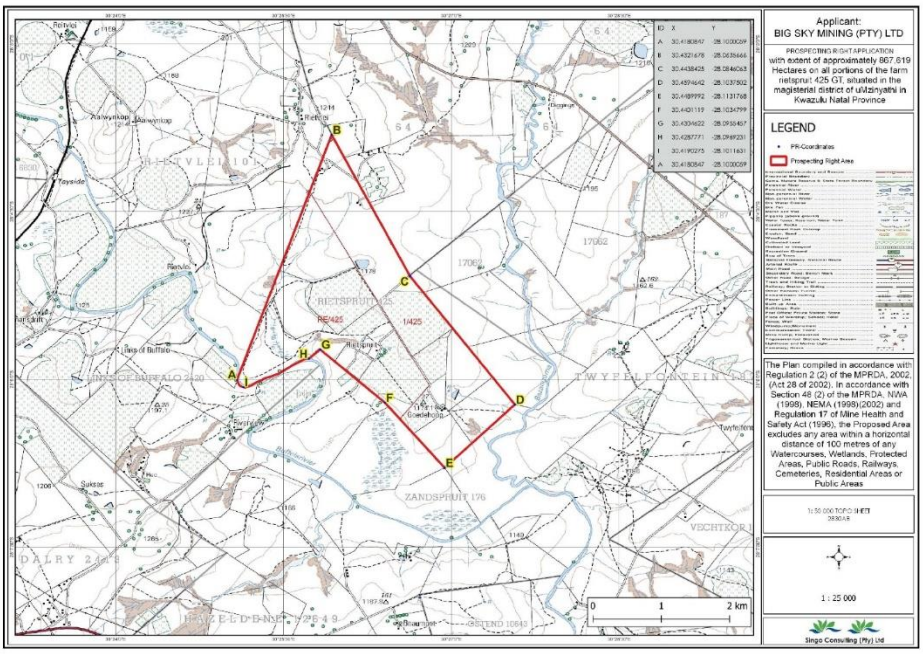


Figure 1: Proposed prospecting right area. (A: -28.1000059, 30.4180847)

INVITATION TO REGISTER & COMMENT

Notice is 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.982 in Gazette No. 3822 of 4 December 2014, amended on 7 April 2017 and by GN 517 on 11 June 2021, that **Big Sky Mining (Pty) Ltd** has applied for the purpose of prospecting coal.

As part of the EIA process, more especially the Public Participation Process (PPP) for this proposed prospecting project, Interested and Affected Parties (I&APs) are invited to register and kindly submit any comments or concerns to reach the **Public Participation Officer: Miss Mazithi Mangcu** 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 **Sunday the 16th of July 2023 to Tuesday the 15th of August 2023 (excluding public holiday) (excluding public holiday).** This report will be available at the **Dundee Public Library** (Boundary Rd, Dundee, 3000) and **Endumeni Local Municipality** (64 Victoria Street, Dundee). Furthermore, electronic copies will be made available (via email; Dropbox link; Google drive; We Transfer, etc.) upon request from Singo Consulting (Pty) Ltd, using the contact details of the Environmental Assessment Practitioner (EAP). Comments on the DBAR & EMPr must be submitted no later than **the 15th of August 2023.**

EAP, PPP. Officer & APPLICANT DETAILS

Singo Consulting (Pty) Ltd

Office 870, 5 Balalaika Street,
Tasbet Park Ext. 2, eMalahleni (Witbank), 1040
EAP.: Mr. Khodani Mathako
PPP. Officer.: Miss. Mazithi Mangcu
Email: mazithi@singoconsulting.co.za
Cell No.: +27 74 884 1000
Tel No.: +27 13 6920 041 Fax No.: +27 86 5144 103

BIG SKY MINING (PTY) LTD

Physical Address: 654 Kenilworth Street Kyalamiestates. Kyalami, Gauteng, 1684
Contact person: Mr. Sonwabo Sellwa Debedu

Cell No.: +27 79 494 0068

Appendix 5: Stakeholder consultation

Mazithi, Mangcu

From: Mazithi, Mangcu <mazithi@singoconsulting.co.za>
Sent: Friday, 30 June 2023 10:52
To:
Cc:

Subject: INVITATION TO COMMENT ON THE PROSPECTING RIGHT AND ENVIRONMENTAL AUTHORIZATION APPLICATION ON PORTION 1 AND REMAINING EXTENT OF THE FARM RIETSPRUIT 425 GT WITH DMRE REF: KZN 30/5/1/1/2/11407 PR.
Attachments: BID.PDF; REG 2.2.pdf; Prospecting Right Area.kml

Good day,

Receive warm greetings from Singo Consulting (Pty) Ltd.

Singo Consulting (Pty) Ltd on behalf of **Big Sky 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 portion 1 and Remaining Extent of the farm Rietspruit 425 GT**, situated in the Magisterial District of **uMzinyathi** in **KwaZulu-Natal Province**. **DMRE Ref: KZN 30/5/1/1/2/11407 PR.**

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 Big Sky 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) once available.

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 (BID) for a brief description of the proposed project and timelines, KML and Reg 2.2 Map for the visuals of the application area.

1

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

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From: Mazithi, Mangcu <mazithi@singoconsulting.co.za>
Sent: Friday, 30 June 2023 10:51
To:
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Subject: INVITATION TO COMMENT ON THE PROSPECTING RIGHT AND ENVIRONMENTAL AUTHORIZATION APPLICATION ON PORTION 1 AND REMAINING EXTENT OF THE FARM RIETSPRUIT 425 GT WITH DMRE REF: KZN 30/5/1/1/2/11407 PR.
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1

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Appendix 7: Stakeholder consultation

Mazithi, Mangcu

From: Mazithi, Mangcu <mazithi@singoconsulting.co.za>
Sent: Friday, 30 June 2023 10:51
To:
Cc:

Subject: INVITATION TO COMMENT ON THE PROSPECTING RIGHT AND ENVIRONMENTAL AUTHORIZATION APPLICATION ON PORTION 1 AND REMAINING EXTENT OF THE FARM RIETSPRUIT 425 GT WITH DMRE REF: KZN 30/5/1/1/2/11407 PR.
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1

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Appendix 8: Stakeholder consultation

Mazithi, Mangcu

From: Mazithi, Mangcu <mazithi@singoconsulting.co.za>
Sent: Friday, 30 June 2023 10:51
To:
Cc:

Subject: AUTHORIZATION APPLICATION ON PORTION 1 AND REMAINING EXTENT OF THE FARM RIETSPRUIT 425 GT WITH DMRE REF: KZN 30/5/1/1/2/11407 PR.
Attachments: BID.PDF; REG 2.2.pdf; Prospecting Right Area.kml

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Appendix 9: Stakeholder consultation

Mazithi, Mangcu

From: Mazithi, Mangcu <mazithi@singoconsulting.co.za>
Sent:
To:
Cc:

Subject: INVITATION TO COMMENT ON THE PROSPECTING RIGHT AND ENVIRONMENTAL AUTHORIZATION APPLICATION ON PORTION 1 AND REMAINING EXTENT OF THE FARM RIETSPRUIT 425 GT WITH DMRE REF: KZN 30/5/1/1/2/11407 PR.
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Appendix 10: Stakeholder consultation

Mazithi, Mangcu

From: Mazithi, Mangcu <mazithi@singoconsulting.co.za>
Sent: Friday, 30 June 2023 11:55
To:
Cc:

Subject: INVITATION TO COMMENT ON THE PROSPECTING RIGHT AND ENVIRONMENTAL AUTHORIZATION APPLICATION ON PORTION 1 AND REMAINING EXTENT OF THE FARM RIETSPRUIT 425 GT WITH DMRE REF: KZN 30/5/1/1/2/11407 PR.
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Appendix 11: Stakeholder consultation

Mazithi, Mangcu

From: Mazithi, Mangcu <mazithi@singoconsulting.co.za>
Sent: Friday, 30 June 2023 10:52
To:
Cc:

Subject: INVITATION TO COMMENT ON THE PROSPECTING RIGHT AND ENVIRONMENTAL AUTHORIZATION APPLICATION ON PORTION 1 AND REMAINING EXTENT OF THE FARM RIETSPRUIT 425 GT WITH DMRE REF: KZN 30/5/1/1/2/11407 PR.
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1

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Appendix 12: Stakeholder consultation

Mazithi, Mangcu

From:	Mazithi, Mangcu <mazithi@singoconsulting.co.za>
Sent:	
To:	
Cc:	'Thilivhali@singoconsulting.co.za'; 'ncamiso@singoconsulting.co.za'; 'boitumelo@singoconsulting.co.za'
Subject:	INVITATION TO COMMENT ON THE PROSPECTING RIGHT AND ENVIRONMENTAL AUTHORIZATION APPLICATION ON PORTION 1 AND REMAINING EXTENT OF THE FARM RIETSPRUIT 425 GT WITH DMRE REF: KZN 30/5/1/1/2/11407 PR.
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Appendix 13: Specialist Report