DRAFT BASIC ASSESSMENT REPORT

AND

ENVIRONMENTAL MANAGEMENT PROGRAMME REPORT

PROSPECTING RIGHT AND ENVIRONMENTAL AUTHORISATION APPLICATION FOR THE PURPOSE OF PROSPECTING FOR PSEUDOCOAL AND TORBONITE/OIL SHALE ON ALL PORTIONS OF THE FARM BODENSTADT 164 HT, SITUATED UNDER THE MAGISTERIAL DISTRICT OF MKHONDO, MPUMALANGA PROVINCE.

DMRE REF: MP 30/5/1/1/2/17549 PR

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DRAFT 2022

mineral resources & energy

Department:
Mineral Resources and Energy
REPUBLIC OF SOUTH AFRICA

BASIC ASSESSMENT REPORT AND ENVIRONMENTAL MANAGEMENT PROGRAMME REPORT

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

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File reference number SAMRAD: MP 30/5/1/1/2/17549 PR

DOCUMENT CONTROL	
Project Title:	Prospecting Right Application on all the portions of the Farm **Bodenstadt 164 HT**
Mineral	Pseudocoal and Torbanite/Oil shale
Site Location	Mkhondo Magisterial District, Mpumalanga Province.
Compiled on behalf of	Notre Coal (Pty) Ltd
Compiled By	Khodani Mathako
Reviewed By	Dr Kenneth Singo
Submitted to	Department of Mineral Resources and Energy
Date	2022

EXECUTIVE SUMMARY

Singo Consulting (Pty) Ltd on behalf of Notre Coal (Pty) Ltd submitted an application for a Prospecting Right subject to Section 16 of the Mineral and Petroleum Resources Development Act, 2002 (Act 28 of 2002) (MPRDA) and an application for an Environmental Authorisation in terms to Chapter 6 of GNR 982 enacted under the National Environmental Management Act (Act 107 of 1998) (NEMA) for Pseudocoal and Torbanite/Oil Shale.

The proposed project will aim to ascertain if economically viable mineral deposits exist within the application area. In order to undertake the Proposed prospecting activities, Notre Coal (Pty) Ltd will require a Prospecting Right in terms of the Mineral and Petroleum Resources Development Act (MPRDA, Act No.28 of 2002). The Applicant is also required to obtain an Environmental Authorisation (EA) in terms of the National Environmental Management Act (NEMA, Act No. 107 of 1998) which involves the submission of a Basic Assessment Report and Environmental Management Programme report (BAR & EMPr).

Singo Consulting (Pty) Ltd has been appointed by Notre Coal (Pty) Ltd to manage the Environmental Authorisation process by conducting Environmental Impact Assessment, Public Participation for the proposed project and to compile the Basic Assessment Report and Environmental Management Programme report in support of the Prospecting Right application which in turn will be submitted to the Department of Mineral Resources and Energy for adjudication. This BAR & EMPr has been designed to meet the specifications as set out in the NEMA's 2014 EIA Regulations. Feedback received from stakeholders will form basis of this BAR & EMPr.

Locality Description: The proposed Prospecting Right Application on all portions of the Farm Bodenstadt 164 HT, situated in the Magisterial District of Mkhondo, Mpumalanga Province. The proposed area covers an extent of 2322.214 ha. The proposed project area is situated approximately 9.92 km Southeast of Piet Retief, approximately 2.77 km East of Wittenberg, approximately 1.14 km Northeast of Forest Hill Country Lodge Bed and Breakfast, and approximately 16.46 km Southwest of Ngema Tribal Trust. The project area can be accessed by gravel roads leading to R543. During site assessment, it was identified that the proposed area is covered by plantation and

natural vegetation. Perennial river was observed onsite and is regarded as no goes area for this project. A 100m Buffer zone will be applied from the identified river and drilling will be conducted 100m away from the identified river. No heritage and cultural features observed onsite and if identified during prospecting process, SAHRA will be notified.

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LIST OF ABBREVIATIONS

BAR	**: Basic Assessment Report**
BID	**: Background Information Document**
CA	**: Competent Authority**
CBA	**Critical Biodiversity Area**
DAFF	**Department of Agriculture, Forestry and Fisheries**
DEFF	**Department of Environmental, Forestry and Fisheries**
DMRE	**: Department of Mineral Resources and Energy**
DWS	**: Department of Water and Sanitation**
EA	**: Environmental Authorisation**
EAP	**: Environmental Assessment Practitioner**
EIA	**: Environmental Impact Assessment**
EIMS	**: Environmental Impact Management Services**
EMPr	**: Environmental Management Programme Report**
GIS	**: Geographic Information System**
I&AP	**: Interest and Affected Party**
MPRDA	**: Mineral and Petroleum Resources Development Act**
NEMA	**: National Environmental Management Act**
NEMWA	**: National Environmental Management Waste Act**
NWA	**: National Water Act**
PPP	**: Public Participation Process**
PRA	**: Prospecting Right Application**
PWP	**: Prospecting Works Programme**

DISCLAMER

The opinion expressed in this, and associated reports are based on the information provided by Notre Coal (Pty) Ltd to Singo Consulting (Pty) Ltd ("Singo Consulting") and is specific to the scope of work agreed with Notre Coal (Pty) Ltd. Since the client is the owner or lessor of the property, many of the advice and acts contained in this legally binding contract remain his or her duty.

Singo Consulting acts as an advisor to the Notre Coal (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.

Where site inspections, testing or fieldwork have taken place, the report is based on the information made available by Singo Consulting during the visit, visual observations and any subsequent discussions with regulatory authorities. The data and information used in this report were provided to Singo Consulting by the client and also referred to other outside sources (includes historical site investigation information and third-party expert research).

Singo Consulting (Pty) Ltd ("Singo Consulting") takes reasonable care and diligence when providing services and preparing documents, but it has been assumed that the information provided to Singo Consulting (Pty) Ltd ("Singo Consulting") is accurate.

IMPORTANT NOTICE

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

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 conforms to the requirements of the EIA Regulations, any protocol or minimum information requirements relevant to the application as identified and gazetted by the Minister in a government notice or instruction or guidance provided by the competent authority to the submission of application.

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—

(aa) can be reversed;

(bb) may cause irreplaceable loss of resources; and

(cc) can be managed, avoided or mitigated;

(e) through a ranking of the site sensitivities and possible impacts the activity and technology alternatives will impose on the

sites and location identified through the life of the activity to—

(i) identify and motivate a preferred site, activity and technology alternative;
(ii) identify suitable measures to manage, avoid or mitigate identified impacts; and
(iii) identify residual risks that need to be managed and monitored.

PART A

SCOPE OF ASSESSMENT AND BASIC ASSESSMENT REPORT

1. Contact Person and Correspondence Address

Singo Consulting (Pty) Ltd was appointed by Notre Coal (Pty) Ltd as an independent EAP to compile this report. The contact details of the consultants who compiled this report are as follows:

i. Details of the EAP that prepared the Report

Name of the Practitioner	Khodani Mathako
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ii. Details of the EAP who reviewed the Report

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iii. Summary of EAP's Past Experience

In the year 2008, Singo Consulting (Pty) Ltd was established as an Independent Consulting Company focused to create opportunities within the Mining and Environmental Industry. With time, Singo Consulting (Pty) Ltd has diversified its services, providing high value Geological, Hydrological, Environmental, Cleaning and Rehabilitation specialized services to clients across a range of industries that are primarily natural resource based.

The company aims to be a consulting firm that communicates sound environmental services solutions. Singo Consulting (Pty) Ltd takes pride in the fact that it holds no equity in any project which in turn permits it to offer clients objective support on crucial issues.

For carried out Environmental Impact Assessments, request from consultant.

2. Locality of the Overall Activity

Table 1 Location of the Overall Activity

Farm Name:	All portions of the Farm Bodenstadt 164 HT
Application area (Ha)	2322.214 ha
Magisterial district:	Mkhondo Magisterial District
Distance and direction from nearest town	Approximately 9.92 km Southeast of Piet Retief, approximately 2.77 km East of Wittenberg, approximately 1.14 km Northeast of Forest Hill Country Lodge Bed and Breakfast, and approximately 16.46 km Southwest of Ngema Tribal Trust.
21-digit Surveyor General Code for each farm portion	T0HT00000000016400001 T0HT00000000016400001 T0HT00000000016400001 T0HT00000000016400001 T0HT00000000016400001 T0HT00000000016400001

2.1. Locality map

The proposed Prospecting Right Area on all portions of the Farm Bodenstadt 164 HT, situated under the Magisterial District of Mkhondo, Mpumalanga Province. The proposed area is situated approximately 9.92 km Southeast of Piet Retief, approximately 2.77 km East of Wittenberg, approximately 1.14 km Northeast of Forest Hill Country Lodge Bed and Breakfast, and approximately 16.46 km Southwest of Ngema Tribal Trust (see
Figure 1 below).

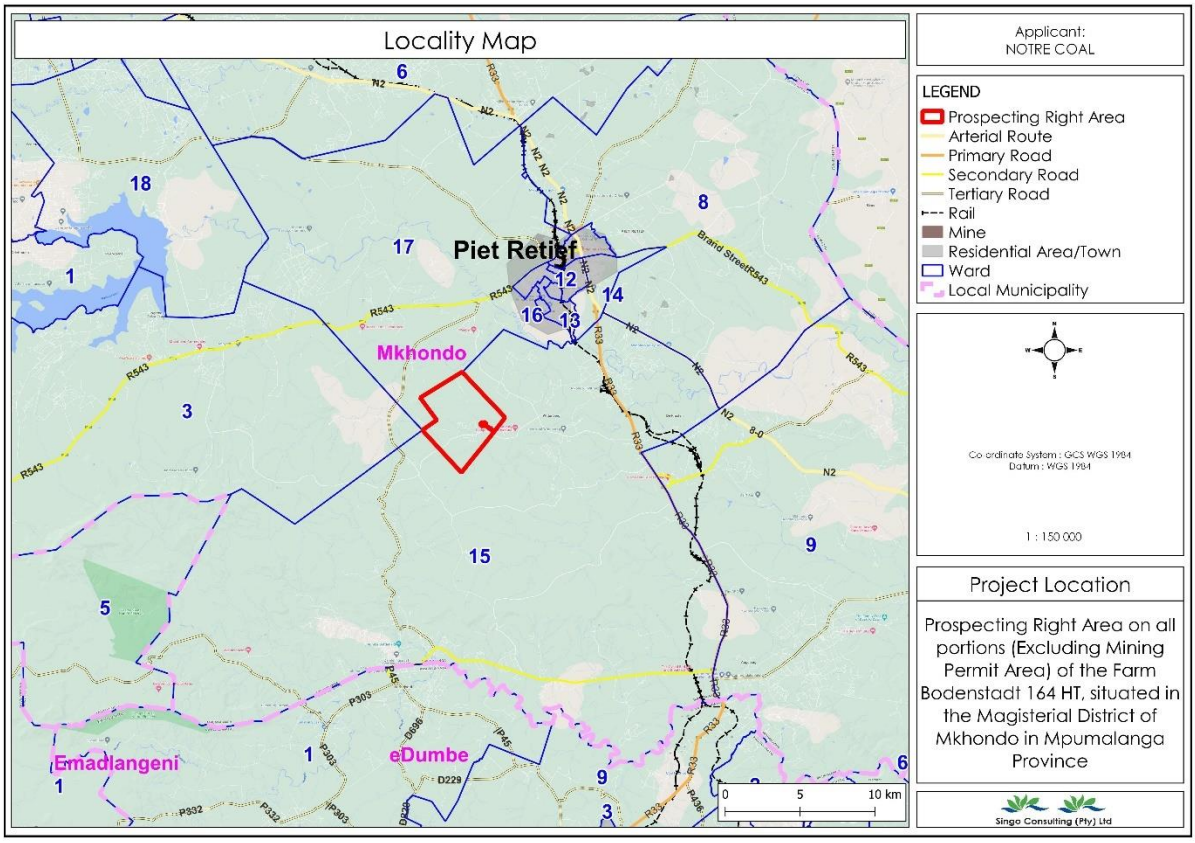


Figure 1: Locality map of the proposed area

2.2. Description of the scope of the proposed overall activity

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

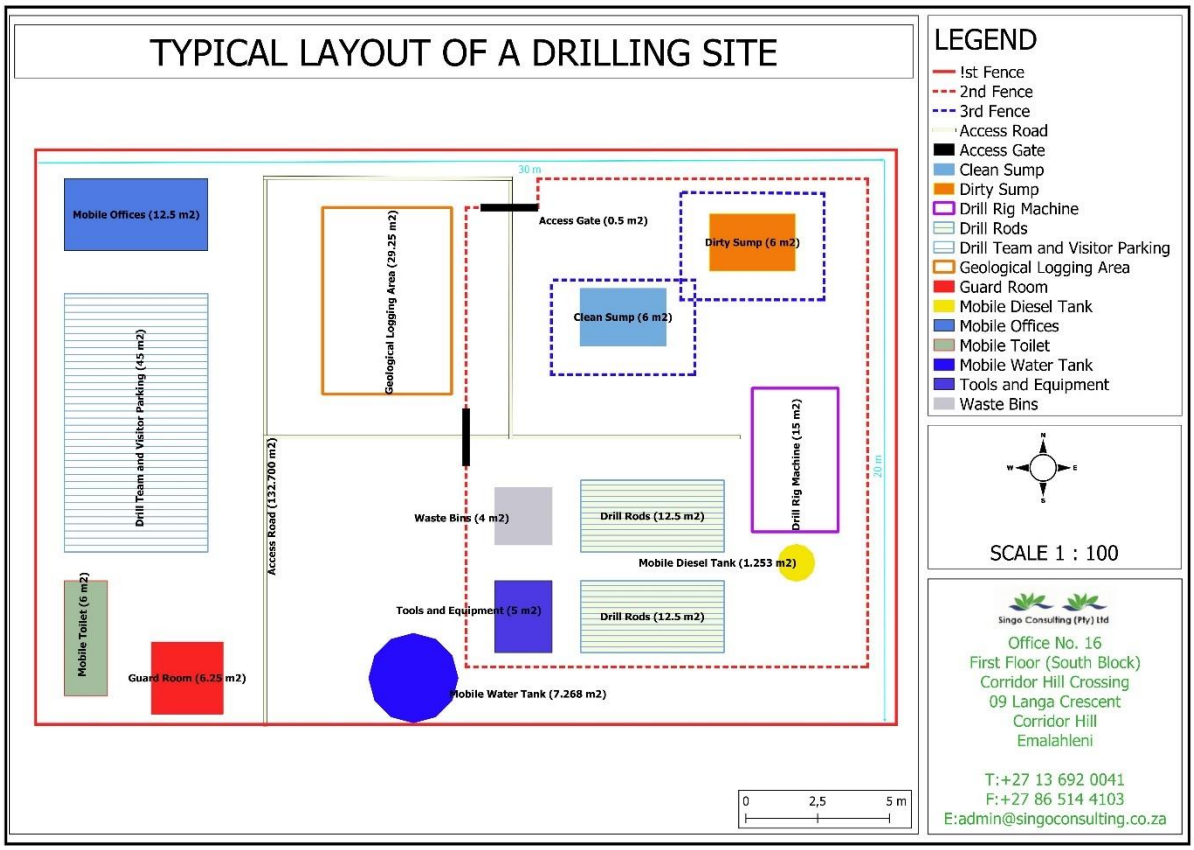


Figure 2: Typical layout plan of a drilling site

2.3. Listed and specified activities

Name of activity E.g., for prospecting (drill site, site camp, ablution facility, accommodation, equipment storage, sample storage, site office, access route, etc.)	**Aerial extent of the activity** Ha or m^2	**Listed activity** Mark with an X where applicable/ affected	**Applicable listing notice** GN 517, 11 June 2021
Prospecting by means of diamond drilling 15 boreholes.	2322.214 ha of the prospecting area		GN 517, Listing Notice 1, Activity 20
Mobile office	12.5 m^2		Not Listed
Mobile toilet	6 m^2		Not listed
Drill team and visitor team parking	45 m^2		Not listed
Access road	2 339.3 m^2		Not listed
Guard room	6.25 m^2		Not listed
Geological logging area	25.29 m^2		Not listed
Waste bins and tools	9 m^2		Not Listed
Drill machine	15 m^2		Not listed
Drill rods	25 m^2		Not listed
Clean sump	6 m^2		Not listed
Dirty sump	6 m^2		Not listed
Mobile tank	1.253 m^2		Not listed
Water tank	7.268 m^2		Not listed

Table 2: Listed and specified activities

Area to be disturbed per borehole	Total area to be disturbed for 15 boreholes
: 20 m x 30 m : 600 m^2 : 600 m^2 ÷ 10 000 : 0.06 ha	: 0.06 ha x 15 : 0.9 ha

3. Description of the activities to be undertaken.

The following section presents a detailed description of all the activities associated with the proposed prospecting application. Due to the nature of the prospecting works programme (PWP) and the fact that the specific prospecting activities depend on the preceding phase, assumptions are presented where required. These assumptions are based on similar projects undertaken by the applicant. Activities for

the prospecting of Notre Coal (Pty) Ltd will be done in three phases. The proposed prospecting area is depicted by Figure 1-2 above clearly showing the areas of interest. A total number of proposed boreholes to be drilled for the prospecting period is Fifteen (15). Vegetation clearance at each drilling site and progressing rehabilitation will take place after each drill site. The total vegetation clearing for the overall activities will only cover 0.9 ha.

Access roads

The site can be accessed using existing gravel roads leading to R543 and no new roads will be developed (see Figure 3). Access to the proposed farm will be communicated with the respective landowners. Each borehole will have an access road depending on the proximity to the already existing road.

Figure 3: Gravel Road observed onsite

Ablution

Mobile toilets will be utilized since no permanent activities are to be constructed hence the prosecting activity is of limited time.

Figure 4: Typical example of mobile toilets

Water Supply

The prospecting activity will involve drilling of boreholes preferred by the applicant. This signifies that no water resource will be used for the purpose of drilling purpose however, water requirements relate to the potable water supply for employees and workers. A temporary 20 L onsite vertical water storage tank (for drinking water and general use by persons) will be provided at the drill site.

Figure 5: Typical example of a water supply container

Temporary Office Area

Mobile toilets will be utilised since the proposed prospecting activity is time limited and need no permanent infrastructures. Meals will be provided to the staff members as no heating or cooling facilities will be made available. Facilities with shade will be used such as mobile tents. No on-site electricity generation by generators.

Figure 6: Typical example of mobile office

Accommodation

No onsite accommodation will be constructed or established because the staff members will find accommodations at the close villages. Staff members will be transported to site daily. Night security staff will be employed once the equipment is established onsite.

Blasting

Since prospecting does not include mining activities therefore, no blasting will be done. No need to remove the overburden since this stage is specifically for searching hence only drilling method will be utilized. Below is a typical example of blasting.

Storage of dangerous goods

During drilling activities, a limited quantity of diesel fuel, oil and lubricants will be stored onsite. A maximum quantity of 60 m^3 diesel or petroleum will be stored in above ground storage tanks.

Figure 7: Typical example of a dangerous goods storage

As part of the proposed Prospecting Work Program (PWP), both non-invasive and invasive prospecting activities will be conducted. The framework will adopt a staggered strategy, where the work program for prospecting is split into several sequential phases.

There will be a brief period at the end of each phase to compile and review outcomes. The findings will decide not only whether prospecting progresses but also how it will proceed. The applicant will only take action over the next prospecting phase once satisfied with the results obtained in the previous phases. Moreover, if need arises, smaller, non-core parts of the prospecting work program will be undertaken. A detailed descriptive of the invasive and non-invasive activities planned is presented below.

Phase 1: Non-invasive

Desktop study: All historical geological data (including assays and mineralogy) will be gathered and evaluated. This includes assessments of any existing prospecting operations in the area, boreholes and any relevant data from any institution that may have done work in and around that that specific area. As part of this phase, remote sensing studies are carried out to prepare for the implementation of subsequent phases.

Preliminary field work: This allows the implementation of survey grids for geological and structural mapping as well as geophysical surveys. Following these activities, proposed drill sites for the drilling program will be pegged. At the end of this phase, a preliminary report with updated maps will be produced.

Geophysics: In smaller areas, a hand-held instrument is used to search for ore underground. In larger areas, an instrument is mounted on an aircraft, which is then used to survey the area for ore targets. The procedure is non-invasive.

Phase 2: Invasive

Field mapping: This is the verification of on-site field lithology based on the geological map and geophysical data. This includes ground mapping of geological features, including rock outcrops, lithological contact zones, geological structural features, surface depressions and vegetation types. This may include collecting data from outcrops for analysis, as the outcrop also indicates what can be found underground.

Site establishment:

This is the mobilisation of all project equipment to the site or a nearby location in order to conduct efficient prospecting. There is very little environmental impact with regards to this. Rehabilitation will take place progressively per drill site. Site Establishment includes

- **Ablution:** Portable chemical toilets
- **Temporary office area:** A temporary site office shaded area will be erected at the drill site. This will be used for daily project administration.
- **Accommodation:** No accommodation for staff and workers will be provided on-site; Workers will be transported to and from the prospecting site on a daily basis. Night security staff will be employed once equipment has been established on site.
- **Storage of dangerous goods:** During the drilling activities there will be no storage of diesel fuel, oil and lubricants on site. Trucks and other mobile transports will utilise the nearby filling station. Significant amount of diesel will be transported to site for the drill rig machine on a daily basis for the duration of the prospecting activities.

Drilling:

A core drilling program will be carried out, which will be informed by the results of the previous phased approach and will aid in the identification of areas to be drilled. To evaluate the area, logging and sampling of the borehole core will be performed. The drill core samples will be sent to an accredited laboratory for analysis and determination of the average mineral content.

At least fifteen holes will be drilled during this phase. The drill bit size is NQ (76.7 mm in diameter) and will drill to an average depth of 110 m, which will cover an area of 0.9 ha at any given drilling time (total area of disturbed area per drilled borehole).

Figure 8: Typical example of a drill rig

Pre-feasibility studies:

Geological modelling of gathered existing geological data and prospecting data will be performed if the results warrant it.

Phase 3

Closure & rehabilitation: This includes progressive rehabilitation and closing borehole openings, re-vegetating, and removing any prospecting-related waste. This will restore the area to as good or better condition than it was before prospecting began.

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**		**What technical expert will sign off on the outcome?**

					Timeframe for 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 25-60	Exploration Geologist Laboratory analyst
	Directional drilling (Optional)	Exploration Geologist	Month 24-30	Lithological data	Month 24-60	Exploration Geologist
	Geophysical survey (Optional)	Geophysicist Exploration Geologist	Month 25-27	Lithology data Structural data	Month 25-60	Geophysicist
	Geohydrological survey (Optional)	Geohydrologist Exploration Geologist	Month 25-26	Borehole water yield Water samples	Month 29-60	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 – 60 Month 32 - 60	Exploration Geologist /Database administrator Exploration Geologist /Database administrator
	Lithofacies and Coal	Exploration Geologist	Month 34-36	Contour maps Reserve breakdown	Month 34-60	Exploration Geologist /Modeler
	Inspection/consultation with landowners	Land Tenure Specialist	Month 28-29	Rehabilitation clearance certificate	Month 28 - 60	Land Tenure Specialist / Environmental officer

4. Policy and Legislative Context

Table 4: Policy and legislative context

Applicable Legislation and Guidelines	Reference Where Applied (i.e. where in this document has it been explained how the development complies with and responds to the legislation and policy context)	How does this Development Comply with and Respond to the Legislation and Policy Context
National Environmental Management Act (No. 107 of 1998) (NEMA):	This entire report is prepared as part of the prospecting right application under the NEMA, section 24	In terms of the National Environmental Management Act an Application for Environmental Authorisation subject to a Basic Assessment Report. The application was lodged at the DMRE and waiting for response.
Minerals and Petroleum resources Development Act (No.28 of 2002) (MPRDA): In support of the Prospecting Right Application submitted by Notre Coal (Pty) Ltd, the applicant is required to conduct a NEMA BAR process in terms of Section 5A and Chapter 16 of the MPRDA.	This entire report is prepared as part of the Prospecting Right Application under the MPRDA, section 16(2).	In terms of the Mineral and Petroleum Resources Development Act a Prospecting Right Application has been applied for Pseudocoal and Torbanite/Oil shale resource. The application is waiting for acceptance letter. DMRE Ref: **MP 30/5/1/1/2/ 17549 PR**
National Water Act (No. 36 of 1998) (NWA): Water may not be used without prior authorisation by the DWS. Section 21 of the National Water Act (No.36 of 1996) the NWA water uses for which authorisation is required.	Since prospecting right does not include mining activities such as bulk sampling, PCD construction, Trenches and Berm construction. Prospecting will only take 0.06 ha per borehole and buffering will be applied in waterbodies. Drilled boreholes will not be used for Water Abstraction, therefore no water use license is required for this activity	Water use license is not required for this Application. The water required will be bought from the municipality or licensed water supplier that sells potable water or treated industrial water for which a water sale agreement will be drawn and agreed upon before work commences.
The National Environmental Management: Biodiversity Act (Act No. 10 of 2004 – NEMBA) Section 57 and 87	Regulations published under NEMBA provides a list of protected species (flora and fauna), according to the Act (GN R. 151 dated 23 February 2007, as amended in GN R. 1187 dated 14 December 2007) which require a permit in order to be disturbed or destroyed	No applications have been submitted in terms of the National Environmental Management: Biodiversity Act.

Mkhondo Local Municipality Integrated Development Plan (IDP) **Strategic Development Framework (SDF)**	Needs and Desirability, socio-economic needs. Land use	Incorporated in Section 8 of this BAR. 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.
Municipality By-Laws: Waste Management by-law Act 59 of 2008, Air Quality Management By-law Act 39 of 2004, Noise control by-law, Spatial Planning and Land Use Management act no 16 of 2013 (SPLUMA).	Environmental Management measures awareness plan	Best practice guidelines will be followed for any by-law's management and the development of the mine environmental and other legislative management.
Constitution of South Africa, **Specifically, everyone has the right:** **a) to an environment that is not harmful to their health or wellbeing; and** **b) to have the environment protected, for the benefit of present and future generations, through reasonable legislative and other measures that** **i) prevent pollution and ecological degradation;** **ii) promote conservation; and** **iii) secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development.**	BAR & EMPr	Prospecting activities and its associated impact has been documented in the BAR and EMPR. EMPR impacts will be mitigated to avoid potential impacts on human health or wellbeing.
National Heritage Resources Act, 1999	Management measures	Should archaeological artefacts or skeletal material be revealed in the area during development activities, such activities should be halted, and SAHRA notified in order for an investigation and evaluation of the find(s) to take place.

5. Need and desirability of the proposed activities.

Prospecting activities do not offer many tangible benefits as it is the initial phase of mining. Prospecting precedes mining; however, it is during the prospecting phase that

findings are established on whether the available mineral reserves can be mined at an economic gain. It is understood that mining plays an important role in South African economy and boast a large labour force; hence a greater significance is placed on prospecting for realization of mining benefits.

Although prospecting activities are not labour intensive, approximately 10 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 the Farm Bodenstadt 164 HT. With the existence of different mines located near the prospecting area collaboratively with the geological information, the area has the potential of the Pseudocoal and Torbanite/oil shale coal resources. Notre Coal (Pty) Ltd intends to start mining application once the prospecting activities have proven viable outcome.

Prospecting activities are needed to:

- Confirm and obtain additional information concerning potential targets through non-invasive (e.g. desktop studies) and minimally invasive (e.g. drilling) activities.

- Assess if the resource can be extracted in an environmentally, socially and economically viable manner. Prospecting activities should prove that there are feasible minerals to allow mining, a new mine may be developed, which would generate extensive employment opportunities in an area where employment is required.

The Department of Environmental Affairs has released an updated Need and Desirability Guideline Document dated 2017. Need and desirability is based on the principle of sustainability, set out in the Constitution and in NEMA, and provided for in various policies and plans, including the National Development Plan 2030 (NDP). Addressing the need and desirability of a development is a way of ensuring sustainable development – in other words, that a development is ecologically sustainable and socially and economically justifiable – and ensuring the simultaneous achievement of the triple bottom-line.

The concept of "need and desirability" relates to, amongst others, the nature, scale and location of development being proposed, as well as the wise use of land. While essentially, the concept of "need and desirability" can be explained in terms of the general meaning of its two components in which need primarily refers to time and desirability to place (i.e. is this the right time and is it the right place for locating the type of land-use/activity being proposed?), "need and desirability" are interrelated and the two components collectively can be considered in an integrated and holistic manner.

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 mining 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.	The Notre Coal (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 communities.
4.	Are the necessary services with adequate capacity currently available (at the time of application) or must additional	All infrastructure for services and capacity will be temporary and will be provided for the proposed prospecting/drilling activities. Temporary Infrastructure includes i.e Mobile toilets, temporary shaded area (in a form of Gazebo). Drilling

	capacity be created to cater for the development?	mechanisms to be employed will be of diamond core drilling. The road networks are fully intact, and the project will not have a major impact on road congestion. Thus, additional capacity does not need to be created for the development.
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 heavily modified area and the other area is covered with plantation. The activities currently present onsite have already had an impact on environmental management. 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,	The integrity of the existing environmental management priorities for the area will not be compromised by this development.

	can it be justified in terms of sustainability considerations?	
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).	Although there is a diabase rock intruding with the prospecting area, the project area's coalfield lithology is made up of sediments of the Vryheid Formations of the coal-bearing Ecca Group, Karoo Supergroup thus providing the ideal geological formation for the presence of the mineral applied for. The current infrastructure suffices for the process of prospecting. The planned drilling activities does not need any new infrastructure.
11.	How will the activity of the land use associated 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 no known heritage or cultural significance. Should the standings change, the relevant authority will be notified immediately, and information will be included into the BAR & EMPr.
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.)?	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?	The mining industry in Mpumalanga has been a cornerstone of the economy for a long period of history. South Africa offers ongoing proof that mineral revenues can create sizeable benefits to the economy in countries where they are sourced. The applied commodities contribute significantly towards the Municipal's GDP.
14.	Will the proposed land use result in unacceptable cumulative impacts?	The proposed project has only been identified to have minimal cumulative impacts that can be mitigated to an acceptable level. The measures outlined in the EMP attached will serve as a method to keep the proposed project from having any serious long term cumulative impacts on the receiving environment.

Table 5: Need and desirability considerations

4.1. Motivation for the overall preferred site, activities and technology

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

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

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

- The site offers the mineral sought after,
- Very little natural vegetation needs to be disturbed in order to establish the prospecting area (0.9 ha).
- The prospecting area can be accessed through gravel roads leading to R543.
- No residual waste as a result of the prospecting activities will be produced that needs to be treated on site. The general waste produced on-site will be contained in sealed refuse bins to be transported to the local municipal landfill site.
- As maintenance and servicing of the equipment will be done at an off-site workshop the amount of hazardous waste to be produced at the site will be minimal and will mainly be as a result of accidental oil or diesel spillages.
- Contaminated soil will be removed to the depth of the spillage and contained in sealed bins until removed from site by a hazardous waste handling contractor to be disposed of at a registered hazardous waste handling site, more information will be discussed after the granting of the prospecting right.

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

Prospecting is conducted in phases, where the activities and location of drilling and trenching to sample soil are dependent on the previous phase. Therefore, the specific locations and extent of soil sampling and diamond core drilling cannot be predetermined. Areas to be avoided in terms of sensitivities are also indicated on the sensitivity maps in this report. Positioning of invasive prospecting planned in the sensitive areas and buffer zones should be conducted with a suitably qualified

ecologist in order to avoid and/or minimize the destruction of any sensitive vegetation or habitats occurring in these areas.

Details of all alternatives considered

With reference to the site plan and the location of the individual activities onsite, provide details of the alternatives considered with respect to:

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

Prospecting is conducted in phases, where the activities and location of drilling and trenching to sample soil are dependent on the previous phase. Therefore, the specific locations and extent of soil sampling and core drilling cannot be predetermined.

The following alternatives were investigated as feasible alternatives:

- **The property on which or location where it is proposed to undertake the activity**

The Farm Bodenstadt 164 HT is located within Mkhondo Local Municipality, Mpumalanga Province. The proposed prospecting area is approximately 9.92 km Southeast of Piet Retief, approximately 2.77 km East of Wittenberg, approximately 1.14 km Northeast of Forest Hill Country Lodge Bed and Breakfast, and approximately 16.46 km Southwest of Ngema Tribal Trust.

- **The type of activity to be undertaken**

Main activity conducted to determine the Pseudocoal and Torbanite/Oil shale resource present in an economic feasible quality and quantity is drilling. The boreholes will be drilled with the diamond drilling method so the geologists can get a clear understanding of the actual subsurface setting of the lithologies. As outlined in the PWP all activities will be conducted in a phase approach whereby the execution of a new phase will depend on the results of the preceding phase. Prospecting activities

will not compromise any future land uses on the study area as the applied activities are temporary. No bulk sampling work will be carried out during this prospecting program. Invasive prospecting activities such as drilling as well as non-invasive activities will be conducted during prospecting due to the unavailability of extensive historical borehole datasets.

- **The design or layout of the activity**

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

- Mobile 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 boreholes can be orientated to match the shape of the good quality of resource.
- Buffer zones will apply to all the sensitive areas and water bodies or wetland onsite.

- **The technology to be used in the activity**

The technologies listed in the PWP have been selected as they are proven effective in the determination of resource viability within the proposed prospecting area. Some of the techniques employed in the non-invasive prospecting will include a literature survey, field reconnaissance/mapping, and geophysics survey of the geology, outcrops. Invasive technology alternatives have also been considered. It is hereby noted that the different phases and timeframes of the prospecting herein envisaged are, by their nature, dependent on the results obtained during the preceding phases of such prospecting. The proposals set out in the Prospecting Work Programme are therefore made on the basis that results obtained during the preceding phases may necessitate reasonable changes and adaptations to such proposals, which will be reported as prescribed.

- **The option of not implementing the activity**

If the Prospecting Right is not granted, the potential to identify viable mineral resources could be lost. Historical prospecting and mining activities have taken place in the vicinity of the proposed prospecting right area and as such the proposed prospecting activities represent a continuation of surrounding land uses. Additionally, it allows for marginal land impacted on by historical prospecting and mining activities to be re-introduced into the economy.


PUBLIC PARTICIPATION

Regulation	Approach & Methodology to meet requirements
Regulation 40(1), Regulation 40(3) & Regulation 43 – provide all potential or registered interested and affected parties, including the competent authority, access to project related information, access to the BA report which will be made available for a period of at least 30 days to submit comments on draft reports prior to submission of final reports for decision-making.	<u>Notification of Basic Assessment (BA) process to be undertaken for application for Environmental Authorisation (EA) to be distributed using the following means:</u> • E-mail • Dedicated project page on the Singo Consulting online stakeholder engagement platform • Post • Process notices placed at locations that are accessible to I&APs • Advertisement in the printed media. <u>Notification of availability of report and period for review using the following means:</u> • Newspaper advert, including details of where the report can be accessed and details of the Singo Consulting website. • Live read on a local radio station. • Notification letter (to be sent via email, fax or post) to registered I&APs. • Notifications to communities via Ward Councillor, ward committee members, identified and confirmed community representatives, and local community forum members. • SMS and/ or WhatsApp notifications where no other means are available. <u>Availability of report for review:</u> • Report available on the Singo Consulting website for download. • Electronic copies can be made available to parties via a secure Dropbox link that will be emailed upon request for the documentation. • CDs to be posted, if requested. Hard copy report to be available only where appropriate sanitary conditions can be maintained

	• Report will be submitted to the DEA using the DEA online portal. • Report will be submitted to Organs of State and commenting authorities via an agreed electronic platform (such as on CD, or via a secure Dropbox link). <u>Submission of comments to EAP:</u> • Comments will be able to be submitted directly to the EAP using the Singo Consulting online stakeholder engagement platform. A customised reply form is available on this webpage. • The online platform allows for instant feedback and comments to be submitted, in so doing saving time for the stakeholder and also giving the assurance that their comments have been submitted for inclusion in the project reporting. • Written comments can also be submitted via email, post or fax. • Any comments provided telephonically or via instant message will be transcribed and recorded as formal comments. • Report will be submitted to the DEA using the DEA online portal. • Report will be submitted to Organs of State and commenting authorities via an agreed electronic platform (such as on CD, or via a secure Dropbox link). • Submission of comments to EAP: • Comments will be able to be submitted directly to the EAP using the Singo Consulting online stakeholder engagement platform. A customised reply form is available on this webpage. • The online platform allows for instant feedback and comments to be submitted, in so doing saving time for the stakeholder and also giving the assurance that their comments have been submitted for inclusion in the project reporting. • Written comments can also be submitted via email, post or fax.

	• Any comments provided telephonically or via instant message will be transcribed and recorded as formal comments.
Regulation 40(2) - Provide access to all project information that has the potential to influence any decision regarding the application, unless protected by law, and must include **consultation** with Competent Authority, Organs of State & registered I&APs. Regulation 41(6) – Relevant **information available and accessible**	Provision of project information and consultation via various means including: • Telephonic consultation. • Email correspondence. • Correspondence sent via post. • SMS and/or WhatsApp. • The Singo Consulting online stakeholder engagement platform will ensure that I&APs are afforded sufficient opportunity to participate in the project and raise comments on the project to any person with interest in the BA process for the project. This online stakeholder engagement platform which will include the following: o A means to register on the project database and provide details of their interest in the project o Background information on the project
Regulation	**Approach & Methodology to meet requirements**

		○ Project maps (including locality map, layout map, sensitivity map, landowner map, etc) ○ Photos of the project site and surrounds ○ Presentation with narration providing a summary of the project details and the findings of the BA ○ Posters providing a summary of the findings of the BA o ○ A means of submitting written comment or queries. • Virtual meetings using an appropriate platform agreeable to all parties (such as Zoom, Skype or Microsoft Teams). The meeting will be recorded, and the attendees' details captured in an attendance register. Confirmation of their attendance will also be requested by e-mail and the correspondence will be included in the report. • Communities will be consulted via the relevant Ward Councillor, ward committee members, community representative or local community forum members, as determined and confirmed during the consultation process.
Regulation 41(2)(a) – **Site notice**	•	Site notices will be placed at affected properties by the EAP, landowner or specialist, depending on specific travel restrictions applicable at the time.
	•	Size and content will be in accordance with Regulation 41(3) & 41(4).
Regulation 41(2)(b) – **Written notification** to affected and neighbouring landowners and occupiers; municipality; ward councillors; Organs of State & other parties required by the CA	•	Notification letter to be sent via email, fax or post.
Regulation 41(2)(c) – (e) – **Advertisements**	•	Advert to be placed in a local newspaper.
	•	Live reads on a local radio station will be used as alternative means based on the nature, extent of the projects and the demographics within the vicinity of the project location.

	•	Process notices (A4 size) with site notice details will be placed at public places that are frequented by and accessible to community members during Alert Level 3.

6. Details of the Public Participation Process Followed

Public Participation is the basis of any EIA process. The Public Participation Process (PPP) seeks to provide the opportunity for all stakeholders including potential players and all applicable I&APs, state departments, state bodies and the competent authority (CA) to register so that they can raise concerns, contribute to local knowledge, comment on the Draft Basic Assessment Report (DBAR) & Environmental Management Programme report (EMPr) but most importantly provide suggestions for enhanced benefits. Comments received during the Public Participation Process are incorporated into the Final BAR & EMPr to be submitted to the competent authority being the Department of Mineral Resources & Energy for adjudication. The process is undertaken to ensure compliance with regards to the requirements in terms of the Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002) [as amended] (MPRDA), the National Environmental Management Act, 1998 (Act No. 107 of 1998) [as amended], (NEMA), and Environmental Impact Assessment Regulations (2014) [as amended].

Defining Stakeholders

The term public can be taken to mean any individual or group in society, including the government and business sector. Who or what is included in the "public" depends very much on activities under consideration. The term "stakeholder" helps clarify the meaning or "public" in the context of development activities. A stakeholder is any person, group of institution that has an interest in an activity, project or program. This includes both intended beneficiaries and intermediaries, those positively affected, and those involved and/or those who are generally excluded from the decision-making process.

Stakeholders can usefully be categorized in five main types:

- Directly affected people (who live or work where the project will be located)
- indirectly affected people (who live nearby or use resources from the project area)
- public sector agencies (ministries, provincial or local government, government mandated mass organizations)

- private developers (private companies with a direct investment in the project) and their subcontractors and financiers
- others (donors, NGOs with a stake in the project, external advisors, the business sector).

Objectives of the Public Participation

- Main objectives for involving the public are:

- the identification of key issues of concern to the public, addressing public perceptions,

- the provision of local expertise and knowledge,

- the identification of possible alternatives/options,

- ensuring that affected groups are involved at the very beginning of project design, and

- the critical review of documentation.

The separation of these objectives is somewhat artificial as the achievement of one will often depend upon the achievement of another

6.1. Activities undertaken for the Public Participation Process (PPP)

This section of the report provides an overview of the tasks undertaken for the PPP to date. All PPP undertaken is in accordance with the requirements of the NEMA requirements and EIA Regulations (2014) [as amended]. It further provides an outline of the next steps in the PPP and makes recommendations for tasks to be undertaken during the environmental assessment phase of the environmental authorization process. The PPP conducted for the proposed prospecting project to date include:

- **Identification of key Interested and Affected Parties (affected and adjacent landowners) and other stakeholders (organs of state and other parties)**

Public Participation is the involvement of all parties who are either potentially interested and / or affected by the proposed development. The principal objective

of public participation is to inform and enrich decision-making. This is also its key role in this Basic Assessment process.

- **Formal notification of the application to I&APs (including all affected and adjacent landowners) and other stakeholders.**

The project was announced as follows:

- ❖ Newspaper advertisement

On the 5th of August 2022 newspaper advertisement (English and Zulu) was Published in the *Excelsior Nuus/News* see Figure 9 below for the proof of newspaper publication.

- ❖ Site notice placement

To inform surrounding communities, affected and adjacent landowners of the proposed development, site notices were erected onsite and at visible locations close to the site on the 5th and 6th of August 2022 see Figure 10 for the site notice placement.

- ❖ Written notification

I&AP's and other key stakeholders were directly informed of the proposed development by e-mail on the 5th of August 2022. I&APs will be given 30 days to comment and / or raise issues of concern regarding the proposed development. Refer to Appendix C for proof of email notification. Draft BAR & EMPr will be shared to all I&APs and relevant stakeholders for a 30-day review period from the 5th of September 2022 to the 5th of October 2022 to comment and raise issues/concerns on the report.

- ❖ Notification to and consultation with landowners and/or lawful occupiers.

Congratulations Dr Mkhaliphi

We would like to congratulate Siyabonga Oscar Mkhaliphi (aka "Nkizozo") from Anhalt Farm at Emaphondleni, Piet Retief for obtaining a Bachelor of Medicine and Surgery.

The graduation ceremony took place on 20 July at Wits University in Johannesburg.

The graduation was led by Prof. Zeblon Vilakazi, the vice-chancellor of Wits University.

It is our pleasure to note that from humble beginnings he has managed to achieve this degree.

This will surely inspire other upcoming youth of Mkhondo, coming from rural areas and farms, that it is possible to achieve what you set for yourself.

It is all through dedication, commitment and hard work. Education is power.

Congratulations Dr Siyabonga Mkahliphi. We thank God for your achievement.

From left to right: Ms Gugu Mgabhi, Mrs Winniet Mkhaliphi (mother), Thuli Mkhaliphi, Dr Siyabonga Mkhaliphi, Thembelihle, Sithembile Nkwanyana & Mr Makhosonke Mkhalipi

Compressed dagga confiscated

David Mkhonta

On Sunday 31 July, Constable Thwala of Emahlathini POE, while conducting a stop and search operation on Emahlathini road, stopped a white Toyota Quantum and searched the passengers.

The driver pulled over to the side of the road and the search began. A 22-year-old male was carrying a plastic bag with 11 medium bags containing compressed dagga.

In his possession the searching officer found 4,648 kilograms of dagga. He was immediately arrested.

The suspect appeared in the Piet Retief Magistrate's Court on 1 August, charged for dealing in dagga. The case was postponed, and he remains in custody.

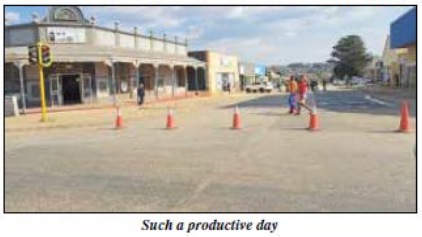
The vigilance of the SAPS officer took almost R6 972-00 worth of dagga off the streets. Well done!

The compressed bags of dagga that was confiscated

Road maintenance in Mark Street

Everyone of the Road Maintenance team was hands on

'Service delivery is our priority' – Mkhondo Local Municipality



Such a productive day

Jessica Burns

On Wednesday the 27th of July the Mkhondo Local Municipaity Road Maintenance team conducted repairs in this very busy street.

The road was blocked off with traffic cones for the time being. All the workers were hands on with the project and tried to complete the task as quickly as possible to ensure that the road could be open once again.

At 12:30 one could already see a major difference as they were attending to the finishing touches.

To all the people travelling on the roads in town, please refrain from cursing or showing anger towards the workers.

Rather be thankful that our roads are getting the necessary attention that they deserve.

NOTICE OF PUBLIC PARTCIPATION FOR PROSPECTING RIGHT AND ENVIRONMENTAL AUTHORIZATION APPLICATION

ISIZULU

Isaziso sesicelo selungelo lokuhlola: **I- Notre Coal (Pty) Ltd** ifake isicelo eMnyangweni Wezimbiwa Namanalia **(DMRE Ref.: MP 30/5/1/1/2/17549 PR)** ngenhloso yokuhlola **amalahle kuzo zonke izingxenye yeFarm Bodestadt 164 HT**, esendaweni **yesiFunda sikaMantshi iMkhondo** esiFundazweni saseMpumalanga.

Isaziso sikhishwa ngokomthetho wokuthuthukiswa kweziMbiwa Nezimbiwam kanye Phethiloli (MPRDA) (uMthetho wama-28 wezi-2002) kanye nemithethonqubo ye-EIA ka-2014, eshicilelwe ngaphansi kwesaziso sikahulumeniesingunombolo 982kuGazethi No. 3822 mhla zingu-8 kuZibandlela kunyaka ka-2014, esachitshiyelwa mhla zingu-7 kuMbasa kunyaka ka-2017, sokuthi i- **Notre Coal (Pty) Ltd** ifake isicelo seLungelo Lokuhlola le migodi eshiwo ngenhla.

ISIMEMO SOKUPHAWULA NOKUVEZA IMIBONO MAYELANA NALE APPLICATIONI

Ukubhaliswa Njengabantu Abanentshisekelo Nabathi-ntekayo: Njengengxenye yenqubo ye-EIA, ikakhulukazi Inqubo Yokubambiqhaza Komphakathi yale phrojekthi ehlongozwayo, Abanentshisekelo Nabathintekayo (I&APs) bayamenywa ukuba babhalise futhi balethe ngomusa noma yikuphi ukuphawula noma ukukhathazeka ukuze kufinyelelwe **kuMnuz Khodani Mathako** esebenzisa imininingwane yokuxhumana enikezwe ngezansi. Umphakathi uyamenywa ukuthi ubuyekeze futhi uphawule ngombiko owuhlaka wokuhlola okuyisisekelo kanye nombiko wohlelo lokulawulwa kwemvelo (EMPr). Uhlaka lokuqala lwe-BAR kanye ne-EMPr izotholakala ukuthi ibuyekezwe isikhathi sezinsuku ezingu-30 kusukela **uMsombuluko zingama-5 kuSepthemba 2022 kuya kuLwesithathu zingama-5 kuMfumfu wezi-2022 (Ngaphandle Kwamaholide Omphakathi).** Lo mbiko uzotholakala kwi- **Mkhondo Local Municipality (33 Mark St, Piet Retief, 2380, South Africa), Piet Retief Public Library (Piet Retief, 2380)**, kanye nekhophi elithambile uma ucelwa kwa-**Singo Consulting (Pty) Ltd**, usebenzisa imininingwane yokuxhumana ye-EAP engezansi.

ENGLISH

Notice of the Prospecting Right Application: Notre Coal (Pty) Ltd has lodged an application with the Department of Mineral Resources and Energy **(DMRE Ref.: MP 30/5/1/1/2/17549 PR)** for the purpose of prospecting Coal on all portions of the **Farm Bodestadt 164 HT**, situated in the Magisterial District of Mkhondo Mpumalanga Province.

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 8 December 2014, amended on 7 April 2017, that **Notre Coal (Pty) Ltd** has applied for Prospecting Right for the abovementioned mineral.

INVITATION TO COMMENT

Registration as Interested & Affected Party: As part of the EIA process, more especially the Public Participation Process (PPP) for this proposed project, Interested and Affected Parties (I&APs) are invited to register and kindly submit any comments or concerns to reach **Mr Khodani Mathako** using the contact details provided below. The public is also invited to review and comment on the Draft Basic Assessment Report and Environmental Management Programme Report (EMPr). The draft BAR & EMPr will be available for review for 30 days calendar period from **Monday the 5th of September 2022 to Wednesday the 5th of October 2022 (Excluding Public Holidays).** This report will be available at **Mkhondo Local Municipality (33 Mark St and De Wet Street, Piet Retief, 2380, South Africa), Mkhondo Public Library (Market St and Retief St, Piet Retief, 2380)** and a soft copy upon request from **Singo Consulting (Pty) Ltd**, using the EAP's contact details below.

EAP Details

Singo Consulting (Pty) Ltd
Office 870, 5 Balalaika Street,
Tasbet park Ext 2, Witbank, 1040

Contact Person: Mr Khodani Mathako
Tel. No.: +27 13 692 0041
Fax No.: +27 86 514 4103
Cell No.: +27 76 054 1408
E-mail: khodani@singoconsulting.co.za

Applicant Details

Plot 106
Road 4, Delmas
Gauteng, 2210

Contact Person: Mr Eddi Aphane
Tel. No.: +27 66 211 8714
Cell No.: +27 66 211 8714
E-mail: eddi@notrecom.co.za

Figure 9: Proof of newspaper publication (Excelsior Nuus/News)

Figure 10: Site notice placement.

WinDeed Database D/O Property - List

HT, 164, MPUMALANGA

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	2022/06/28 11:14	Farm Number	164
Reference	-	Registration Division	HT
Report Print Date	2022/06/28 11:14	Portion Number	-
Farm Name	-	Remaining Extent	NO
Deeds Office	Mpumalanga	Search Source	WinDeed Database

PORTION LIST

Portion	Owner	Title Deed	Registration Date	Purchase Price (R)
0	BODENSTADT BELEGGINGS PTY LTD	T89618/1996	1996/09/23	40 000
1	HIESTERMANN REINHOLD CONRAD KARL	T67699/1988	1988/10/05	56 800
2	WEBER HEIMO CONRAD	T6836/1977	1977/03/04	-
3	HIESTERMANN LUDWIG EWALD	T67698/1988	1988/10/05	62 500

LexisNexis®

0861 946 333
windeed.support@lexisnexis.co.za
search.windeed.co.za | www.windeed.co.za

Figure 11: Windeed search results

- **Consultation and correspondence with I&AP's and stakeholders**

All I&AP registrations and comments that are received from stakeholders are formally recorded in the Comments and Responses Report.

- **Draft Basic Assessment Report (BAR) and Environmental Management Programme (EMPr)**

consultation: Friday the 5th of August 2022- Sunday the 4th of September 2022

Review of Draft Basic Assessment Report (BAR) and Environmental Management Programme report (EMPr): 05th of September 2022- 5th of October 2022

Copies of the Draft BAR and EMPr will delivered and shared via email to all organs of state and relevant authorities, to registered I&APs and upon request from Singo Consulting.

- **Next phases of the public participation process**

All comments to be received from I&APs and organs of state and responses will be included in the Final BAR and EMPr to be submitted to the Competent Authority (CA). Once the BAR and EMPr is submitted, the CA will have 90 days to reach a decision on the application. There after the registered I&APs will be notified of the CA's decision.

6.2. Summary of issues raised by I&APs

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

Table 6: Summary of issues raised

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	Issued Raised	EAPs response to issues as mandated by the proponents	Section and paragraph reference in this report where the issues and or response were incorporated
AFFECTED PARTIES					
Landowners/s					

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	Issued Raised	EAPs response to issues as mandated by the proponents	Section and paragraph reference in this report where the issues and or response were incorporated
Adjacent Landowners					
Lawful occupiers of the land					
Local Municipality					
Mkhondo Local Municipality					
Councillor					

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	Issued Raised	EAPs response to issues as mandated by the proponents	Section and paragraph reference in this report where the issues and or response were incorporated
District Municipality					
Community					
			.		
Organs of state (Responsible for infrastructure that may be affected Roads Department, Eskom, Telkom, DWA					
	X				
	X				

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	Issued Raised	EAPs response to issues as mandated by the proponents	Section and paragraph reference in this report where the issues and or response were incorporated
water & sanitation Department: Water and Sanitation REPUBLIC OF SOUTH AFRICA	X				
environment, forestry & fisheries Department: Environment, Forestry and Fisheries REPUBLIC OF SOUTH AFRICA	X				
COMMISSION ON RESTITUTION OF LAND RIGHTS	X				
agriculture, land reform & rural development Department: Agriculture, Land Reform and Rural Development REPUBLIC OF SOUTH AFRICA	X				

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	Issued Raised	EAPs response to issues as mandated by the proponents	Section and paragraph reference in this report where the issues and or response were incorporated
rural development & land reform Department: Rural Development and Land Reform REPUBLIC OF SOUTH AFRICA	X				
					
	X				
	X				
OTHER INTERESTED AND AFFECTED PARTIES					
	X				

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	Issued Raised	EAPs response to issues as mandated by the proponents	Section and paragraph reference in this report where the issues and or response were incorporated
	X				
	X				
	X				

NB: According to Protection of Personal Information (POPI) Act that was established on the 01st of July 2021, it requires businesses to put in place "appropriate, reasonable technical and organizational measures'' to prevent loss, theft or damage to personal information

ENVIRONMENTAL
ATTRIBUTES

7. The Environmental attributes associated with alternatives

7.1. The Environmental attributes associated with the alternatives

Baseline Environment

7.1.1. Locality

The proposed prospecting right area on all portions of the Farm Bodenstadt 164 HT, situated under the Magisterial District of Mkhondo, Mpumalanga Province. The proposed prospecting area is situated approximately 9.92 km Southeast of Piet Retief, approximately 2.77 km East of Wittenberg, approximately 1.14 km Northeast of Forest Hill Country Lodge Bed and Breakfast, and approximately 16.46 km Southwest of Ngema Tribal Trust (see Figure 12).

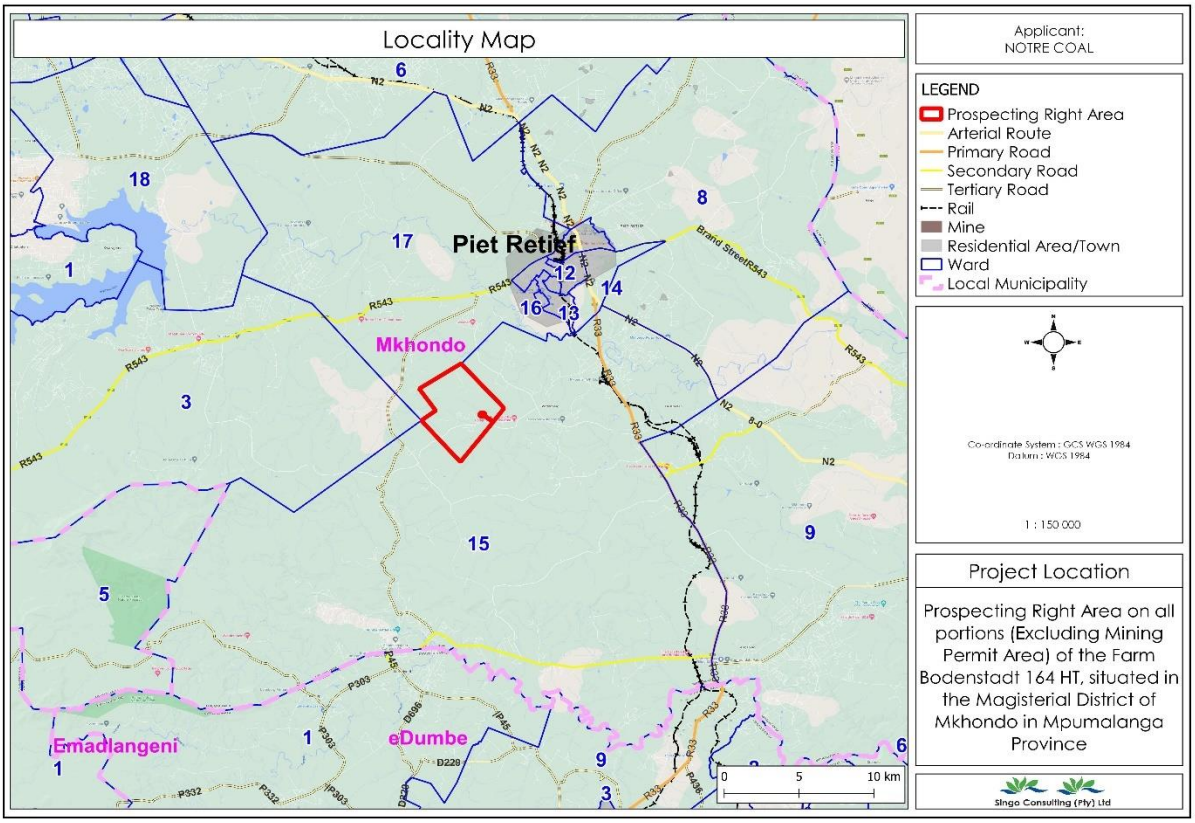


Figure 12: Project locality map

7.1.2. Topography

Topography is the study of the shape and features of land surfaces. The topography of an area could refer to the surface shapes and features themselves, or a description (especially their depiction in maps). Topography is a field of geoscience and planetary science and is concerned with local detail in general, including not only relief but also natural and artificial features, and even local history and culture. This

meaning is less common in the United States, where topographic maps with elevation contours have made "topography" synonymous with relief.

The proposed prospecting area is characterized by flat to steep slopes. This indicate that the proposed area is a mountainous region having valley stream which contributes to the percentage of Freshwater in South Africa. This can be observed on the topology (see Figure 13). The flow of water during rainy seasons flows from the area of high elevation to the area of low elevation as it is indicated or displayed by contour lines.

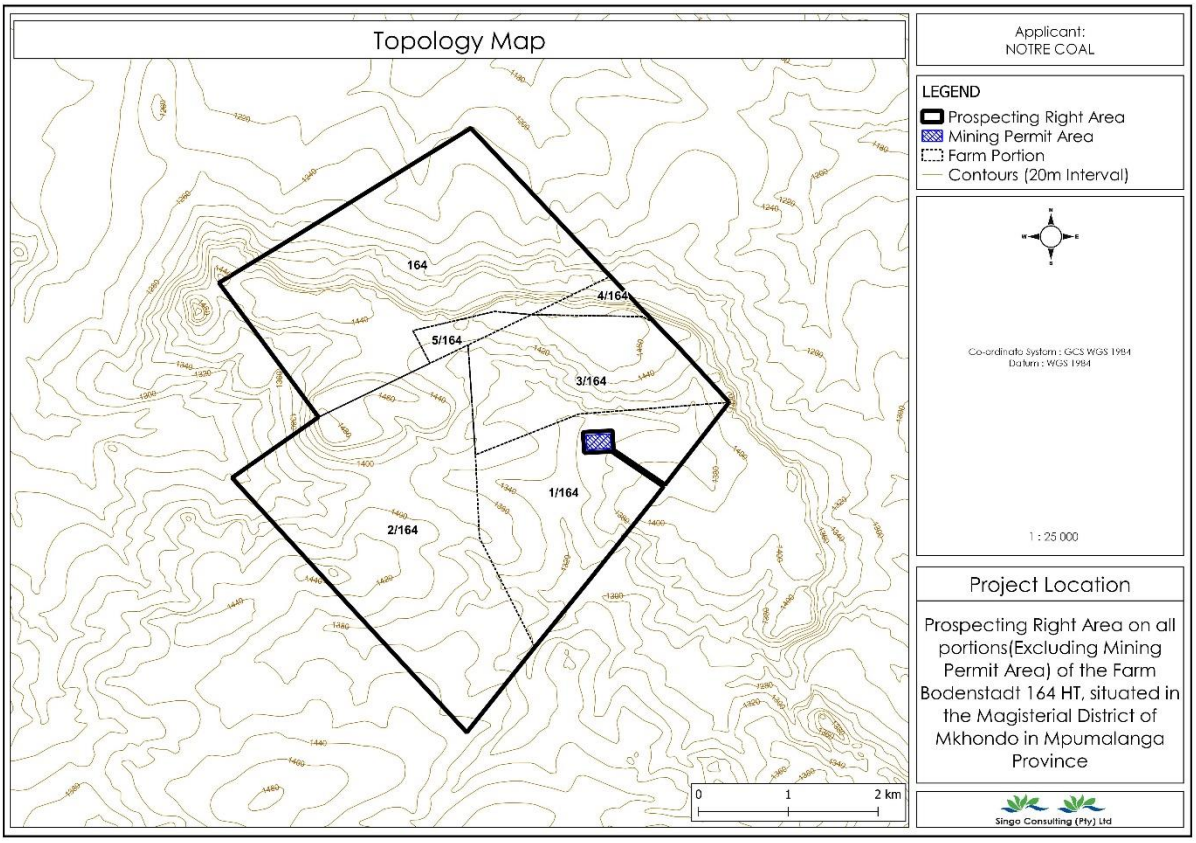


Figure 13: Topographic map of the project area

Photo 1: Shows Topographical futures observed onsite.

7.1.3. Geology

Regional geology

Karoo Supergroup

The sedimentary part of the Karoo Supergroup is subdivided into four main lithostratigraphic units, which from the base up are the Dwyka, Ecca, Beaufort and Stormberg (Molteno, Elliot and Clarens formations) groups (Johnson et al., 1996; SACS, 1980;). These are capped by some 1.4 km of basaltic lavas of the Drakensberg Group (Johnson et al., 1996; Veevers et al., 1994), 8 the extrusion of which is related to the break-up of Gondwana (Cox, 1992). The basement to the Karoo Supergroup fill in both

the MKB and in the northern basins is heterogeneous (Bordy et al., 2004a; Hancox, 1998; Rutherford, 2009) and this heterogeneity plays a significant control on the nature of the fill, particularly during the early phases of the deposition of the Karoo Supergroup.

Dwyka Group

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 9 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 a number of 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.

Local geology

Vryheid ormation

The majority of the economically extracted coal in South Africa occurs in rocks of the Vryheid Formation, which ranges in thickness in the MKB from less than 70.0 m to over 500.0 m. It is thickest to the south of the towns of Newcastle and Vryheid, where maximum subsidence took place (Du Toit, 1918; Cadle, 1975; Whateley, 1980a; Stavrakis, 1989; Cadle et al., 1982) and where the basin was the deepest.

The area of interest falls under the Ermelo Coalfield, and it is dominated by exposures of the Permian Vryheid Formation rocks and the Jurassic aged dolerites. This Coalfield hosts five thinner seams labelled as letter codes A to E with varying thickness between 170 and 350 m (Greenshields, 1986) and are said to be sedimentologically and structurally complex. The coal seams in the Ermelo Coalfield are generally flat-lying to slightly undulating and are separated by fine- to coarse-grained sandstones, siltstones and mudstones. The A, D and E seams are usually too thin to be of economic interest and historically the C Seam group was the most important in and the B Seam group in the Ermelo area.

The E Seam may reach a thickness of up to 3 m and its economic importance is only in isolated patches in the north of the Ermelo Coalfield. The coal is mostly bright and banded, has a competent sandstone roof and floor and is sometimes split by a thin sandstone or carbonaceous fines parting (Greenshields, 1986). In the central and southern part of the coalfield, it is developed as a torbanite or as a carbonaceous siltstone or mudstone unit, and locally becomes too thin for mining (Greenshields, 1986). The coal of the D Seam is of good quality, but in general is too thin (0.1–0.4 m) to be of economic importance (Greenshields, 1986). The coal is not split by partings and consists of large amounts of vitrain and occasional durain bands (Greenshields, 1986; Jeffrey,2005a).

The C Seam group has been one of the main seam packages of economic importance throughout the Ermelo Coalfield. It is usually split by several partings which can lead to miscorrelation of the seams (Greenshields, 1986). In general, the C Seam is subdivided into the C Upper (CU) and C Lower (CL) seams. The CU Seam is well-

developed over the entire coalfield and is often split by partings of different lithologies, such as sandstone, siltstone or mudstone, reaching a composite thickness of 0.7–4 m. It has historically been mined in several collieries of the Ermelo Coalfield, including the Golfview, Usutu, Goedehoop, Union, and Kobar collieries (Greenshields, 1986).

The CL Seam is not developed throughout the entire coalfield, but where developed is between 0.5 and 2 m thick. It locally grades into carbonaceous siltstone and mudstone, which often form the roof of the seam, whereas the floor mostly consists of sandstone. Locally seam floor rolls may negatively influence the thickness of the CL Seam in the Ermelo Coalfield. The B Seam group varies in thickness from 1 to 2.7 m and may be split into three units. Greenshields 1986) terms these the B1, B and BX seams, but they are more commonly referred to as the B Lower.

Karoo Dolerite Suite-Intrusions in the Ermelo Coalfield

The sedimentary rocks of the Karoo Supergroup typically do not yield acceptable pavement aggregates due to the argillaceous nature of the lower (flysch) units and the relatively poor strength arenaceous (mollase) upper units. There is however an extensive network of dolerite intrusions which represent the shallow feeder system to the Drakensberg flood basalt eruptions (183 ± 1 Ma) (Duncan & Marsh, 2006) which erupted at the end of the Karoo sedimentary succession deposition. These intrusions are collectively called the Karoo Dolerite Suite and have been widely, and successfully, used as pavement aggregate sources.

Large areas of the Ermelo Coalfield are affected by Jurassic aged dolerite intrusions, and these intrusive are probably the single most disruptive aspect of the coalfield (Barker, 1999). The dolerites form thin sub-vertical dykes and thick (30–50 m) bedding parallel sills. Several have been identified and mapped based on cross-cutting relationships and petrological characteristics (Visser et al., 1958). In places thin stringers may occur within the coal seam succession creating difficult mining conditions. Both the B4 and the B6 sills are present in this area, with the B6 sill normally underlying the CL Seam. The B4 sill often breaks through the coal seams to surface and causes dislocations of the coal seams into blocks. Associated with these intrusions is faulting that causes displacement of the coal seams (Greenshields, 1986). Faulting occurs with increasing frequency towards the south of the coalfield; with

displacements of up to 250 m. Faults are almost without exception intruded by dolerite.

Pietermaritzburg Formation

Griesbach first coined the term "Pietermaritzburg Shale" in 1871 to describe the Lower Ecca Shales. Du Toit (1918) claimed that the Lower Ecca Beds (Shales) were the equivalent of the "well-known soft blue Pietermaritzburg shale," and SACS (1980) designated this unit as the Pietermaritzburg Shale Formation. However, the term "Pietermaritzburg Shale Formation" is no longer used in SACS's official names, so it will be referred to as the Pietermaritzburg Formation

The unit is almost entirely composed of dark grey laminated siltstone and mudstone with subordinate sandstone and has a maximum thickness of more than 400 m. (Du Toit, 1954). Its upper boundary with the overlying Vryheid Formation is gradational, and it is defined as the horizon above which the sandstone to fines ratio exceeds 0.5 (SACS, 1980). The Pietermaritzburg Formation contains no coal seams. The Vryheid Formation rests unconformably on basement in the northern parts of the coalfield, where neither the Pietermaritzburg Formation nor the Dwyka Group are developed. It disconformably overlies the Dwyka Group or the Pietermaritzburg Formation (Ecca Group) elsewhere.

The Pietermaritzburg Formation is not exposed in the Ermelo Coalfield and has only been partially intersected in boreholes drilled during exploration programs. According to Greenshields (1986), it is thinly developed or absent in the Ermelo Coalfield's center but can reach a thickness of up to 75 m in the coalfield's south. In his field area, Van Alphen (1990) records a thickness of 12 m for the Pietermaritzburg Formation. Wakerman (2003) reports thicknesses ranging from 3 to 48 m for the Sheepmoor project area. Where the Pietermaritzburg Formation strata are present, they effectively blanket and fill the glacial palaeotopography, and as a result, topography does not have the strong control that it does in the Witbank and Highveld coalfields.

Alluvium

Alluvium is loose, unconsolidated soil or silt that has been eroded, changed in some way by water, and then redeposited in an area that is not marine. Various elements including silt, clay, tiny particles, and sand make up most of the alluvium. It is referred

to as "cover" because these sediments conceal the underlying bedrock and are quite recent (Quaternary in age). The ultimate source of alluvium is weathering and erosion of bedrock like basalt or granite, as well as other unconsolidated sedimentary deposits like colluvium (deposited by gravity), loess, or eolian sand (deposited by wind), or alluvium itself. Important alluvial characteristics include composition, texture, and landform, which eventually affect the characteristics of alluvial soils. (Boettinger, 2005).

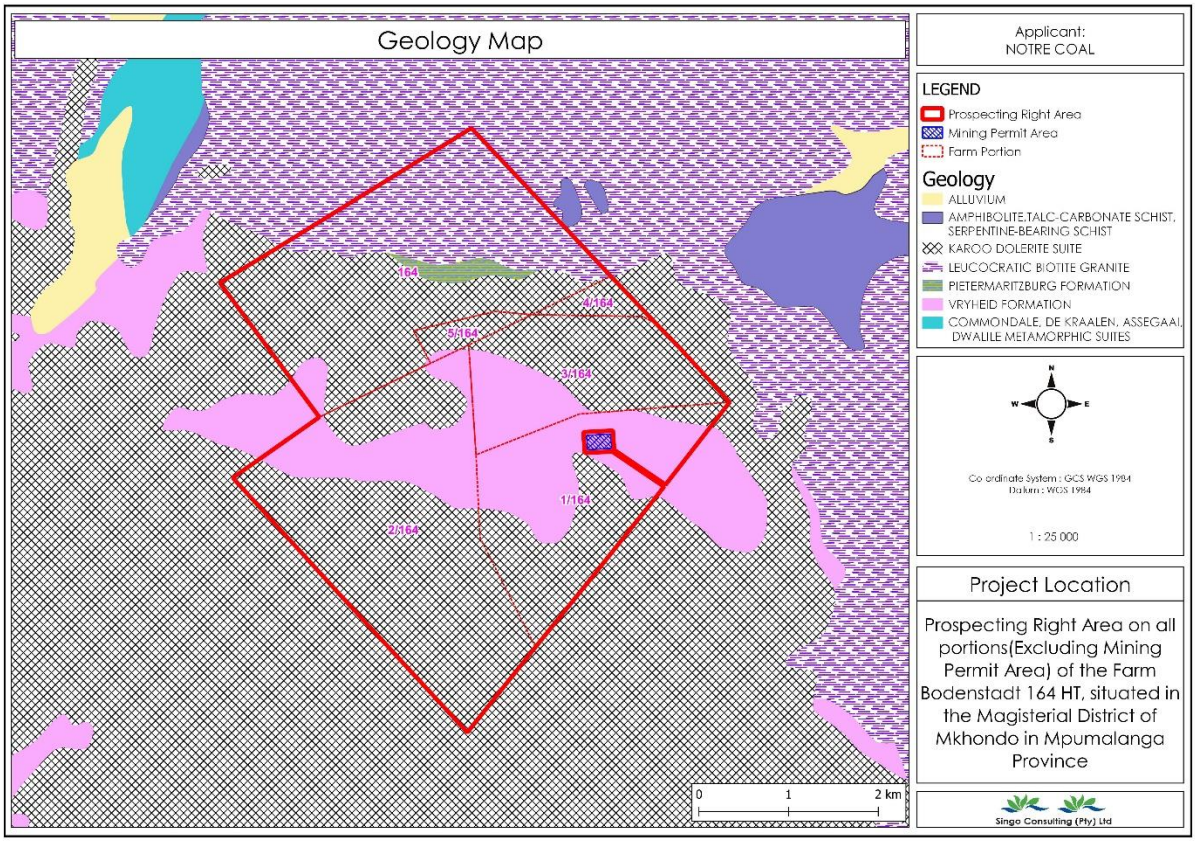


Figure 14: Geology map for the proposed project area

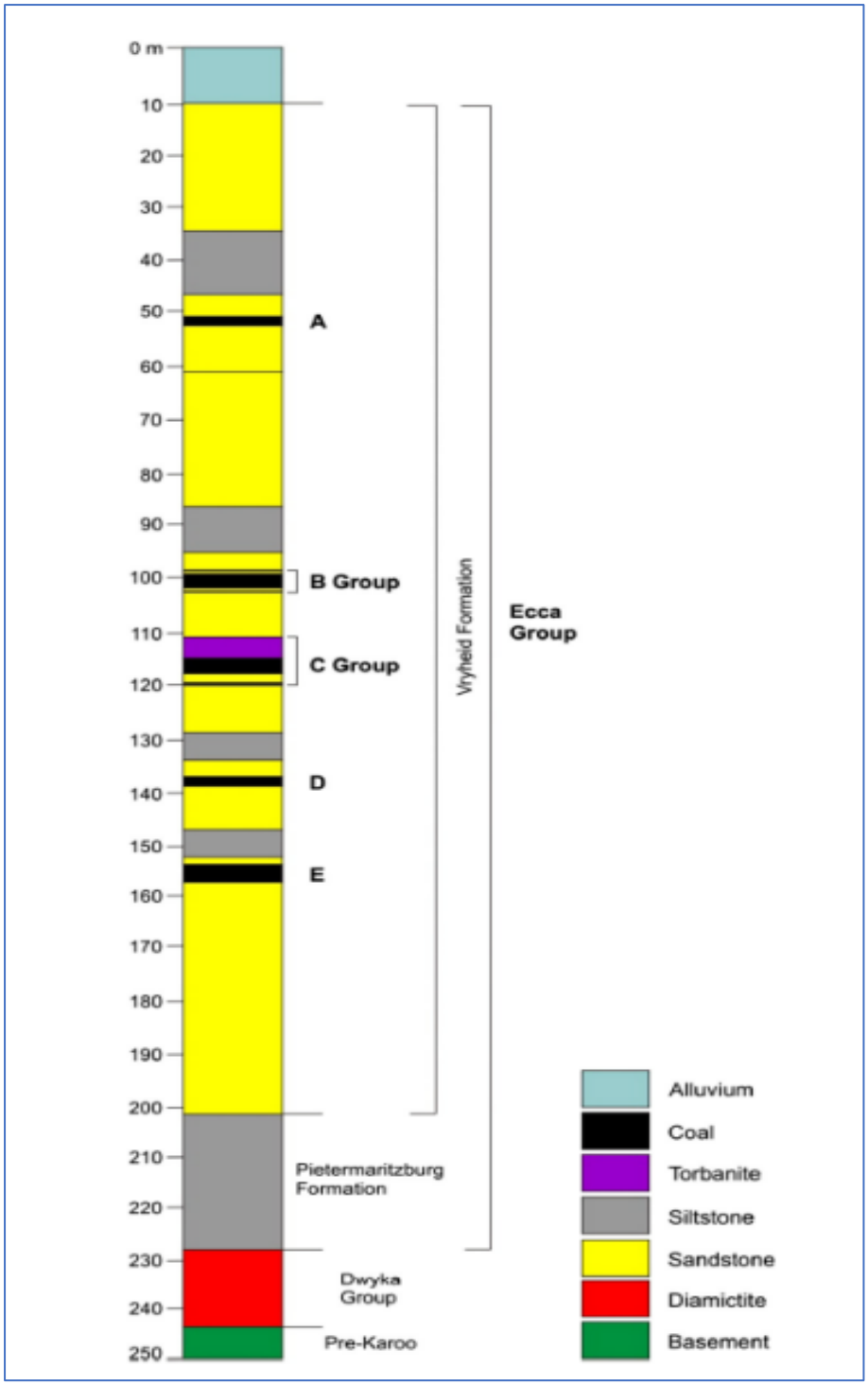


Figure 15: Lithostratigraphy of Ermelo coalfield (adopted from Hancox & Goltz, 2014)

Coal qualities

The coal seams in the Ermelo Coalfield are generally flat-lying to slightly undulating and as for the Witbank and Highveld coalfields, are separated by fine- to coarse-grained sandstones, siltstones and mudstones. The A, D and E seams are usually too thin to be of economic interest and historically the C Seam group was the most important in the Carolina– Breyton area, and the B Seam group in the Ermelo area. Rapid seam thickness variations characterise the coalfield.

The E Seam may reach a thickness of up to 3 m but is of economic importance only in isolated patches in the north of the Ermelo Coalfield (Greenshields, 1986). The coal is mostly bright and banded, has a competent sandstone roof and floor and is sometimes split by a thin sandstone or carbonaceous fines parting (Greenshields, 1986). In the central and southern part of the coalfield, it is developed as a torbanite or as a carbonaceous siltstone or mudstone unit, and locally becomes too thin for mining (Greenshields, 1986). The coal of the D Seam is of good quality, but in general is too thin (0.1–0.4 m) to be of economic importance (Greenshields, 1986). The coal is not split by partings and consists of large amounts of vitrain and occasional durain bands (Greenshields, 1986; Jeffrey, 2005a).

The C Seam group has been one of the main seam packages of economic importance throughout the Ermelo Coalfield. It is usually split by several partings which can lead to miscorrelation of the seams (Greenshields, 1986). In general, the C Seam is subdivided into the C Upper (CU) and C Lower (CL) seams. The CU Seam is well-developed over the entire coalfield and is often split by partings of different lithologies, such as sandstone, siltstone or mudstone, reaching a composite thickness of 0.7–4 m. It has historically been mined in several collieries of the Ermelo Coalfield, including the Golfview, Usutu, Goedehoop, Union, and Kobar collieries (Greenshields, 1986), as well as more recently at the Ferreira opencast mine.

The CL Seam is not developed throughout the entire coalfield, but where developed is between 0.5 and 2 m thick. It locally grades into carbonaceous siltstone and mudstone, which often form the roof of the seam, whereas the floor mostly consists of sandstone. It has historically been mined at the Savmore, Anthra, Ermelo, Golfview, and Wesselton mines (Greenshields, 1986; Paulson and Stone, 2002). Several other mines in and around the towns of Ermelo and Breyten have at times extracted coal from this seam including the Spitzkop, Bellevue, Grenfell, Usutu, Consolidated

Marsfield, and Union collieries. The CL was also the main target seam at CCL's Ferreira opencast mine, and it is also currently being mined underground at their Penumbra mine, where it occurs at an average depth of around 100 m. It is the thickest of all the coal seams intersected here, reaching a thickness of more than 15 1.5 m over large parts of the project area. Locally seam floor rolls may negatively influence the thickness of the CL Seam in the Ermelo Coalfield.

The B Seam group varies in thickness from 1 to 2.7 m and may be split into three units. Greenshields (1986) terms these the B1, B and BX seams, but they are more commonly referred to as the B Lower Marsfield collieries, and was the seam mined at CoAL's Mooiplaats Colliery, where it is between 0.6 and 2.87 m thick. The BU was mined at the end of the mine life at the old Usutu Colliery, and the BL at the Ferreira mine. At Mooiplaats the BU Seam occurs at depths of between 90 and 140m and ranges in thickness between 0.15 m in the southeast to over 3 m in the north.

The A Seam occurs only in the northern and central parts of the coalfield, where it varies in thickness from 0 to 1.5 m (Greenshields, 1986). Wakerman (2003) provides a weighted average thickness of 0.94 m for the seam in the Sheepmoor exploration area. Over most of the Ermelo Coalfield however this seam has been removed by erosion. Like in the Witbank and Highveld coalfields for the No. 5 Seam, the A Seam is overlain by a green glauconitic sandstone that forms a useful marker horizon and denotes the transition from a fluvio-deltaic to a marine depositional environment.

7.1.4. Soil

Figure 16 depicts that the proposed area is covered with Association of classes 13 and 16: undifferentiated shallow soils and land classes and freely drained, structureless soils. Structureless soils have no observable aggregation and no definite arrangement of the soil particles. Clay soils may also be described as structureless when the particles form a massive structure with no small aggregates within. This is more commonly seen in finer textured soils like clays, particularly when they have been worked wet or exposed to heavy loads under wet conditions. The soil classes in the proposed area can be described based on their soil depth, soil drainage, erodibility, and natural fertility.

Topsoil will not be removed as there are no mining activities to be conducted onsite. No foundation excavations will be needed for fuel storage depot as fuel will be

transported to site daily during the drilling phase. The boreholes footprint will be minimal. The pathways to be created to provide access of the drill rig can cause compaction of the soil. However, the pathways are to be stripped according to the stripping guideline and management plan when the soil is dry (as far as practically possible), to minimize the compaction. It is highly recommended to do rehabilitation after the drilling phase of the applied minerals has ceased.

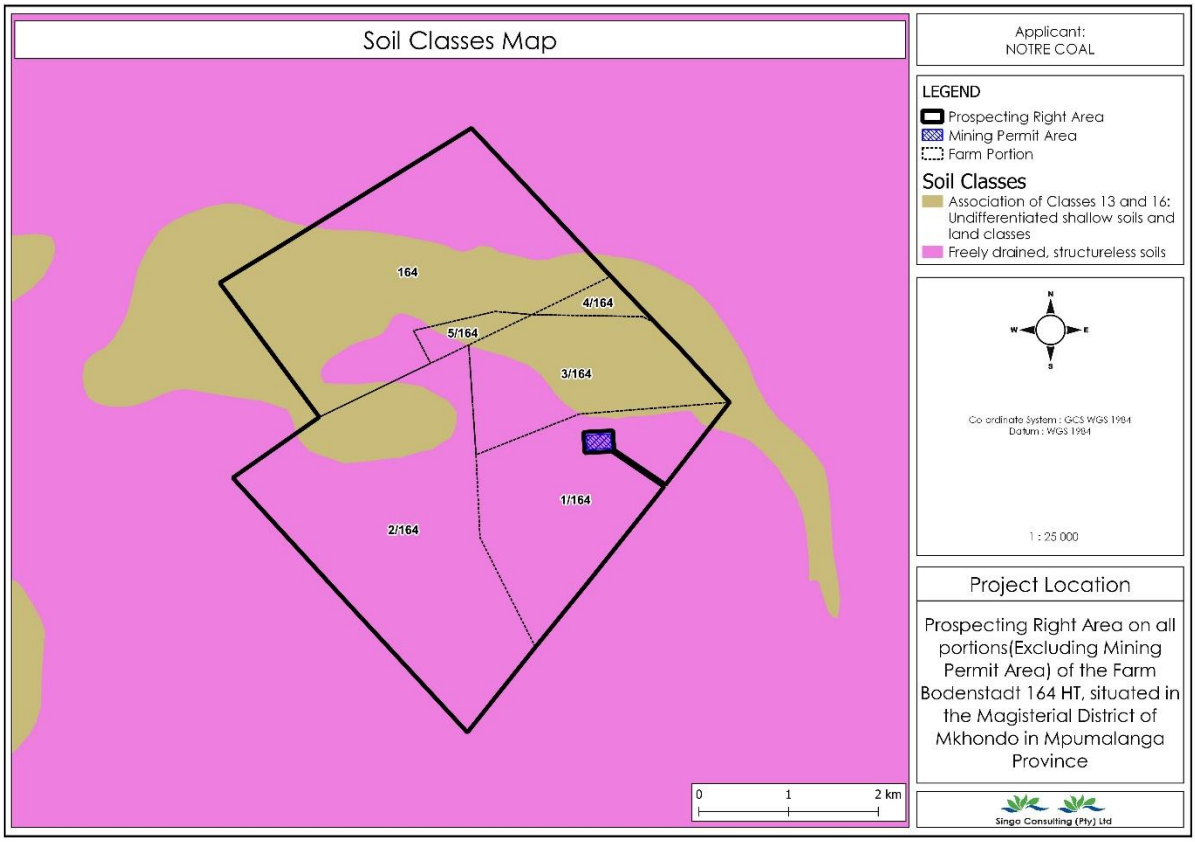


Figure 16: soil classes of the project area

Photo 2: Soils discovered onsite

7.1.5. Climate

eMkhondo has a Temperate highland tropical climate with dry winters climate (Classification: Cwb) The climatic conditions described in this section are based on the W5E009 weather station, which is the closest to the project site, at about 18 km southwest. Over the course of the year, the temperature typically varies from 0,1°C to 32°C. Table below shows the monthly minimum, maximum and average temperatures for January 2016 - December 2018. December is the hottest month with temperatures reaching up to 32°C, followed by the months October, November, and January ranging from 30°C – 30,5 °C. July is the coldest month, with temperatures as low as 0.1°C.

In eMkhondo, the wet season is comfortable and partly cloudy, and the dry season is cool and mostly clear. The mean annual temperature of the proposed site ranges

from 0.1 degrees to 2 degrees and 2.1 to 4 degrees (see Figure 17). The monthly rainfall in the project region varies greatly depending on the season. The monthly rainfall in the project region varies greatly depending on the season. The mean average annual rainfall ranges from 601 to 800mm (see Figure 18).

MONTHLY MINIMUM, MAXIMUM AND AVERAGE TEMPERATURES (°C) 2016 – 2018												
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Minimum	8.8	10.8	8.6	5.6	3.2	1.6	0.1	1.1	3.6	3.1	5.0	9.4
Maximum	30.5	29.4	27.8	27.1	21.2	19.4	19.0	23.1	27.2	30.2	30.0	32.0
Average	19.2	19.4	18.8	16.3	12.2	10.2	9.4	12.1	15.8	16.1	18.0	20.0

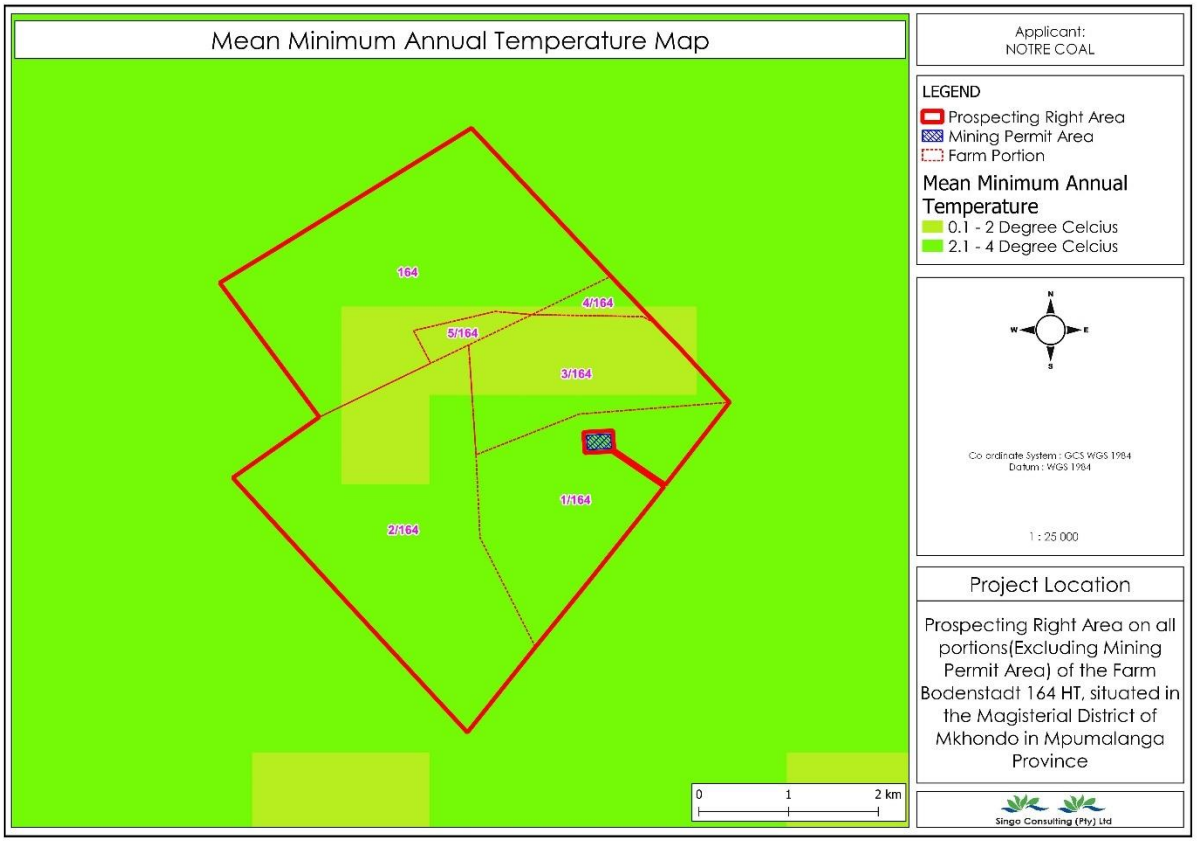


Figure 17: Mean annual temperature of the prospecting right area.

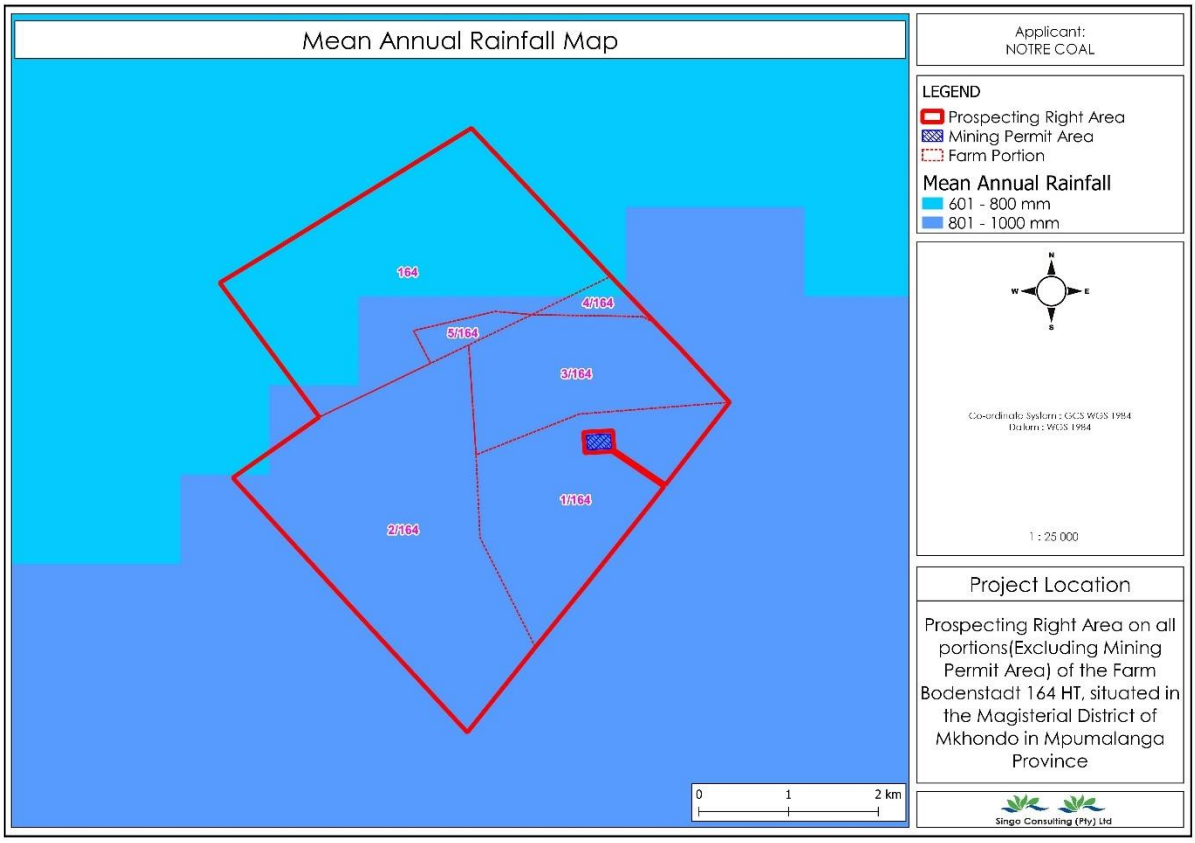


Figure 18: Mean annual rainfall of the prospecting right area.

7.1.6. Hydrology

The hydrology surrounding the proposed area is very importance during prospecting. In this context hydrology is all the surface waters appearing within and nearby the proposed project area, where a potential to be impacted upon by the project exist. Figure 19 illustrates that the following water bodies exists:

- Non-perennial river
- Perennial river
- Depression wetland
- Channeled valley bottom wetland
- Floodplain
- Seep

The prospecting right activities should take place during dry seasons when the water percentages are extremely low. Extreme caution should be taken during prospecting, owing to the river existing nearby and within the project area. All the wetlands, perennial and non-perennial rivers will be buffered as a no-go area and a 100m buffer zone should apply. No prospecting activities will be conducted on the buffer zone.

Surface water

The project area is in the Inkomati-Usuthu and Pongola-Mtamvuna Management Areas (WMA). The quaternary catchment of the project area is W51C and W51D (see Figure 21). The WR2012 study, presents hydrological parameters for each quaternary catchment including area, mean annual precipitation (MAP) and mean annual runoff (MAR). Based on the WR2012 study, the project area falls within the quaternary catchment of W51C and W51D.

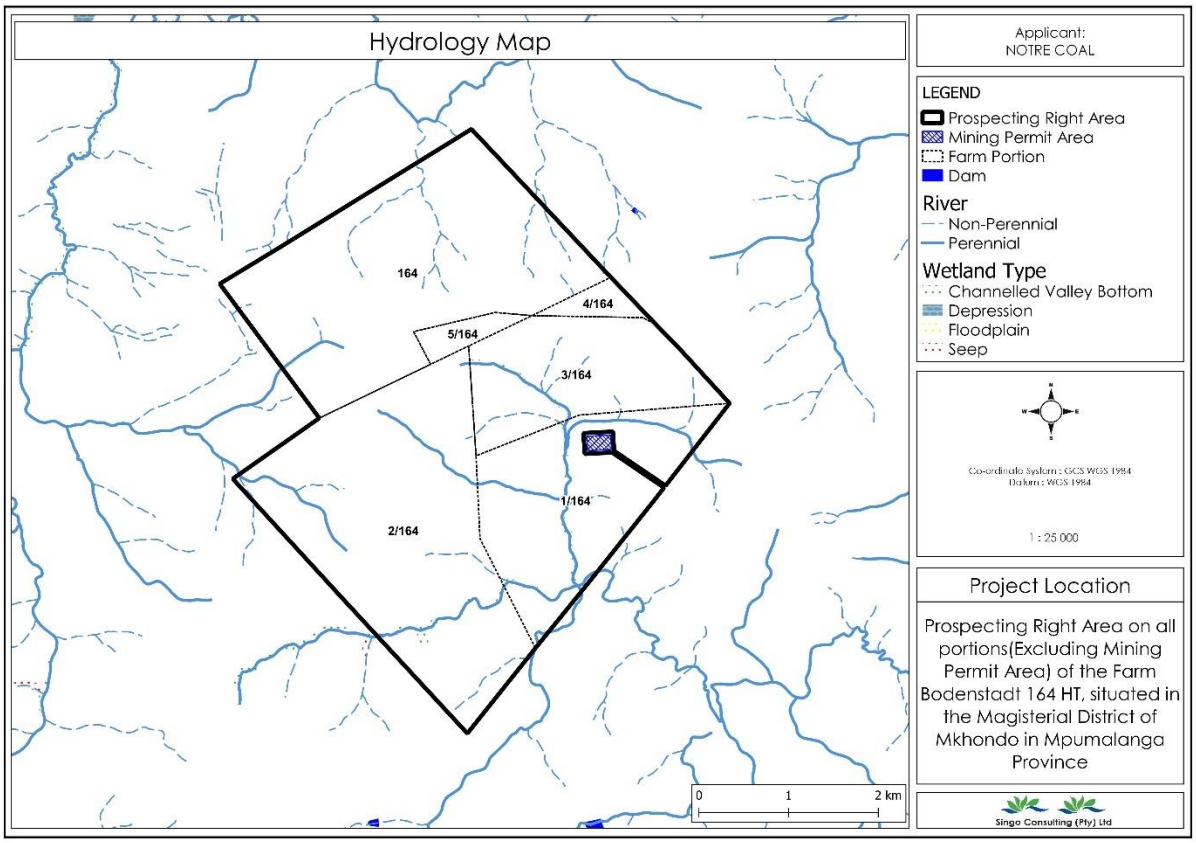


Figure 19: Hydrology map *of the proposed project area*

Photo 3: Perennial River observed onsite

These are important natural water resources that should not be disturbed by anthropogenic activities. There will be measures and guidelines put in place that will protect the water resources in this area to ensure optimal conservation of water. The prospecting right will take place during dry seasons where the water percentages are exceptionally low in the water bodies. Drilling activity will not be conducted near the water resources, the exploration geologists will be advised to drill and sample away from rivers and wetlands onsite. A 100m buffer zone will be applied around the water bodies present within the prospecting right area to avoid unnecessary disturbance of water resources, hence the water resources contribute to the percentage of freshwater in South Africa.

Figure 20: Example of Absorbent spill kits to be used.

Upon completion of the drilling each borehole, the only rehabilitation that will specifically be required is borehole capping and revegetation: Drill holes must be permanently capped as soon as is practicable. The exploration boreholes will be cased during drilling, boreholes that will not be required for monitoring will be properly rehabilitated by cap sealing the borehole after drilling to prevent possible crossflow and contamination between aquifers. Water samples will be taken from selected monitoring boreholes by using approved sampling techniques and adhering to recognized sampling procedures by a qualified hydrogeologist.

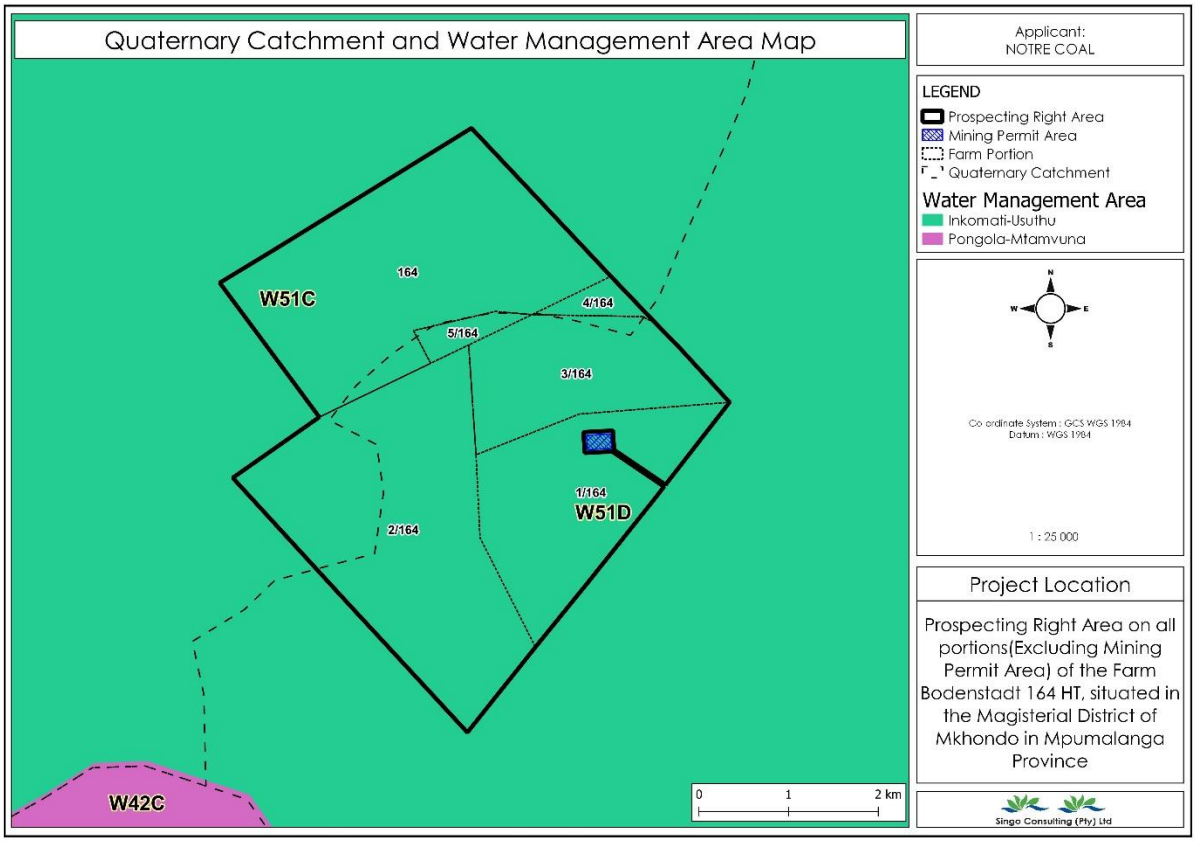


Figure 21: Quaternary Catchment and Water Management Areas of the proposed project area

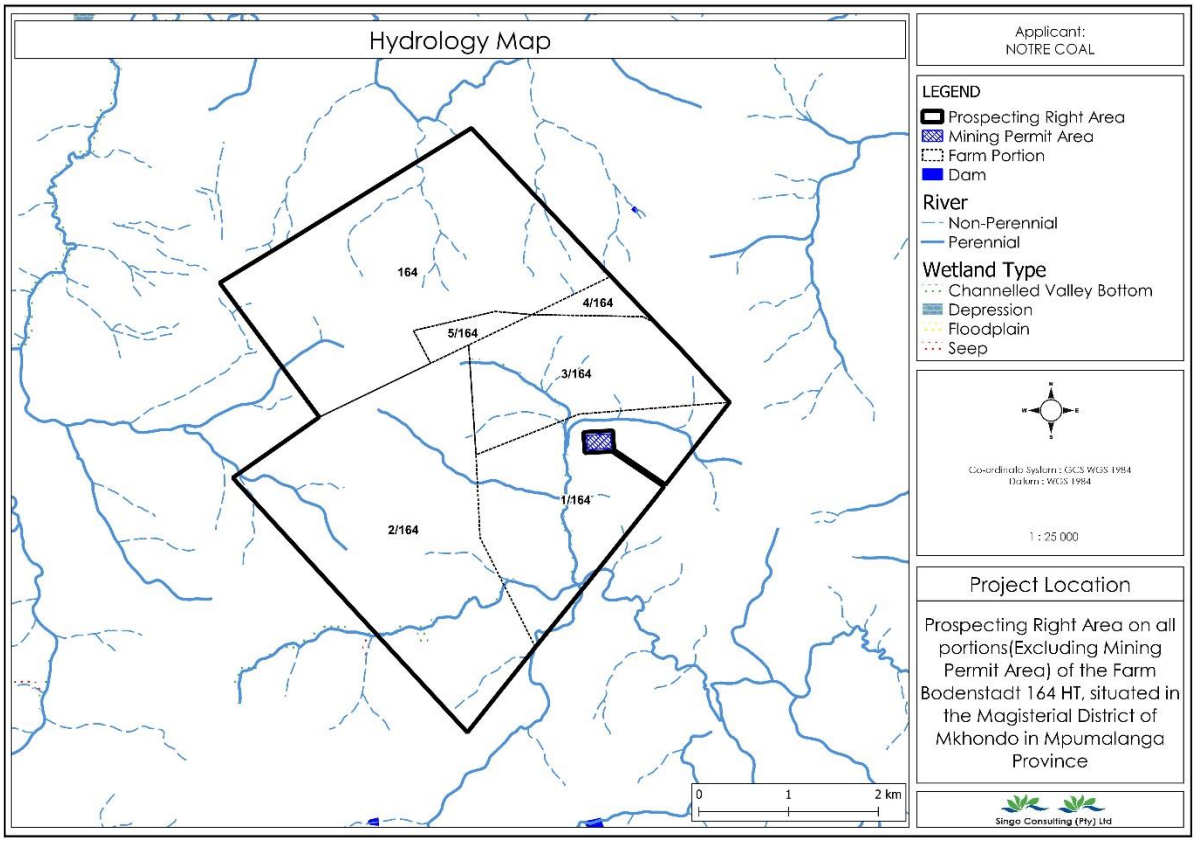


Figure 22: Hydrology map of the project area

Drilling and sitting of boreholes.

A 100 m buffer will be maintained between the identified wetlands and rivers (see Figure 23). The exploration boreholes will be drilled one at a time throughout the proposed project area (see Figure 24). The drill site will be fenced off, cleared of debris, and drilled. Drilling will be followed immediately by rehabilitation. After a hole is drilled, the site is rehabilitated, and the drilling crew moves on to the next planned hole. This procedure will be repeated until all the holes are filled.

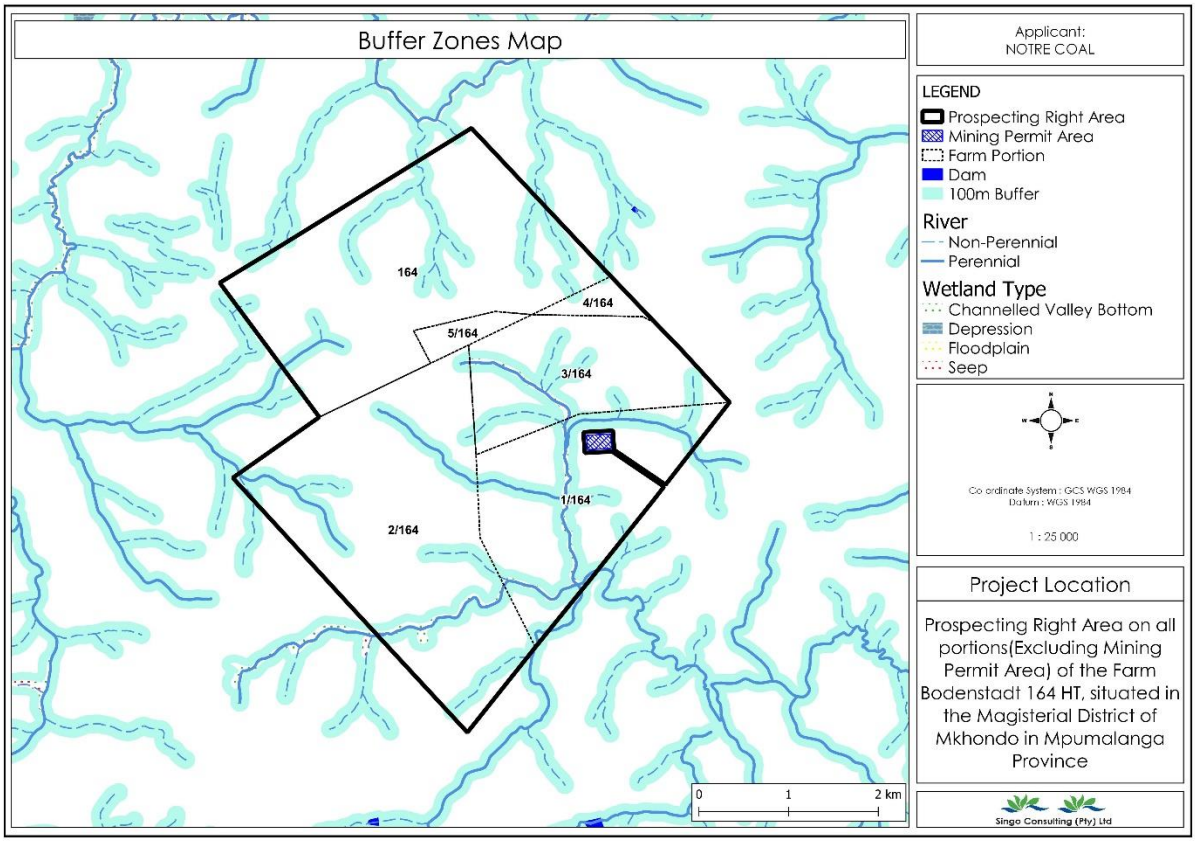


Figure 23: Buffer zone map for the project area

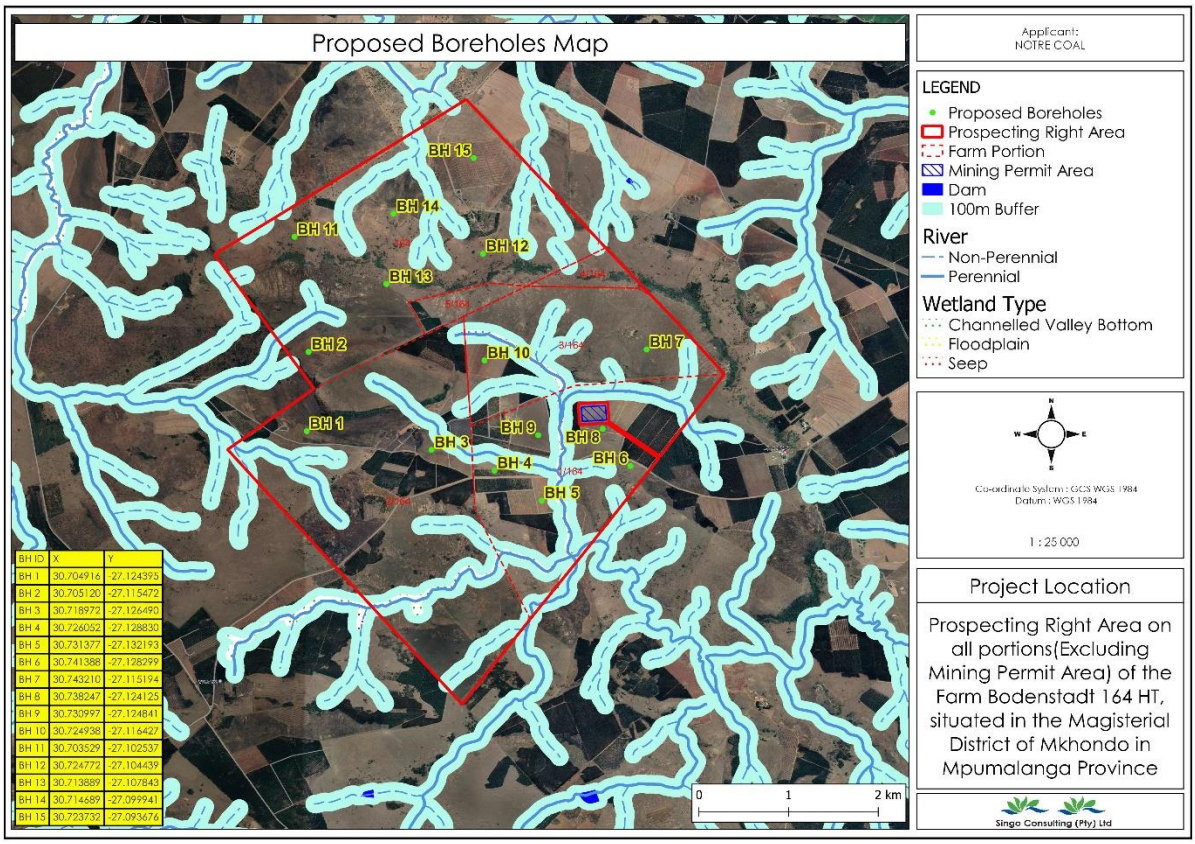


Figure 24: Proposed borehole map on the project area

7.1.7. Biodiversity

The terrestrial biodiversity map depicts that the proposed project area has Critical Biodiversity Irreplaceable, CBA Optimal, Ecological Support Area (ESAs) Local Corridor, Other Natural Areas, heavily and moderately modified area (see Figure 25). ESAs are area that support the ecological functioning of protected areas or CBAs or provide important ecological infrastructure, ESAs can be maintain in at least semi-natural ecological condition, maintain natural habitat, and rehabilitate modified areas unless the specific species requires the modified habitat. Therefore, the land uses may compromise the biodiversity objective and that are only permissible under certain conditions. The screening report shows that the proposed area is of very high sensitivity with the following futures: Critical biodiversity area 1, Critical biodiversity area 2, Ecological support area: local corridor, Protected Areas Expansion Strategy, Strategic Water Source Areas, and Vulnerable ecosystem (see Figure 26).

Approximately 0,9 ha of vegetation will be cleared during prospecting, however, care will be taken to avoid relocation and/or disturbance of any protected species identified. The cleared area with vegetation will be rehabilitated per drill site. Though prospecting activities are of a low impact. Sensitivity of the farm has been noted and will be kept in close supervision during the prospecting phases. Drilling will be conducted only on the heavily and moderately modified areas of the farm to prevent unnecessary disturbance of sensitive areas. Rehabilitation will take place on each drill

site as drilling activities commences, an ECO will be appointed to overlook the drilling activities.

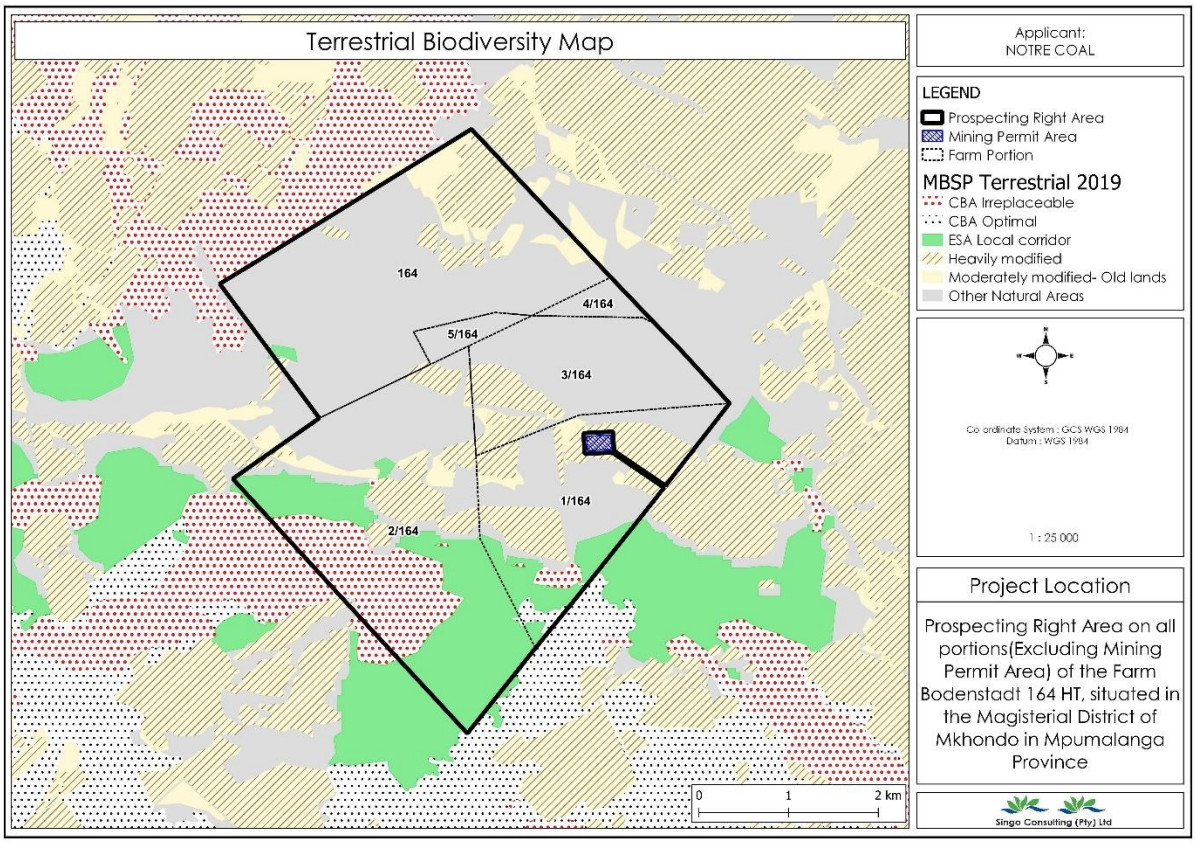
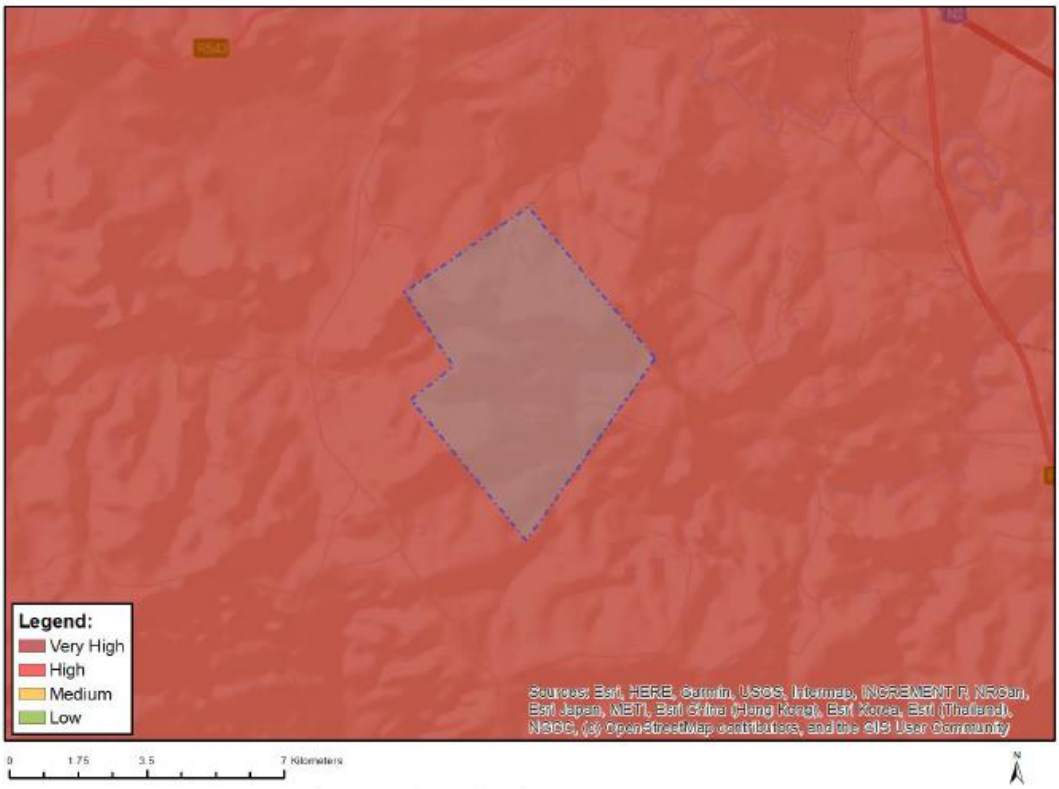


Figure 25: Biodiversity map of the project area

MAP OF RELATIVE TERRESTRIAL BIODIVERSITY THEME SENSITIVITY



Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
X			

Sensitivity Features:

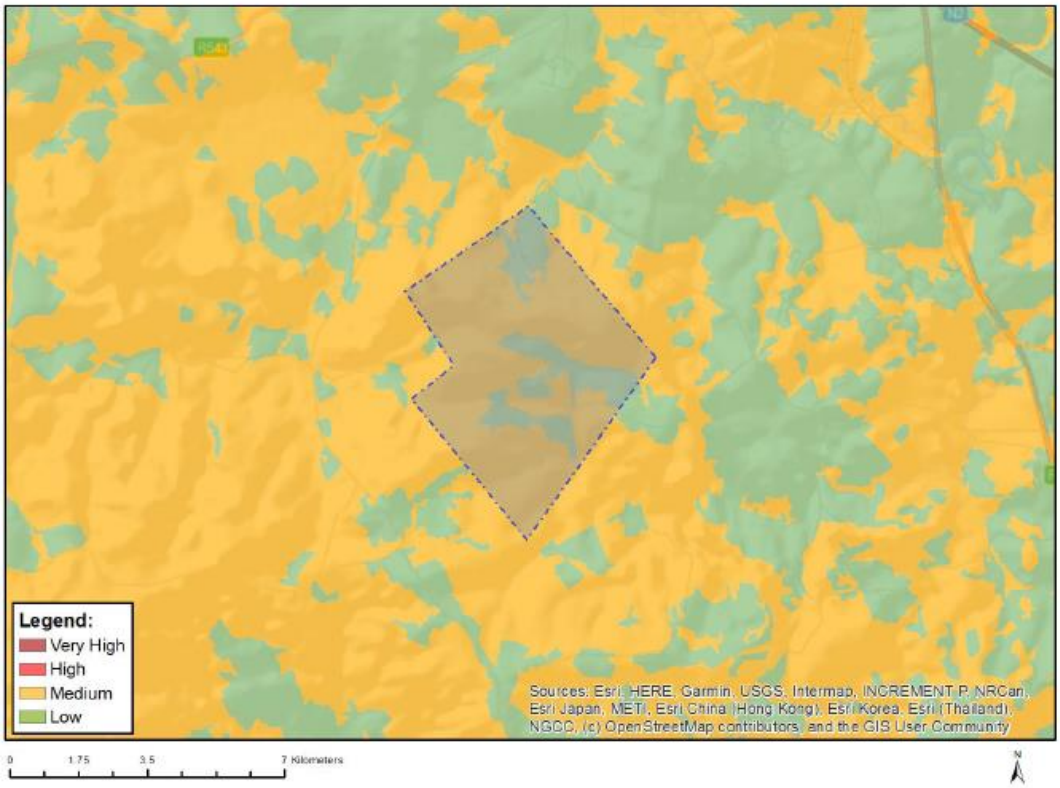
Sensitivity	Feature(s)
Very High	Critical biodiveristy area 1
Very High	Critical biodiveristy area 2
Very High	Ecological support area: local corridor
Very High	Protected Areas Expansion Strategy
Very High	Strategic Water Source Areas
Very High	Vulnerable ecosystem

Figure 26: Map of relative terrestrial biodiversity theme sensitivity

Floral Assessment

The screening report shows that the proposed project area is of medium sensitivity with the following floral species: *Dracosciadium italue, Lutononis amajubica, Leucosspermum gerrardii* and *Gerbara aurantiaca* (see Figure 27). During site assessment, the floral species of medium sensitivity were not observed onsite.

MAP OF RELATIVE PLANT SPECIES THEME SENSITIVITY



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

Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
		X	

Sensitivity Features:

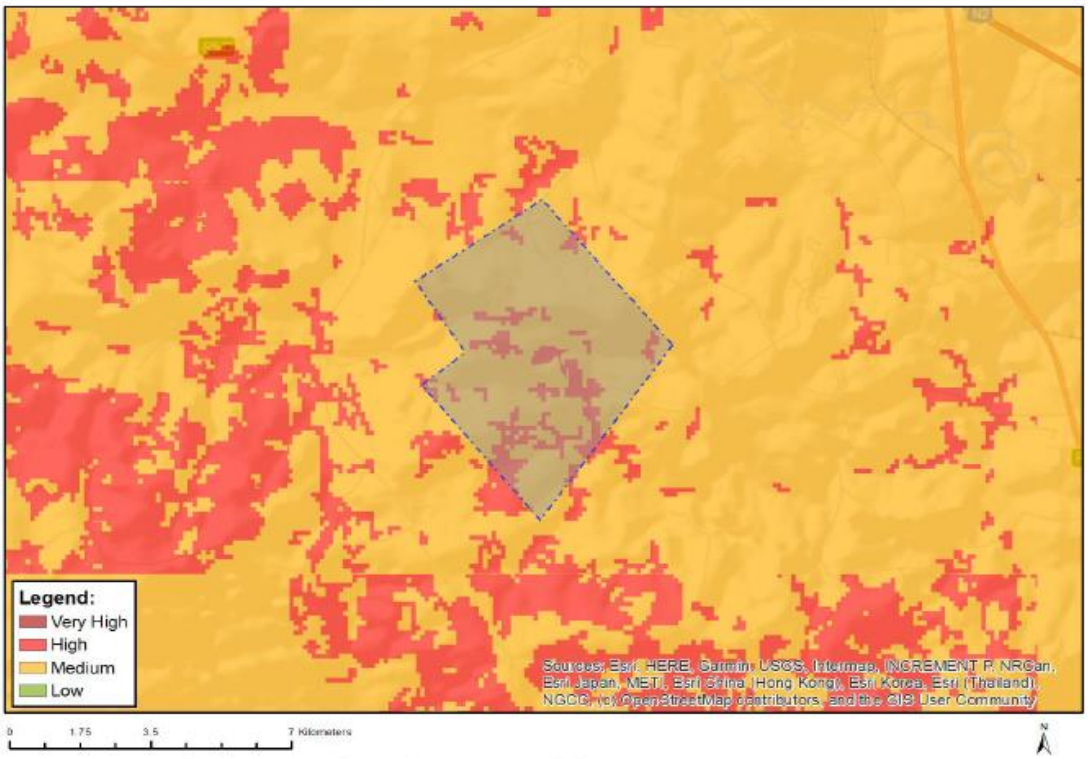
Sensitivity	Feature(s)
Low	Low Sensitivity
Medium	Sensitive species 1252
Medium	Melanospermum italae
Medium	Sensitive species 1003
Medium	Dracosciadium italae
Medium	Lotononis amajubica
Medium	Leucospermum gerrardii
Medium	Sensitive species 691
Medium	Sensitive species 998
Medium	Sensitive species 1219
Medium	Sensitive species 1152
Medium	Sensitive species 313
Medium	Gerbera aurantiaca

Figure 27: Map of relative plant species theme sensitivity

Faunal Assessment

The screening report shows that the proposed project area is of medium to high sensitivity with the following faunal species: *Aves-Balearica regulorum, Aves-Stephanoaetus coronatus, Aves-Eupodotis senegalensis, Aves-Neotis denhami, Aves-Sagittarius serpentarius, Aves-Geronticus Calvus, Mammalia-Ourebia ourebi ourebi, Mammalia-Chrysospalax villosus, Invertebrate-Clonia lalandei, Invertebrate Doratogonus praealtus* (see Figure 28*)*. During site assessment, the following faunal species of medium to high sensitivity were not observed onsite.

MAP OF RELATIVE ANIMAL SPECIES THEME SENSITIVITY



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

Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
	X		

Sensitivity Features:

Sensitivity	Feature(s)
High	Aves-Balearica regulorum
High	Mammalia-Ourebia ourebi ourebi
Medium	Aves-Stephanoaetus coronatus
Medium	Aves-Eupodotis senegalensis
Medium	Aves-Neotis denhami
Medium	Aves-Sagittarius serpentarius
Medium	Aves-Geronticus calvus
Medium	Mammalia-Chrysospalax villosus
Medium	Mammalia-Ourebia ourebi ourebi
Medium	Invertebrate-Clonia lalandei
Medium	Invertebrate-Doratogonus praealtus

Figure 28: Map of relative animal species theme sensitivity

7.2. Cultural and Heritage

The screening report shows that the proposed project area is of low sensitivity for archeological and cultural heritage features (see Figure 29). During site assessment, no archeological and cultural heritage features were observed onsite. If archeological and cultural and heritage features might be identified onsite during prospecting, SAHRA will be notified immediately.

Prospecting will be undertaken in phases; the first phase being a desktop assessment, followed by drilling. Based on the outcome of these activities, desktop study and potential drill sites will be determined. Potential heritage impact will only occur once desktop study has been used to identify sites for drilling. If cultural and heritage features might be identified onsite during drilling, the area will be demarcated and regarded as no go area. Heritage Impact Assessment will be conducted to identified all the heritage features which might be existing onsite. A 100m buffer zone will be established from the identified cultural and heritage features and drilling will be conducted 100m away from cultural and heritage features.

MAP OF RELATIVE ARCHAEOLOGICAL AND CULTURAL HERITAGE THEME SENSITIVITY

Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
			X

Sensitivity Features:

Sensitivity	Feature(s)
Low	Low sensitivity

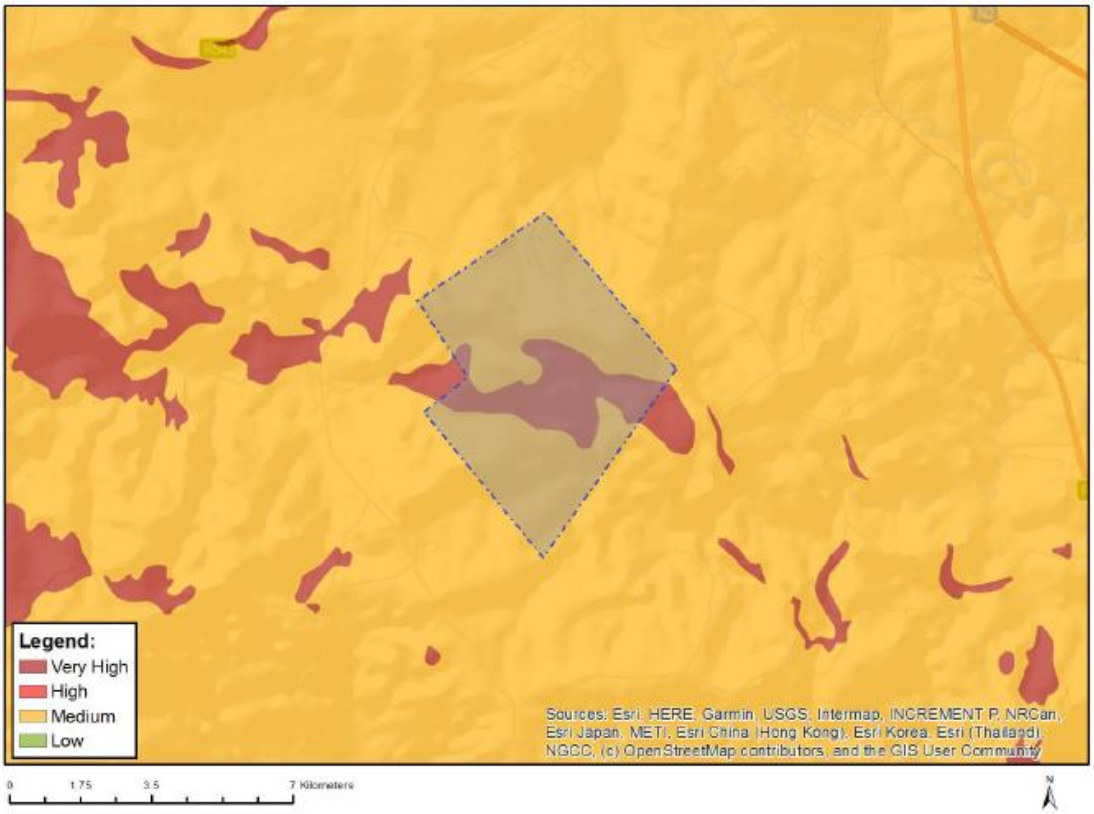
Figure 29: Map of relative Archeological and cultural heritage theme sensitivity

7.3. Paleontological Assessments

Paleontology is the scientific study of life that existed prior to, and sometimes including, the start of the Holocene Epoch (roughly 11,700 years before present). It includes the study of fossils to classify organisms and study interactions with each other and their environments. Paleontology lies on the border between biology and geology but differs from archaeology in that it excludes the study of anatomically modern humans. It now uses techniques drawn from a wide range of sciences, including biochemistry, mathematics, and engineering. The screening report shows that the proposed project

area is of very high sensitivity for Paleontology (see Figure 30). During assessment no paleontological features observed onsite. If paleontology futures might be identified during drilling the area will be demarcated and regarded as no go areas. No drilling will be conducted in areas where there are paleontological futures.

MAP OF RELATIVE PALEONTOLOGY THEME SENSITIVITY



Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
X			

Sensitivity Features:

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

Figure 30: Map of relative paleontology theme sensitivity

7.4. Land Capability

The proposed project area is an arable and grazing land (see Figure 31). Arable land is any land capable of being ploughed and used to grow crops and grazing land for

cattle and sheep. The screening report shows that the proposed project area is of medium to very high sensitivity for agriculture. During site assessment, the proposed area was used for plantation (see photo 4).

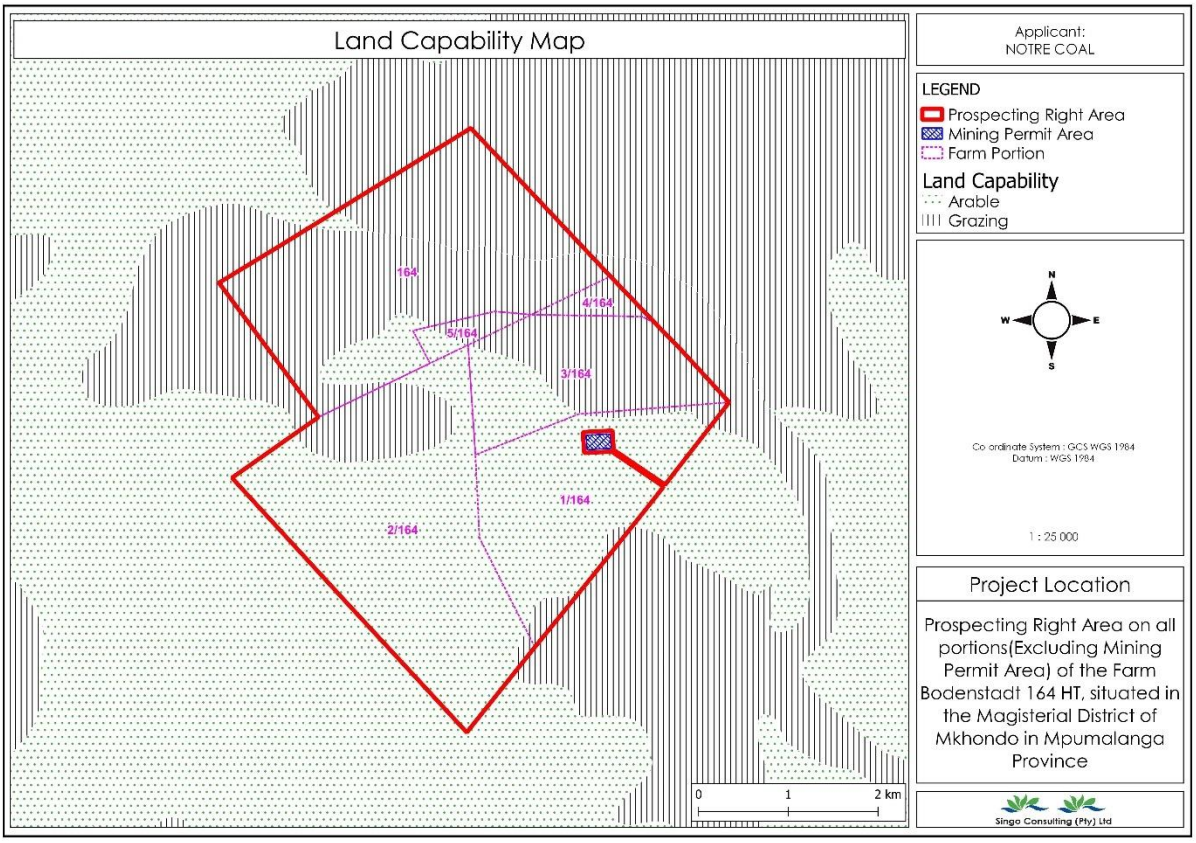


Figure 31: Land capability map for the project area

photo 4: Plantation observed onsite

7.5. Noise and Dust Sources

Noise sources and baseline

Prospecting and associated activities often emit significant noise levels which can become a nuisance or health risk when not properly managed. This impact may affect not only to the prospecting area, but also to the surrounding land users and occupiers. The most sensitive receptors identified for the project area are the landowners and occupiers of the study area itself, surrounding communities including land users. The local area is predominantly occupied by agricultural land uses.

The main noise generation activities of the proposed activities during all phases are:

- Transportation of materials;
- Drilling; and
- Loading and off-loading of equipment and materials.
- Limited amount of vehicles moving around the site; and

Noise generation can be expected on the proposed site due to various activities and actions as indicated above. Noise levels may possibly exceed allowed limits for noise as indicated in SANS 10103: 2008.

Mitigation measures may include keeping noisy activities to normal working hours and not over weekends or public holidays and maintaining machinery and vehicles to avoid unnecessary excessive noise emanating. It is also recommended that consultations be held with affected parties in order to establish an acceptable schedule of noisy activities. Animals that are found within the proposed farm area will also be affected by the noise generated by drilling activities. Mitigation measures will be developed and implemented to protect the animals from the noisy prospecting activities.

Dust Sources and baseline

The following sensitive receptors of dust have been identified and it is expected that these receptors may be affected by dust fallout and other air pollutants, resulting from the proposed prospecting activities:

- Landowners, lawful occupiers and the community of the study area;
- Landowners, lawful occupiers of the properties adjacent to the study area;
- Faunal and floral species within the farm area

The main source of air pollution in the local area is the dust emanating from the agricultural activities within the farm and the timber activities from the York timber facility. Dust fallout will be measured prior to the drilling activities and monitored throughout the period of the drilling activities within the proposed farm area. It is not expected that the air quality outside of the study area will deviate from its current condition during prospecting. Normal vehicular activity, as is already present, will most likely continue. There is, however, a risk that dust levels may increase as a result of the proposed activity and therefore mitigation measures will be recommended. Limiting the speed of vehicles on the gravel roads to 30km/h will have a threefold benefit in terms of health and safety: it will reduce dust fallout, reduce exhaust emissions and ensure the safety of workers. Another measure is to suppress dust by means of spraying water on the gravel roads, 20 000L water will be bought from the local municipality or from the local water service facility to aid in the suppression of the amount of dust to be created by the drilling activities. To minimize impacts on plants caused by dust deposition from the drilling activities.

Aesthetic Quality

It is important to bear in mind that determining a visual resource in absolute terms is not achievable. Evaluating a landscape's visual quality is both complex and challenging, as many quality standards apply and it is largely subjective, with individuals basing evaluations on experiences, their social level and their cultural background. Furthermore, natural features are inherently variable. Climate, season, atmospheric conditions, region and sub-region all affect the attributes that comprise the landscape.

Visual Absorption Capacity (VAC) can be described as the ability of an area to absorb physical modifications. Factors affecting VAC include *inter alia*, vegetation, the built environment, existing infrastructure and topography. In terms of these factors, the receiving environment is perceived to have a low to medium VAC. The prospecting activities will not modify the physical characteristics of the landscape significantly and can easily be rehabilitated upon completion.

8. Socio-Economic Environment

The study of economic development, which is generally broad in its scope, refers to the standard of living of citizens; most often measured by GDP per capita, literacy rate, and life expectancy. Economic development incorporates many elements of pure macro-economics, such as price stability, high employment, and sustainable growth. However, this is underpinned by the study of infrastructure and social development programmes, such as education, housing, and road networks. If prospecting for the mineral deposit of interest identified, mining permit or mining right will be applied, and mine operations have the potential to influence/affect the economic environment of the area positively or negatively.

Mines contribute directly towards employment, procurement, skills development, and taxes on a local, regional, and national scale. In addition, mines indirectly contribute to economic growth in the local and regional economies because the increase in the number of incomes earning people has a multiplying effect on the trade of other goods and services in other sectors.

However, the introduction of a mine into an area can have undesirable implications in the surrounding environment. This is because changes occur not only to the pre-existing land uses but also to the existing associated social structures and general way of life.

The closure phase of the mine can have highly negative impacts because the surrounding environment loses the economic support that it receives during the operation of the mine. To ensure the economic safety of the communities which are affected by the mining operations, mitigation measures post closure of the mine will need to consider the economic environment of the communities and address these impacts effectively.

Impacts on the socio-economic environment are expected to occur as follows:

- Economic growth.
- Education, skills development and training.
- Employment opportunities.

9. Land Uses

9.1. Parties to be potentially affected by the prospecting activities:

No infrastructures identified to be affected by prospecting activities on the proposed area.

9.2. Description of the current land uses

The proposed area is mainly used for plantation purposes.

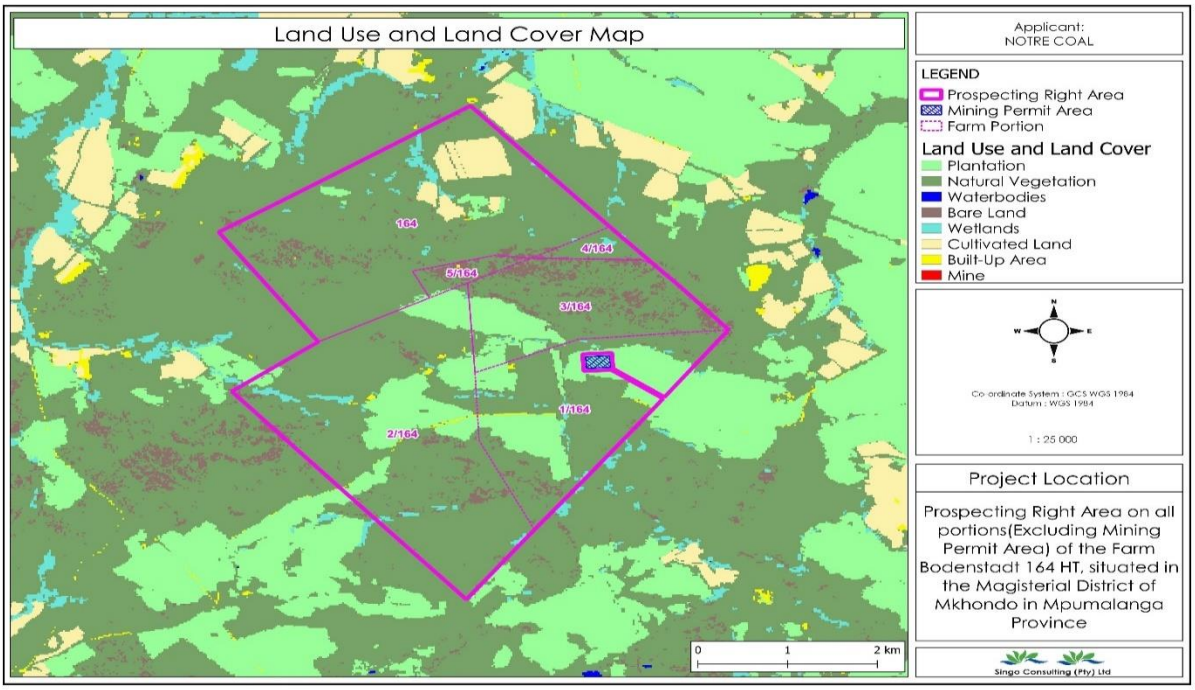


Figure 30: Land-use map of the proposed area

9.3. Description of specific environmental features and infrastructure on the site Environmental Features

The major sensitive features within the study area include:

- Faunal and floral communities

Photo 5: Vegetation observed onsite

Infrastructure on the study area and in close proximity

- Roads in the study area

Photo 6: Access Road to the proposed area

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

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

Table 7: **Impact Significance Calculation – Construction, Operational and Rehabilitation Phase**

ENVIRONMENTAL ASPECT	NATURE OF THE IMPACT	IMPACT STATUS	MAGNITUDE	EXTENT	DURATION	REVERSIBILITY	IRREPLACEABILITY	PROBABILITY	SIGNIFICANCE PRE-MITIGATION	MITIGATION POTENTIAL	SIGNIFICANCE POST-MITIGATION	CONFIDENCE RATING	CUMULATIVE IMPACTS
GEOLOGY AND SOILS	Minor loss and disturbance to topsoil as a result of clearing of vegetation and drilling. When vegetation is cleared and the topsoil is stripped, the soil's natural structure is disturbed and as a result the natural cycle is broken exposing the bare soil to erosion. Vehicles driving on these soils cause compaction of soils and reduces the soil's ability to be penetrated by root growth. Compaction also increases erosion potential. When soils are not stripped and stockpiled according to the soil stripping guidelines these soils would have lost their natural physical and chemical properties, reducing the topsoil's ability to be a plant growth medium. The above factors all contribute to a loss of the topsoil's ability to be a resource through alterations and removal.	–	3	2	1	2	8	5	40	Medium	20	Certain	Very Low
	Hydrocarbon spills on soils can occur where heavy machinery and vehicles are parked such as the hard park area because they contain large volumes of lubricating oils, hydraulic oils, and diesel to run. There is a chance of these breaking down and/or leaking.	–	3	2	1	3	9	2	18	Medium	9	Sure	Very Low

HYDROLOGY: GROUNDWATER SURFACE WATER	Stormwater, erosion and siltation impacts due to a lack of implementing temporary measures to manage stormwater run-off quantity and quality.	_	**3**	**3**	**1**	**3**	**10**	**3**	**30**	**Medium**	**15**	**Sure**	**Very Low**
	Contamination of stormwater runoff and groundwater, caused by chemicals such as hydrocarbon-based fuels and oils or lubricants spilled from heavy vehicles and machinery and fuel storage area.	_	**3**	**2**	**1**	**3**	**9**	**2**	**18**	**Medium**	**9**	**Sure**	**Very Low**
BIODIVERSITY	Minor loss of natural vegetation and destruction of habitat will result in associated loss of fauna and flora species.	_	**3**	**3**	**1**	**3**	**10**	**4**	**40**	**Medium**	**27**	**Sure**	**Very Low**
ENVIRONMENTAL ASPECT	**NATURE OF THE IMPACT**	**IMPACT STATUS**	**MAGNITUDE**	**EXTENT**	**DURATION**	**REVERSIBILITY**	**IRREPLACEABILITY**	**PROBABILITY**	**SIGNIFICANCE PRE-MITIGATION**	**MITIGATION POTENTIAL**	**SIGNIFICANCE POST-MITIGATION**	**CONFIDENCE RATING**	**CUMULATIVE IMPACTS**
	Disruption in the movement patterns of fauna species may impact on biodiversity. Noise, dust and potential light pollution, as well as migration of pollutants such as hydrocarbons in the soils, dust and emissions from vehicle and machinery altering air quality will all have an impact on biodiversity.	_	**3**	**3**	**1**	**3**	**10**	**4**	**40**	**Low**	**27**	**Sure**	**Very Low**
	Introduction and spread of alien invasive species. The moving of soil and vegetation resulting in opportunistic invasions after disturbance and the introduction of seed in construction materials and on vehicles. Invasion of alien plants can impact on hydrology, by reducing the quantity of water entering a watercourse through stormwater, and outcompete natural vegetation, decreasing the natural biodiversity. Once in a system, alien plants can spread throughout the catchment. If allowed to seed before control measures are implemented, alien plants can easily colonise and impact on downstream users.	_	**4**	**3**	**1**	**3**	**11**	**4**	**44**	**Medium**	**22**	**Sure**	**Very Low**
ARCHAEOLOGICAL/ HERITAGE RESOURCES	Alteration of archaeological, historical and palaeontological resources that may be discovered during earthworks and drilling.	_	**2**	**1**	**5**	**5**	**13**	**2**	**26**	**Low**	**17**	**Sure**	**Very Low**

VISUAL AND SENSE OF PLACE	Visibility from sensitive receptors / visual scarring of the landscape as a result of the prospecting activities.	_	**3**	**3**	**1**	**1**	**8**	**5**	**40**	**Medium**	**20**	**Sure**	**Very Low**
NOISE AND VIBRATION	Nuisance and health risks caused by an increase in the ambient noise level as a result of noise and vibration impacts associated with the operation of vehicles, machinery and equipment.	–	**4**	**3**	**1**	**2**	**10**	**5**	**50**	**Low**	**33**	**Sure**	**Very Low**
AIR QUALITY	Increased dust pollution due to vegetation clearance and vehicles driving on gravel roads and drilling.	_	**4**	**3**	**1**	**2**	**10**	**5**	**50**	**High**	**16**	**Sure**	**Very Low**
	Gaseous emissions from vehicles and machinery may cause an impact on ambient air quality.	_	**3**	**3**	**1**	**3**	**10**	**5**	**50**	**Low**	**33**	**Sure**	**Very Low**

ENVIRONMENTAL ASPECT	NATURE OF THE IMPACT	IMPACT STATI	MAGNITUD	EXTEN	DURATIO	REVERSIBILI	IRREPLACEABIL	PROBABILI	SIGNIFICANC PRE-MITIGATION	MITIGATIO POTENTIA	SIGNIFICANC POST-MITIGATION	CONFIDENCE RAT	CUMULATIVE IMPA
WASTE	Generation of additional general waste, litter and building rubble and hazardous waste.	–	**3**	**3**	**1**	**5**	**12**	**5**	**60**	**Medium**	**30**	**Certain**	**Very Low**
SERVICES	Minor impact caused by need for services i.e. water, electricity and sewerage systems during the prospecting phase causing additional strain on natural resources and service infrastructure.	–	**2**	**2**	**1**	**3**	**8**	**5**	**40**	**Medium**	**20**	**Certain**	**Very Low**
TRAFFIC	Minor change in traffic patterns as a result of traffic entering and exiting the site on the surrounding road infrastructure and existing traffic.	–	**2**	**3**	**1**	**1**	**7**	**5**	**35**	**High**	**12**	**Sure**	**Very Low**
	Nuisance, health and safety risks caused by increased traffic on and adjacent to the study area including cars, and heavy vehicles.	_	**5**	**3**	**5**	**5**	**18**	**3**	**54**	**High**	**18**	**Sure**	**Very Low**
HEALTH AND SAFETY	Possibility of prospecting activities and workers causing veld fires, which can potentially cause injury and or loss of life to workers and surrounding landowners, visitors and workers.	–	**5**	**4**	**5**	**5**	**19**	**3**	**57**	**High**	**19**	**Sure**	**Very Low**
	Increased risk to public and worker safety: If not fenced off, the public and workers may fall into excavated areas and trenches.	_	**5**	**3**	**5**	**5**	**18**	**3**	**54**	**High**	**18**	**Sure**	**Very Low**
SOCIO-ECONOMIC	Potential creation of very limited extent short term employment opportunities for the local community, during the prospecting phase.	+	**3**	**3**	**1**	**1**	**8**	**5**	**40**	**N/A**	**40**	**Certain**	**Very Low**

	Multiplier effects on local economy will be positive, but very limited in extent and only short term.	+	2	3	1	1	7	5	35	N/A	35	Certain	Very Low

11. 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).

A "significant impact" is defined as it is defined in the EIA Regulations (2014): "an impact that may have notable effect on one or more aspects of the environment or may result in non-compliance with accepted environmental quality standards, thresholds or targets and is determined through rating the positive and negative effects of an impact on the environment based on criteria such as duration, magnitude, intensity and probability of occurrence". The objective of this EIA methodology is to serve as a framework for accurately evaluating impacts associated with current or proposed activities in the biophysical, social and socio-economical spheres. It aims to ensure that all legal requirements and environmental considerations are met in order to have a complete and integrated environmental framework for impact evaluations.

The process of determining impacts to be assessed is one of the most important parts of the environmental impact assessment process. It is of such high importance because the environmental impacts identified can and are often linked to the same impact stream. In this method all impacts on the biophysical environment are assessed in terms of the overall integrity of ecosystems, habitats, populations and individuals affected. For example, the removal of groundcover for the sloping or scraping of an embankment, can lead to higher amounts of water runoff which increases the rate of erosion. Further down in the river the amount of sediment increases because of the increased erosion. Several fish species cannot endure the high amount of sediment and moves off. The habitat is thus changed or in the process of changing. Thus, one needs to understand that the root of the problem (removal of groundcover) is assessed in terms of the degree of change in the health of the environment and/or components in relation to their conservation value. Thus, if the impact of removal of groundcover of a definable system is high and the conservation value is also high then the impact of removal of groundcover is highly significant.

The Environmental Impact Assessment (EIA) 2014 Regulations promulgated in terms of Sections 24 (5), 24M and 44 of the National Environmental Management Act, 1998 (Act No. 107 of 1998) [as amended] (NEMA), requires that all identified potential impacts associated with the proposed project be assessed in terms of their overall potential significance on the natural, social and economic environments. The criteria identified in the EIA Regulations (2014) include the following:

- Nature of the impact;
- Extent of the impact;
- Duration of the impact
- Probability of the impact occurring;
- Degree to which impact can be reversed;
- Degree to which impact may cause irreplaceable loss of resources;
- Degree to which the impact can be mitigated; and
- Cumulative impacts.

The evaluation of impacts is conducted in terms of the criteria detailed in the Tables below. The various environmental impacts and benefits of this project are discussed in terms of impact status, extent, duration, probability, and intensity. Impact significance is regarded as the sum of the impact extent, duration, probability and intensity and a numerical rating system has been applied to evaluate impact significance; therefore, an impact magnitude and significance rating is applied to rate each identified impact in terms of its overall magnitude and significance.

Impact Assessment Methodology

By considering the root cause of the issue in this way, the probability that the activity undertaken does or may result in an impact, can be determined. The associated impact can then be assessed in order to determine its significance and to define mitigation measures or management measures to address the impact.

The following definitions therefore apply:

- An activity is a distinct process or task undertaken by an organization for which a responsibility can be assigned. Activities also include facilities or pieces of infrastructure that are possessed by an organization;
- An environmental aspect is an 'element of an organization's activities, products and services which can interact with the environment. The interaction of an aspect with the environment may result in an impact;
- Environmental impacts are the consequences of these aspects on environmental resources or receptors of particular value or sensitivity, for example, disturbance due to noise and health effects due to poorer air quality;
- Receptors can comprise, but are not limited to, people or human-made systems, such as local residents, communities and social infrastructure, as well as components of the biophysical environment such as aquifers, flora and palaeontologic. Impacts on the environment can lead to changes in existing conditions; the impacts can be direct, indirect or cumulative;
- Direct impacts refer to changes in environmental components that result from direct cause-effect consequences of interactions between the environment and project activities. Indirect impacts result from cause-effect consequences of interactions between the environment and direct impacts; and
- Cumulative impacts refer to the accumulation of changes to the environment caused by human activities.

Assessment of Impact Significance

The accumulated knowledge and the findings of the environmental investigations form the basis for the prediction of impacts. Once a potential impact has been determined, it is necessary to identify which project activity will cause the impact, the probability of occurrence of the impact, and its magnitude and extent (spatial and temporal). This information is important for evaluating the significance of the impact, and for defining mitigation and monitoring strategies. The aspects and impacts identified are therefore described according to the following:

(a) Nature of the impact

The NATURE of an impact can be defined as: "a *brief description of the impact being assessed, in terms of the proposed activity or project, including the socio-economic or environmental aspect affected by this impact*".

(b) The status of the impact:

	Status	Description
STATUS	**Positive (+)**	**A benefit to the holistic environment.**
	Negative (-)	**A cost to the holistic environment.**
	Neutral (N)	**No cost or benefit to the holistic environment.**

(c) Magnitude of the impact

The MAGNITUDE of an impact can be defined as: "*a brief description of the intensity or amplitude of the impact on socioeconomic or environmental aspects*".

Determining the magnitude of an impact			
MAGNITUDE **Magnitude / intensity of impact (at the specified scale)**	**Magnitude**	**Score**	**Description**
	Zero	**1**	**Natural and/or social and/or functions processes remain unaltered.**
	Very low	**2**	**Natural and/or social functions and/or processes are negligibly altered.**
	Low	**3**	**Natural and/or social and/or functions processes are slightly altered.**
	Medium	**4**	**Natural and/or social and/or functions processes are notably altered.**
	High	**5**	**Natural and/or social and/or functions processes severely altered.**

(d) Extent of the impact

The EXTENT of an impact can be defined as: "*a brief description of the spatial influence of the impact or the area that will be affected by the impact*".

Determining the extent of an impact			
EXTENT **Extent or spatial influence of impact**	**Extent**	**Score**	**Description**
	Footprint	**1**	**Only as far as the activity, such as footprint occurring within the total site area**
	Site	**2**	**Only the site and/or 500m radius from the site will be affected**

	Local	**3**	**Local area / district (neighbouring properties, transport routes and adjacent towns) is affected**
	Region	**4**	**Entire region / province is affected.**
	National	**5**	**Country is affected**

(e) Duration of the impact

The DURATION of an impact can be defined as: "*a short description of the period of time the impact will have an effect on aspects*".

Determining the duration of an impact			
DURATION **Duration of the impact**	**Extent**	**Score**	**Description**
	Short term	**1**	**Less than 2 years**
	Short to medium term	**2**	**2 – 5 years**
	Medium term	**3**	**6 – 25 years**
	Long term	**4**	**26 – 45 years**
	Permanent	**5**	**46 years or more**

(f) Degree to which impact can be reversed

The REVERSIBILITY of an impact can be defined as: "*the ability of an impact to be changed from a state of affecting aspects to a state of not affecting aspects*".

Determining the reversibility of an impact			
REVERSIBILITY	**Reversibility**	**Score**	**Description**
	Completely reversible	**1**	**Impacts can be reversed through the implementation of minimal mitigation measures and rehabilitation with negligible residual effects.**
	Nearly completely reversible	**2**	**Impacts can nearly be completely reversed through the implementation of mitigation measures and rehabilitation, with marginal residual effects.**
	Partly reversible	**3**	**Impacts can be partly reversed through the implementation of mitigation measures and rehabilitation with moderate residual effects.**
	Nearly irreversible	**4**	**Impacts can be mitigated, but only marginally reversed through the implementation of mitigation measures and rehabilitation with severe residual effects.**

	Irreversible	***5***	**Impacts are permanent and can't be reversed by the implementation of mitigation measures or rehabilitation is not viable.**

(g) Degree to which impact may cause irreplaceable loss of resources

The irreplaceability of an impact can be defined as "the amount of resources that can/can't be replaced".

Irreplaceability = Magnitude + Extent + Duration + Reversibility

Degree to which impact may cause irreplaceable loss of resources			
IRREPLACEABILITY Irreplaceable loss of resources	**Irreplaceability**	**Score**	**Description**
	No loss	**0**	**No loss of any resources**
	Very Low	**1 - 5**	
	Low	**6 - 10**	**Marginal loss or resources**
	Medium	**11 - 15**	**Significant loss of resources**
	High	**16 - 20**	**Complete loss of resources**

(h) Probability of the impact occurring

The PROBABILITY of an impact can be defined as: "the *estimated chance of the impact happening*".

Determining the probability of an impact			
PROBABILITY	**Probability**	**Score**	**Description**
	Unlikely	**1**	**Unlikely to occur (0 – 15% probability of impact occurring)**
	Possible	**2**	**May occur (15 – 40% chance of occurring)**
	Probable	**3**	**Likely to occur (40– 60% chance of occurring)**
	Highly Probable	**4**	**Between 60% and 85% sure that the impact will occur**
	Definite	**5**	**Will certainly occur (85 - 100% chance of occurring)**

(i) Significance of Impacts - Pre-Mitigation

The SIGNIFICANCE can be defined as:" *the combination of the duration and importance of the impact, in terms of physical and socio-economic extent, resulting in an indicative level of mitigation required*".

The significance of an impact is determined as follows:

Significance = Irreplaceability x Probability

The maximum value is 100 significance points (SP). Environmental impacts were rated as either of Very High (VH) High (H), Medium (M), Low (L) or Very Low (VL) significance on the following basis:

Table 8: Significance Rating (SR) Basis

Score	Significance
0	Neutral
1 to 20	Very low
21 to 40	Low
41 to 60	Medium
61 to 80	High
81 to 100	Very high

(j) Degree to which the impact can be mitigated

The degree to which an impact can be MITIGATED can be defined as: "the effect of mitigation measures on the impact and its degree of effectiveness".

	Determining the mitigation potential of an impact		
	Degree	**Calculation**	**Description**
MITIGATION POTENTIAL	**High**	**Pre-mitigation SR / 3 = Post Mitigation SR**	**Impact 100% mitigated**
	Medium	**Pre-mitigation SR / 2 = Post Mitigation SR**	**Impact >50% mitigated**
	Low	**Pre-mitigation SR / 3 = x Then: Pre-mitigation SR – x = Post Mitigation SR**	**Impact <50% mitigated**

(k) Significance of Impacts Post-Mitigation

The SIGNIFICANCE can be defined as:" *the combination of the duration and importance of the impact, in terms of physical and socio-economic extent, resulting in an indicative level of mitigation required*".

The significance of an impact is determined as follows:

Significance = Irreplaceability x Probability

Table 9: Significance Rating

Score	Significance
0	Neutral
1 to 20	Very low
21 to 40	Low
41 to 60	Medium
61 to 80	High
81 to 100	Very high

(l) Confidence rating

CONFIDENCE in the assessment of an impact can be defined as the:" *level of certainty of the impact occurring*".

Determining the confidence rating of an impact			
CONFIDENCE RATING	CONFIDENCE	Certain	Amount of information on and/or understanding of the environmental factors that potentially influence the impact is unlimited and sound
		Sure	Amount of information on and/or understanding of the environmental factors that potentially influence the impact is reasonable and relatively sound
		Unsure	Amount of information on and/or understanding of the environmental factors that potentially influence the impact is limited

(m) Cumulative impacts

The effect of CUMULATIVE impacts can be described as:" the effect the combination of past, present and "reasonably foreseeable" future actions have on aspects".

Determining the confidence rating of an impact			
CUMULATIVE RATING	**CUMULATIVE EFFECTS**	**Low**	**Minor cumulative effects**
		Medium	**Moderate cumulative effects**
		High	**Significant cumulative effects**

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

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

The proposed prospecting activities to be undertaken include the use of both invasive and non-invasive prospecting techniques. There will therefore be physical disturbance to the application area although this disturbance will be limited to the identified borehole sites and not the entire application area. Another negative impact of the proposed activity would be the interference with landowners or communities and the existing land uses. The actual invasive work only covers a few properties within the application area itself and therefore the disturbance due to invasive work will be minimal. The positive impact of the proposed activity is the discovery of an economically viable mineral resource within the identified Local Municipalities, whose economy is dependent of the mining industry.

It should be noted that this report made available to I& AP's for review and comment and their comments and concerns will be considered in this BAR & EMPr. Furthermore, it should be noted that the impact scores themselves will include the results of the public response and comment. Please refer to Section 10 for the Methodology used

in determining and ranking the nature, significance, consequence, extent, duration and probability of potential environmental impacts and risks.

The following provides a description and assessment of the potential impacts identified in the impact assessment process. The topographical and geophysical surveys will see an increase in the use of access tracks by vehicles driving around the site. The access roads may over time and continuous use deteriorate and become damaged. The potential exists for a group of unfamiliar workers to enter the project area during the prospecting activities. This impact could potentially affect the local communities; however, the impact will be minimal as people on site will be limited to the Applicant, contractor and geologists for the topographical and geophysical surveys.

Access to the application area for the topographical and geophysical survey, prospecting drilling and resource definition drilling will be required which may interrupt the existing land uses, such as grazing and residential developments. However, this impact will be minimal as it is of short duration. Approximately 0,9 ha of vegetation will be cleared during prospecting, however, care will be taken to be ensure that any protected species identified are relocated outside the footprint of the prospecting activities. Provisions have been made for the rehabilitation of all areas disturbed during prospecting, including access tracks. The prospecting activities will generate general waste during the construction/ operational phase. This waste must be collected during site visits to be disposed of at appropriate landfill sites.

11.2. 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).

The following sections provide a description and assessment of the mitigation measures for each potential impact identified in the impact assessment process. The impact scores below are reflective of the impacts post the implementation of

mitigation measures. A second score indicating the final significance of each potential impact is also reflected below. This score indicates the degree of potential loss of irreplaceable resources, the cumulative nature of the impact, as well as the degree of public concern regarding the impact. It should be noted that this report will be made available to I&AP's for review and comment and their comments and concerns will be addressed in the final report to be submitted to the DMRE for adjudication. Furthermore, it should be noted that the impact scores themselves will include the results of the aforementioned public response and comment. The results of the public consultation will be used to update the impact scores upon completion of the public review period, where after the finalized report will be submitted to the DMRE for adjudication.

The following mitigation types have been associated with the potential impacts identified:

- Avoid and control through implementation of EMPr mitigation measures (e.g. speed limit enforcement, vehicle maintenance);
- Avoidance and control through preventative measures (e.g. site security, code of conduct);
- Remedy through application of mitigation measures in EMPr;
- Avoid and control through implementation of preventative measures (e.g. monitoring, communication with landowners, emergency response procedures);
- Avoid through implementation of preventative measures (e.g. consultation and communication);
- Avoid and remedy impacts and risks to the community through ongoing communication with the community. In this regard, quarterly community meetings shall be held with the affected communities.
- Avoid through implementation of suitable progressive rehabilitation and soil management.
- Avoid and control through implementation of EMPr mitigation measures (e.g. Spill prevention, Hydrocarbon Storage);
- Avoid through preventative measures (e.g. bunding, spill kits);
- No invasive prospecting activities to be undertaken within 100m of a watercourse.

- Should any watercourse be affected, then the necessary water use licenses should be obtained from the Department of Water and Sanitation.
- No ablution of site laydown areas is to be located within 100m of a watercourse.
- Where shallow aquifers are encountered, a survey of the drinking water/ livestock watering boreholes should be undertaken (within 100 m of the prospecting borehole sites). A detailed groundwater monitoring programme should be developed for these drinking water/ livestock watering boreholes and pre- and post-prospecting water quality samples should be taken.
- Where drinking water/ livestock watering boreholes are to be affected then the advice of a geohydrologist should be sought with regards to the need for plugging and casing of the prospecting boreholes.
- Remedy through clean-up and waste disposal; and
- Avoid and control through implementation of preventative measures (e.g. location of toilets, spill prevention, waste management).

The following impacts will results from the proposed prospecting activities:

- Job creation
- Clearance of vegetation
- Compacting of soils
- Drilling impact on identified lithic scatters
- Deterioration and damage to existing access roads and tracks
- Safety and security risks to landowners and lawful occupiers
- Interference with existing land uses
- Generation and disposal of waste
- Contamination of surface and groundwater
- Introduction/invasion by alien species
- Noise
- Impact on fauna
- Pollution of soils
- Dust
- Erosion due to vegetation clearance

- Impact on surface water features
- Impact on groundwater
- Loss of fossil heritage

12. Motivation where no alternative sites were considered

Prospecting is conducted in phases, where the activities and location of drilling and trenching to sample soil are dependent on the previous phase. Therefore, the specific locations and extent of soil sampling and diamond core drilling cannot be predetermined. Areas to be avoided in terms of sensitivities are also indicated on the sensitivity maps in this report. Positioning of invasive prospecting planned in the sensitive areas and buffer zones should be conducted with a suitably qualified ecologist in order to avoid or minimize the destruction of any sensitive vegetation or habitats occurring in these areas.

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

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

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

The proposed project area as discussed above, has been selected due to the geology of the site and the anticipated favorable tectono-stratigraphic setting of the proposed prospecting area. No prospecting activities will occur within 100m from the watercourses should the Water Use license be not issued. The land or properties affected are mostly remain unused and as a result, the potential discovery of viable mineral resources within the proposed project area would be beneficial in terms of diversifying the use of land in the area. Negotiations and agreements will be made with the farm owners to use any existing infrastructures like access roads. Negative impacts identified above will be mitigated through implementation of the proposed mitigation measures as detailed in the EMPr. Where negative impacts cannot be avoided, rehabilitation will be undertaken.

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

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

- **Approach to the EIA**

An Environmental Impact Assessment (EIA) is a good planning tool. It identifies the environmental impacts of a proposed development and assists in ensuring that a project will be environmentally acceptable and integrated into the surrounding environment in a sustainable way.

The Basic Impact Assessment for this project complies with the National Environmental Management Act (1998) (as amended) and the NEMA EIA Regulations (2014) and guidelines of the Department of Environmental Affairs (DEA). The guiding principles of an EIA are listed below.

- **Guiding principles for an EIA**

The EIA must take an open participatory approach throughout. This means that there should be no hidden agendas, no restrictions on the information collected during the process and an open-door policy by the proponent. Technical information must be communicated to stakeholders in a way that is understood by them and that enables them to meaningfully comment on the project.

There should be ongoing consultation with interested and affected parties representing all walks of life. Sufficient time for comment must be allowed. The opportunity for comment should be announced on an on-going basis. There should be opportunities for input by specialists and members of the public. Their contributions and issues should be considered when technical specialist studies are conducted and when decisions are made.

- **Information gathering**

Early in the Basic Assessment process, the Environmental Assessment Practitioner (EAP) identified the information that would be required for the impact assessment and the relevant data were obtained. In addition, available information about the receiving environment was gathered from reliable sources, interested and affected parties, previous documented studies in the area and previous EIA Reports. The project team visited the site to gain first-hand information and an understanding of the existing operations and the proposed project.

- **Specialist Assessments**

The following specialist study will be conducted:

- Hydrogeological study
- Hydrological study
- Soil study

The main objective of the specialist study to provide independent scientifically sound information on issues of concern relating to the project proposal. The findings and recommendations identified by the various specialist studies undertaken, were incorporated into the Basic Impact Assessment.

- **Legislative Framework**

The legal requirements were described and assessed in detail.

- **Alternatives**

Prospecting is conducted in phases, where the activities and location of drilling and trenching to sample soil are dependent on the previous phase. Therefore, the specific locations and extent of soil sampling and core drilling cannot be predetermined.

The following alternatives were investigated as feasible alternatives:

- The property on which or location where it is proposed to undertake the activity

The proposed prospecting right has been applied on all the portions of the farm the Farm Bodenstadt 164 HT. The proposed prospecting area is situated in the Magisterial District of Mkhondo and it approximately 9.92 km Southeast of Piet Retief, approximately 2.77 km East of Wittenberg, approximately 1.14 km Northeast of Forest

Hill Country Lodge Bed and Breakfast, and approximately 16.46 km Southwest of Ngema Tribal Trust.

- The type of activity to be undertaken

Main activities conducted to determine the coal resource present in an economic feasible quality and quantity is drilling. The boreholes will be drilled with the diamond drilling method so the geologists can get a clear understanding of the actual subsurface setting of the lithologies. As outlined in the PWP all activities will be conducted in a phase approach whereby the execution of a new phase will depend on the results of the preceding phase. Prospecting activities will not compromise any future land uses on the study area.

- The design or layout of the activity

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

- Mobile 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 change to the layout is considered but with the geophysical survey information, the boreholes can be orientated to match the shape of the good quality of resource.

- The technology to be used in the activity

The technologies listed in the PWP have been selected as they are proven effective in the determination of resource viability within the proposed prospecting area. Some of the techniques employed in the non-invasive prospecting will include a literature survey, field reconnaissance/mapping, and geophysics survey of the geology, outcrops. Invasive technology alternatives have also been considered. It is hereby

noted that the different phases and timeframes of the prospecting herein envisaged are, by their nature, dependent on the results obtained during the preceding phases of such prospecting. The proposals set out in the Prospecting Work Programme are therefore made on the basis that results obtained during the preceding phases may necessitate reasonable changes and adaptations to such proposals, which will be reported as prescribed.

- The option of not implementing the activity

If the Prospecting Right is not granted, the potential to identify viable mineral resources could be lost. Historical prospecting and mining activities have taken place in the vicinity of the proposed prospecting right area and as such the proposed prospecting activities represent a continuation of surrounding land uses. Additionally, it allows for marginal land impacted on by historical prospecting and mining activities to be re-introduced into the economy.

- **Description and assessment of impacts identified**

A comprehensive list of all potential impacts of the prospecting as identified by the EAP and the specialists, are provided and are assessed.

- **Environmental management programme**

An Environmental Management Programme containing mitigation, management and monitoring measures and specifying roles and responsibilities was compiled with specialist input and are included in this report.

- **Stakeholder engagement**

Registered interested and affected parties including relevant organs of state, are consulted with during the process. All their comments will be formally responded to and incorporated into the Final Basic Assessment Report and Environmental Management Programme that will be submitted to the competent authority.

13.1. 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)

Potential impacts that may be caused by the proposed development will be identified using input from the following:

- Views of I&APs;
- Existing information;
- Specialist investigations;
- Site visit with the project team; and
- Legislation.

The following potential major direct, indirect and cumulative impacts were identified:

- Contamination and compaction of soils;
- Erosion;
- Contamination of ground- and surface water quality and decline in quantity;
- Impacts on biodiversity;
- Loss and displacement of fauna;
- Impacts on existing land use of the study and surrounding area;
- Destruction or loss of heritage features including graves and other historical sites of importance that may be uncovered during excavations;
- Decreased aesthetic value and impact on "Sense of Place";
- Poor air quality and decreased visibility due to dust pollution;
- Increased noise levels;
- Waste generation;
- Increased demand on service infrastructure and resources;
- Slight increase in traffic and need for maintenance of road infrastructure;
- Potential injury and loss of health and life of humans; and
- Altered Socio-Economic Environment (Positive or negative).

Table 10: Assessment of each identified potentially significant impact and risk

NAME OF ACTIVITY	POTENTIAL IMPACT	ASPECTS AFFECTED	PHASE	SIGNIFICANCE if not mitigated	MITIGATION TYPE	SIGNIFICANCE if mitigated
• Minimal clearing of vegetation and topsoil. • Prospecting including diamond core drilling, logging and sampling of the borehole core.	Minor loss and disturbance to topsoil as a result of clearing of vegetation and drilling and trenching. When vegetation is cleared and the topsoil is stripped, the soil's natural structure is disturbed and as a result the natural cycle is broken exposing the bare soil to erosion. Vehicles driving on these soils cause compaction of soils and reduces the soil's ability to be	Soil	Prospecting	**Low (-)**	**Prevent and reduce through management measures.** **Stripping of topsoil:** • Clearing of areas to take place a maximum of one month prior to intended prospecting in the area; • Stripping of topsoil will not take place during rain or excessive wind; and • The top 30 cm of vegetation and topsoil is to be stripped from the area to be prospected. **Storage of topsoil / overburden:** • Topsoil (top 30cm) is to be stored in predetermined topsoil berms, (+/- 5m) outside the boundary of the specific area; and • Topsoil stockpiles will be restricted to 1.5 to 2m in height. **Maintenance and monitoring of topsoil stockpiles:**	**Very Low (-)**

	penetrated by root growth. Compaction also increases erosion potential.				• The stored topsoil should be used as soon as possible in concurrent rehabilitation; • Weekly visual inspections to be conducted.	

NAME OF ACTIVITY	**POTENTIAL IMPACT**	**ASPECTS AFFECTED**	**PHASE**	**SIGNIFICANCE** if not mitigated	**MITIGATION TYPE**	**SIGNIFICANCE** if mitigated
• Dust Suppression.	When soils are not stripped and stockpiled according to the soil stripping guidelines these soils would have lost their natural physical and chemical properties, reducing the topsoil's ability to be a plant growth medium. The above factors all contribute to a loss of the topsoil's ability to be a resource through alterations and removal.					

	Hydrocarbon spills on soil can occur where heavy machinery and vehicles are parked such as the hard park area because they contain large volumes of lubricating oils, hydraulic oils, and diesel	Soil	Prospecting	**Very Low (-)**	**Prevent and reduce and remedy through management measures.** • All vehicles and machinery will be regularly serviced to ensure they are in proper working condition and to reduce risk of leaks; • All leaks will be cleaned up immediately using an absorbent material and spill kits, in the prescribed manner; and	**Very Low (-)**
NAME OF ACTIVITY	**POTENTIAL IMPACT**	**ASPECTS AFFECTED**	**PHASE**	**SIGNIFICANCE** if not mitigated	**MITIGATION TYPE**	**SIGNIFICANCE** if mitigated
	to run. There is always a chance of these breaking down and/or leaking.				• The approved Integrated Water and Waste Management Plan to be implemented. ***<u>Hydrocarbons and hazardous waste</u>*** • All hazardous waste generated shall be kept separate and shall not be mixed with general waste; and • All hazardous waste shall be stored within a sealed drum on an impermeable surfaced area within the	

					central waste storage and transition area.	
	Stormwater, erosion and siltation impacts due to a lack of implementing temporary measures to manage stormwater runoff quantity and quality.	Surface water	Prospecting	**Low (-)**	**Prevent and reduce and remedy through management measures.** • A Stormwater Management Plan (SMP) to be developed for the collective area where prospecting will occur, (or the existing SMP updated, where applicable for present and future activities) and should include the management of stormwater during excavation, as well as the installation of temporary stormwater and erosion control measures during prospecting, followed up by rehabilitation of the area;	**Very Low (-)**

NAME OF ACTIVITY	POTENTIAL IMPACT	ASPECTS AFFECTED	PHASE	SIGNIFICANCE if not mitigated	MITIGATION TYPE	SIGNIFICANCE if mitigated
					• The slopes of the area where prospecting activities will occur, should be profiled to ensure that they are not subjected to excessive erosion but capable of drainage run-off with minimum risk of scrub (hydrologic action by water that causes erosion). A maximum gradient of 1:3 is recommended; • If necessary, temporary diversion channels should be constructed ahead of the stockpiles (if relevant) to intercept clean run-off and divert it around disturbed areas into the natural drainage system downstream (down gradient) of the prospecting area; • Existing vegetation must be retained as far as possible to minimise erosion problems; • Rehabilitation of the prospecting area shall be planned and completed (after conclusion of the prospecting activities) in such a way that the run-off water (if any) will not cause erosion; • Visual inspections shall be done on a weekly basis with regard to the stability of the temporary water control structures, erosion and siltation (if required).	

NAME OF ACTIVITY	POTENTIAL IMPACT	ASPECTS AFFECTED	PHASE	SIGNIFICANCE if not mitigated	MITIGATION TYPE	SIGNIFICANCE if mitigated
					• Sediment-laden run-off from cleared areas should be prevented from entering rivers and streams; • No river or surface water may be affected by silt emanating from the prospecting area • No wastewater may run freely into any of the surrounding naturally vegetated areas.	

	Contamination of stormwater runoff and groundwater, caused by chemicals such as hydrocarbon-based fuels and oils or lubricants spilled from heavy vehicles and machinery and fuel storage area.	Surface water and groundwater resources	Prospecting	**Very Low (-)**	**Prevent and reduce through management measures.** In accordance with Government Notice 704 (GN 704), the onsite management should: • Keep clean and dirty water separated; • Contain any dirty water within a system; and • Prevent the contamination of clean water. In order to achieve these objectives, the following stormwater management measures must be implemented on the site to ensure that those potential stormwater impacts are kept to a minimum: • Clean and dirty stormwater needs to be separated. Dirty stormwater may not be released	**Very Low (-)**

NAME OF ACTIVITY	**POTENTIAL IMPACT**	**ASPECTS AFFECTED**	**PHASE**	**SIGNIFICANCE** if not mitigated	**MITIGATION TYPE**	**SIGNIFICANCE** if mitigated
					into the environment and should be contained and treated on site;	

					• All temporary stormwater infrastructure (if any) on-site shall be maintained and kept clean throughout the prospecting period; • Immediate reporting of any polluting or potentially polluting incidents so that appropriate measures can be implemented; • Fuel and oil spills shall be treated immediately by appropriate spill kits. Several hydrocarbon absorption/remediation products (i.e. Spill kits) must be placed throughout the site; • Use of bunds or traps to ensure full containment of hydrocarbon and other hazardous materials are mandatory; • Any contaminated material is disposed of in an appropriate manner and the potential risks associated with such spills are limited; • Stormwater leaving the site must in no way be contaminated; • Ensure good housekeeping practices;	

NAME OF ACTIVITY	POTENTIAL IMPACT	ASPECTS AFFECTED	PHASE	SIGNIFICANCE if not mitigated	MITIGATION TYPE	SIGNIFICANCE if mitigated
					• Increased runoff should be managed using berms and other suitable structures as required to ensure flow velocities are reduced; and • Removal of spills, rainwater and waste produced during clean-up of the bunds – shall be done in accordance to relevant specifications.	

	Minor loss of natural vegetation and destruction of habitat will result in associated loss of fauna and flora species.	Surface water	Prospecting	**Low (-)**	**Reduce through management measures.** • A suitably qualified specialist (ecologist) to accompany the site manager to demarcate areas for prospecting, in order to avoid damaging sensitive vegetation as identified during the specialist study and according to the sensitivity maps provided in this report; • Only vegetation falling directly into demarcated access routes or project sites should be removed; • No further vegetation clearance except for the removal of alien invasive species will be allowed; and • All remaining indigenous vegetation should be conserved wherever possible.	**Low (-)**
NAME OF ACTIVITY	**POTENTIAL IMPACT**	**ASPECTS AFFECTED**	**PHASE**	**SIGNIFICANCE** if not mitigated	**MITIGATION TYPE**	**SIGNIFICANCE** if mitigated
	Disruption in the movement patterns of fauna species may impact on biodiversity.	Biodiversity	Prospecting	**Low (-)**	**Prevent and reduce through management measures.** • Reduce the levels of disturbance on areas indicated by the Environmental Control Officer (ECO) as migratory routes, if any;	**Low (-)**

	Noise, dust and potential light pollution, as well as migration of pollutants such as hydrocarbons in the soils, dust and emissions from vehicle and machinery altering air quality will all have an impact on biodiversity.				• Environmental awareness training should include that no hunting, trapping or killing of fauna are allowed; • Any animals rescued or recovered will be relocated in a suitable habitat away from the prospecting operations and associated infrastructure; • Any lizards, snakes or monitors encountered should be allowed to escape to a suitable habitat away from disturbance. • No reptile should be intentionally killed, caught or collected during any phase of the project; and • General avoidance of snakes is the best policy if encountered. Snakes should not be intentionally harmed or killed and allowed free movement away from the area.	
	Introduction and spread of alien invasive species.	Biodiversity Soils	Prospecting	**Medium (-)**	**Prevent and control through management measures.**	**Low (-)**

NAME OF ACTIVITY	**POTENTIAL IMPACT**	**ASPECTS AFFECTED**	**PHASE**	**SIGNIFICANCE** if not mitigated	**MITIGATION TYPE**	**SIGNIFICANCE** if mitigated

	The moving of soil and vegetation resulting in opportunistic invasions after disturbance and the introduction of seed in construction materials and on vehicles. Invasion of alien plants can impact on hydrology, by reducing the quantity of water entering a watercourse through stormwater, and outcompete natural vegetation, decreasing the natural biodiversity. Once in a system, alien plants can spread throughout the catchment. If allowed to seed before control measures are implemented, alien plants can easily colonise and	Surface water ecosystems			• Regular removal of invasive alien species should be undertaken. This should extend through to the closure • phase of the project; and No spreading of alien vegetation onto adjacent properties should be allowed.	
NAME OF ACTIVITY	**POTENTIAL IMPACT**	**ASPECTS AFFECTED**	**PHASE**	**SIGNIFICANCE** if not mitigated	**MITIGATION TYPE**	**SIGNIFICANCE** if mitigated

	impact on downstream users.					
	Alteration of archaeological, historical and palaeontological resources that may be discovered during earthworks and drilling.	Cultural Heritage	Prospecting	**Low (-)**	**Protect heritage resources through developing and implementing procedures.** • Prior to any development, construction or prospecting, a qualified archaeologist should conduct a site inspection on the areas demarcated for geotechnical drilling/prospecting. Proposed access roads to the drill sites should also be surveyed in order to avoid the destruction of heritage material; • Should the prospecting outcome result in further development or construction and mining, a full Phase2 Archaeological Impact Assessment must be conducted on the affected area if triggered; • Because archaeological artefacts generally occur below surface, the possibility exists that culturally significant material may be exposed during the development and construction phases, in which case all activities must be suspended pending further	**Very Low (-)**

					archaeological investigations by a qualified archaeologist. Also,	

NAME OF ACTIVITY	POTENTIAL IMPACT	ASPECTS AFFECTED	PHASE	SIGNIFICANCE if not mitigated	MITIGATION TYPE	SIGNIFICANCE if mitigated
					should skeletal remains be exposed during development and construction phases, all activities must be suspended and the relev heritage resources authority contacted (see National Heritage Resources Act (Act No. 1999) Section 36 (6)). Should culturally significant material or skeletal remains be exposed during prospecting all activities suspended pending further investigation qualified archaeologist (Refer to National Heritage and Resources Act, 25 of 1999 36(6)); • Should any objects of archaeological or palaeontological remains be found during activities, work must immediately stop in area and the Environmental Control Offic (ECO) must be informed; • The ECO must inform SAHRA and conta archaeologist and / or palaeontologis depending on the nature of the find, to as the importance and rescue them if neces (with the relevant SAHRA permit). No wo	

NAME OF ACTIVITY	POTENTIAL IMPACT	ASPECTS AFFECTED	PHASE	SIGNIFICANCE if not mitigated	MITIGATION TYPE	SIGNIFICANCE if mitigated
					be resumed in this area without the permission of the ECO and SAHRA.	

	Visibility from sensitive receptors / visual scarring of the landscape as a result of the prospecting activities.	Aesthetic quality and sense of place	Prospecting	**Low (-)**	**Reduce through controlling management measures.** • Unnecessary lights should be switched off during the day and / or night to avoid light pollution; • If lighting is required, the lighting will be located in such a place and such a manner so as to minimise any impact on the surrounding community and fauna; • Install temporary lights that will not create a night sky glow; • Security lighting should be designed in such a way as to minimise emissions onto undisturbed areas on site and neighbouring properties. Light fittings should face downwards; • Housekeeping on site should be enforced; • Rehabilitation measures such as re-vegetation and plan to be implemented; • Reduce the prospecting period through careful planning and productive implementation of resources;	**Very Low (-)**

NAME OF ACTIVITY	POTENTIAL IMPACT	ASPECTS AFFECTED	PHASE	SIGNIFICANCE if not mitigated	MITIGATION TYPE	SIGNIFICANCE if mitigated
					• Plan the placement of lay-down areas and any potential temporary prospecting camps in order to minimise vegetation clearing; • Restrict the activities and movement of workers and vehicles to the immediate prospecting site and existing access roads; • Ensure that rubble, litter and issued materials are managed and removed regularly; • Ensure that all infrastructure and the site and general surrounds are maintained in a neat and appealing way; and • Reduce and control dust through the use of approved dust suppression techniques.	

	Nuisance and health risks caused by an increase in the ambient noise level as a result of noise and vibration impacts associated with the operation of vehicles, machinery and equipment.	Health of landowners and occupiers Biodiversity	Prospecting	**Medium (-)**	**Reduce through controlling measures.** • Vehicles and machinery will be regularly serviced to ensure acceptable noise levels are not exceeded; • Silencers will be utilised where possible; • Heavy vehicle traffic should be routed away from noise sensitive areas where possible; • Noise levels should be kept within acceptable limits. All noise and sounds generated should	**Low (-)**

NAME OF ACTIVI	POTENTIAL IMPAC	ASPECTS AFFECTED	PHASE	SIGNIFICANC if not mitigated	MITIGATION TYPE	SIGNIFICANCE if mitigated
					adhere to South African Bureau of Stand (SABS) specifications for maximum allow noise levels for construction sites. No pure t sirens or hooters may be utilised except whe required in terms of SABS standards or i emergencies; • With regard to unavoidable very noisy ac in the vicinity of noise sensitive areas, th Manager (SM) should liaise with local reside and a suitably qualified ecologist and how bes to minimise impacts, and the local popul should be kept informed of the nature an duration of intended activities; • The SM should take measures to discou labourers from loitering in the area, causing noise disturbance; • Noise impacts should be minimised by restr the hours (between 06h00 and 18h00 on Monday to Friday, and 06h00 and 18h00 Saturdays), during which the offending a are carried out and, where possible, by insulatin machinery and/or enclosing areas of activity;	

NAME OF ACTIVITY	POTENTIAL IMPACT	ASPECTS AFFECTED	PHASE	SIGNIFICANCE if not mitigated	MITIGATION TYPE	SIGNIFICANCE if mitigated
					• No noisy activities to occur on Sundays or public holidays; • Personal Protective Equipment to all persons working in areas where high levels of noise can be expected; • Signs where it is compulsory;	
	Increased dust pollution due to vegetation clearance and vehicles driving on gravel roads and drilling.	Aesthetic environment Sense of Place Air quality Biodiversity	Prospecting	**Medium (-)**	**Reduce through controlling measures.** • Dust suppression shall be implemented during dry periods and windy conditions; • All exposed surfaces should be minimised in terms of duration of exposure to wind and stormwater; • Excavation, handling and transportation of erodible materials shall be avoided under high wind conditions (excess of 35km/hr) or when a visible dust plume is present; • Ensure that the shortest routes are used for material transport; • Ensure that stockpile height is kept to a minimum; • Minimise travel speed on unpaved roads;	**Very Low (-)**

NAME OF ACTIVITY	POTENTIAL IMPACT	ASPECTS AFFECTED	PHASE	SIGNIFICANCE if not mitigated	MITIGATION TYPE	SIGNIFICANCE if mitigated
					• Implement monthly site inspection to check for possible areas of dust generation not addressed or not effectively managed; • Spray areas to be cleared with water; • Ensure minimum travel distance between working areas and stockpiles; • Ensure that topsoil for stockpiles is sprayed with water before tipping to prevent dust generation; • Ensure graded areas are sprayed with water; • Minimise the amount of graded areas; • Load and offload material, as far as possible, downwind of topsoil stockpiles.	
	Gaseous emissions from vehicles and machinery may cause an impact on ambient air quality.	Health of landowners and occupiers	Prospecting	**Medium (-)**	• All vehicles and machinery will be regularly serviced to ensure they are in proper working condition and to reduce risk of leaks; • Proper planning of movements (vehicle trips) and working of machinery should take place, in order to avoid unnecessary trips and hours of operation.	**Low (-)**

	Generation of additional general waste, litter and building rubble and hazardous waste.	Biodiversity Health and safety Soil	Prospecting	**Medium (-)**	**Control through management measures.** • A central waste storage and transition area shall be established within the site camp;	**Low (-)**

NAME OF ACTIVITY	POTENTIAL IMPACT	ASPECTS AFFECTED	PHASE	SIGNIFICANCE if not mitigated	MITIGATION TYPE	SIGNIFICANCE if mitigated
		Surface water systems			• The central waste storage and transition area shall be surfaced and demarcated appropriately; • Portable wheelie bins shall be placed throughout the site camp as well as at the remainder of the site and at all working areas in the field; • Wheelie bins shall be colour coded and labelled to identify the waste stream for which it is intended; • All portable wheelie bins and other containers shall be emptied at the central waste storage and transition area a minimum of once a week or when filled, as to avoid waste build-up; • The waste shall be removed (within 30 days) by a licensed waste service provider as shall be disposed of at a licensed waste landfill site and records of safe disposal (as required for hazardous wastes) shall be supplied to the Contractor. These records shall be kept on site by the ESM; • Wherever possible and practical, waste materials generated on site must be recycled; and	

NAME OF ACTIVITY	POTENTIAL IMPACT	ASPECTS AFFECTED	PHASE	SIGNIFICANCE if not mitigated	MITIGATION TYPE	SIGNIFICANCE if mitigated
					• Waste specific (hazardous, timber, steel etc.) mitigation measures to be implemented.	
	Minor impact caused by need for services i.e. water, electricity and sewerage systems during the prospecting phase causing additional strain on natural resources and service infrastructure.	Natural resources including water and energy resources	Prospecting	**Low (-)**	**Reduce through controlling management measures.** • Energy savings measures to be implemented at the site e.g.: o No lights to be switched on unnecessarily; o Only security lights to be switched on at night; • Energy saving bulbs to be installed; and • Water should be recycled as far as possible to avoid any additional water usage.	**Very Low (-)**
	Minor change in traffic patterns as a result of traffic entering and exiting the site on the surrounding road infrastructure and existing traffic.	Traffic	Prospecting	**Low (-)**	**Reduce through controlling management measures.** • Where feasible heavy vehicles should not operate on public roads during peak hours; and • Heavy vehicles should adhere to the speed limit of the road.	**Very Low (-)**

	Nuisance, health and safety risks caused by increased traffic on and adjacent to the study area	Safety of workers, contractors and landowners	Prospecting	**Medium (-)**	**Prevent through controlling management measures.** • Drivers will be enforced to keep to set speed limits; • Trucks will be in a road-worthy condition;	**Very Low (-)**
NAME OF ACTIVITY	**POTENTIAL IMPACT**	**ASPECTS AFFECTED**	**PHASE**	**SIGNIFICANCE** if not mitigated	**MITIGATION TYPE**	**SIGNIFICANCE** if mitigated

	including cars, and heavy vehicles.	and occupiers			• Roads and intersections will be signposted clearly. Only main roads should be used; • Where feasible vehicles should not operate on public roads during peak hours; • Vehicles should adhere to the speed limit of the road; • Heavy vehicles should always travel with their headlights switched on; • Heavy vehicles should not stop on the road to pick up hitchhikers – No stopping on the road approaching the site will be allowed; • Notre Coal shall be responsible for ensuring that suitable access is maintained for public traffic to all relevant businesses and properties; and • All traffic accommodation measures are to conform to the latest edition of the South African Road Signs Manual.	
	Possibility of prospecting activities and workers causing veld fires, which can potentially cause	Biodiversity Health and safety of landowners,	Prospecting	**Medium (-)**	**Prevent through controlling management measures.** • All workers will be sensitized to the risk of fire;	**Very Low (-)**

NAME OF ACTIVITY	POTENTIAL IMPACT	ASPECTS AFFECTED	PHASE	SIGNIFICANCE if not mitigated	MITIGATION TYPE	SIGNIFICANCE if mitigated
	injury and or loss of life to workers and surrounding landowners, visitors and workers.	occupiers,and visitors workers			• Smoking is only allowed in designated smoking areas and disposal of cigarette butts safely in sand buckets; • The Applicant shall ensure that the basic firefighting equipment is available on the site; • Extinguishers should be located outside hazardous materials and chemicals storage containers; • Fire response and evacuation: o An Emergency Plan (including Fire Protection, Response and Evacuation Plan) is to be prepared by the Applicant and conveyed to all staff on the site' o Identify major risks to minimise the environmental impacts e.g., air pollution and contaminated effluent runoff.	

	Increased risk to public and worker safety: If not fenced off, the public and workers may fall into excavated areas and trenches.	Health and safety of landowners, occupiers of land, workers, visitors and	Prospecting	**Medium (-)**	• A health and safety plan in terms of the Mine Health and Safety Act (Act 29 of 1996) should be compiled and implemented to ensure worker safety; • A health and safety control officer should monitor the implementation of the health and safety plan for the operational phase;	**Very Low (-)**

NAME OF ACTIVITY	POTENTIAL IMPACT	ASPECTS AFFECTED	PHASE	SIGNIFICANCE if not mitigated	MITIGATION TYPE	SIGNIFICANCE if mitigated
		the general public.			• A record of health and safety incidents should be kept on site and made available for inspection; • Any health and safety incidents should be reported to the Site Manager (SM) immediately; • First aid facilities should be available on site at all times; • Workers have the right to refuse work in unsafe conditions; • Material stockpiles or stacks should be stable and well secured to avoid collapse and possible injury to site workers. • Access to excavation must be controlled; • Excavated areas should be temporarily fenced-off; and • Excavations will be backfilled and landscaped as soon as possible.	
	Potential creation of very limited extent short term employment opportunities for the local community, during the prospecting phase.	Socio-economic	Prospecting	**Low (+)**	• Local labour to be sourced where possible.	**Low (+)**

NAME OF ACTIVITY	POTENTIAL IMPACT	ASPECTS AFFECTED	PHASE	SIGNIFICANCE if not mitigated	MITIGATION TYPE	SIGNIFICANCE if mitigated
	Multiplier effects on local economy will be positive, but very limited in extent and only short term.	Socioeconomic	Prospecting	**Low (+)**	• Supplies to be bought locally as far as possible.	**Low (+)**

The supporting impact assessment conducted by the EAP must be attached as an appendix, marked Appendix – Please refer to Table 8 for the full impact assessment.

14. Summary of specialist reports

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

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

Hydrogeological study	X	

Hydrological study		X	
Soil study		X	

Specialist studies attached as Appendix 5.

15. Environmental impact statement

15.1. Summary of the key findings of the environmental impact assessment;

A summary of the key findings of the environmental impact assessment is outlined below.

Key findings for the Basic Assessment:

- The possible environmental impacts associated with the proposed prospecting are considered insignificant. A diamond core drill rig will be used for drilling.
- There are impacts associated with the water courses that is located onsite. The proposed prospecting area falls within the Inkomati-Usuthu Water Management Area (WMA) under Quaternary Catchments W51C and W51D) and Pongola Mtamvuna Water Management Area (WMA) and under the Quaternary Catchment W42C.
- The proposed prospecting area falls within the heavily and moderately modified due to agricultural activities such as plantation.

Key findings for the socio-economic environment:

- Consultation with all relevant Interested and Affected Parties as well as stakeholders and landowners is conducted to capture any comments or concerns regarding the proposed activities and to ensure that they are kept informed and allowed to raise issues. The concerns raised will be included in the final BAR & EMPr.

15.2. 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. Attach as appendix)

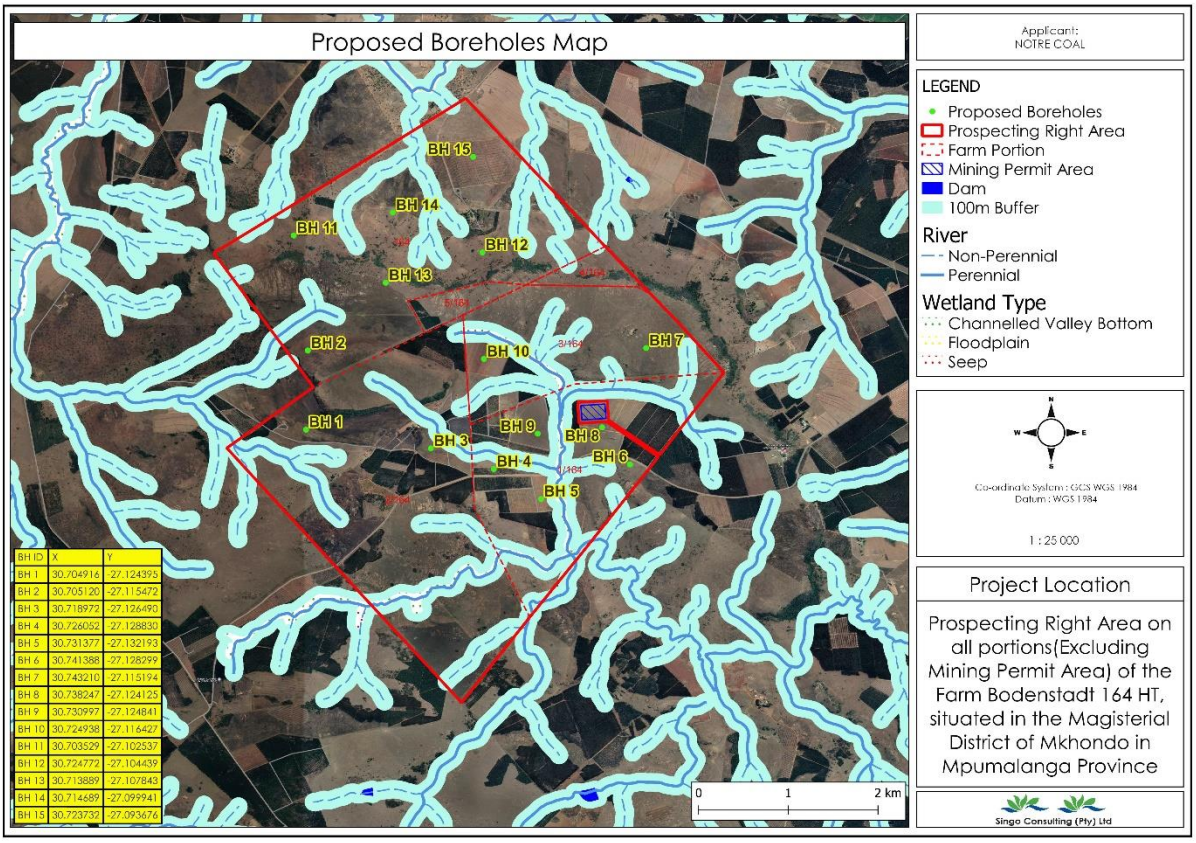


Figure 31: biodiversity and buffer map of the area

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

The positive implication of the Prospecting Right is the discovery of an economically viable mineral resource. Although non-invasive techniques will be utilized as part of the proposed prospecting activities. The implementation of the proposed mitigation measure will ensure that the negative implications and risks of the project are minimal.

The Potential positive impacts are as follows:

- Discovery of an economically viable mineral resources
- Employment contributing to the economy.
- Positive contribution to the South African Gross Domestic Product
- Concurrent rehabilitation during prospecting

The potential negative impacts are as follows:

- ❖ Clearance/Disturbance of vegetation;
- ❖ Compacting of Soils;
- ❖ Drilling impact on identified lithic scatters;
- ❖ Deterioration and damage to existing access roads and tracks;
- ❖ Safety and security risks to landowners and lawful occupiers;
- ❖ Interference with existing land uses;
- ❖ Generation and disposal of waste;
- ❖ Contamination of surface and ground water;
- ❖ Introduction/invasion by alien species;
- ❖ Noise;
- ❖ Impact on faunal species;
- ❖ Pollution of Soils;
- ❖ Dust;
- ❖ Erosion due to vegetation clearance;
- ❖ Impact on surface water features;
- ❖ Impact on groundwater;
- ❖ Loss of fossil heritage.

The EMPr has identified appropriate mechanisms for avoidance and mitigation of these negative impacts.

15.4. Proposed impact management objectives and the impact management outcomes for inclusion in the EMPR;

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

The following management objectives and impact management outcomes are recommended for inclusion in the EMPR:

- Biodiversity: Prevent and / or restrict the loss of indigenous fauna and flora as far as practically possible;

- Physical aspects: Prevent and / or restrict the impact on soils and surface water;
- Social Aspects: Ensure the health and safety of employees of Notre Coal (Pty) Ltd and any contractors associated with the development and operation of the proposed activity as well as the surrounding community and visitors;
- Heritage: Ensure the protection of any potential heritage features or objects that may be excavated during the proposed development.

16. Aspects for inclusion as conditions of Authorization

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

The following aspects are recommended to be included as conditions in the Environmental Authorisation:

- The EMPR is a contractual document and must be implemented at all times during the prospecting phase;
- An independent environmental control officer (ECO) must be appointed to monitor the implementation of the EMPR and audit reports to be kept by the applicant;
- All contractors and employees of Notre Coal (Pty) Ltd must be made aware of the EMPR and its requirements as well as the impact of not implementing the measures of the EMPR;
- Copies of the EMPR, Integrated Environmental Authorisation and any emergency procedures and method statements, must be kept on site and be available on request of the Competent Authority.

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

(Which relate to the assessment and mitigation measures proposed)

The following assumptions, uncertainties, and gaps in knowledge are applicable to this BAR & EMPr:

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

17. Reasoned opinion as to whether the proposed activity should or should not be authorized

17.1. Reasons why the activity should be authorized or not

In general, it is recognized that the proposed prospecting activities have the potential to pose various risks to the environment. However, based on the findings of this BA documented in this report, all impacts can be mitigated to insignificant levels.

This report shows that the proposed development has the potential to provide socio-economic benefits to the local and regional communities. The EAP therefore recommends that the proposed activities be approved on condition that the EMPR is strictly implemented and monitored for compliance.

Not implementing the prospecting activities will result in a loss of information on mineral reserves present on the study area. Should economically feasible reserves exist on the study area and the applicant cannot prospect, the opportunity to utilize the reserves for future mining and brickmaking will be lost, i.e. the minerals will be sterilized and resultant socio-economic benefits will be lost.

The proposed prospecting activities have the potential to have a negative impact on the ecological environment as well as the social environment of the area. These impacts, however, can potentially be prevented, minimised, mitigated and managed to low and very low levels, as shown through the impact assessment.

17.2. Conditions that must be included in the authorisation

- The EMPR is a contractual document and must be implemented at all times during the prospecting phase;

- An independent environmental control officer (ECO) must be appointed to monitor the implementation of the EMPR and audit reports to be kept by the applicant;
- All contractors and employees of Notre Coal (Pty) Ltd must be made aware of the EMPR and its requirements as well as the impact of not implementing the measures of the EMPR;
- Copies of the EMPR, Environmental Authorisation and any emergency procedures and method statements, must be kept on site and be available on request of the Competent Authority.

18. Period for which the Environmental Authorisation is required

This Environmental Authorisation is required for a period of 5 years.

19. 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).

It is confirmed 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 BAR and the EMPR.

20. Financial provision

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

A financial provision of approximately **R49 939** has been budgeted for the prospecting activities. In addition, **R47 327** will be made available by Notre Coal (Pty) Ltd for rehabilitation purposes.

Table 11 Calculation of the quantum

CALCULATION OF THE QUANTUM

Notre Coal (Pty) Ltd

Applicant:
Evaluator: **Khodani Mathako**

Ref No.: **MP30/5/1/1/2/ 17549 PR**
Date: **30-Aug-22**

No.	Description	Unit	A Quantity	B Master Rate	C Multiplication factor	D Weighting factor 1	E=A*B*C*D Amount (Rands)
1	Dismantling of processing plant and related structures (including overland conveyors and powerlines)	m3	0	19	1	1	0
2 (A)	Demolition of steel buildings and structures	m2	0	271	1	1	0
2(B)	Demolition of reinforced concrete buildings and structures	m2	0	400	1	1	0
3	Rehabilitation of access roads	m2	6845,1	49	0,02	1	6708,198
4 (A)	Demolition and rehabilitation of electrified railway lines	m	0	471	1	1	0
4 (A)	Demolition and rehabilitation of non-electrified railway lines	m	0	257	1	1	0
5	Demolition of housing and/or administration facilities	m2	0	542	1	1	0
6	Opencast rehabilitation including final voids and ramps	ha	0	284292	1	1	0
7	Sealing of shafts adits and inclines	m3	0	146	1	1	0
8 (A)	Rehabilitation of overburden and spoils	ha	0	189528	1	1	0
8 (B)	Rehabilitation of processing waste deposits and evaporation ponds (non-polluting potential)	ha	0	236054	1	1	0
8 (C)	Rehabilitation of processing waste deposits and evaporation ponds (polluting potential)	ha	0	685812	1	1	0
9	Rehabilitation of subsided areas	ha	0	158701	1	1	0
10	General surface rehabilitation	ha	0,9	150138	0,2	1	27024,84
11	River diversions	ha	0	150138	1	1	0
12	Fencing	m	0	171	1	1	0
13	Water management	ha	0	57087	1	1	0
14	2 to 3 years of maintenance and aftercare	ha	0	19980	1	1	0
15 (A)	Specialist study	Sum	0			1	0
15 (B)	Specialist study	Sum				1	0
					Sub Total 1		33733,038
1	Preliminary and General		4047,96456		weighting factor 2 1		4047,96456
2	Contingencies			3373,3038			3373,3038
					Subtotal 2		41154,31
					VAT (15%)		6173,15
					Grand Total		**47327**

Singed: Mathako Khodani
Date: 30/08/2022

Figure 32: Financial Provision

20.1. Explain how the aforesaid amount was derived

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

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

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

Notre Coal (Pty) Ltd herewith confirms both its capacity and willingness to make the financial provision required should the prospecting right be granted. Work will be approved on a phase-by-phase basis, dependent on the results obtained in the previous phase i.e., although prospecting work may be provided for financially in the budget for a specific year, it will only take place if justified. The amount is also reflected in the Prospecting Work Programme submitted to the DMRE.

21. Specific information required by the competent authority

No additional information other than the appendices of this report has been included.

21.1. Compliance with the provisions of sections 24(4)(a) and (b) read with section 24 (3) (a) and (7) of the National

Environmental Management Act (Act 107 of 1998). the EIA report must include the: -

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

(Provide the results of Investigation, assessment, and evaluation of the impact of the mining, bulk sampling or alluvial diamond prospecting on any directly affected person including the

landowner, lawful occupier, or, where applicable, potential beneficiaries of any land restitution claim, attach the investigation report as an Appendix).

The potential impacts on the socio-economic conditions have the potential to include:

- Safety and security risks to landowners and lawful occupiers

  The potential exists for a group of unfamiliar workers to enter the project area during the prospecting activities. This impact could potentially affect the local communities; however the impact will be minimal as people on site will be limited to the Applicant, contractor and geologists for the topographical and geophysical surveys.

- Interference with existing land uses

  Access to the application area for the topographical and geophysical survey will be required which may interrupt the existing land uses, such as livestock grazing, residential developments and game activities. However, this impact will be minimal as no heavy equipment will be brought on site and it is of short duration.

The consultation process will allow directly affected parties to raise their concerns. Further to this, it must be noted that I&AP's, including directly affected parties such as landowners, have the opportunity to review and comment on this report. The results of the public consultation have been included in the final report submitted to the department for adjudication.

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

From these previous research records conducted in the area; the specialist concluded that the general region is significant from a heritage perspective. Heritage sites are likely to include graveyards, Iron Age/Farmer and Historical remains. Since heritage sites, e.g. graves, are not always clearly identifiable as it might consist of stone cairns, it is advised that a qualified archaeologist inspect the proposed prospecting sites prior to drilling to establish whether the sites might be sensitive from a heritage perspective.

The following recommendations were made in terms of the National Heritage Resources Act (Act No. 25 of 1999) in order to avoid the destruction of heritage remains in areas demarcated for prospecting:

- Prior to any development, construction or prospecting, a qualified archaeologist should conduct a site inspection on the areas demarcated for geotechnical drilling/prospecting. Proposed access roads to the drill sites should also be surveyed in order to avoid the destruction of heritage material;
- Should the prospecting outcome result in further development or construction and mining, a full Phase 1 Archaeological Impact Assessment must be conducted on the affected area if triggered;
- Because archaeological artefacts generally occur below surface, the possibility exists that culturally significant material may be exposed during the development and construction phases, in which case all activities must be suspended pending further archaeological investigations by a qualified archaeologist. Also, should skeletal remains be exposed during development and construction phases, all activities must be suspended and the relevant heritage resources authority contacted (see National Heritage Resources Act (Act No. 25 of 1999) Section 36 (6)).

22. 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).

The EAP included all aspects as required by the EIA regulations, 2014 for the EIA and EMPR as described in the Executive Summary of this report. Please refer to Part A.

PART B
ENVIRONMENTAL MANAGEMENT PROGRAMME REPORT

23. Introduction

23.1. Details of the EAP

(Confirm that the requirement for the provision of the details and expertise of the EAP are already included in PART A, section 1(a) herein as required).

Herewith, it is confirmed that the requirement for the provision of the details and expertise of the EAP are already included in PART A, Section 1(a) of this report.

23.2. Description of the Aspects of the Activity

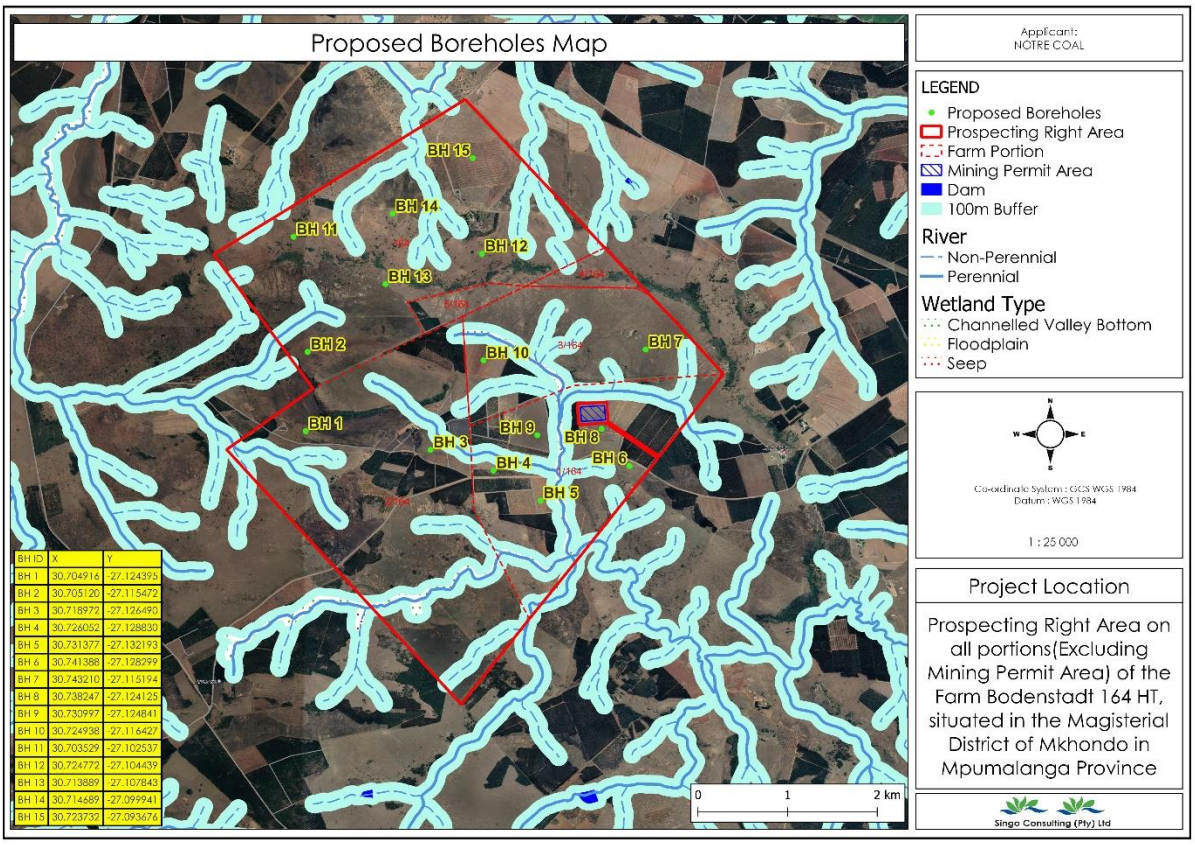
(Confirm that the requirement to describe the aspects of the activity that are covered by the draft environmental management programme is already included in PART A, section (1) (h) herein as required).

Herewith, it is confirmed 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 (2) herein as required.

23.3. Composite Map

(Provide a map 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 should be avoided, including buffers).

COMPOSITE MAP



BH ID	X	Y
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BH 2	30.705120	-27.115472
BH 3	30.718972	-27.126490
BH 4	30.726052	-27.128830
BH 5	30.731377	-27.132193
BH 6	30.741388	-27.128299
BH 7	30.743210	-27.115194
BH 8	30.738247	-27.124125
BH 9	30.730997	-27.124841
BH 10	30.724938	-27.116427
BH 11	30.703529	-27.102537
BH 12	30.724772	-27.104439
BH 13	30.713889	-27.107842
BH 14	30.714689	-27.099941
BH 15	30.723732	-27.093676

Refer to appendix for a composite map

24. Description of Impact management objectives including management statements

24.1. Determination of closure objectives

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

The prospecting activities are dependent on the preceding phase (non-invasive). Prospecting is conducted in phases, where the activities and location of drilling and trenching to sample soil are dependent on the previous phase. Therefore, the specific locations and extent of soil sampling and diamond core drilling cannot be predetermined.

The closure objectives include:

- Ensure that there are no safety risks associated with the drill boreholes through drill hole capping and backfilling;

- Rehabilitate any pollution that occurred through hazardous spills or waste materials and remove the source of the pollution;
- Establish an area that is not susceptible to soil erosion;
- Re-vegetate disturbed areas with endemic plant species that occur naturally within the area.

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

After careful consideration of the scale of operation it has been deduced that approximately 40 L will used as potable water. It is anticipated that water will be purchased from a private water filter dealer such as Oasis and brought onto the site.

24.3. Has a water use license been applied for?

No, the main prospecting right activities that will take place includes Drilling, Logging, Sampling and Mapping. It should be noted that these activities do not include any mining activities nor bulk sampling, and No PCD, Trenches and Berms will be constructed. The drilling activity will only take up about 1.32 ha per planned borehole, and all the planned exploration boreholes will be outside the 100m DWS regulated radius from the watercourses. No water will be abstracted from the drilled exploration boreholes. 5000L Jojo tank will be used to store water for drilling.

No water use license has been applied for the proposed project and the identified water resource is regarded as no go area. A 100m buffer zone will be applied from the identified water resource and drilling will be conducted 100m away from the identified water resource. Water to be used during drilling will be trucked in until prospecting concludes.

24.4. Impacts to be mitigated in their respective phases

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

Table 12: Impacts to be mitigated

Activities	Phase	Size and Scale of Disturbance	Mitigation Measures	Compliance with Standards	Time Period for Implementation
Site clearance	Construction Operation	0.9 ha, short term and localized	• Demarcation of sensitive areas in consultation with relevant specialists and ECO; • Utilise local labour if possible; • Minimise removal of vegetation as far as possible; • Identification and relocation of protected species by a qualified ecologist (and application or the relevant biodiversity permits where required); • Minimize dust generation; • Limit vehicle access; • Implement alien vegetation management; • Ongoing identification of risks and impacts; • Emergency preparedness; • Monitoring and review; and	NEMA MPRDA NEMBA NEMAQA Dust regulations NWA DWAF Best Practice Guidelines	Throughout Construction and operation

			• Avoid disturbance of fauna as much as possible, especially bird nesting sites.		
Site access	Construction Operation	1576.24 ha, short term and localized	All employees and visitors to the site must undergo a site induction which shall include basic environmental awareness and site-specific environmental requirements (e.g. site sensitivities and relevant protocols/procedures). This induction should be presented or otherwise facilitated by the Contractors EO/Mine EO wherever possible.	NEMA OHS and MHSA	Throughout Construction and operation
Activities	**Phase**	**Size and Scale of Disturbance**	**Mitigation Measures**	**Compliance with Standards**	**Time Period for Implementation**

			• Landowners/lawful occupiers must be notified prior to accessing properties. A date and time that is suitable to landowners/lawful occupiers and is reasonable to the applicant should be negotiated and agreed upon. • The number, identity of workers, work location and work to be done must be provided to the landowner/lawful occupier prior to going on site. • Consideration must be taken by the applicant and/or contractors when on site not to interfere with the existing land uses and practices.		

Establishment of site infrastructure	Construction	2,1 ha, short term and localized	• Minimise physical footprint of construction; • Ensure construction is consistent with occupational health and safety requirements; • Minimise vegetation clearance; • Ensure proper and adequate drainage; • Minimise waste and control waste disposal; • Fencing of all drill sites with security access control and warning signs; • Establish waste storage areas for recycling; • Ensure adequate containment of waste to prevent pollution; • Minimise dust generation; • Limit vehicle access to approved access roads; • Prepare contingency plans for spillage and fire risks.	NEMA MPRDA NEMBA NEMAQA Dust regulations NWA DWAF Best Practice Guidelines NHRA	Throughout Construction and operation
Activities	**Phase**	**Size and Scale of Disturbance**	**Mitigation Measures**	**Compliance with Standards**	**Time Period for Implementation**
			Temporary heritage signage around the conserved farmsteads during the construction (drilling) phase.		

Storage of construction vehicles	Construction and Operation	0,9 ha, short term and localized	• Any equipment that may leak, and does not have to be transported regularly, must be placed on watertight drip trays to catch any potential spillages of pollutants. The drip trays must be of a size that the equipment can be placed inside it; • Drip trays must be cleaned regularly and shall not be allowed to overflow. All spilled hazardous substances must be collected and adequately disposed of at a suitably licensed facility; and • Compacting of soil must be avoided as far as possible, and the use of heavy machinery must be restricted in areas outside of the proposed exploration sites to reduce the compaction of soils.	NWA DWAF BPG	Throughout Construction and operation

Transportation/ access to and from drill sites	Construction and Operation	2,1 ha, short term and localized	• Where possible, drill sites should be located along existing access roads to reduce the requirement for additional access roads; • Any new temporary access routes to a drill site should result in minimal disturbance to existing vegetation; • Prior to accessing any portion of land, the Applicant must enter into formal written agreements with the affected landowner. This formal agreement should additionally stipulate landowners special conditions which would form a legally binding agreement;	NEMA NEMBA CARA NEMAQA Dust Regulations Road Traffic Act	Throughout Construction and operation

Activities	**Phase**	**Size and Scale of Disturbance**	**Mitigation Measures**	**Compliance with Standards**	**Time Period for Implementation**

			• All farm gates must be closed immediately upon entry/exit; • Under no circumstances may the contractor damage any farm gates, fences, etc.; • On-site vehicles must be limited to approved access routes and areas on the site so as to minimize excessive environmental disturbance to the soil and vegetation on site, and to minimize disruption of traffic (where relevant); • All construction and vehicles using public roads must be in a roadworthy condition and their loads secured. They must adhere to the speed limits and all local, provincial and national regulations with regards to road safety and transport; • Damage caused to public roads as a result of the construction activities must be repaired in consultation with the relevant municipal authorities; and • All measures should be implemented to minimize the potential of dust generation.		

Storage of hazardous substances	Construction and Operation	0,9 ha, short term and localized	All hazardous substances (e.g. fuel, grease, oil, brake fluid, hydraulic fluid) must be handled, stored and disposed of in a safe and responsible manner so as to prevent pollution of the environment or harm to people or animals. Appropriate measures must be implemented to prevent spillage and appropriate steps must be taken to prevent pollution in the event of a spill; and way that does not pose any danger of pollution even during times of high rainfall.	NWA NEMWA DWAF BPG NEMA	Throughout Construction and operation

Activities	**Phase**	**Size and Scale of Disturbance**	**Mitigation Measures**	**Compliance with Standards**	**Time Period for Implementation**
			• Hazardous substances must be confined to specific and secured areas, and stored at all-time within bunded areas; • Adequate spill prevention and clean-up procedures should be developed and implemented during the prospecting activities. • Should any major spills of hazardous materials take place, such should be reported in terms of the Section 30 of the NEMA.		

Waste management	Construction and Operation	Short-medium term, localized	• Waste generated on site must be recycled as far as possible. Recyclable waste must not be stored on site for excessive periods to reduce risk of environmental contamination; • Drill muds, formation water (if encountered), etc. would constitute waste and must be classified and ranked in terms of relevant legislation for correct disposal; and • A Waste Management System must be implemented, and provide for adequate waste storage (in the form of enclosed containers) waste separation for recycling, and frequent removal of non-recyclable waste for permanent disposal at an appropriately licensed waste disposal facility. No waste material is to be disposed of on site.	DWAF Minimum requirements for waste disposal NEMWA	Throughout Construction and operation
Prospecting boreholes:	Construction and Operation Decommissioning	0,9 ha, short term	• Vegetation clearing for prospecting sites should be kept to a minimum in order to reduce the disturbance footprint; • Compaction of soil must be avoided as far as possible, and the use of heavy machinery must	SANS 10103 ECA Noise Regulations NEMAQA	Throughout Construction and operation and decommissioning

Activities	Phase	Size and Scale of Disturbance	Mitigation Measures	Compliance with Standards	Time Period for Implementation
15 sites , with a footprint of 600 m^2 each			be restricted in areas outside of the proposed prospecting sites to reduce the compaction of soils; • All measures should be implemented to minimize the potential of dust generation; • Local residents should be notified of any potentially noisy activities or work and these activities should be undertaken at reasonable times of the day. These works should not take place at night or on weekends; • Noise attenuation on engines must be adequate, and the noisy activities must be restricted as far as is possible to times and locations whereby the potential for noise nuisance is reduced; • When working near to a potential sensitive area, the contractor must limit the number of simultaneous activities to the minimum; • Ensure proper storage of fuels; • On-site vehicles must be limited to approved access routes and areas on the site so as to minimize excessive environmental disturbance to the soil	Dust Regulations NWA	

			and vegetation on site, and to minimize disruption of traffic; • Workforce should be kept within defined boundaries and to agreed access routes. • No invasive prospecting activities to be undertaken within 500m of a watercourse. • Should any watercourse be affected, then the necessary water use licences should be		
Activities	**Phase**	**Size and Scale of Disturbance**	**Mitigation Measures**	**Compliance with Standards**	**Time Period for Implementation**

			obtained from the Department of Water and Sanitation. • No ablution of site laydown areas is to be located within 500m of a watercourse. • Where shallow aquifers are encountered, a survey of the drinking water/ livestock watering boreholes should be undertaken (within 100m of the prospecting borehole sites). A detailed groundwater monitoring programme should be developed for these drinking water/ livestock watering boreholes and pre- and post-prospecting water quality samples should be taken. • Where drinking water/ livestock watering boreholes are to be affected, and where a pollution event occurs at a particular borehole, then the advice of a geo-hydrologist should be sought with regards to the need for plugging and casing of the prospecting boreholes.		
Prospecting	Construction and Operation	0,9 ha, short term	Workers must be easily identifiable by clothing and ID badges. Workers should carry with them, at all times a letter from the applicant stating their employment, title, role and manager contact details.	OHS and MHSA	Throughout Construction and operation

Resource definition drilling	Planning Phase Construction and Operation	0,9 ha, short term	Local residents (landowners and directly adjacent landowners) should be notified of any potentially noisy activities or work and these activities should be undertaken at reasonable	MPRDA Regulations GN R527 SANS 10103	Planning Phase Throughout Construction and operation
Activities	**Phase**	**Size and Scale of Disturbance**	**Mitigation Measures**	**Compliance with Standards**	**Time Period for Implementation**
			times of the day. This work should not take place at night or on weekends; • The contractor must attempt to restrict noisy activities as far as is possible to times and locations whereby the potential for noise nuisance is reduced; • Dust suppression methods must be applied when necessary to restrict the visual impact of dust emissions. • Any spills of hydrocarbons or fluids used during operation, must be cleaned up immediately; • An above ground drilling sump must be used to contain drilling mud in order to reduce surface and groundwater contamination. No earthen mud sumps are to be constructed and utilized;	ECA Noise Regulations NEMAQA Dust Regulations NWA DWAF BPG NHRA	

			• No prospecting boreholes should be drilled in the immediate vicinity of existing private boreholes; • Soils in drilling areas where disturbances will be encountered must be stripped and stockpiled outside affected areas for use after completion of the drilling program. • Topsoil must be adequately stripped to the correct depth and stored separately from subsoils; • Cut of trench and berm must be constructed around the drill pad to prevent contaminated surface runoff from entering shallow aquifers and surrounding water resources, where required by the topography; • A liner should be placed over the drill pad and drip trays must be used in all areas where hydrocarbons are handled; • On-site vehicles must be limited to approved access routes and areas on the site so as to		
Activities	**Phase**	**Size and Scale of Disturbance**	**Mitigation Measures**	**Compliance with Standards**	**Time Period for Implementation**
			minimize excessive environmental disturbance to the soil and vegetation on site, and to minimize disruption of traffic; • Workforce should be kept within defined boundaries ad to agreed access routes;		

			• The designated competent authority (DMRE) may, at the cost of the Applicant, appoint an independent and competent person to undertake borehole examination. • Should any fugitive emissions be detected, then the recommendations of the must be undertaken throughout the drilling activity up to the decommissioning of the wells. • Should any chance finds be uncovered during the construction phase, these must be handled in accordance with the requirements of the National Heritage Resources Act, 1999 (Act 25 of 1999) (NHRA); and • If a possible heritage site (including graves) or artefact is discovered during construction, all operations in the vicinity of the discovery (at least 30 m buffer) should stop and a qualified specialist contracted to evaluate and recommend appropriate actions. Depending on the type of site that can include initiating a grave relocation process, documentation of structures or archaeological excavations. • Should fossil remains be discovered in the Cenozoic Superficial deposits during any phase of construction, either on the surface or exposed by		

			fresh excavations, the ECO responsible for these developments should be alerted immediately. Such discoveries ought to be protected (preferably in situ) and the ECO should alert SAHRA so that appropriate mitigation		
Activities	**Phase**	**Size and Scale of Disturbance**	**Mitigation Measures**	**Compliance with Standards**	**Time Period for Implementation**
			recording, sampling or collection) can be taken by a professional palaeontologist. • The Final BAR and appendices must be submitted to SAHRA for record purposes; • If any evidence of archaeological sites or remains (e.g. remnants of stone-made structures, indigenous ceramics, bones, stone artefacts, ostrich eggshell fragments, charcoal and ash concentrations), fossils or other categories of heritage resources are found during the proposed development, SAHRA APM Unit must be alerted. If unmarked human burials are uncovered, the SAHRA Burial Grounds and Graves (BGG) Unit must be alerted immediately. A professional archaeologist or palaeontologist, depending on the nature of the finds, must be contracted as soon as possible to inspect the findings. If the newly discovered heritage resources prove		

			to be of archaeological or palaeontological significance, a Phase 2 rescue operation may be required subject to permits issued by SAHRA; and • If the development receives an Environmental Authorisation (EA), SAHRA must be informed and all documents pertaining to the EA must be uploaded to the SAHRIS Case file. • Temporary heritage signage around the conserved.		
Refuelling	Construction and Operation	Short term and localized	Refuelling may only take place within demarcated areas that is subject to appropriate spill prevention and containment measures refuelling	NWA DWAF BPG	Throughout Construction and operation
Activities	**Phase**	**Size and Scale of Disturbance**	**Mitigation Measures**	**Compliance with Standards**	**Time Period for Implementation**
			and transfer of hazardous chemicals and other potentially hazardous substances must be carried out so as to minimize the potential for leakage and to prevent spillage onto the soil; Drip trays should be utilized in relevant locations (inlets, outlets, points of leakage, etc.) during transfer so as to prevent such spillage or leakage. Any accidental spillages must be contained and cleaned up promptly.		

Maintenance and repair	Construction and Operation	Short term and localized	• Trucks, machinery and equipment must be regularly serviced to ensure they are in proper working condition and to reduce risk of leaks. All leaks must be cleaned up immediately using spill kits or as per the emergency response plan. For large spills a hazardous materials specialist shall be utilized; • Accidental hydrocarbon spillages must be reported immediately, and the affected soil should be removed, and rehabilitated or if this is not possible, disposed of at a suitably licenced waste disposal facility.	NWA DWAF BPG NEMA	Throughout Construction and operation
Borehole Closure	Decommissioning and Closure	Short term and localized	• Where groundwater is encountered during drilling, all affected prospecting boreholes that will not be required for later monitoring or other useful purposes should be plugged and sealed with cement to prevent possible cross flow and contamination between aquifers; • Cement and liquid concrete are hazardous to the natural environment on account of the very high pH of the material, and the chemicals contained	NWA DWAF BPG	Throughout Decommissioning and Closure
Activities	**Phase**	**Size and Scale of Disturbance**	**Mitigation Measures**	**Compliance with Standards**	**Time Period for Implementation**

			therein. As a result, the contractor shall ensure that: o Concrete shall not be mixed directly on the ground; o The visible remains of concrete, either solid, or from washings, shall be physically removed immediately and disposed of as waste, (Washing of visible signs into the ground is not acceptable); and o All excess aggregate shall also be removed.		
Removal of surface infrastructure	Decommissioning	Short term and localized	• All infrastructure, equipment, and other items used during prospecting will be removed from the site. • Compaction of soil must be avoided as far as possible. The use of heavy machinery must be restricted in areas outside of the proposed prospecting sites to reduce the compaction of soils.	MPRDA Rehab Plan	Decommissioning
Removal of waste	Decommissioning	Small scale and localized	Any excess or waste material or chemicals, including drilling muds etc. must be removed from the site and must preferably be recycled (e.g. oil and other hydrocarbon waste products). Any waste materials or chemicals that cannot be	NWA DWAF BPG	Decommissioning

			recycled must be disposed of at a suitably licensed waste facility.		
Rehabilitation	Rehabilitation	All disturbed areas	Restoration and rehabilitation of disturbed areas must be implemented as soon as prospecting activities are completed;	MPRDA Rehab Plan NEMA	Rehabilitation
Activities	**Phase**	**Size and Scale of Disturbance**	**Mitigation Measures**	**Compliance with Standards**	**Time Period for Implementation**
			• Sites must be restored to the original condition with vegetation cover (where applicable) equalling the surrounding vegetation cover; • All debris and contaminated soils must be removed and suitably disposed of; • Contours and natural surrounding must be reformed; • Natural drainage patterns must be restored; • All surface infrastructure on site must be removed; • Temporary access routes/roads must be suitably rehabilitated; and • Sites must be monitored by the ECO (including relevant specialist's inputs if, necessary) for adequate rehabilitation until		

			the desired rehabilitation objectives have been achieved.		
Consultation	Planning Phase Construction and Operation	Medium term, local	Stakeholder engagement will continue throughout the prospecting activities to ensure the community and landowners are kept informed and allowed to raise issues. The Applicant shall attend applicable community meetings with the affected communities. Any issues raised will then be addressed through a grievance mechanism.	NEMA OHS and MHSA	Planning Phase Throughout Construction and Operation
Monitoring	Post-Operational	All rehabilitated areas	The post-operational monitoring and management period following decommissioning of prospecting activities must be implemented by a suitable qualified independent party for a minimum of one (1)	MPRDA Rehab Plan	Post-operation
			year unless otherwise specified by the competent authority. The monitoring activities during this period will include but not be limited to: • Biodiversity monitoring; and • Re-vegetation of disturbed areas where required. Provision must be made to monitor any unforeseen impact that may arise as a result of the proposed prospecting activities and incorporated into post closure monitoring and management.		

24.5. Impact Management Outcomes

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

Table 13: Measures to rehabilitate the environment affected by the undertaking of any listed activity, impact management outcomes, and impact management actions for

Activity Including Size/ scale	Aspects and potential impacts	Mitigation type and Measures	Standards to be achieved	Compliance with standards	Phase and / or time period for implementation
• Clearing of vegetation and topsoil. • Stockpiling of overburden positioned for	Minor loss and disturbance to topsoil as a result of clearing of vegetation and drilling and trenching. When vegetation is cleared and the topsoil is stripped, the soil's natural structure is disturbed and as a result	**Prevent and reduce through management measures.** **Stripping of topsoil:** • Clearing of areas to take place a maximum of one month prior to intended prospecting in the area;	Impact avoided. All topsoil used in concurrent rehabilitation.	Rehabilitation objectives and standards	Prospecting Invasive Phase

later rehabilitation. • Prospecting including diamond core drilling, logging and sampling of the borehole core, trenching will involve the digging of excavation trenches down to approximately 3 metres below surface using graders and excavators.	the natural cycle is broken exposing the bare soil to erosion. Vehicles driving on these soils cause compaction of soils and reduces the soils' ability to be penetrated by root growth. Compaction also increases erosion potential. When soils are not stripped and stockpiled according to the soil stripping guidelines these soils would have lost their natural physical and chemical properties, reducing the topsoil's ability to be a plant growth medium. The above factors all contribute to a loss of the topsoil's ability to be a resource through alterations and removal.	• Stripping of topsoil will not take place during rain or excessive wind; and • The top 30 cm of vegetation and topsoil is to be stripped from the area to be prospected. **Storage of topsoil / overburden:** • Topsoil (top 30cm) is to be stored in predetermined topsoil berms, (+/- 5m) outside the boundary of the specific area; and • Topsoil stockpiles will be restricted to 1.5 to 2m in height. **Maintenance and monitoring of topsoil stockpiles:** • The stored topsoil should be used as soon as possible in concurrent rehabilitation; • Weekly visual inspections to be conducted.	Rehabilitation objectives and standards		

Activity Including Size/ scale	Aspects and potential impacts	Mitigation type and Measures	Standards to be achieved	Compliance with standards	Phase and / or time period for implementation
• Dust Suppression.	Hydrocarbon spills on soil can occur where heavy machinery and vehicles are parked such as the hard park area because they contain large volumes of lubricating oils, hydraulic oils, and diesel to run. There is always a chance of these breaking down and/or leaking.	**Prevent and reduce and remedy through management measures.** • All vehicles and machinery will be regularly serviced to ensure they are in proper working condition and to reduce risk of leaks; • All leaks will be cleaned up immediately using an absorbent material and spill kits, in the prescribed manner; and ***Hydrocarbons and hazardous waste*** • All hazardous waste generated shall be kept separate and shall not be mixed with general waste; and • All hazardous waste shall be stored within a sealed drum on an impermeable surfaced area within the central waste storage and transition area.	Impact avoided. No signs of soil contamination and loss of topsoil due to contamination. Meet rehabilitation objectives and standards.	Rehabilitation objectives and standards Spill procedure Hazardous Substances Act, 1973 (Act 15 of 1973) [as amended] • Section 2 Declaration of grouped hazardous substances; - Section 9 (1) Storage and handling of hazardous chemical substances	Prospecting Invasive Phase

Activity Including Size/ scale	Aspects and potential impacts	Mitigation type and Measures	Standards to be achieved	Compliance with standards	Phase and / or time period for implementation

				- Section 18 Offences Hazardous Chemical Substances Regulations, 1995 (Government Notice 1179 of 1995) - Section 4 Duties of persons who may be exposed to hazardous chemical substances SANS 10234: 2008: Globally Harmonized	

Activity Including Size/ scale	**Aspects and potential impacts**	**Mitigation type and Measures**	**Standards to be achieved**	**Compliance with standards**	**Phase and / or time period for implementation**

				System of classification and labelling of • chemicals (GHS)	
	Stormwater, erosion and siltation impacts due to a lack of implementing temporary measures to manage stormwater run-off quantity and quality.	**Prevent and reduce and remedy through management measures.** • A Stormwater Management Plan (SMP) to be developed for the collective area where prospecting will occur, (or the existing SMP updated, where applicable for present and future activities) and should include the management of stormwater during excavation, as well as the installation of temporary stormwater and erosion control measures during prospecting, followed up by rehabilitation of the area; • Temporary stormwater management systems	Impact avoided. No signs of soil contamination and loss of topsoil due to contamination. Meet rehabilitation objectives and standards.	Rehabilitation objectives and standards Spill procedure GN704 Regulations in terms of the National Water Act, 1998 (Act No 36 of 1998) Hazardous Substances Act, 1973 (Act 15 of 1973) [as amended]	Prospecting Invasive Phase

		(such as sand bags) will be installed to prevent stormwater from entering or exiting the area where prospecting will occur, which could result in silt laden surface water from draining			
Activity Including Size/ scale	**Aspects and potential impacts**	**Mitigation type and Measures**	**Standards to be achieved**	**Compliance with standards**	**Phase and / or time period for implementation**
		• The slopes of the area where prospecting activities will occur, should be profiled to ensure that they are not subjected to excessive erosion but capable of drainage run-off with minimum risk of scrub (hydrologic action by water that causes erosion). A • maximum gradient of 1:3 is recommended; If necessary, temporary diversion channels should be constructed ahead of the stockpiles (if relevant) to intercept clean run-off and divert it around disturbed areas into the natural • drainage system downstream (down gradient) of the prospecting area;		• Section 2 Declaration of grouped hazardous substances; - Section 9 (1) Storage and handling of hazardous chemical substances - Section 18 Offences Hazardous Chemical	

		• Existing vegetation must be retained as far as possible to minimise erosion problems; Rehabilitation of the prospecting area • shall be planned and completed (after conclusion of the prospecting activities) in such a way that the runoff water (if any) will not cause erosion; Visual inspections shall be done on a weekly basis with regard to the stability of the temporary		Substances Regulations, 1995 (Government Notice 1179 of 1995)	
Activity Including Size/ scale	**Aspects and potential impacts**	**Mitigation type and Measures**	**Standards to be achieved**	**Compliance with standards**	**Phase and / or time period for implementation**

		water control structures, erosion and siltation (if required). • Sediment-laden run-off from cleared areas should be prevented from entering rivers and streams; • No river or surface water may be affected by silt emanating from the prospecting area (especially aimed at prevention of siltation of the nearby watercourse); and • No wastewater may run freely into any of the surrounding naturally vegetated areas.		- Section 4 Duties of persons who may be exposed to hazardous chemical substances SANS 10234: 2008: Globally Harmonized System of classification and labelling of • chemicals (GHS)	
	Contamination of stormwater runoff and groundwater, caused by chemicals such as hydrocarbon based fuels and oils or lubricants spilled from heavy vehicles and machinery and fuel storage area.	**Prevent and reduce through management measures.** In accordance with Government Notice 704 (GN 704), the onsite management should: • Keep clean and dirty water separated; • Contain any dirty water within a system; and	Impact avoided. No signs of soil contamination and loss of topsoil due to contamination.	Rehabilitation objectives and standards Spill procedure	Prospecting Invasive Phase

Activity Including Size/ scale	Aspects and potential impacts	Mitigation type and Measures	Standards to be achieved	Compliance with standards	Phase and / or time period for implementation
		• Prevent the contamination of clean water. In order to achieve these objectives, the following stormwater management measures must be implemented on the site to ensure that those potential stormwater impacts are kept to a minimum: • Clean and dirty stormwater needs to be separated. Dirty stormwater may not be released into the environment and should be contained and treated on site; • All temporary stormwater infrastructure (if any) on-site shall be maintained and kept clean throughout the prospecting period; • Immediate reporting of any polluting or potentially polluting incidents so that	Meet rehabilitation objectives and standards.	GN704 Regulations in terms of the National Water Act, 1998 (Act No 36 of 1998) Hazardous Substances Act, 1973 (Act 15 of 1973) [as amended] • Section 2 Declaration of grouped hazardous substances; - Section 9 (1) Storage	

		appropriate measures can be implemented; • Fuel and oil spills shall be treated immediately by appropriate mop-up products. Several hydrocarbon absorption/remediation products (i.e. Spill kits) must be placed throughout the site;		and handling of hazardous	
Activity Including Size/ scale	**Aspects and potential impacts**	**Mitigation type and Measures**	**Standards to be achieved**	**Compliance with standards**	**Phase and / or time period for implementation**

		• Use of bunds or traps to ensure full containment of hydrocarbon and other hazardous materials are mandatory; • Any contaminated material is disposed of in an appropriate manner and the potential risks associated with such spills are limited; • Stormwater leaving the site must in no way be contaminated; • Ensure good housekeeping practices; • Increased runoff should be managed using berms and other suitable structures as required to ensure flow velocities are reduced; and Removal of spills, • rainwater and waste produced during clean-up of the bunds – shall be done in accordance to relevant specifications.		chemical substances - Section 18 Offences Hazardous Chemical Substances Regulations, 1995 (Government Notice 1179 of 1995) - Section 4 Duties of persons who may be exposed to hazardous chemical substances	

Activity Including Size/ scale	Aspects and potential impacts	Mitigation type and Measures	Standards to be achieved	Compliance with standards	Phase and / or time period for implementation
				SANS 10234: 2008: Globally Harmonized System of classification and labelling of • chemicals (GHS)	
	Minor loss of natural vegetation and destruction of habitat will result in associated loss of fauna and flora species.	**Reduce through management measures.** • A suitably qualified specialist (ecologist) to accompany the site manager to demarcate areas for prospecting, in order to avoid damaging sensitive vegetation as identified during the specialist study and according to the sensitivity maps provided in this report; • Only vegetation falling directly into demarcated access routes or project sites should be removed; • No further vegetation clearance except for the removal of alien invasive species will be allowed; and	Meet rehabilitation objectives and standards. Alien and invasive vegetation management plan implemented and outcomes achieved.	Meet rehabilitation objectives and standards. Alien and invasive vegetation management plan implemented and outcomes achieved.	Prospecting Invasive Phase

Activity Including Size/ scale	Aspects and potential impacts	Mitigation type and Measures	Standards to be achieved	Compliance with standards	Phase and / or time period for implementation
		• All remaining indigenous vegetation should be conserved wherever possible.			

	Disruption in the movement patterns of fauna species may impact on biodiversity. Noise, dust and potential light pollution, as well as migration of pollutants such as hydrocarbons in the soils, dust and emissions from vehicle and machinery altering air quality will all have an impact on biodiversity.	**Prevent and reduce through management measures.** • Reduce the levels of disturbance on areas indicated by the Environmental Control Officer (ECO) as migratory routes, if any; • Environmental awareness training should include that no hunting, trapping or killing of fauna are allowed; • Any animals rescued or recovered will be relocated in a suitable habitat away from the mining operations and associated infrastructure; • Any lizards, snakes or monitors encountered should be allowed to escape to a suitable habitat away from disturbance. • No reptile should be intentionally killed, caught or collected during any phase of the project; and • General avoidance of snakes is the best policy if encountered. Snakes should not be intentionally harmed or killed and allowed free movement away from the area.	NEMBA: National Environmental Management: Biodiversity Act, 2004 (Act No. 10 of 2004)	NEMBA: National Environmental Management: Biodiversity Act, 2004 (Act No. 10 of 2004)	Prospecting Invasive Phase

Activity Including Size/ scale	Aspects and potential impacts	Mitigation type and Measures	Standards to be achieved	Compliance with standards	Phase and / or time period for implementation
	Introduction and spread of alien invasive species. The moving of soil and vegetation resulting in opportunistic invasions after disturbance and the introduction of seed in construction materials and on vehicles. Invasion of alien plants can impact on hydrology, by reducing the quantity of water entering a watercourse through stormwater, and outcompete natural vegetation, decreasing the natural biodiversity. Once in a system, alien plants can spread throughout the catchment. If allowed to seed before control measures are implemented, alien plants can easily colonise and impact on downstream users.	**Prevent and control through management measures.** • An alien vegetation management plan should be drawn up and implemented; • Regular removal of invasive alien species should be undertaken. This should extend through to the closure phase of the project; and • No spreading of alien vegetation onto adjacent properties should be allowed.	Rehabilitation Objectives and Standards Alien and invasive vegetation management plan implemented and outcomes achieved. Proof of alien vegetation control. No listed species visible on the site.	Alien and Invasive Species Management Plan Rehabilitation Objectives and Standards Alien and Invasive Species Regulations (Government Notice 598 of 2014) and Alien and Invasive Species List, 2014 in terms of	Prospecting Invasive Phase

				NEMBA (Government Notice 599 of 2014) - Notice 2	

Activity Including Size/ scale	Aspects and potential impacts	Mitigation type and Measures	Standards to be achieved	Compliance with standards	Phase and / or time period for implementation
				Exempted Alien Species in terms of Section 66 (1) - Notice 3 National Lists of Invasive Species in terms of Section 70(1) – List 1, 3-9 & 11 - Notice 4 • Prohibited Alien Species in terms of	

				Section 67 (1) – List 1, 3-7, 9-10 & 12	
	Alteration of archaeological, historical and paleontological resources that may be discovered during earthworks and drilling.	**Protect heritage resources through developing and implementing procedures.** • Prior to any development, construction or prospecting, a qualified archaeologist should conduct a site inspection on the areas demarcated for geotechnical drilling/prospecting.	No loss of newly discovered material.	National Heritage Resources Act, 1999 (Act No. 25 of 1999) and associated regulations.	Prospecting Invasive Phase

Activity Including Size/ scale	**Aspects and potential impacts**	**Mitigation type and Measures**	**Standards to be achieved**	**Compliance with standards**	**Phase and / or time period for implementation**
		Proposed access roads to the drill sites should			

		• also be surveyed in order to avoid the destruction of heritage material; Should the prospecting outcome result in further development or construction and mining, a full Phase 1 • Archaeological Impact Assessment must be conducted on the affected area if triggered; Because archaeological artefacts generally occur below surface, the possibility exists that culturally significant material may be exposed during the development and construction phases, in which case all activities must be suspended pending further archaeological investigations by a qualified archaeologist. Also, should skeletal remains be exposed during development and construction phases, all activities must be suspended and the relevant heritage resources authority contacted (see National Heritage Resources Act (Act No. 25 of 1999) Section 36 (6)). Should culturally		• South African Heritage Resources Agency Guidelines.	

Activity Including Size/ scale	Aspects and potential impacts	Mitigation type and Measures	Standards to be achieved	Compliance with standards	Phase and / or time period for implementation
		significant material or skeletal remains be exposed during prospecting all activities must be suspended pending further investigation by a qualified archaeologist (Refer to the National Heritage and Resources Act, 25 of 1999 section 36 (6)); • Should any objects of archaeological or paleontological remains be found during activities, work must immediately stop in that area and the Environmental Control Officer (ECO) must be informed; • The ECO must inform SAHRA and contact an archaeologist and / or paleontologist, depending on the nature of the find, to assess the importance and rescue them if necessary (with the relevant SAHRA permit). No work may be resumed in this area without the permission of the ECO and SAHRA.			

	Visibility from sensitive receptors / visual scarring of the landscape as a result of the prospecting activities.	**Reduce through controlling management measures.** • Unnecessary lights should be switched off during the day and / or night to avoid light pollution;	Rehabilitation objectives and standards	• Rehabilitation objectives and standards	Prospecting Invasive Phase

Activity Including **Size/ scale**	**Aspects and potential impacts**	**Mitigation type and Measures**	**Standards to be achieved**	**Compliance with standards**	**Phase and / or time period for implementation**
		• If lighting is required, the lighting will be located in such a place and such a manner so as to minimise any impact on the surrounding community and fauna; • Install temporary lights that will not create a night sky glow; • Security lighting should be designed in such a way as to minimise emissions onto undisturbed areas on site and neighbouring properties. Light fittings should face downwards; • Housekeeping on site should be enforced; • Rehabilitation measures such as re-vegetation and plan to be implemented;			

		• Reduce the prospecting period through careful planning and productive implementation of resources; • Plan the placement of lay-down areas and any potential temporary prospecting camps in order to minimise vegetation clearing;			

Activity Including Size/ scale	Aspects and potential impacts	Mitigation type and Measures	Standards to be achieved	Compliance with standards	Phase and / or time period for implementation
		• Restrict the activities and movement of workers and vehicles to the immediate prospecting site and existing access roads; • Ensure that rubble, litter and issued materials are managed and removed regularly; • Ensure that all infrastructure and the site and general surrounds are maintained in a neat and appealing way; and			

		• Reduce and control dust through the use of approved dust suppression techniques.			
	Nuisance and health risks caused by an increase in the ambient noise level as a result of noise and vibration impacts associated with the operation of vehicles, machinery and equipment.	**Reduce through controlling measures.** • Vehicles and machinery will be regularly serviced to ensure acceptable noise levels are not exceeded; • Silencers will be utilised where possible; • Heavy vehicle traffic should be routed away from noise sensitive areas where possible; • Noise levels should be kept within acceptable limits. All noise and sounds generated should adhere to South African Bureau of Standards (SABS) specifications for maximum allowable noise levels for construction sites. No pure tone	Impact reduced. Records of service of all operational vehicles. Silencers utilised where applicable. All employees wear PPE where required.	Meet the South African National Standard SANS 10103:2008 Meet South African Bureau of Standards (SABS) specifications for maximum allowable noise	Prospecting Invasive Phase

Activity Including Size/ scale	**Aspects and potential impacts**	**Mitigation type and Measures**	**Standards to be achieved**	**Compliance with standards**	**Phase and / or time period for implementation**

		sirens or hooters may be utilised except where required in terms of SABS standards or in emergencies; • With regard to unavoidable very noisy activities in the vicinity of noise sensitive areas, the Site Manager (SM) should liaise with local residents and a suitably qualified ecologist and how best to minimise impacts, and the local population should be kept informed of the nature and • duration of intended activities; The SM should take measures to discourage labourers from loitering in • the area, causing noise disturbance; Noise impacts should be minimised by restricting the hours (between 06h00 and 18h00 on Monday to Friday, and 06h00 and 13h00 on Saturdays), during which the offending activities are • carried out and, where possible, by		levels for construction sites. • Meet the requirements of the Mine Health and Safety Act (Act 29 of 1996)	

		insulating machinery and/or enclosing areas of activity; No noisy activities to occur on Sundays or public holidays;			

Activity Including Size/ scale	Aspects and potential impacts	Mitigation type and Measures	Standards to be achieved	Compliance with standards	Phase and / or time period for implementation
		• Personal Protective Equipment to all persons working in areas where high levels of noise can be expected; Signs where it is compulsory; • Regular inspections and maintenance of equipment, vehicles and machinery to prevent unnecessary noise.			

	Increased dust pollution due to vegetation clearance and vehicles driving on gravel roads and drilling.	**Reduce through controlling measures.** • Dust suppression shall be implemented during dry periods and windy conditions; • All exposed surfaces should be minimised in terms of duration of exposure to wind and stormwater; • Excavation, handling and transportation of erodible materials shall be avoided under high wind conditions (excess of 35km/hr) or when a visible dust plume is present; • Ensure that the shortest routes are used for material transport; • Ensure that stockpile height is kept to a minimum; • Minimise travel speed on unpaved roads;	Impact reduced. Speed limit road signs, complying with the South African Road Signs Manual on site. Dust fall monitoring programme should be implemented. Dust fallout and Particulate Matter	South Africa National Standard 1929:2005: Ambient Air Quality: Limits for common pollution Meet the requirements of the National Dust Control regulations, 2013, as published in the Government Gazette (No. 36974) of 1	Prospecting Invasive Phase

Activity Including Size/ scale	Aspects and potential impacts	Mitigation type and Measures	Standards to be achieved	Compliance with standards	Phase and / or time period for implementation
		• Implement monthly site inspection to check for possible areas of dust generation not addressed or not effectively managed; • Spray areas to be cleared with water; • Ensure minimum travel distance between working areas and stockpiles; • Ensure that topsoil for stockpiles is sprayed with water before tipping to prevent dust generation; • Ensure graded areas are sprayed with water; • Minimise the amount of graded areas; Load and offload material, as far as possible, downwind of topsoil stockpiles.	(PM) levels may not exceed the limits as set out in the Dust Control Regulations above. Monitoring dust stands occurring on site.	November 2013 (GNR 827 of 1 November 2013), in terms of the National Environmental Management: Air Quality Act 39 of 2004 •	

	Gaseous emissions from vehicles and machinery may cause an impact on ambient air quality.	• All vehicles and machinery will be regularly serviced to ensure they are in proper working condition and to • reduce risk of leaks; Proper planning of movements (vehicle trips) and working of machinery should take place, in order to avoid unnecessary trips and hours of operation.	Rehabilitation objectives and standards	• Rehabilitation objectives and standards	Prospecting Invasive Phase

Activity Including **Size/ scale**	**Aspects and potential impacts**	**Mitigation type and Measures**	**Standards to be achieved**	**Compliance with standards**	**Phase and / or time period for implementation**

	Generation of additional general waste, litter and building rubble and hazardous waste.	**Control through management measures.** • A central waste storage and transition area shall be established within the site camp; • The central waste storage and transition area shall be surfaced and demarcated appropriately; • Portable wheelie bins shall be placed throughout the drill site as well as at the remainder of the site and at all working areas in the field; • Wheelie bins shall be colour coded and labelled to identify the waste stream for which it is intended; • All portable wheelie bins and other containers shall be emptied at the central waste storage and transition area a minimum of once a week or when filled, as to avoid waste build up; • The waste shall be removed (within 30 days) by a licensed waste service provider as shall be disposed of at a licensed waste landfill site and records of safe disposal (as required for hazardous wastes) shall be supplied to the Contractor. These records shall be kept on site by the ESM;	Waste management on site visible.	Waste management on site visible. Waste Classification and Management Regulations and Norms and Standards for the assessment of for landfill disposal and for disposal of waste to landfill, 2013 (Government Notice 634 – 635 of 2013) promulgated in terms of the National Environmental Management:	Prospecting Invasive Phase

Activity Including Size/ scale	Aspects and potential impacts	Mitigation type and Measures	Standards to be achieved	Compliance with standards	Phase and / or time period for implementation

		• Wherever possible and practical, waste materials generated on site must be • recycled; and Waste specific (hazardous, timber, steel etc.) mitigation measures to be implemented.		Waste Act, 2008 (Act No. 59 of 2008) [as amended] and: Regulations regarding the planning and management of residue stockpiles and residue deposits from a prospecting, mining, exploration or production operation (GN R. 632 of 2015)	

Activity Including Size/ scale	Aspects and potential impacts	Mitigation type and Measures	Standards to be achieved	Compliance with standards	Phase and / or time period for implementation
				SANS 10234: 2008: Globally Harmonized System of classification and labelling of • chemicals (GHS)	
	Minor impact caused by need for services i.e. water, electricity and sewerage systems during the prospecting phase causing additional strain on natural resources and service infrastructure.	**Reduce through controlling management measures.** • Energy savings measures to be implemented at the site e.g.: o No lights to be switched on unnecessarily; o Only security lights to be switched on at night; • Energy saving bulbs to be installed; and • Water should be recycled as far as possible to avoid any additional water usage.	Impact avoided. Recycling of used and contaminated water through wastewater and sewage treatment and reuse.		Prospecting Invasive Phase

	Minor change in traffic patterns as a result of traffic entering and exiting the site on the surrounding road infrastructure and existing traffic.	**Reduce through controlling management measures.** • Where feasible heavy vehicles should not operate on public roads during peak hours; and	Impact reduced. Speed limit road signs, complying	Reduce through controlling measures	Prospecting Invasive Phase

Activity Including Size/ scale	**Aspects and potential impacts**	**Mitigation type and Measures**	**Standards to be achieved**	**Compliance with standards**	**Phase and / or time period for implementation**
		• Heavy vehicles should adhere to the speed limit of the road.	with the South African Road Signs Manual on site.	Set Speed Limits • South African Road Signs Manual	

	Nuisance, health and safety risks caused by increased traffic on and adjacent to the study area including cars, and heavy vehicles.	**Prevent through controlling management measures.** • Drivers will be enforced to keep to set speed limits; • Trucks will be in a road-worthy condition; • Roads and intersections will be signposted clearly. Only main roads should be used; • Where feasible vehicles should not operate on public roads during peak hours; • Vehicles should adhere to the speed limit of the road; • Heavy vehicles should always travel with their headlights switched on; • Heavy vehicles should not stop on the road to pick up hitchhikers – No stopping on the road approaching the site will be allowed;	Impact reduced. Speed limit road signs, complying with the South African Road Signs Manual on site. South Africa National Standard 1929:2005: Ambient Air Quality: Limits for common pollution	Reduce through controlling measures Set Speed Limits South African Road Signs Manual South Africa National Standard 1929:2005: Ambient Air Quality: Limits for common pollution	Prospecting Invasive Phase

Activity Including Size/ scale	Aspects and potential impacts	Mitigation type and Measures	Standards to be achieved	Compliance with standards	Phase and / or time period for implementation

		• Notre Coal (Pty) Ltd shall be responsible for ensuring that suitable access is maintained for public traffic to all relevant businesses and properties; and • All traffic accommodation measures are to conform to the latest edition of the South African Road Signs Manual.	Meet the requirements of the National Dust Control regulations, 2013, as published in the Government Gazette (No. 36974) of 1 November 2013 (GNR 827 of 1 November 2013), in terms of the National Environmental Management: Air Quality Act 39 of 2004 Dust fall monitoring	National Dust Control regulations, 2013, as published in the Government Gazette (No. 36974) of 1 November 2013 (GNR 827 of 1 November 2013), in terms of the National Environmental Management: Air Quality Act 39 of 2004 Approved dust fall monitoring programme	

Activity Including Size/ scale	Aspects and potential impacts	Mitigation type and Measures	Standards to be achieved	Compliance with standards	Phase and / or time period for implementation
			programme should be implemented. Dust fallout and Particulate Matter (PM) levels may not exceed the limits as set out in the Dust Control Regulations above. Monitoring dust stands occurring on site.		

	Possibility of prospecting activities and workers causing veld fires, which can potentially cause injury and or loss of life to workers and surrounding landowners, visitors and workers.	**Prevent through controlling management measures.** • All workers will be sensitized to the risk of fire; • Smoking is only allowed in designated smoking areas and disposal of cigarette butts safely in sand buckets;	Mine Health and Safety Act (Act 29 of 1996) An Emergency Plan (including Fire Protection,	Impact avoided. No incidents of fires occurring on site.	Prospecting Invasive Phase

Activity Including Size/ scale	**Aspects and potential impacts**	**Mitigation type and Measures**	**Standards to be achieved**	**Compliance with standards**	**Phase and / or time period for implementation**

		• The Applicant shall ensure that the basic firefighting equipment is available on the • site; Extinguishers should be located outside hazardous materials and chemicals storage containers; • Fire response and evacuation: • An Emergency Plan (including Fire Protection, Response and Evacuation Plan) is to be prepared by the Applicant and conveyed to all staff on the site; • Identify major risks to minimise the environmental impacts e.g., air pollution and contaminated effluent runoff.	Response and Evacuation Plan) Veld and Forest Fire Act, 1998 (Act No. 101 of 1998) [as amended] - Section 12 (1) Duty of the landowner to prevent fire from spreading to neighbouring properties.	No one smoking in unauthorised areas. Proof / records of training in terms of the risk of fire and of the emergency management plan. • Basic fire-fighting equipment located in the correct locations on site.	
	Increased risk to public and worker safety: If not fenced off, the public and workers may fall into excavated areas and trenches.	• A health and safety plan in terms of the Mine Health and Safety Act (Act 29 of 1996) should be compiled and implemented to ensure worker safety;	Mine Health and Safety Plan available on site and proof that it is	Health and safety plan in terms of the Mine Health and Safety Act (Act 29 of 1996)	Prospecting Invasive Phase

Activity Including Size/ scale	Aspects and potential impacts	Mitigation type and Measures	Standards to be achieved	Compliance with standards	Phase and / or time period for implementation
		• A health and safety control officer should monitor the implementation of the health and safety plan for the • operational phase; Any health and safety incidents should • be reported to the Site Manager (SM) immediately; First aid facilities should be • available on site at all times; Workers have the right to refuse work in • unsafe conditions; Material stockpiles or stacks should be stable and well secured to avoid collapse and possible injury to site • workers. • Access to excavation must be controlled; • Excavated areas should be temporarily fencedoff; and Excavations will be backfilled and landscaped as soon as possible.	being implemented. Proof of training in awareness of health and safety procedures. Proof / records of health and safety audits available on request. No health and safety incidents reported.	•	

			Proof / record of stockpile and stacks inspections taking place.		
Activity Including Size/ scale	**Aspects and potential impacts**	**Mitigation type and Measures**	**Standards to be achieved**	**Compliance with standards**	**Phase and / or time period for implementation**
			Health and safety signs on site at appropriate locations.		
	Potential creation of very limited extent short term employment opportunities for the local community, during the prospecting phase.	Local labour to be sourced where possible.	-		Prospecting Invasive Phase
	Multiplier effects on local economy will be positive, but very limited in extent and only short term.	Supplies to be bought locally as far as possible.	-		Prospecting Invasive Phase

25. Financial Provision

25.1. Determination of the amount of Financial Provision

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

The closure objectives include:

- Ensure that there are no safety risks associated with the drill boreholes through drill hole capping and backfilling;
- Rehabilitate any pollution that occurred through hazardous spills or waste materials and remove the source of the pollution;
- Establish an area that is not susceptible to soil erosion;
- Re-vegetate disturbed areas with endemic plant species that occur naturally within the area.

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

The Public Participation Process (PPP) is a requirement of several pieces of South African Legislation and aims to ensure that all relevant Interested and Affected Parties (I&AP's) are consulted, involved and their opinions are taken into account and a record included in the reports submitted to Authorities. The process ensures that all stakeholders are provided this opportunity as part of a transparent process which allows for a robust and comprehensive environmental study. The PPP for the as part of the prospecting right application needs to be managed sensitively and according to best practices in order to ensure and promote:

- Compliance with national legislation;
- Establish and manage relationships with key stakeholder groups; and
- Encourage involvement and participation in the environmental study and authorisation/ approval process.

As such, the purpose of the PPP and stakeholder engagement process is to:

- Introduce the proposed project;

- Explain the environmental authorizations required;
- Explain the environmental studies already completed and yet to be undertaken (where applicable);
- Determine and record issues, concerns, suggestions, and objections to the project;
- Provide opportunity for input and gathering of local knowledge;
- Establish and formalize lines of communication between the I&AP's and the project team;
- Identify all significant issues for the project; and

- Identify possible mitigation measures or environmental management plans to minimise and/or prevent negative environmental impacts and maximize and/or promote positive environmental impacts associated with the project.

Landowners and interested and affected parties have been consulted and provided an opportunity to comment on this Basic Assessment Report, EMPR including all decommissioning, closure and rehabilitation plans.

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

The prospecting activities are dependent on the preceding phase (non-invasive). Prospecting is conducted in phases, where the activities and location of drilling and trenching to sample soil are dependent on the previous phase. Therefore, the specific locations and extent of soil sampling and diamond core drilling cannot be predetermined. Mapping of prospecting activities can also not be conducted.

Due to the small extent and fairly short-term period of the prospecting activities and as shown in the Environmental Impact Assessment, the impacts will be of a low or very low significance. Rehabilitation will be conducted and will include borehole capping and re-vegetation.

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

Due to the small extent and fairly short-term period of the prospecting activities and as shown in the Environmental Impact Assessment, the impacts will be of a low or very low significance. Rehabilitation will be conducted and will include borehole capping and re-vegetation. Detailed mitigation measures are provided in the EMPR to ensure the closure objectives are met.

25.4. Calculate and state the quantum of the financial provision required to manage and rehabilitate the environment in accordance with the applicable guideline

The closure cost assessment will be conducted, if required. The report will be submitted to the Department of Mineral Resources together with the Final Basic Impact Assessment report, if required.

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

It is confirmed that the amount for financial provision is anticipated to be an operating cost and is provided for as such in the Prospecting Work Programme. Notre Coal (Pty) Ltd herewith confirms both its capacity and willingness to make the financial provision required should the prospecting right be granted.

26. Mechanisms for monitoring compliance with and performance assessment against the environmental management programme and reporting thereon, including h) Monitoring of Impact Management Actions

i) Monitoring and reporting frequency

j) Responsible persons

k) Time period for implementing impact management actions

l) Mechanism for monitoring compliance

Table 14: Mechanisms for monitoring compliance

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
PROSPECTING PHASE				

• Clearing of vegetation and topsoil. • Stockpiling of overburden positioned for later rehabilitation.	Surface Water	• A Stormwater Management Plan (SMP) to be developed for the collective area where prospecting will occur, (or the existing SMP updated, where applicable for present and future activities) and should include the management of stormwater during excavation, as well as the installation of temporary stormwater and erosion control measures during prospecting, followed up by rehabilitation of the area. This Stormwater	Applicant Engineer	After rain / storm events; and Weekly

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
• Prospecting including diamond core drilling, logging and sampling of		Management Plan to be monitored for implementation. • Visual inspections shall be done on a weekly basis with regard to the stability of the temporary water control structures, erosion and siltation.		

the borehole core, trenching will involve the digging of excavation trenches down to approximately 3 meters below surface using graders and excavators. • Dust Suppression.	Dust and air quality pollution	• A minimum of eight dust buckets must be erected around the site in the eight main wind directions. Monthly air quality report will be required as per the regulations to: • Ensure that the environmental mitigation and control measures are implemented; • Monitor environmental performance of the mining operations. • Tracking of progress due to pollution control measure implementation;	Applicant Environmental Specialist	Monthly

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
		• Verify compliance with all relevant legal and statutory requirements. • Promote environmental education and protection; and		

		• Determine sources of significant pollution.		
	Spreading of alien invasive vegetation and impacts on habitat and vegetation.	Specialist monitoring on Faunal and Floral aspects include the monitoring of effects operational processes have on vegetation and accompanied animal life within the immediate or surrounding areas of the operations. • Alien vegetation control and management; • Habitat and vegetation management; • Rehabilitation services include the rehabilitation of operational disturbed areas and hydrocarbon spill areas; • Sloping and re-vegetation of disturbed area to surrounding landscape; and • Remediation of soil at spill sites.	Environmental Specialist	Visual inspections during all phases of the activities.

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

A Performance Assessment Review of the EMPR should be conducted annually and the environmental audit report will be submitted annually.

28. Environmental Awareness Plan

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

The environmental awareness plan will include the following:

- Induction of all staff and workers;
- Monthly 'toolbox' talks (awareness talks);
- Risk assessments for specific tasks with supervisors and staff involved in the task on a daily basis, or as often as the task is taking place.

The following principles and training will apply to the Environmental Awareness Plan (safety, health and environmental (SHE) training and the Environmental Management System (EMS) training):

- All personnel, including contactors, will as a minimum undergo general SHE induction and awareness training;
- The Safety, Health, Environmental and Quality (SHEQ) Manager will identify the SHE training requirements for all personnel and contractors. The training requirements will be recorded in a training needs matrix indicating particular training that must be undertaken by identified personnel and contractors. The training matrix will be administered by the Training Department; and Development of the Training Programme, which will include:

- Job specific training – training for personnel performing tasks which could cause potentially significant environmental impacts;
- Assessment of extent to which personnel are equipped to manage environmental impacts;
- Basic environmental training;

- ❖ EMS training;
- ❖ Comprehensive training – on emergency response, spill management, etc.
- ❖ Specialized skills;
- ❖ Training verification and record keeping; and
- ❖ Periodic re-assessment of training needs, with specific reference to new developments, newly identified issues and impacts and associated mitigation measures.

General Awareness Training

- The HR Manager, together with the SHEQ Manager, will be responsible for the development of, or facilitating the development of, the required general SHE induction and awareness training. A general environmental awareness training module will be developed and integrated into the general induction programme. The general awareness training must include the Environmental Policy, a description of the environmental impacts and aspects and the importance of conformance to requirements, general responsibilities of personnel and contractors with regard to the environmental requirements and a review of the emergency procedures and corrective actions; and
- A Training Practitioner will conduct the general awareness training. The training presenter will keep a record of the details of all persons attending general awareness training. Such attendance registers shall indicate the names of attendants and their organizations, the date and the type of training received.

Specific Environmental Training

- Specific environmental training will be in line with the requirements identified in the training matrix; and
- Personnel whose work tasks can impact on the environment will be made aware of the requirements of appropriate procedures/work instructions. The SHEQ Manager will communicate training requirements to responsible supervisors to ensure that personnel and contractors are trained accordingly.

Training Evaluation and Re-training

- Effectiveness of the environmental training will be reflected by the degree of conformance to EMPR requirements, the result of internal audits and the general environmental performance achieved;
- Incidents and non-conformances will be assessed through the Internal Incident Investigation and Reporting System, to determine the root cause, including the possible lack of awareness/training;
- Should it be evident that re-training is required, the SHEQ Manager will inform the managers of the need and take the appropriate actions;
- General awareness training of all personnel shall be repeated every year; and
- The re-induction shall take into consideration changes made in the EMPR, changes in legislation, current levels of environmental performance and areas of improvement.

Emergency Procedures

- Emergency procedures, as relevant to this project, shall be implemented;
- The SHEQ Manager shall define emergency reporting procedures for the project;
- All personnel shall be made aware of emergency reporting procedures and their responsibilities;
- Any spills will be cleaned up immediately in accordance with relevant legislation; and
- Telephone numbers of emergency services, including the local firefighting service, shall be conspicuously displayed.

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

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 stream present on site;
- ❖ Investigate any I&AP's claims of pollution or contamination as a result of mining activities; and
- ❖ Implement the impact management objectives, outcomes and actions, as described in Section 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.

29. Specific information required by the Competent Authority

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

No specific information has been required by the Competent Authority at this point in time.

30. 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

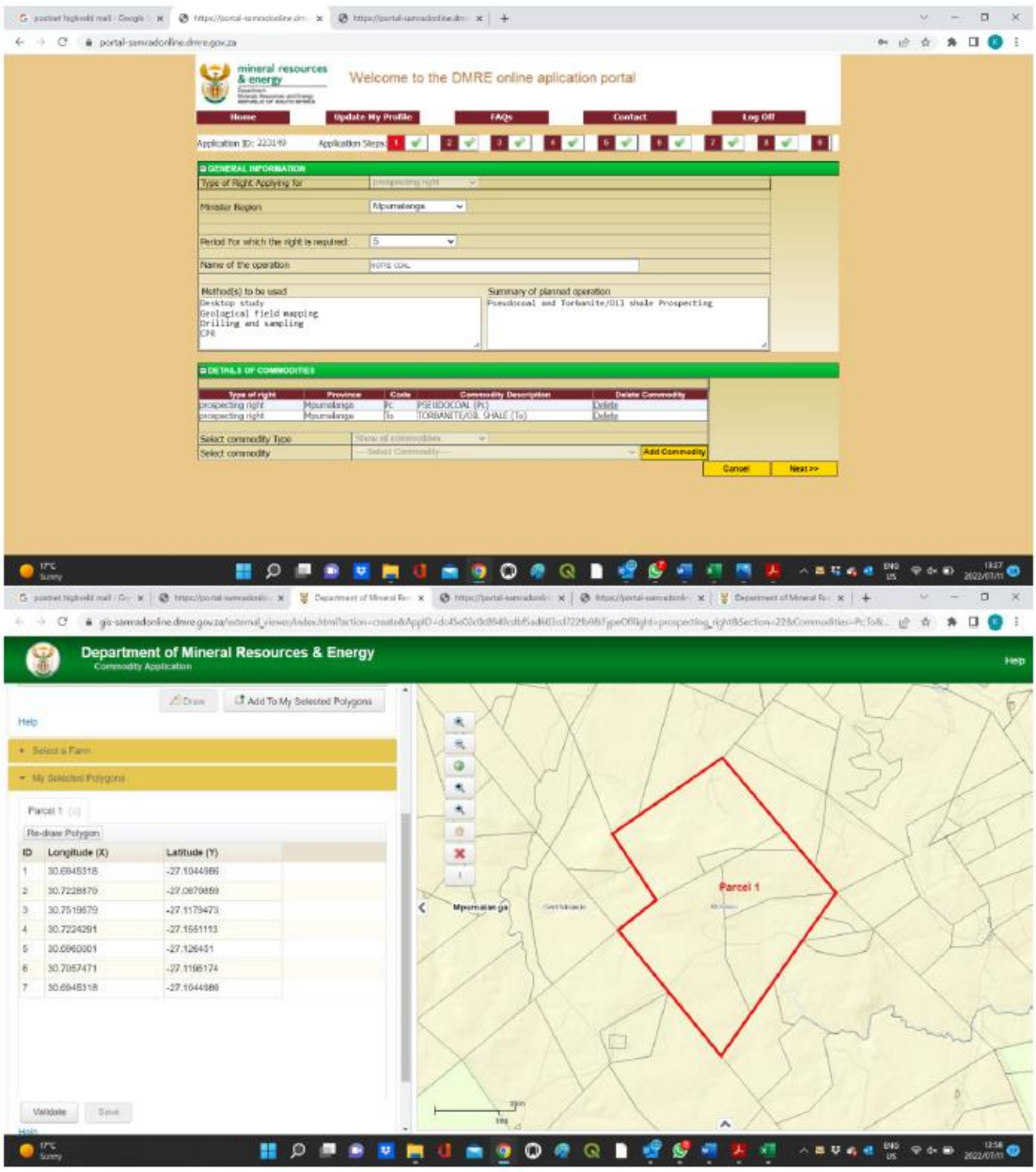
Name of company:

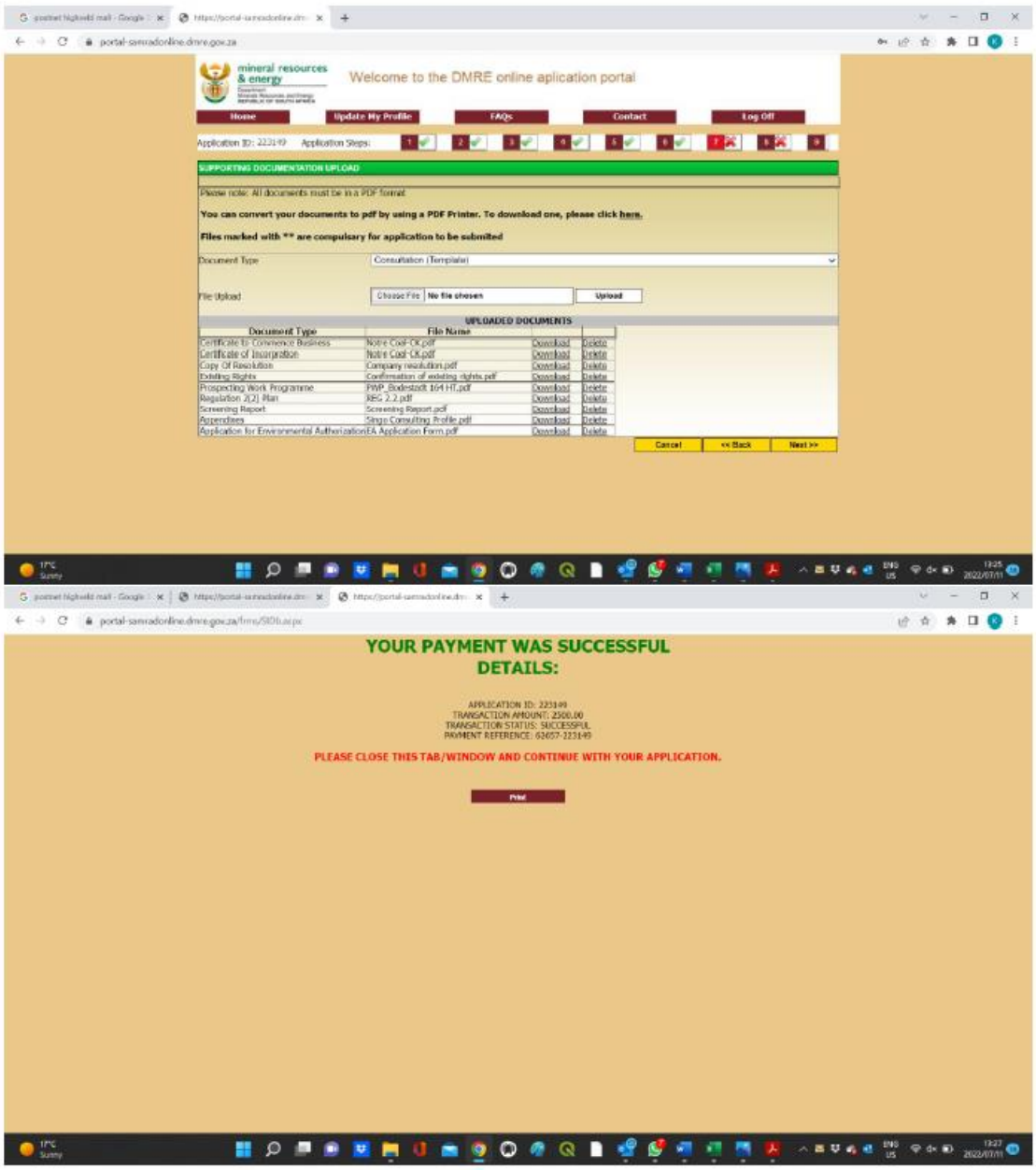
Date:

-END-

Appendices

Appendix 1: DMRE Letters

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Please note: All documents must be in a PDF format
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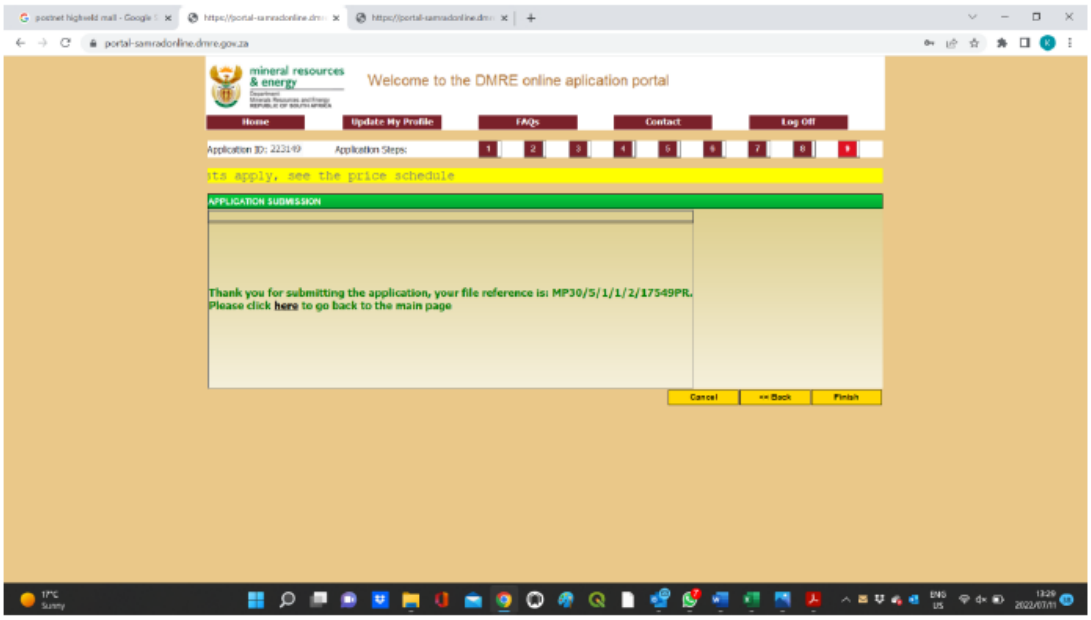
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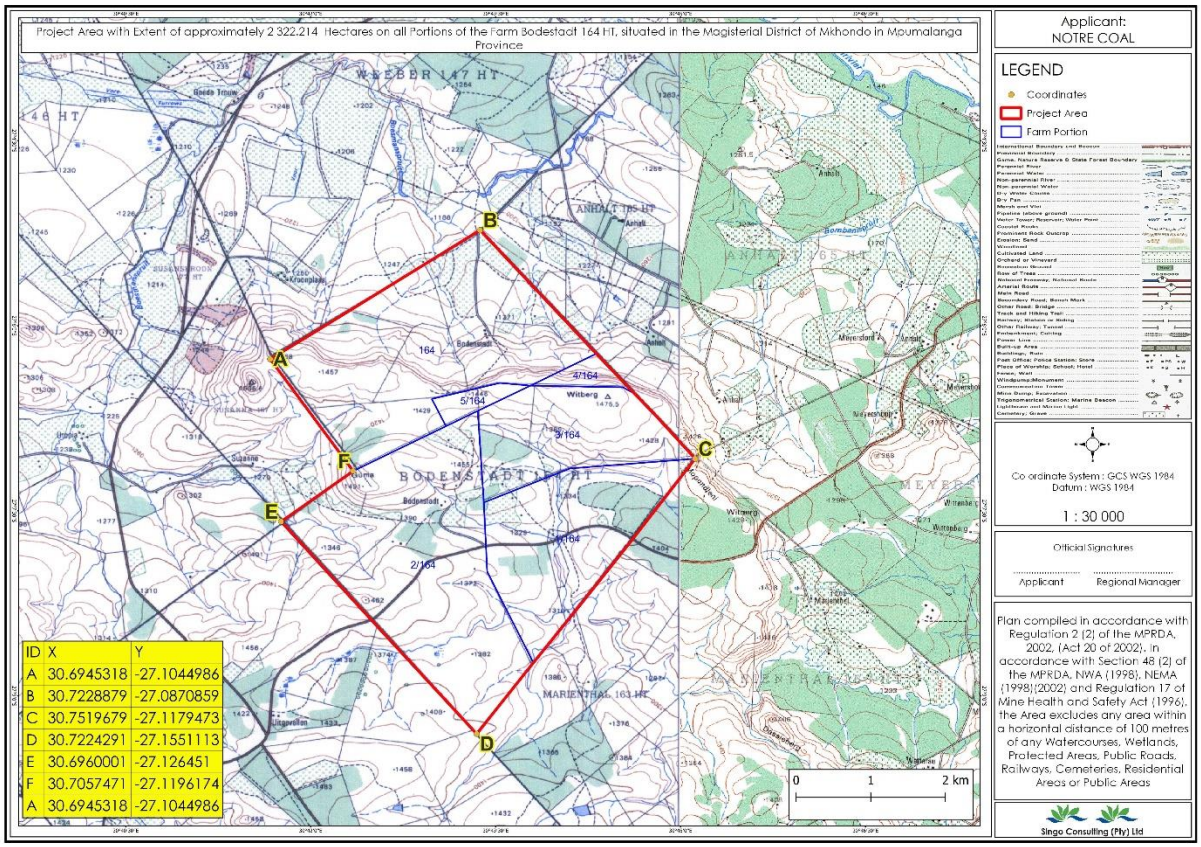
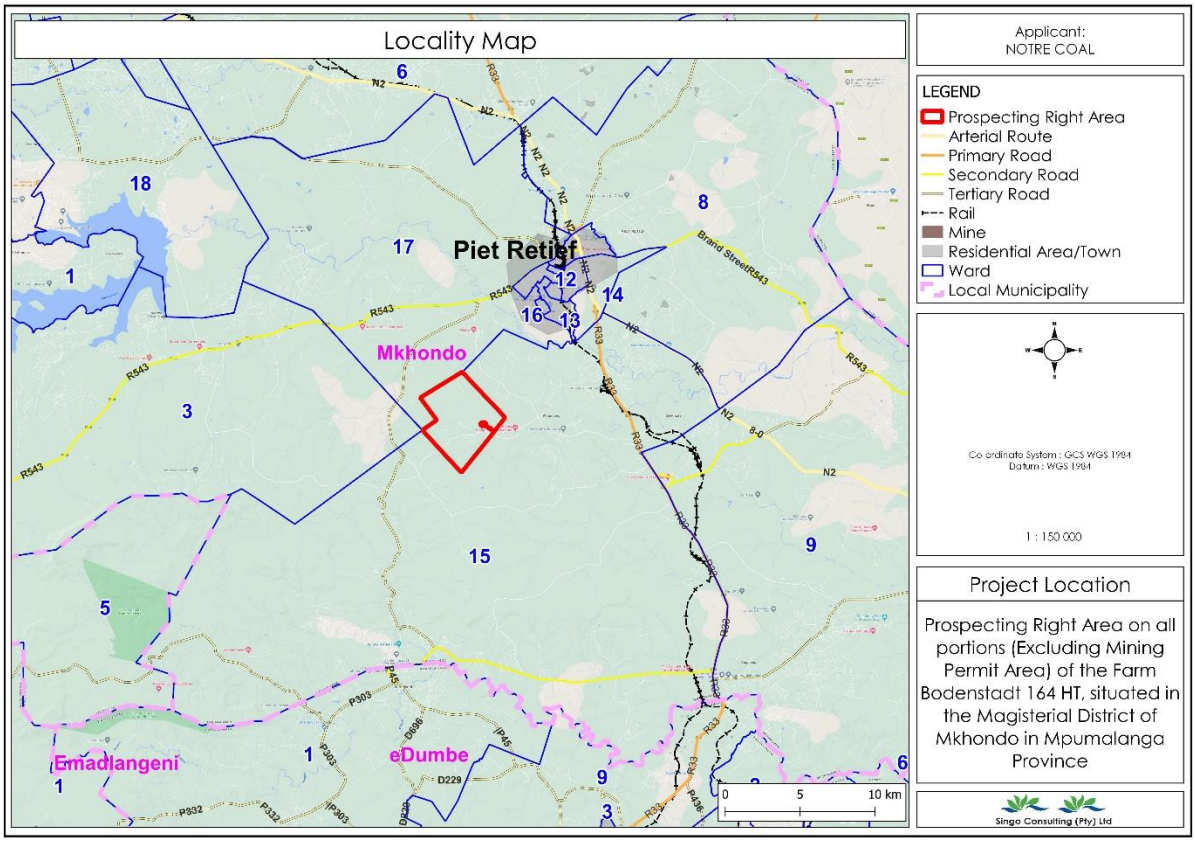
Finish

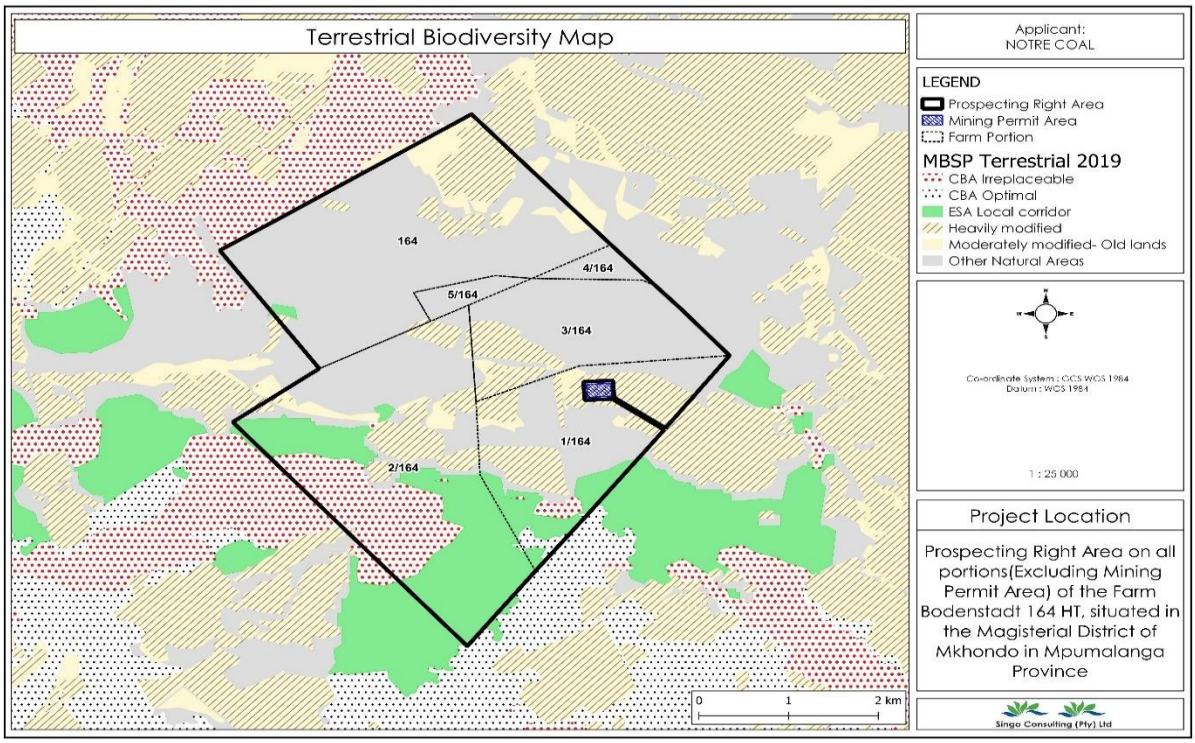
Appendix 2: Project maps



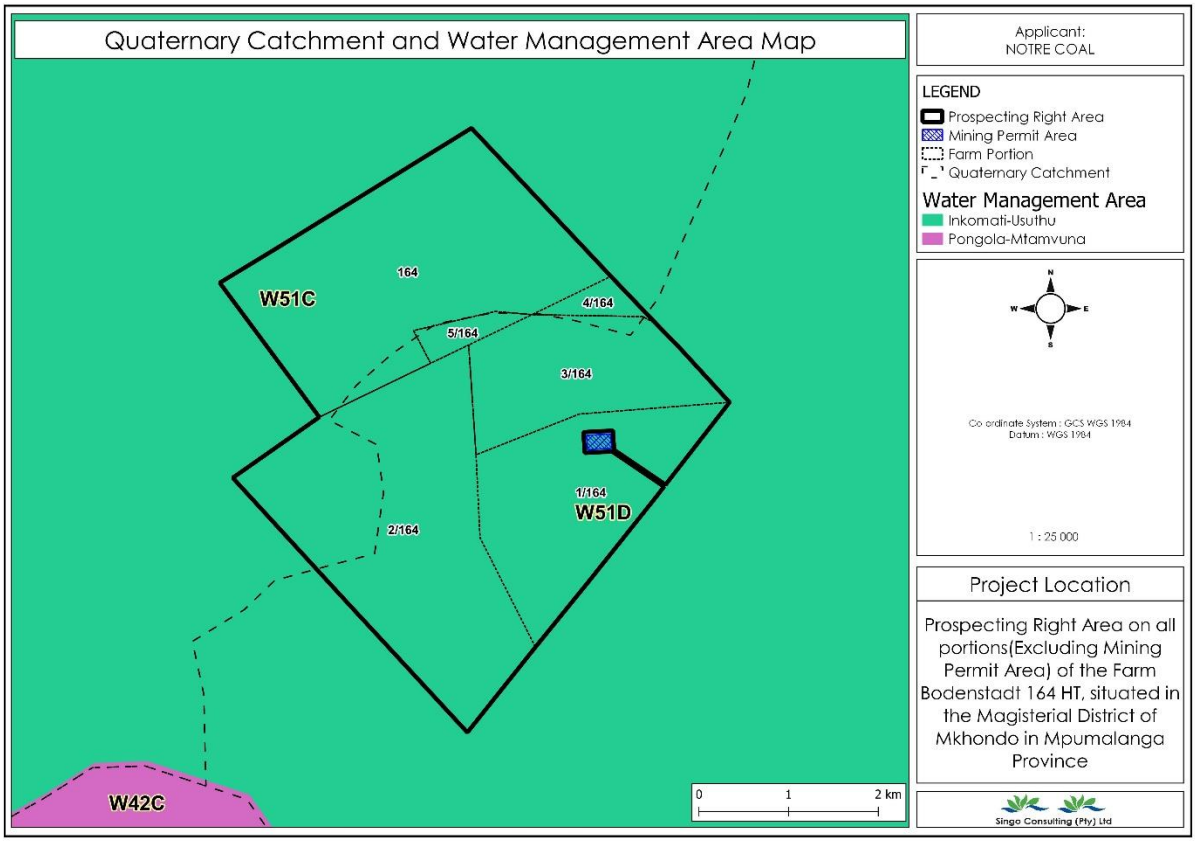
Regulation map



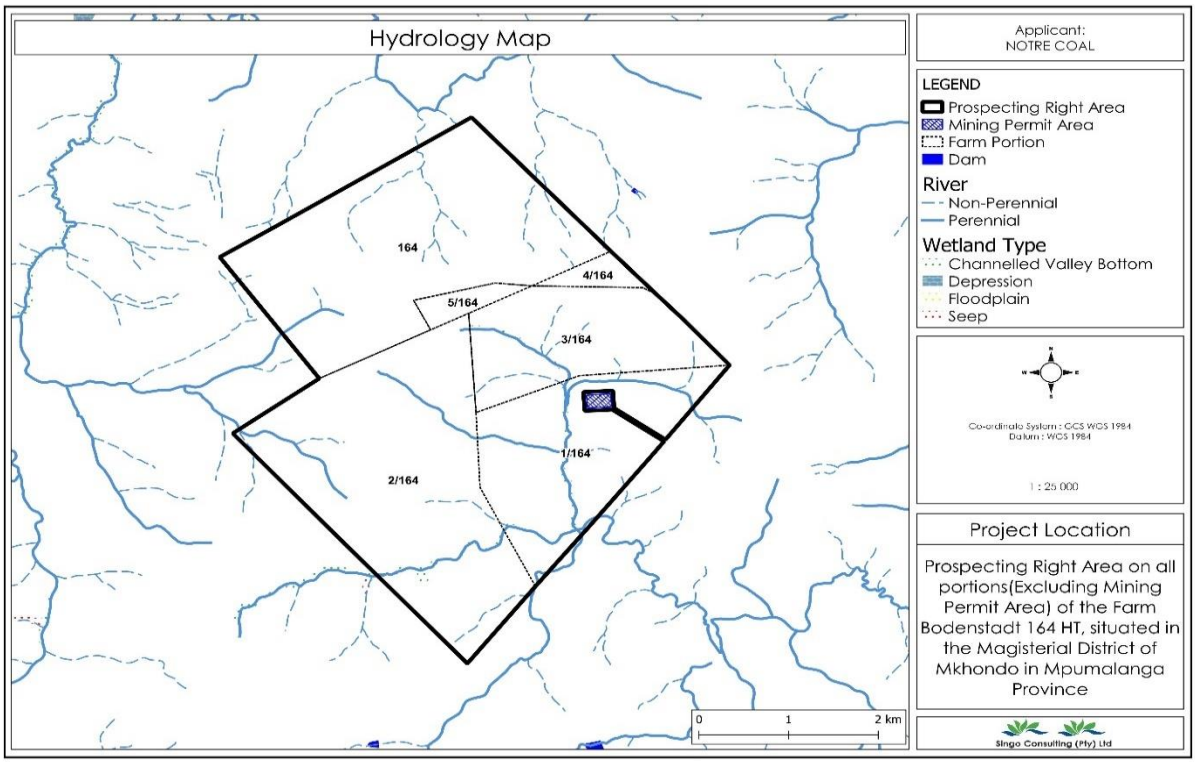
Locality map



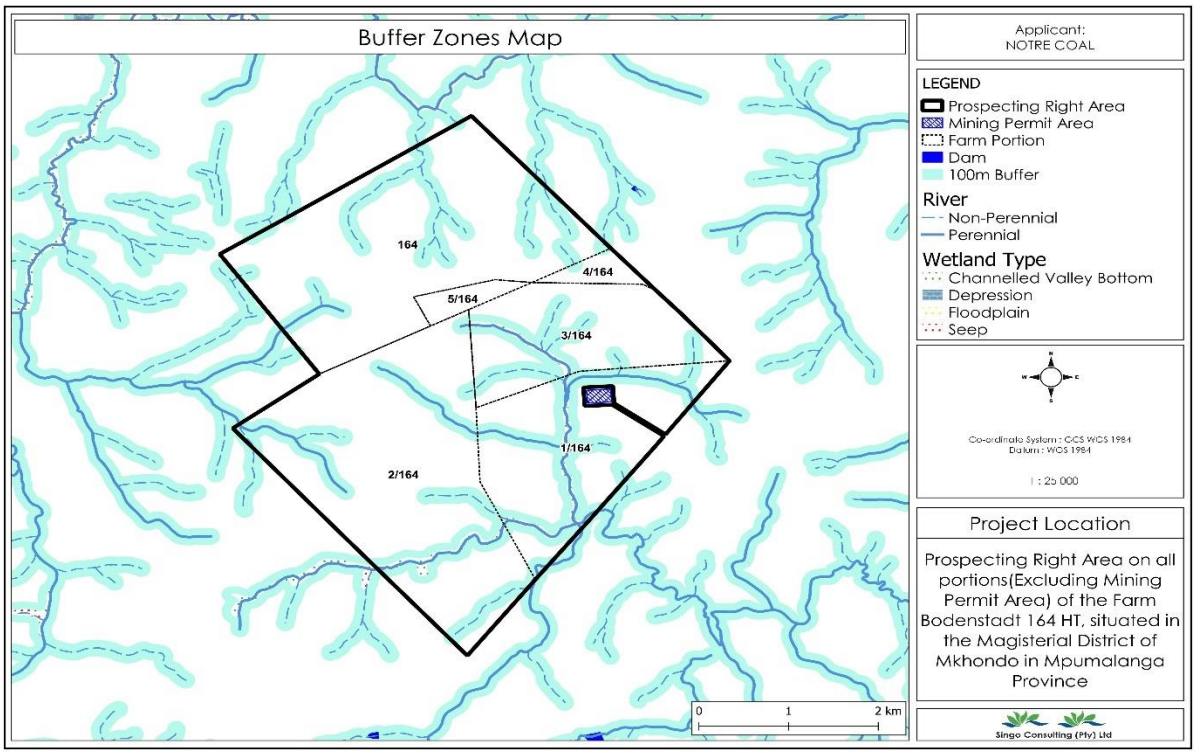
Biodiversity map



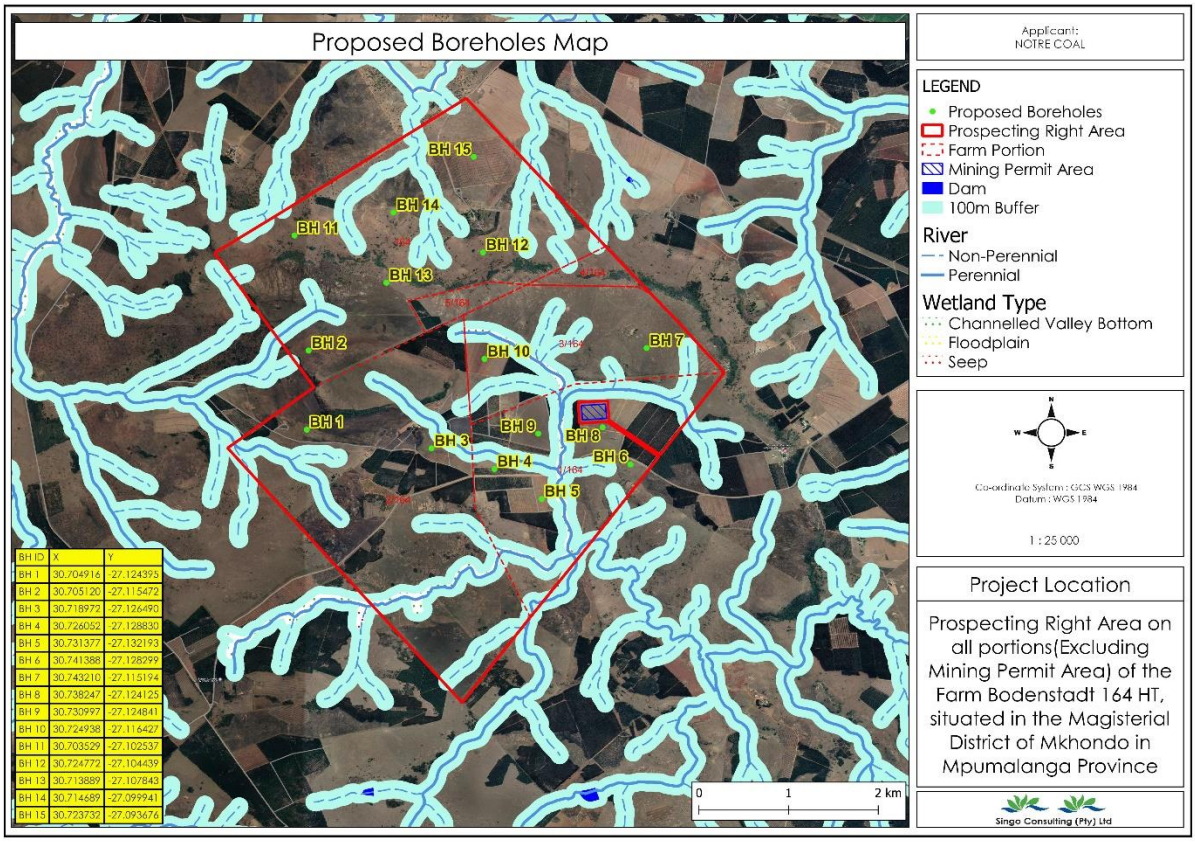
Quaternary Catchment and Water Management Areas map



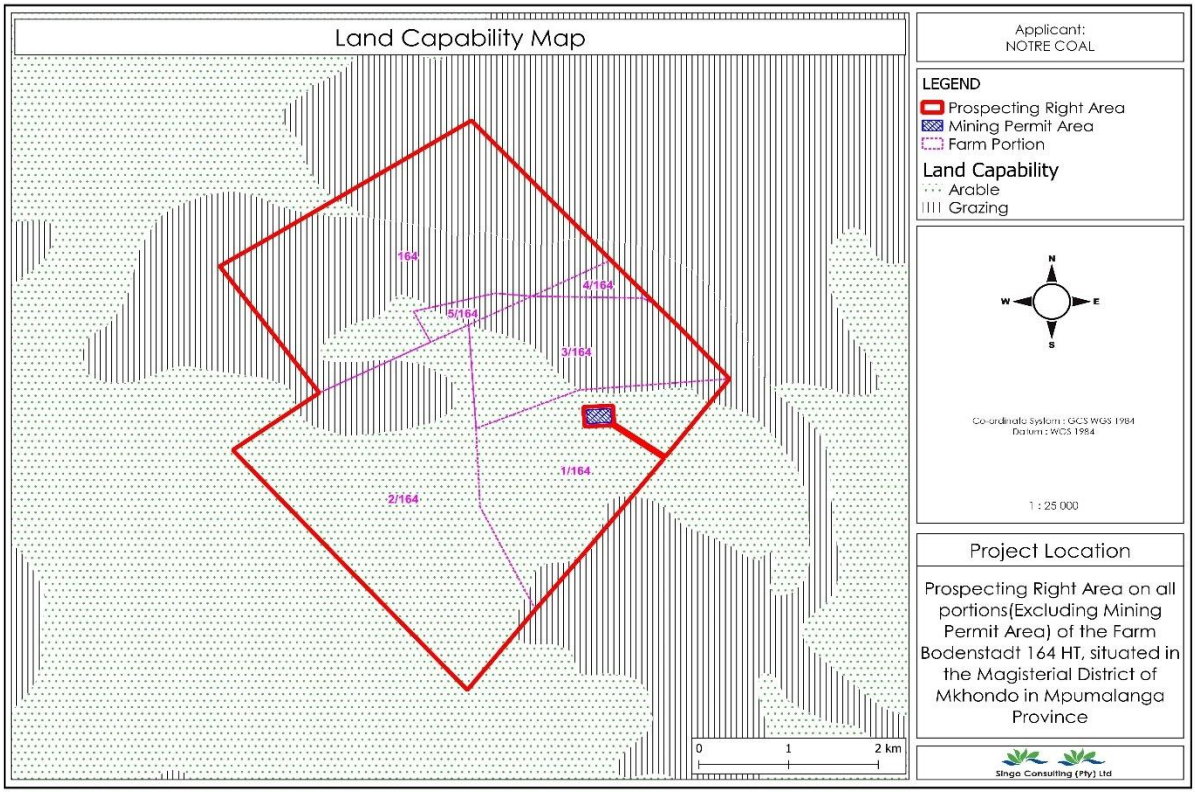
Hydrology map



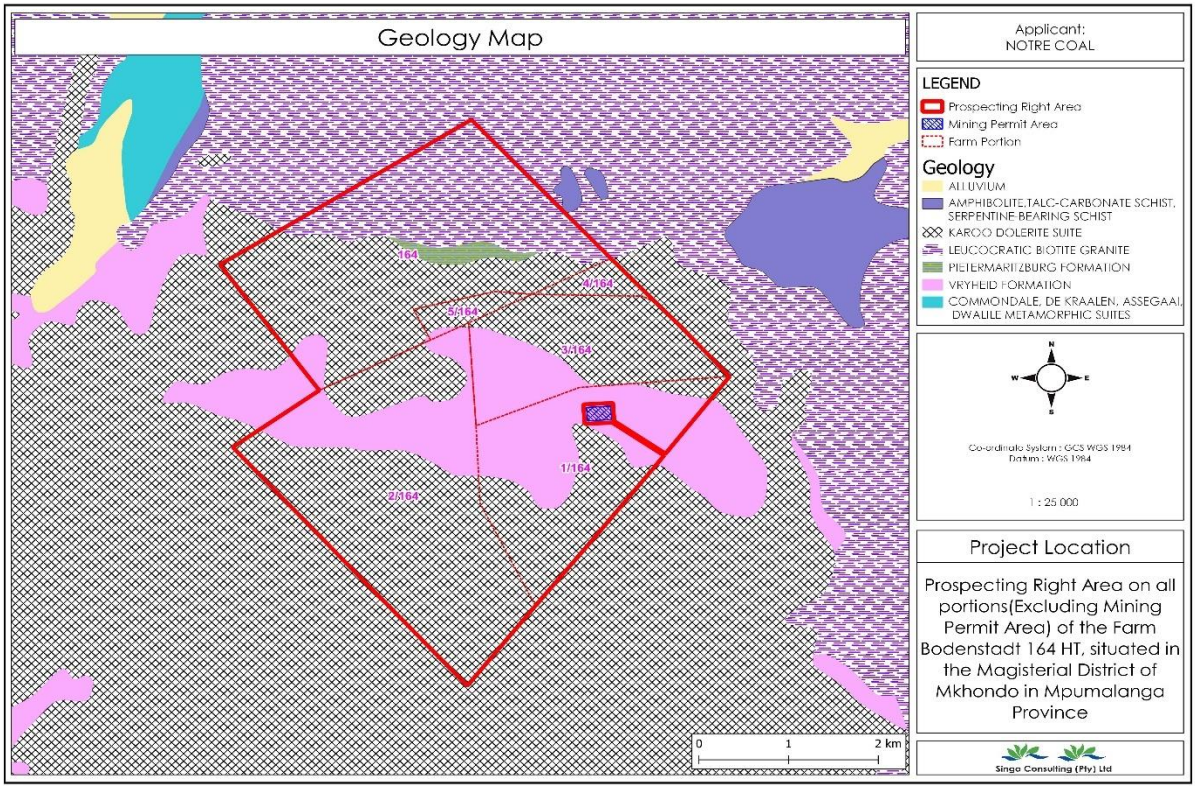
Buffer zone map



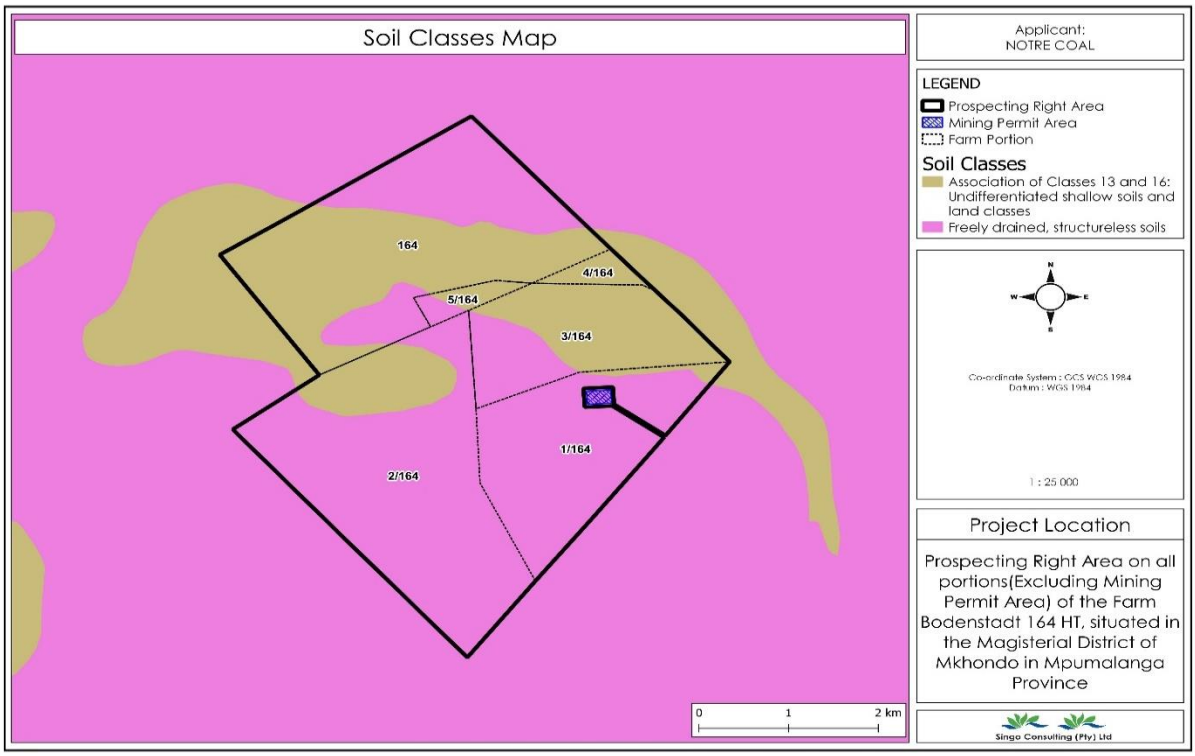
Proposed borehole Map



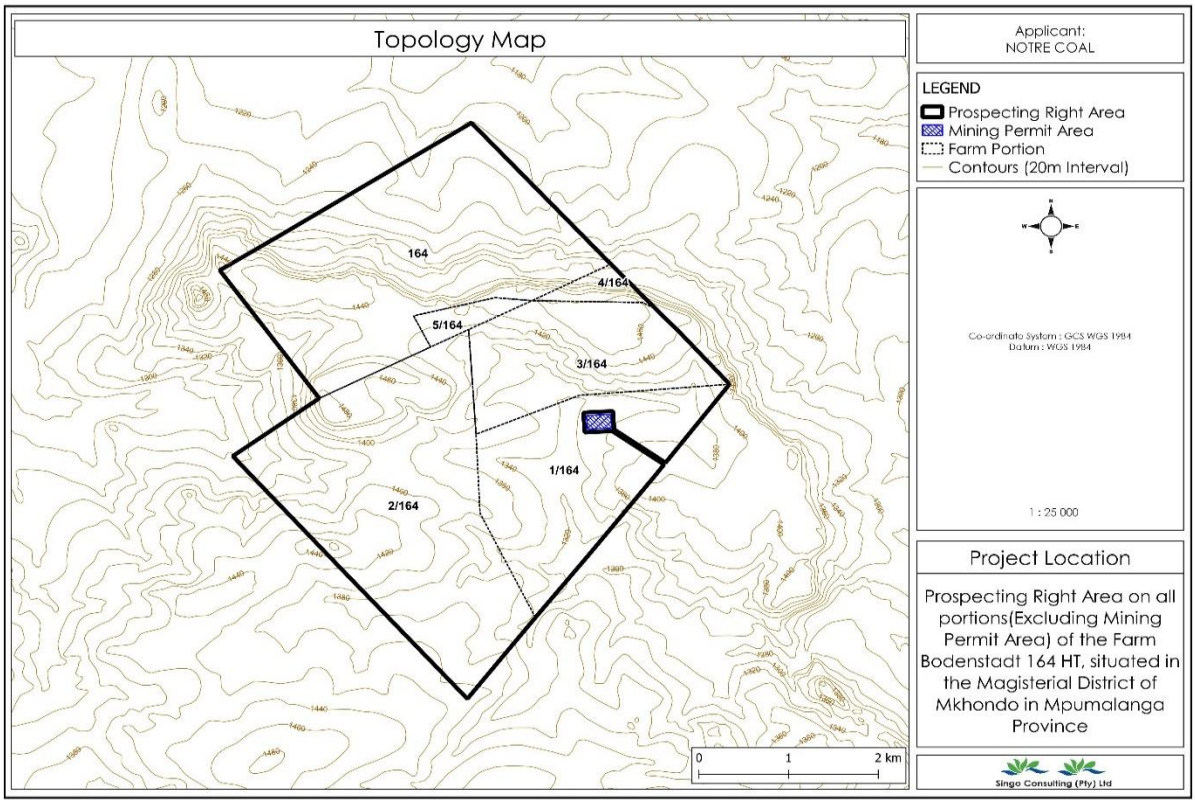
Land capability map



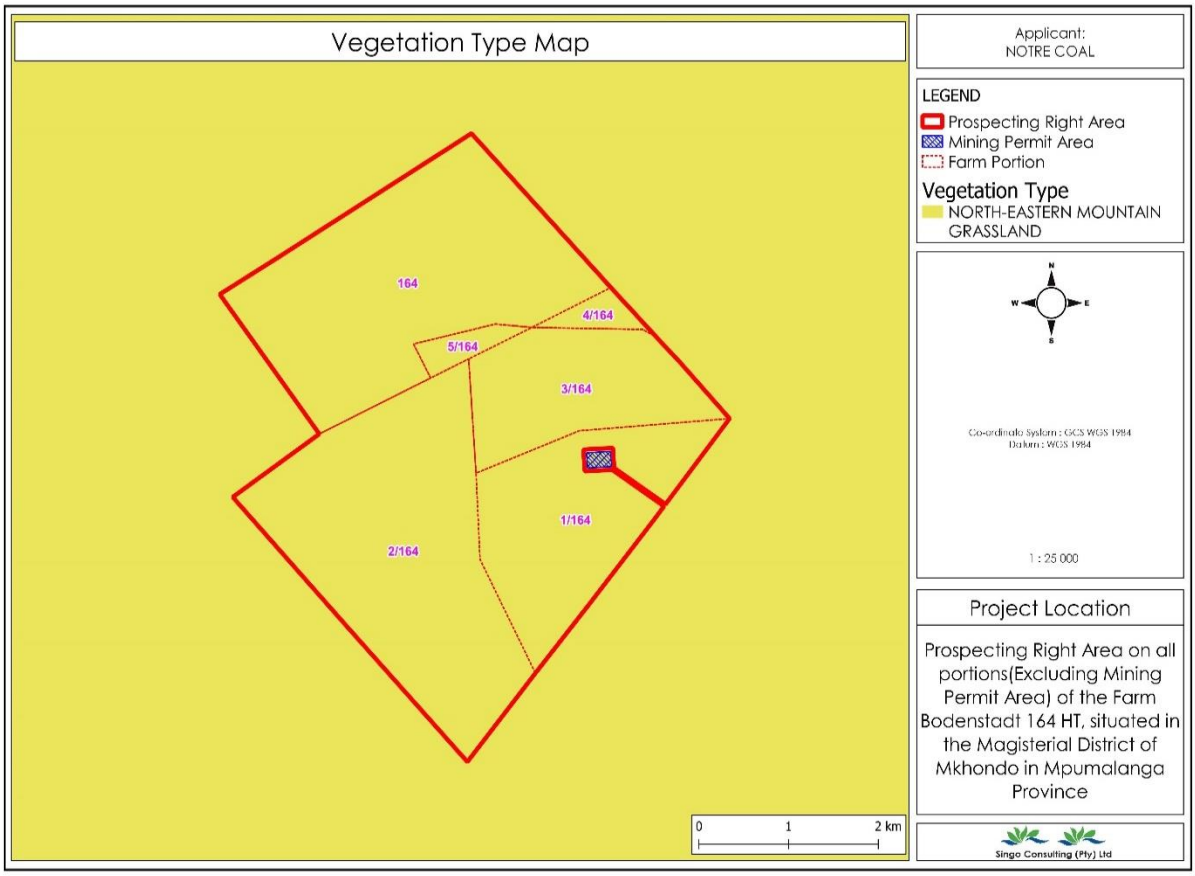
Geology map



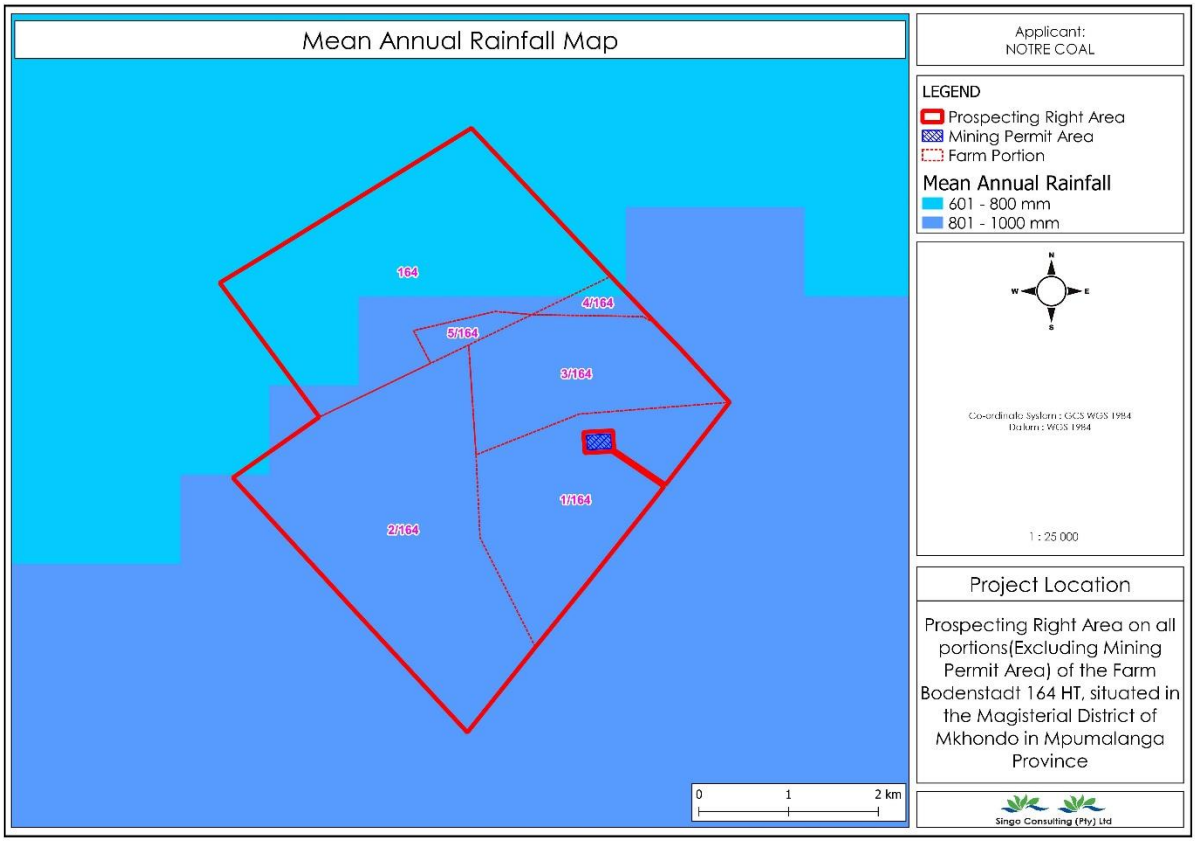
Soil classes map



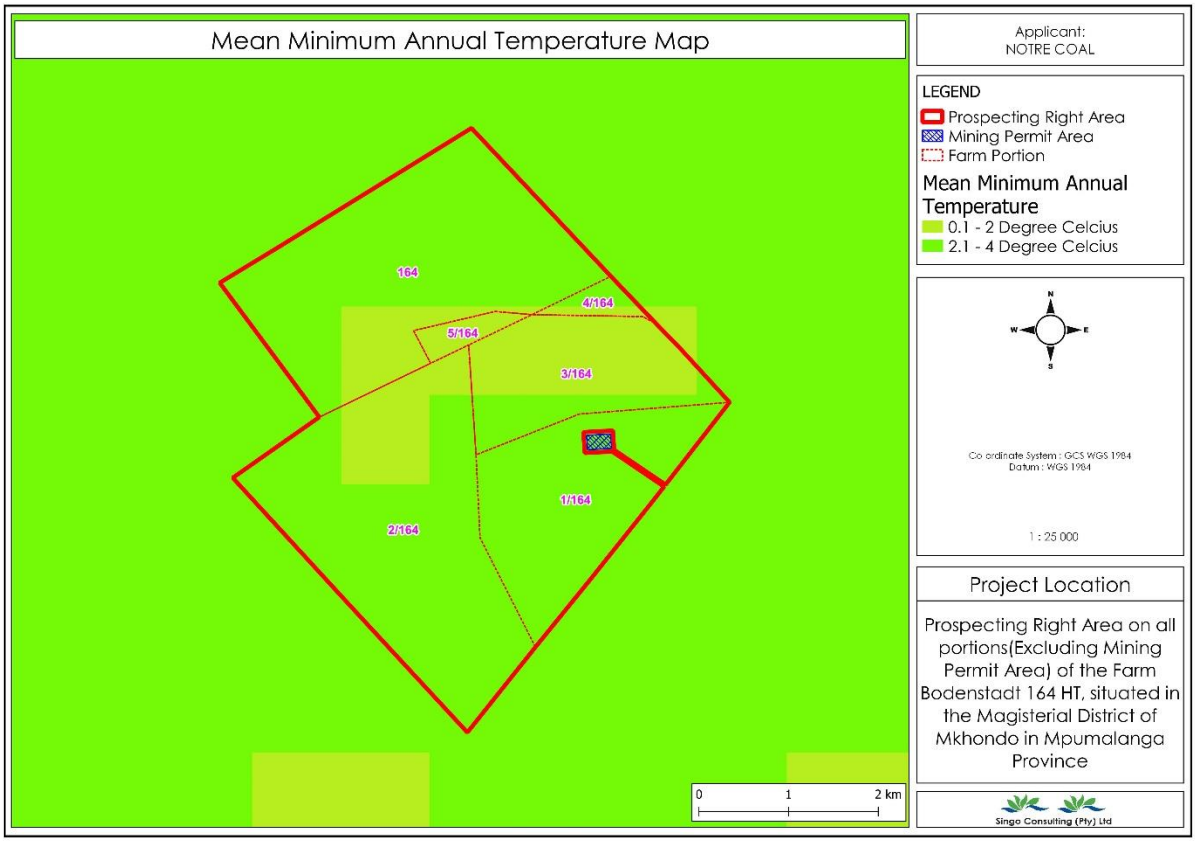
Topology map



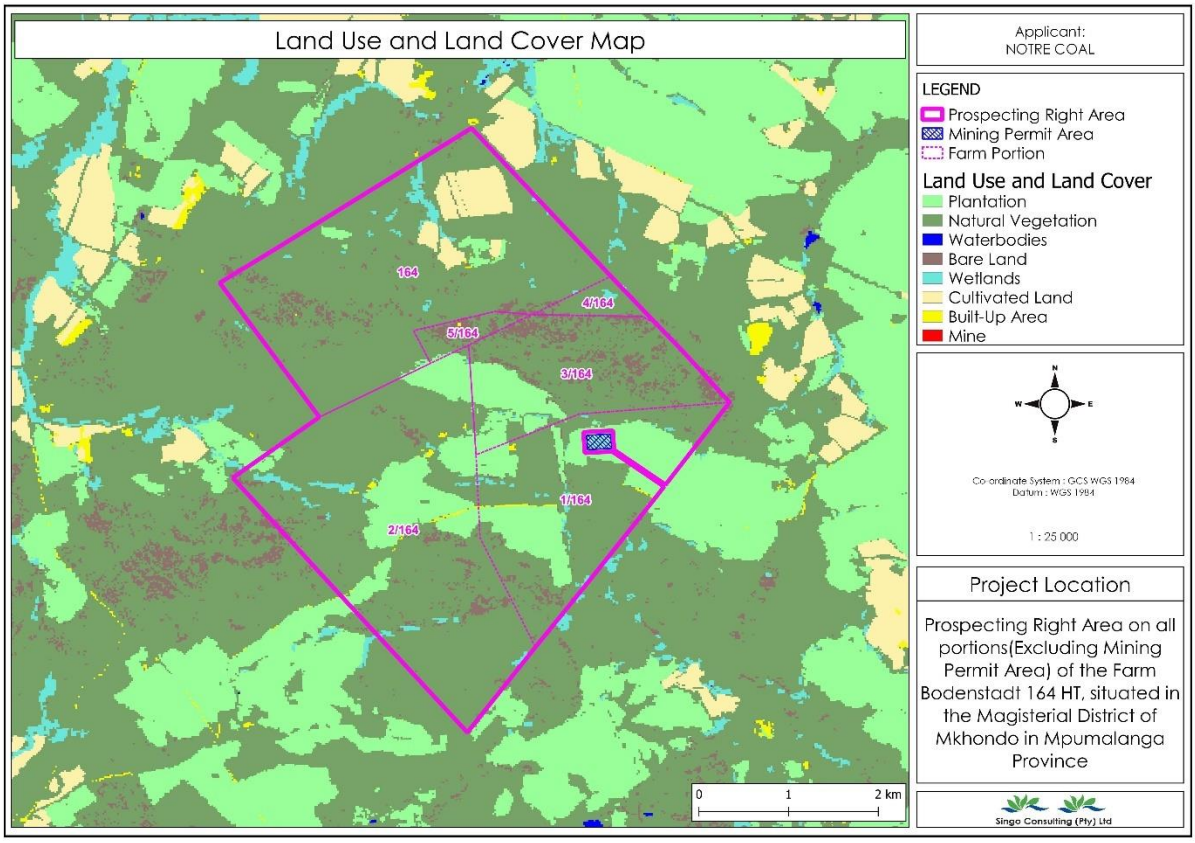
Vegetation map



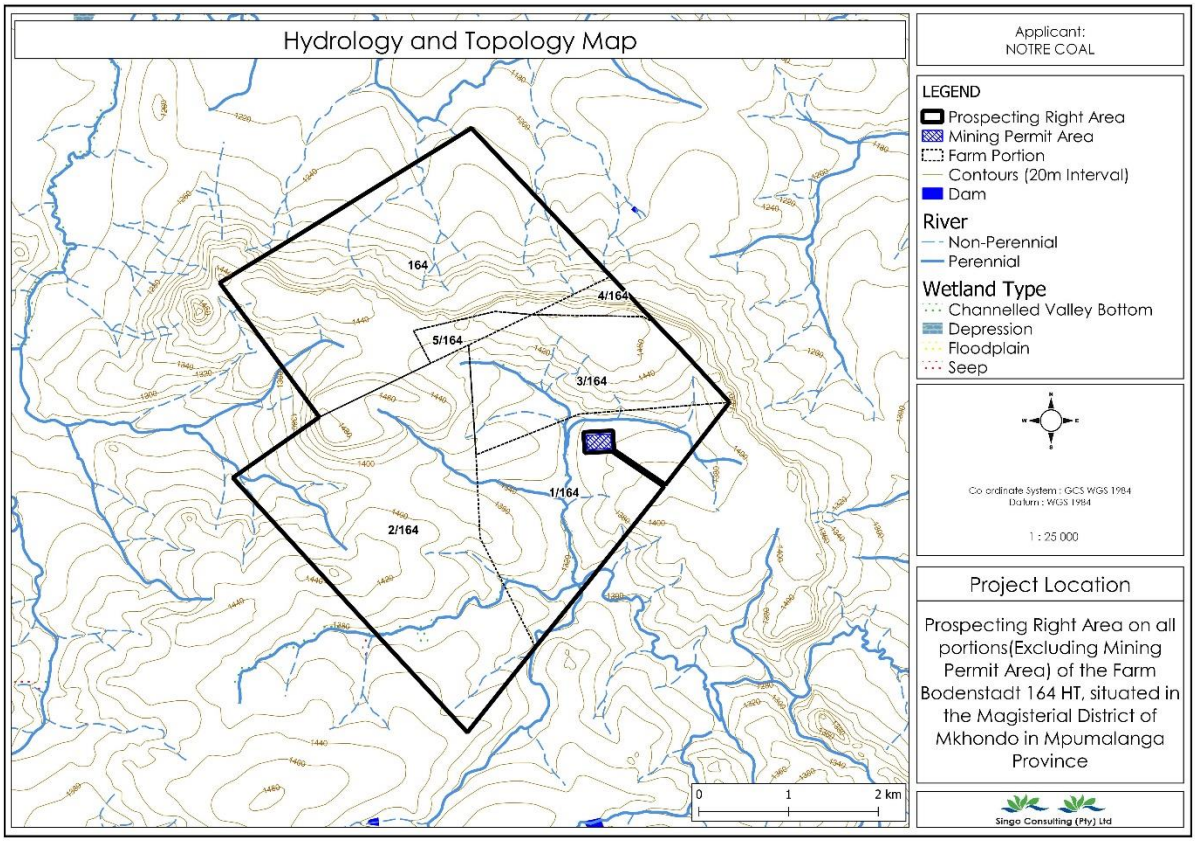
Annual rainfall map



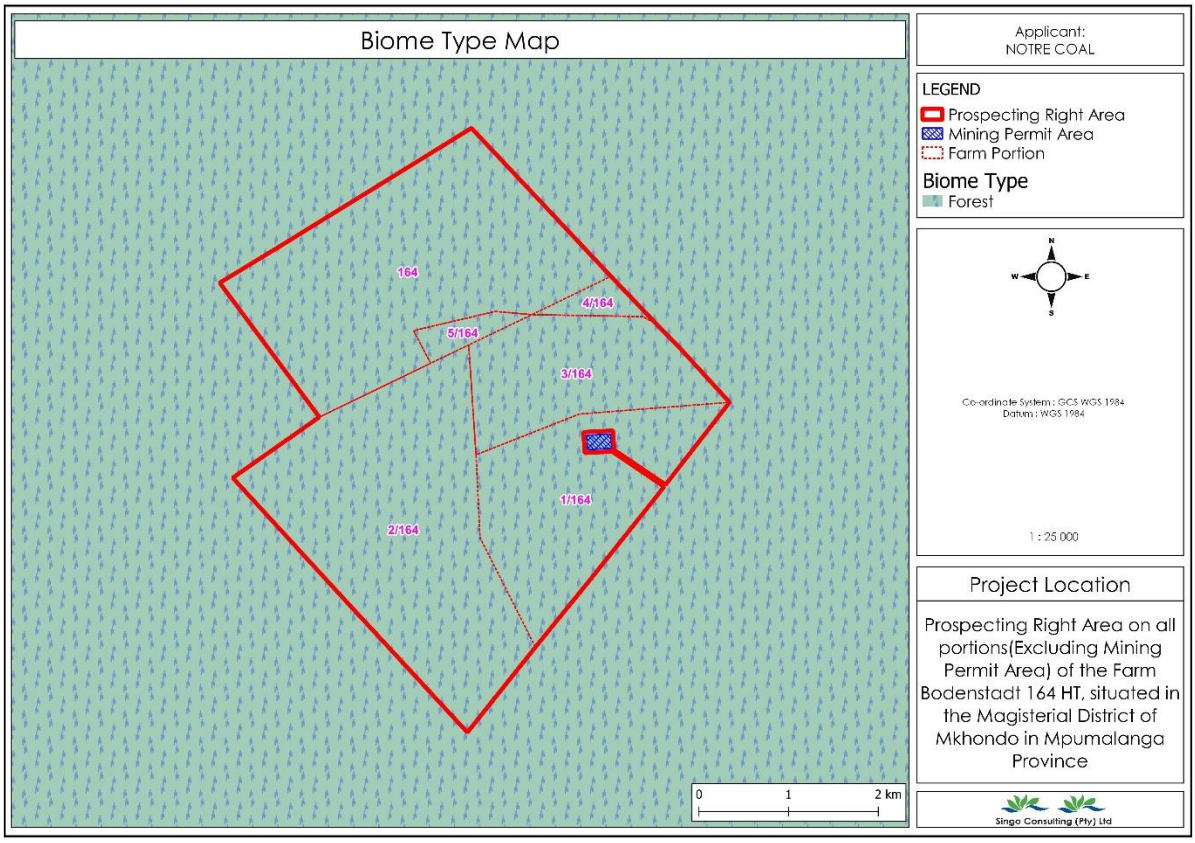
Annual temperature map



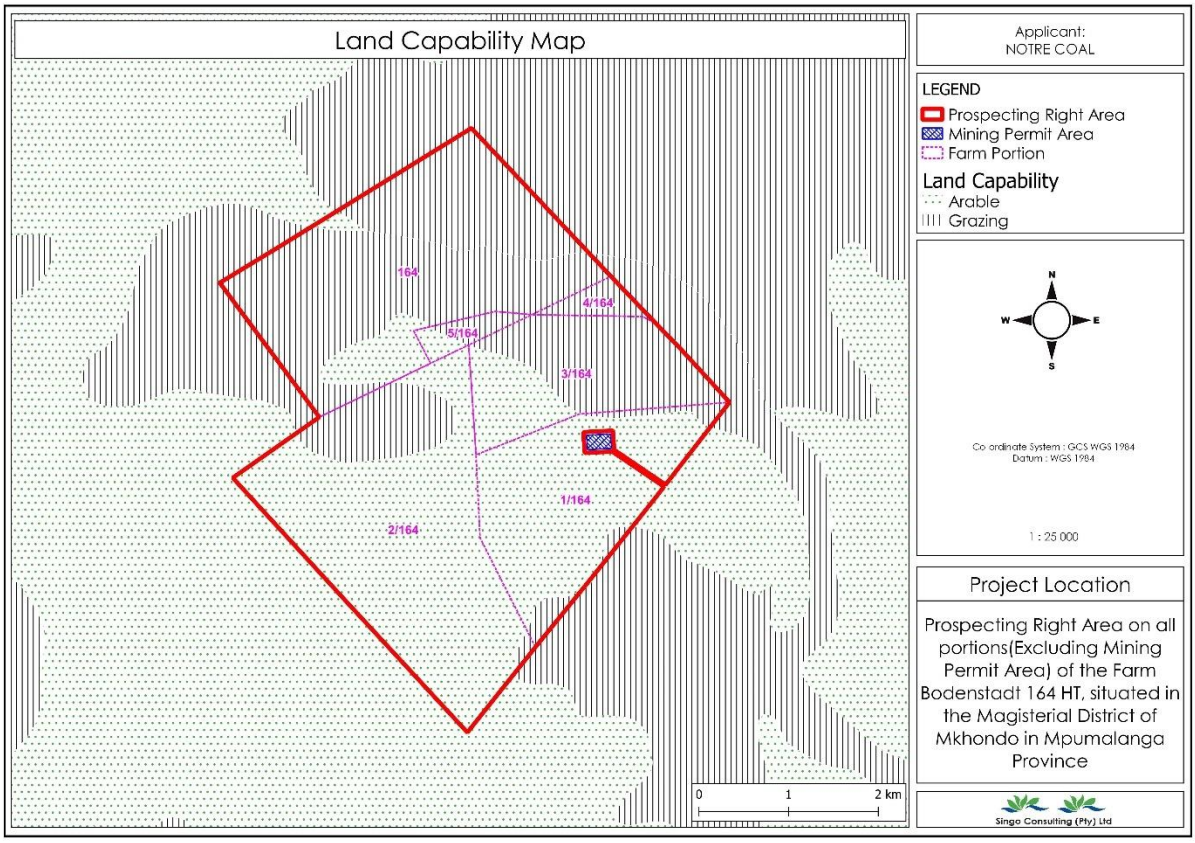
Landuse and landcover map



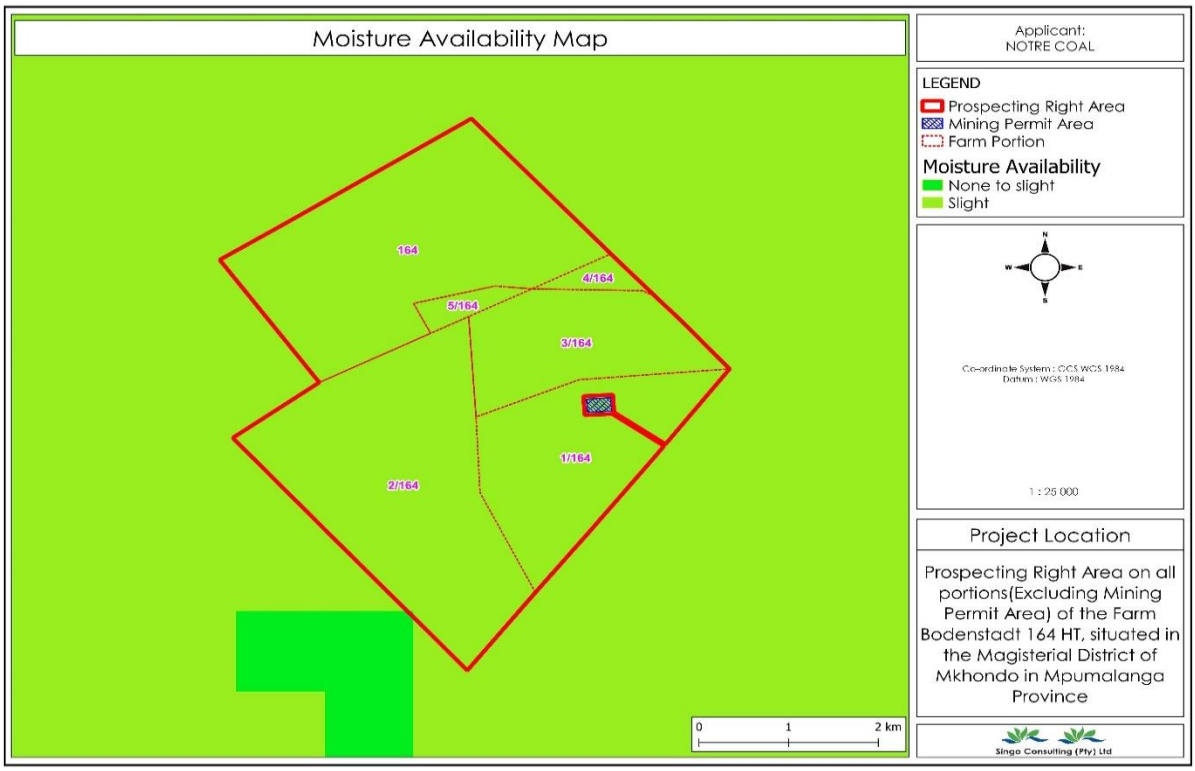
Hydrology and topology


Biome Type Map
Applicant:
NOTRE COAL
LEGEND
Prospecting Right Area
Mining Permit Area
Farm Portion
Biome Type
Forest
164
4/164
5/164
3/164
1/164
2/164
N
W
E
S
Co-ordinate System : GCS WGS 1984
Datum : WGS 1984
1 : 25 000
Project Location
Prospecting Right Area on all portions(Excluding Mining Permit Area) of the Farm Bodenstadt 164 HT, situated in the Magisterial District of Mkhondo in Mpumalanga Province
0
1
2 km
Singo Consulting (Pty) Ltd

Biome map



Land capability map



Moisture availability map

Appendix 3: Public Participation

3.1: Background Information Document

BACKGROUND INFORMATION DOCUMENT

Proposed Prospecting Right Application on all portions of the Farm Bodestadt 164 HT

MKHONDO MAGISTERIAL DISTRICT, MPUMALANGA PROVINCE

Prepared by: Singo Consulting (Pty) Ltd

Prepared for: Notre Coal

INTRODUCTION AND THE PURPOSE OF THIS DOCUMENT

Singo Consulting (Pty) Ltd has been appointed as an independent Environmental Consultant by **Notre Coal (Pty) Ltd** to conduct Environmental Impact Assessment (EIA), Compile an Environmental Management Programme report (EMPr) and undertake Public Participation Process (PPP). This is done for processes of acquiring environmental authorization for the proposed Prospecting Right application on the **Farm Bodenstadt 164 HT**, situated in the Mkhondo Magisterial District, Mpumalanga Province **(DMRE Ref: MP 30/5/1/1/2/17549 PR).**

The Purpose of this Background Information Document (BID) is to provide a perfunctory description of the project and outline EIA processes (through BAR & EMPr) 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 processes, both negative and positive will be submitted and made available to the relevant Departments such as the Department of Mineral Resources and Energy if requested, Environmental Affairs, Water and Sanitation, Landowners and other interested stakeholders.

This Background Information Document therefore requests and invite 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 from, kindly complete it and send it back to **Khodani Mathako** through given means of communication also attached there.

PROJECT DESCRIPTION

Prospecting Right Application has been submitted for the prospecting of **Pseudocoal and Torbanite/Oil Shale** on the property mentioned above.

This Prospecting Area, as seen in figure 1 and 2 below, is situated approximately 9.92 km Southeast of **Piet Retief**, approximately 2.77 km East of **Wittenberg**, approximately 1.14 km Northeast of **Forest Hill Country Lodge Bed and Breakfast**, and approximately 16.46 km Southwest of **Ngema Tribal Trust**.

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. 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 and later, a detailed drilling, sampling, assaying and mineralogical study. Diamond core drilling methods will be utilised to prospect in situ ore deposits. To ensure or minimise impacts on the receiving environment, All the activities will be guided by the project's EMPr.

REGULATORY FRAMEWORK

Therefore, EIA process through the compilation of a BAR & EMPr will 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 **Pseudocoal and Torbanite/Oil Shale** 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 36974: 2013).

These will all be accurately followed to ensure that identified impacts are assessed and mitigated according to their significance so that the protection of the receiving environment and populations is met.

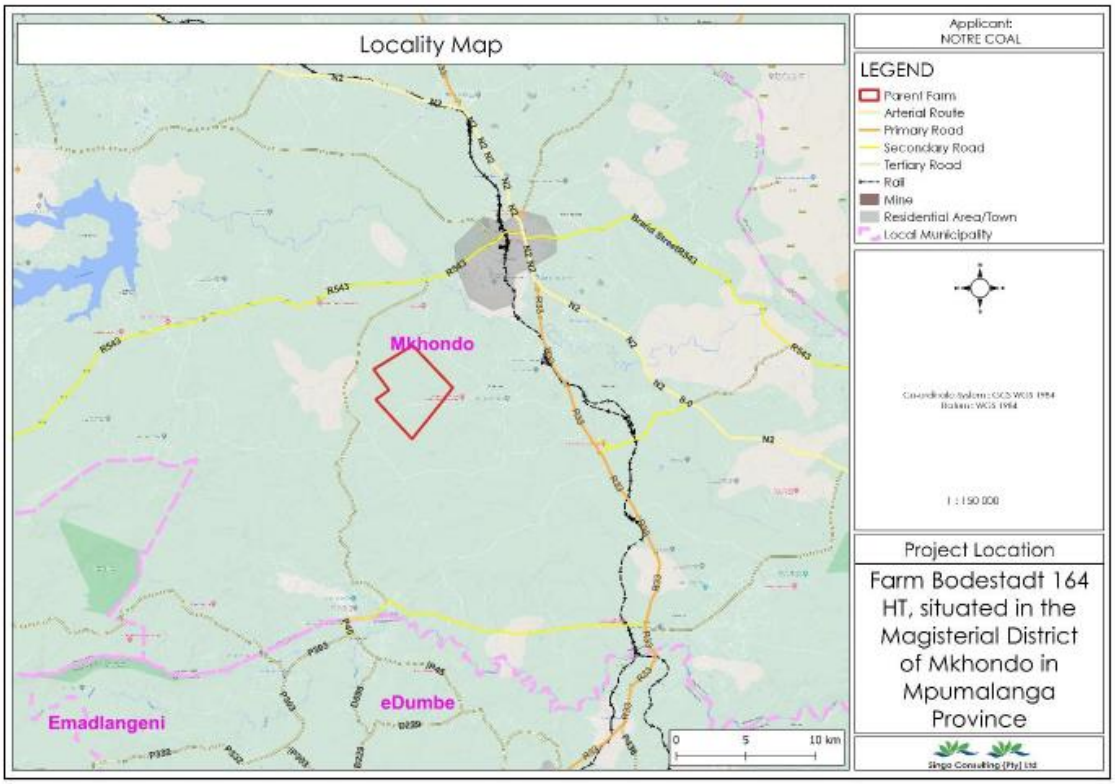


FIGURE 1: LOCALITY MAP OF THE PROPOSED PROJECT.

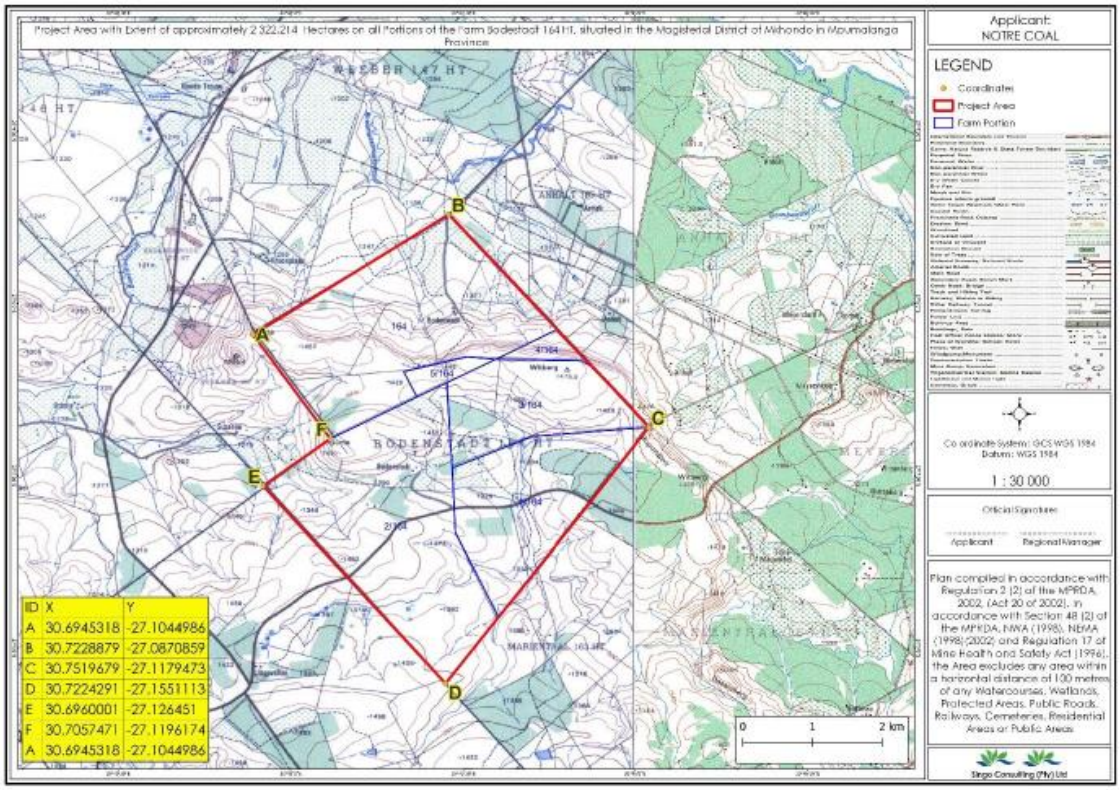


Figure 2: REGULATION 2.2 MAP

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 crucial because they are utilized to demonstrate to the relevant stakeholders about the potential impacts, which in turn leads to the prospecting rights application process being a success or declined.

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 during the compilation of the BAR & EMPr 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 this BID.

Kindly keep the following dates:

- Stakeholder engagement and consultation: **On-going throughout the process of compiling the BAR & EMPr**
- Review of Draft Basic Assessment Report: **Monday the 5th of September 2022 to Wednesday the 5th of October 2022.**

The Report will be made available at the **Mkhondo Local Municipality (33 Mark St, Piet Retief, 2380, South Africa), Piet Retief Public Library (Piet Retief, 2380).** Furthermore, the report will be available upon request, via email from the respective EAP.

For comments or concerns about the proposed project, please contact Singo Consulting (Pty) Ltd, using the detailed EAP's contact's below.

Singo Consulting (Pty) Ltd

Office No: 870, Balalaika Street
Tasbet Park Ext 2, Witbank, 1040
Tel: +27 76 054 1408/ +27 13 692 0041
Fax: +27 86 5144 103
Email: khodani@singoconsulting.co.za
; admin@singoconsulting.co.za

REGISTRATION & COMMENT SHEET (DMRE REF: MP 30/5/1/1/2/17549 PR).

Attention: **Khodani Mathako** Email: **khodani@singoconsulting.co.za**

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.		

3.2: Newspaper

Congratulations Dr Mkhaliphi

We would like to congratulate Siybonga Oscar Mkhaliphi (aka "Nkizozo") from Anhalt Farm at Emaphondleni, Piet Retief for obtaining a Bachelor of Medicine and Surgery.

The graduation ceremony took place on 20 July at Wits University in Johannesburg.

The graduation was led by Prof. Zeblon Vilakazi, the vice-chancellor of Wits University.

It is our pleasure to note that from humble beginnings he has managed to achieve this degree.

This will surely inspire other upcoming youth of Mkhondo, coming from rural areas and farms, that it is possible to achieve what you set for yourself.

It is all through dedication, commitment and hard work. Education is power.

Congratulations Dr Siyabonga Mkahliphi. We thank God for your achievement.

From left to right: Ms Gugu Mgabhi, Mrs Winniet Mkhaliphi (mother), Thuli Mkhaliphi, Dr Siyabonga Mkhaliphi, Thembelihle, Sithembile Nkwanyana & Mr Makhosonke Mkhalipi

Compressed dagga confiscated

David Mkhonta

On Sunday 31 July, Constable Thwala of Emahlathini POE, while conducting a stop and search operation on Emahlathini road, stopped a white Toyota Quantum and searched the passengers.

The driver pulled over to the side of the road and the search began. A 22-year-old male was carrying a plastic bag with 11 medium bags containing compressed dagga.

In his possession the searching officer found 4,648 kilograms of dagga. He was immediately arrested.

The suspect appeared in the Piet Retief Magistrate's Court on 1 August, charged for dealing in dagga. The case was postponed, and he remains in custody.

The vigilance of the SAPS officer took almost R6 972-00 worth of dagga off the streets. Well done!

The compressed bags of dagga that was confiscated

Road maintenance in Mark Street

Everyone of the Road Maintenance team was hands on

'Service delivery is our priority' – Mkhondo Local Municipality

Such a productive day

Jessica Burns

On Wednesday the 27th of July the Mkhondo Local Municipaity Road Maintenance team conducted repairs in this very busy street.

The road was blocked off with traffic cones for the time being. All the workers were hands on with the project and tried to complete the task as quickly as possible to ensure that the road could be open once again.

At 12:30 one could already see a major difference as they were attending to the finishing touches.

To all the people travelling on the roads in town, please refrain from cursing or showing anger towards the workers.

Rather be thankful that our roads are getting the necessary attention that they deserve.

NOTICE OF PUBLIC PARTCIPATION FOR PROSPECTING RIGHT AND ENVIRONMENTAL AUTHORIZATION APPLICATION

ISIZULU

Isaziso sesicelo selungelo lokuhlola: **I- Notre Coal (Pty) Ltd** ifake isicelo eMnyangweni Wezimbiwa Namandla **(DMRE Ref.: MP 30/5/1/1/2/17549 PR)** ngenhloso yokuhlola **amalahle kuzo zonke izingxenye yeFarm Bodestadt 164 HT**, esendaweni **yesiFunda sikaMantshi iMkhondo** esiFundazweni saseMpumalanga.

Isaziso sikhishwa ngokomthetho wokuthuthukiswa kweziMbiwa Nezimbiwam kanye Phethiloli (MPRDA) (uMthetho wama-28 wezi-2002) kanye nemithethonqubo ye-EIA ka-2014, eshicilelwe ngaphansi kwesaziso sikahulumeniesingunombolo 982 kuGazethi No. 3822 mhla zingu-8 kuZibandlela kunyaka ka-2014, esachitshiyelwa mhla zingu-7 kuMbasa kunyaka ka-2017, sokuthi **i- Notre Coal (Pty) Ltd** ifake isicelo seLungelo Lokuhlola le migodi eshiwo ngenhla.

ISIMEMO SOKUPHAWULA NOKUVEZA IMIBONO MAYELANA NALE APPLICATIONI

Ukubhaliswa Njengabantu Abanentshisekelo Nabathi-ntekayo: Njengengxenye yenqubo ye-EIA, ikakhulukazi Inqubo Yokubambiqhaza Komphakathi yale phrojekthi ehlongozwayo, Abanentshisekelo Nabathintekayo (I&APs) bayamenywa ukuba babhalise futhi balethe ngomusa noma yikuphi ukuphawula noma ukukhathazeka ukuze kufinyelelwe **kuMnuz Khodani Mathako** esebenzisa imininingwane yokuxhumana enikezwe ngezansi. Umphakathi uyamenywa ukuthi ubuyekeze futhi uphawule ngombiko owuhlaka wokuhlola okuyisisekelo kanye nombiko wohlelo lokulawulwa kwemvelo (EMPr). Uhlaka lokuqala lwe-BAR kanye ne-EMPr izotholakala ukuthi ibuyekezwe isikhathi sezinsuku ezingu-30 kusukela **uMsombuluko zingama-5 kuSepthemba 2022 kuya kuLwesithathu zingama-5 kuMfumfu wezi-2022 (Ngaphandle Kwamaholide Omphakathi).** Lo mbiko uzotholakala kwi- **Mkhondo Local Municipality (33 Mark St, Piet Retief, 2380, South Africa), Piet Retief Public Library (Piet Retief, 2380)**, kanye nekhophi elithambile uma ucelwa kwa-**Singo Consulting (Pty) Ltd**, usebenzisa imininingwane yokuxhumana ye-EAP engezansi.

ENGLISH

Notice of the Prospecting Right Application: Notre Coal (Pty) Ltd has lodged an application with the Department of Mineral Resources and Energy **(DMRE Ref.: MP 30/5/1/1/2/17549 PR)** for the purpose of prospecting Coal on all portions of the **Farm Bodestadt 164 HT**, situated in the Magisterial District of Mkhondo Mpumalanga Province.

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 8 December 2014, amended on 7 April 2017, that **Notre Coal (Pty) Ltd** has applied for Prospecting Right for the abovementioned mineral.

INVITATION TO COMMENT

Registration as Interested & Affected Party: As part of the EIA process, more especially the Public Participation Process (PPP) for this proposed project, Interested and Affected Parties (I&APs) are invited to register and kindly submit any comments or concerns to reach **Mr Khodani Mathako** using the contact details provided below. The public is also invited to review and comment on the Draft Basic Assessment Report and Environmental Management Programme Report (EMPr). The draft BAR & EMPr will be available for review for 30 days calendar period from **Monday the 5th of September 2022 to Wednesday the 5th of October 2022 (Excluding Public Holidays)**. This report will be available at **Mkhondo Local Municipality (33 Mark St and De Wet Street, Piet Retief, 2380, South Africa), Mkhondo Public Library (Market St and Retief St, Piet Retief, 2380)** and a soft copy upon request from **Singo Consulting (Pty) Ltd**, using the EAP's contact details below.

EAP Details

Singo Consulting (Pty) Ltd
Office 870, 5 Balalaika Street,
Tasbet park Ext 2, Witbank, 1040

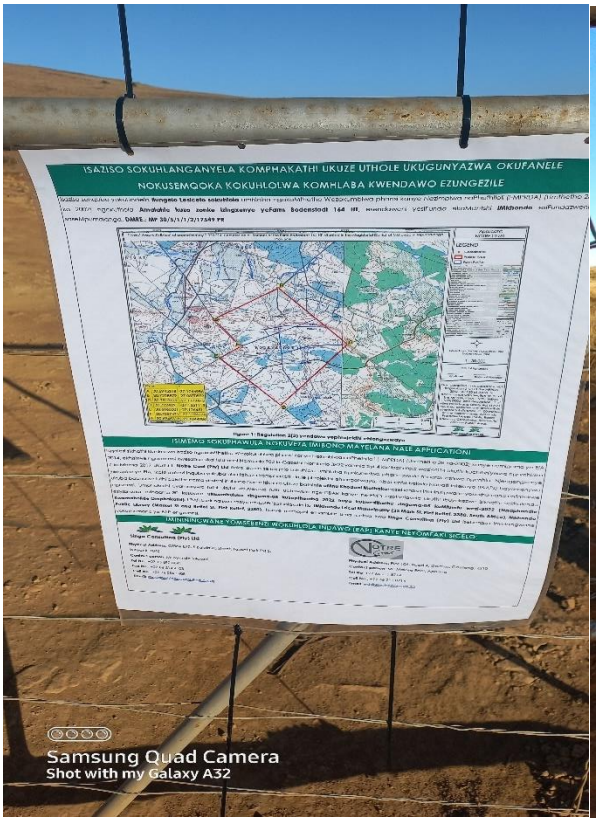
Contact Person: Mr Khodani Mathako
Tel. No.: +27 13 692 0041
Fax No.: +27 86 514 4103
Cell No.: +27 76 054 1408
E-mail: khodani@singoconsulting.co.za

Applicant Details

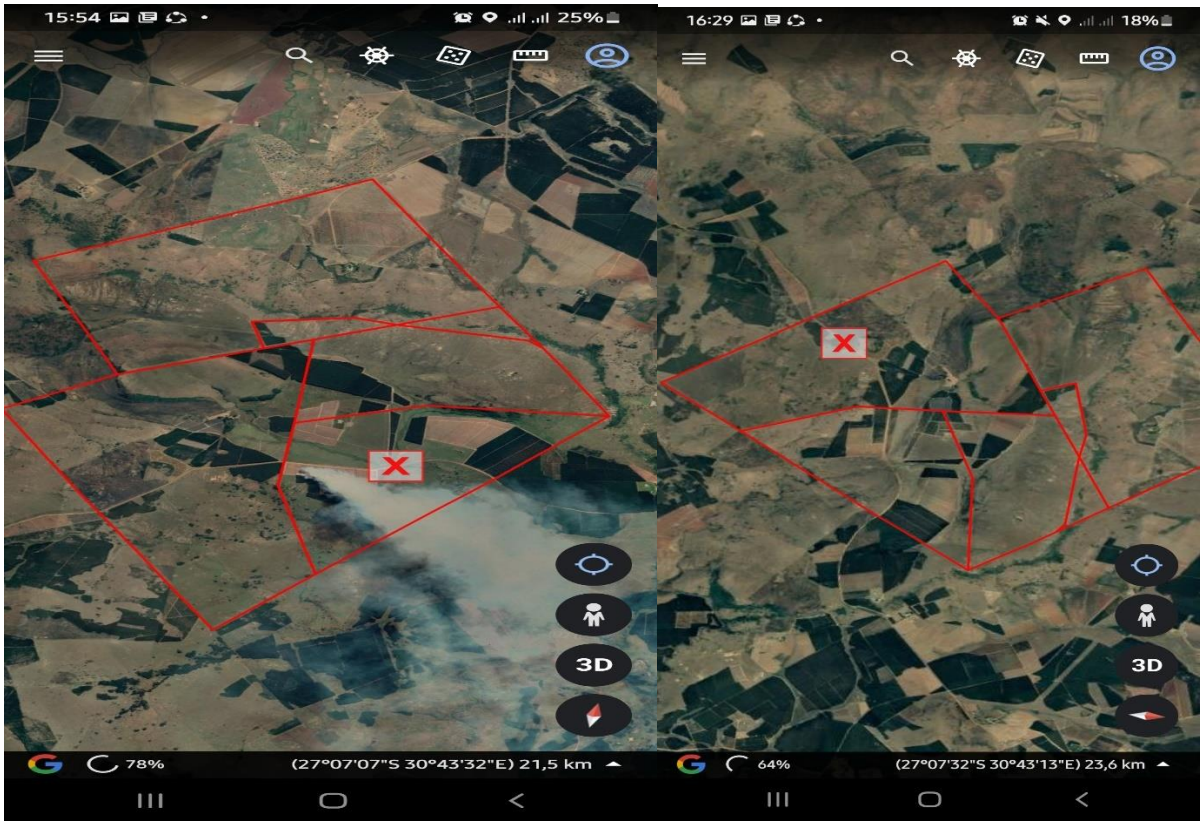
Plot 106
Road 4, Delmas
Gauteng, 2210

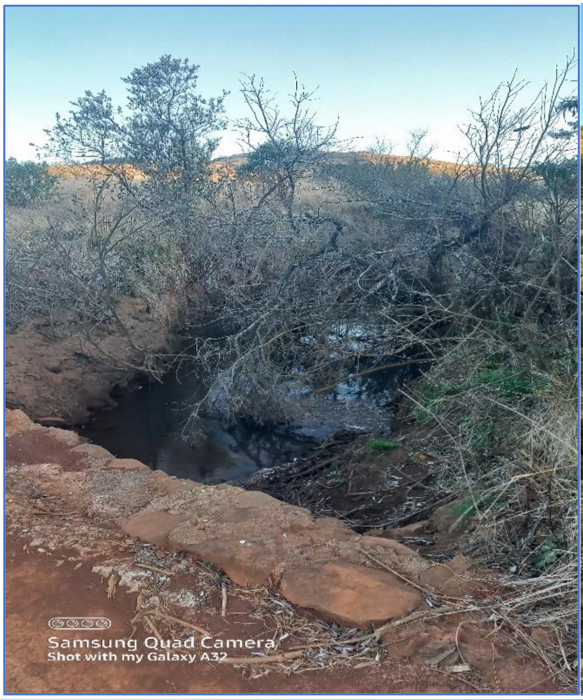
Contact Person: Mr Eddi Aphane
Tel. No.: +27 66 211 8714
Cell No.: +27 66 211 8714
E-mail: eddi@notrecom.co.za

3.3: Site Notice plugging



Appendix 4: Current site condition





Appendix 5: Financial Provision

CALCULATION OF THE QUANTUM

Notre Coal (Pty) Ltd

Applicant:
Evaluator: **Khodani Mathako**

Ref No.: **MP30/5/1/1/2/ 17549 PR**
Date: **30-Aug-22**

No.	Description	Unit	A Quantity	B Master Rate	C Multiplication factor	D Weighting factor 1	E=A*B*C*D Amount (Rands)
1	Dismantling of processing plant and related structures (including overland conveyors and powerlines)	m3	0	19	1	1	0
2 (A)	Demolition of steel buildings and structures	m2	0	271	1	1	0
2(B)	Demolition of reinforced concrete buildings and structures	m2	0	400	1	1	0
3	Rehabilitation of access roads	m2	6845,1	49	0,02	1	6708,198
4 (A)	Demolition and rehabilitation of electrified railway lines	m	0	471	1	1	0
4 (A)	Demolition and rehabilitation of non-electrified railway lines	m	0	257	1	1	0
5	Demolition of housing and/or administration facilities	m2	0	542	1	1	0
6	Opencast rehabilitation including final voids and ramps	ha	0	284292	1	1	0
7	Sealing of shafts adits and inclines	m3	0	146	1	1	0
8 (A)	Rehabilitation of overburden and spoils	ha	0	189528	1	1	0
8 (B)	Rehabilitation of processing waste deposits and evaporation ponds (non-polluting potential)	ha	0	236054	1	1	0
8 (C)	Rehabilitation of processing waste deposits and evaporation ponds (polluting potential)	ha	0	685612	1	1	0
9	Rehabilitation of subsided areas	ha	0	158701	1	1	0
10	General surface rehabilitation	ha	0,9	150138	0,2	1	27024,84
11	River diversions	ha	0	150138	1	1	0
12	Fencing	m	0	171	1	1	0
13	Water management	ha	0	57087	1	1	0
14	2 to 3 years of maintenance and aftercare	ha	0	19980	1	1	0
15 (A)	Specialist study	Sum	0			1	0
15 (B)	Specialist study	Sum				1	0
					Sub Total 1		33733,038

1	Preliminary and General	4047,96456	weighting factor 2 1	4047,96456
2	Contingencies	3373,3038		3373,3038
			Subtotal 2	41154,31
			VAT (15%)	6173,15
			Grand Total	**47327**

Singed: Mathako Khodani
Date: 30/08/2022

Appendix 6: Screening Report

Appendix 7: Specialist studies