

**BASIC ASSESSMENT REPORT & ENVIRONMENTAL MANAGEMENT
PROGRAMME REPORT**

PROSPECTING RIGHT APPLICATION ON PORTIONS 1, 2, 3, 6, 7, 8, 9, 13-25, 27-31, 32, 35, 36, 40, 42 AND REMAINDER OF THE FARM HLOBANE NO. 506 HT, ERVEN 2-21, 23-26, 28-63, 66 & 67 OF THE HLOBANE TOWNSHIP HT (TOWN CODE: N0HT0683), PORTIONS 5, 9, 12-15, REMAINDER OF 16, 18 & 20-22 OF THE FARM VAALBANK NO. 38 HU AND ERVEN 0-16 OF THE VAALBANK TOWNSHIP HU (TOWN CODE: N0HU0684), SITUATED UNDER THE MAISTERIAL DISTRICT OF VRYHEID/UTRECHT, KWAZULU-NATAL PROVINCE

PREPARED FOR:



ATOK MINING HOUSE (PTY) LTD
REG NO: 2012 / 226428 / 07

DMRE REF: KZN 30/5/1/1/2/10926 PR

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DRAFT REPORT

2020



mineral resources

Department:
Mineral Resources
REPUBLIC OF SOUTH AFRICA

BASIC ASSESSMENT REPORT AND ENVIRONMENTAL MANAGEMENT PROGRAMME REPORT

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

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IMPORTANT NOTICE

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

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

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

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

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

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:
- e) the nature, significance, consequence, extent, duration, and probability of the impacts occurring to; and
- f) the degree to which these impacts—
 - can be reversed;
 - may cause irreplaceable loss of resources; and
 - can be managed, avoided or mitigated;
- g) 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
 - identify and motivate a preferred site, activity and technology alternative;
 - identify suitable measures to manage, avoid or mitigate identified impacts; and identify residual risks that need to be managed and monitored.

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PART A

SCOPE OF ASSESSMENT AND BASIC ASSESSMENT REPORT

1 Contact person and correspondence address

a) Details of the EAP

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E-mail address : kenneth@singoconsulting.co.za

b) Expertise of the EAP

Please refer to **Appendix M** for the EAP's qualifications and Curriculum Vitae.

2 Location of the overall activity

The following table presents the location and associated cadastral details associated with the area in question.

Farm name	Hlobane No. 506 HT, Hlobane Township HT (Town code: N0ht0683), Vaalbank No. 38 HU and Vaalbank Township HU (Town Code: N0hu0684)
Application area (ha)	4376.32 ha
Magisterial district	Vryheid/Utrecht
Distance and direction from nearest town	The project area is situated within Hlobane, Vaalbank and Pumulanga and approximately 2.73 km south of Thukuzele and roughly 15.70 km north west of Vryheid, within the AbaQulusi Local Municipality
21-digit Surveyor General code for each farm portion	

2.1 Locality map

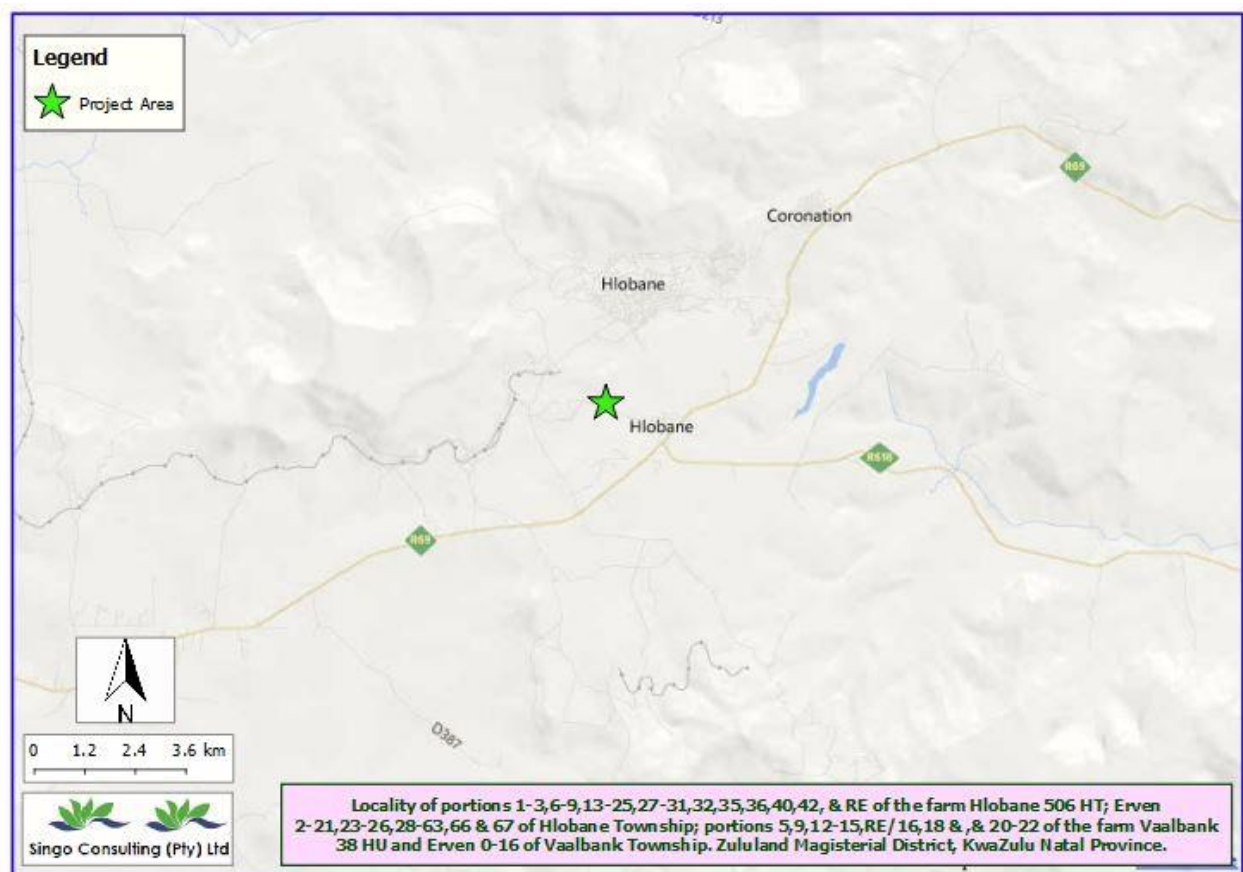


Figure 1: Locality of proposed site project.

Hlobane is a town in the AbaQulusi Local Municipality within the Zululand District Municipality in KwaZulu-Natal province of South Africa. The town lies within the coal-mining centre 27 km east of Vryheid and 31 km south-west of Louwsburg.

The proposed project area is historically known as a mine town, lies near the historical mine areas of Coronation Mine and Hlobane mine which closed in 1997 and 1998 respectively.

The locality was known as such in the 19th century and the name applied to the town in 1924. Hlobane is of Zulu origin, it is said by some to mean 'beautiful place', and by others 'place of dispute'. It was the scene of the battle of Hlobane in the Zulu War, on 28 March 1879.

The SDF for the mining types illustrates that the chosen prospecting right area is historically known for coal mining (See Figure 2 below).

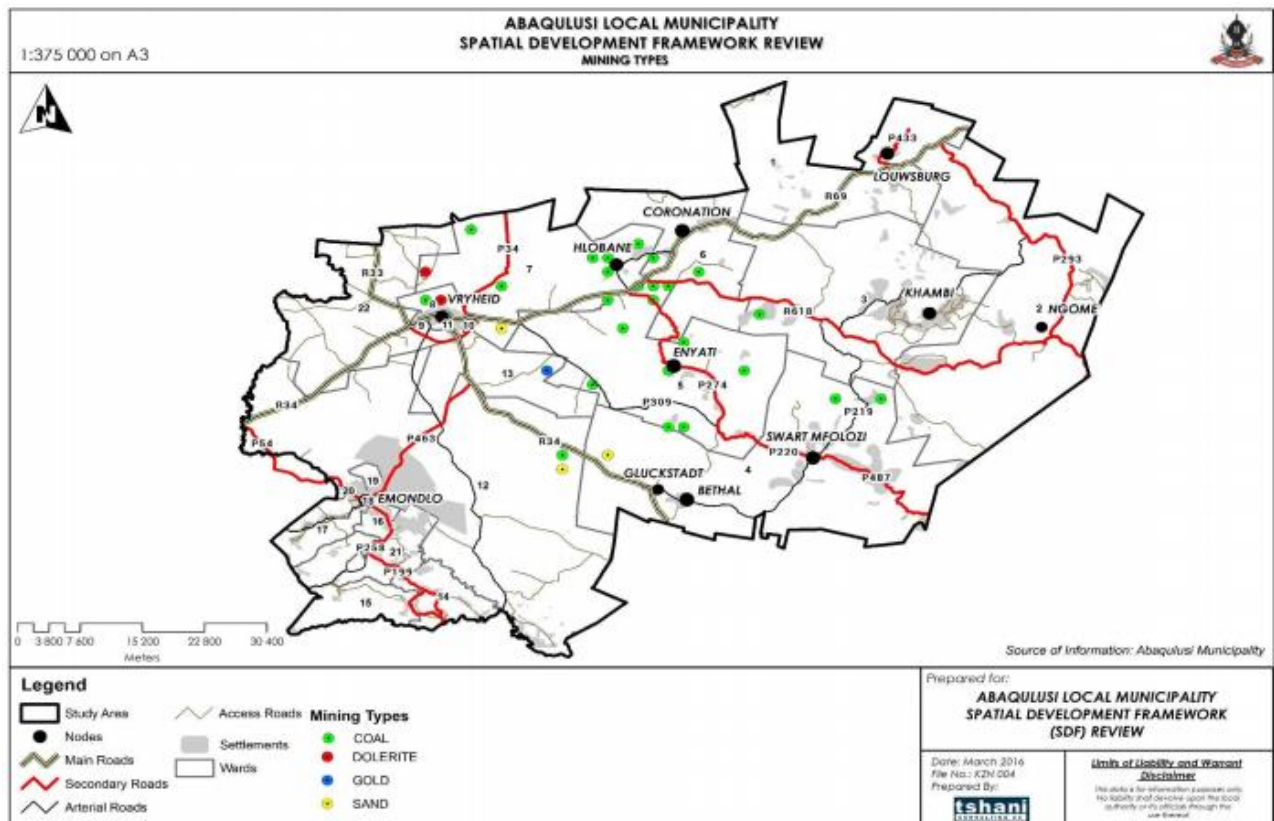


Figure 2: SDF for Mining Types within AbaQulusi Local Municipality (AbaQulusi Final SDF 2019 – 2020)

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.

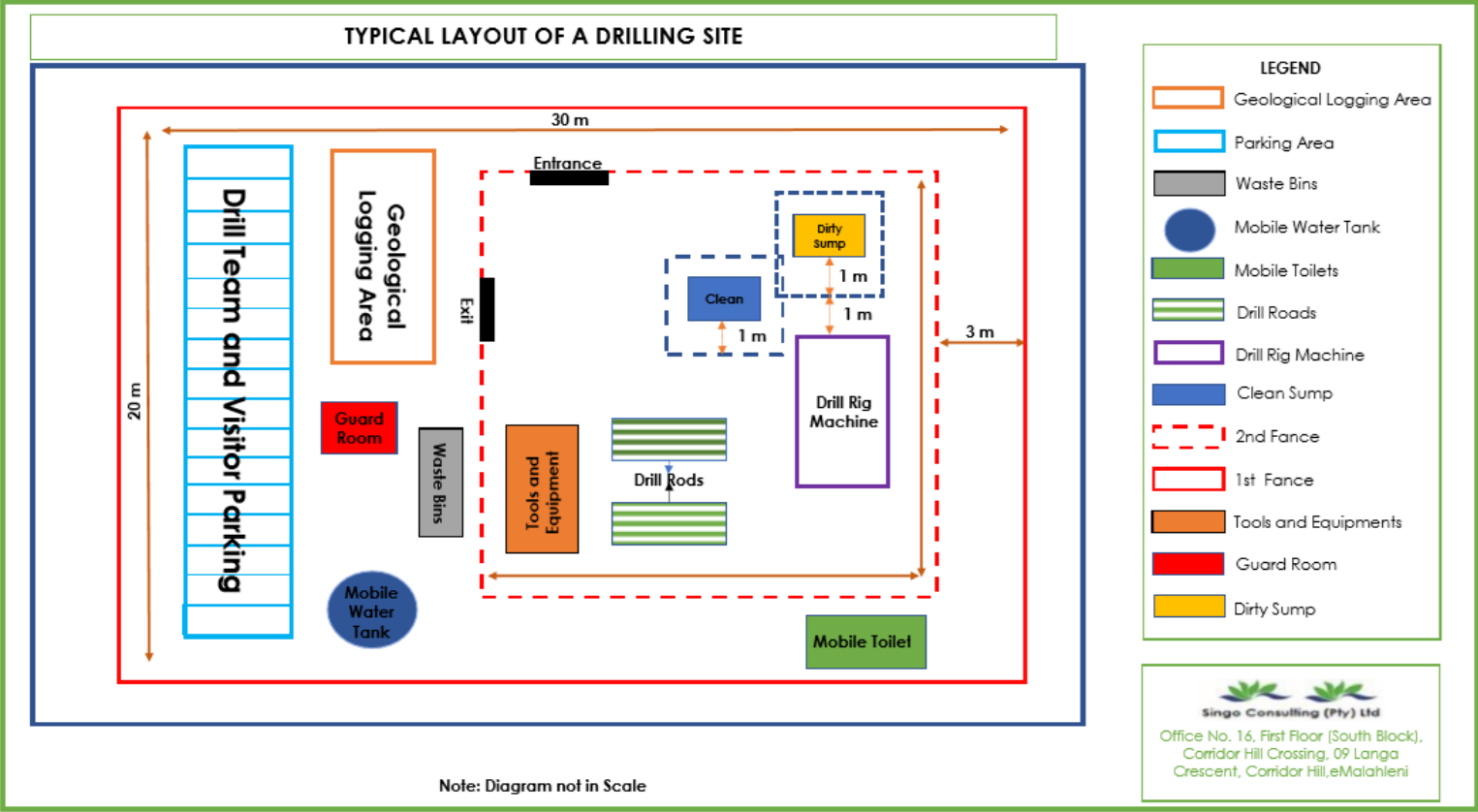


Figure 3: Typical drilling activity layout

The area's detailed geology and coal potential is well-known. As such, exploration work will commence from a very advanced level. The Prospecting Work Programme (PWP) was designed in phases, each phase conditional on the success of the previous phase. These phases include:

2.2.1 Phase 1: Data acquisition and a desktop study

A desktop study of all available data for the area was undertaken to accumulate as much regional and historical data around the area as possible. This include published geological reports, infrastructure mapping, satellite imagery and existing geophysical information. Many sources have been used to consolidate this report.

2.2.2 Phase 2: Drilling

Targets that have been prioritised through detailed desktop studies will be tested by initial diamond or percussion drilling. No bulk sampling will be undertaken. Should the initial evaluation of the deposit indicate a sufficient size and grade, bulk sampling may be required. In this event, the PWP will be amended and a new Environmental Authorisation Process will be required for submission to the Department of Mineral Resources (DMR). The activities associated with the PWP will be scheduled over a period of five years, as detailed in the following table.

Table 1: Prospecting timeframes and activities

Phase	Activity	Skill(s) required	Timeframe	Outcome	Timeframe for outcome	What technical expert will sign off on the outcome?
Phase 1: Invasive Prospecting						
	Diamond drilling (10 boreholes)	Exploration Geologist	Month 1 (30 days)	Borehole core data Coal core samples Rock core samples	Month 1	Exploration Geologist
	Sampling	Exploration Geologist		Core analyses Rock core analyses	Month 2 – 3	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 (6 boreholes)	Exploration Geologist	Month 13	Borehole core data Coal core samples	Month 13	Exploration Geologist Laboratory analyst
				Rock core samples Core analyses Rock core analyses	Month 13-14	
	Geophysical survey (Optional)	Geophysicist Exploration Geologist	Month 13-15	Lithology data Structural data	Month 13-14	Geophysicist
	Geohydrological survey (Optional)	Geohydrologist Exploration Geologist	Month 13-14	Borehole water yield Water samples	Month 17-20	Geohydrologist
Phase 2: Non-invasive Prospecting						
	Consultation with landowners	Mining Rights officer	Month 12	Legal Access Agreement	Month 12	Land Tenure Specialist

Phase	Activity	Skill(s) required	Timeframe	Outcome	Timeframe for outcome	What technical expert will sign off on the outcome?
	Data processing and validation	Exploration Geologist	Month 17-18	Stratigraphic correct borehole data Analytical correct borehole data	Month 20 – 22 Month 20 - 22	Exploration Geologist /Database administrator Exploration Geologist /Database administrator
	Lithofacies and coal/mineral grade 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 (1 borehole)	Exploration Geologist	Month 25	Borehole core data Coal core samples	Month 25	Exploration Geologist
				Rock core samples Coal core analyses Rock core analyses	Month 25-60	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/mineral grade quality modelling	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

As is clear from the information provided in Table 1, each of the phases is dependent on the results of the preceding phase. The location and extent of drill sites and possible diamond drilling cannot be determined at this stage and, as such, mapping of the prospecting activities could not be undertaken. In the subsequent sections (Part B) more details are provided in terms of each of the prospecting activities.

The applicant must submit a plan indicating the location of drilling activities, once these areas have been finalised, to at least all landowners, as well as the DMR and the Department of Water and Sanitation (DWS).

2.3 Listed and specified activities

Section 16 of the Mineral and Petroleum Resources Development Act (MPRDA), 2002 (Act No.28 of 2002) requires, upon request by the Minister, that an Environmental Management Plan (EMP) be submitted and that the applicant must notify and consult with Interested and Affected Parties (I&APs). Section 24 of the National Environmental Management Act (NEMA) requires that activities, which may impact the environment, be authorised by a relevant authority before commencing with the activities. Such activities are listed under Regulations Listing Notice 1 Government Notice (GN) 983, Listing Notice 2 GN 984 and Listing Notice GN 985 (dated 4 December 2014) of the NEMA. The proposed prospecting activity triggers the following:

NEMA Government Notice 983: Listing Notice 1

Activity 20: "Any activity including the operation of that activity which requires a prospecting right in terms of section 16 of the Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002), including associated infrastructure, structures and earthworks, directly related to prospecting of a mineral resource..."

Activity 27: "The clearance of an area of 1 hectares or more, but less than 20 hectares of indigenous vegetation..."

Please refer to Table 2 for the details in terms of the listed activities.

Table 2: Prospecting timeframes and activities

NAME OF ACTIVITY (E.g. For prospecting - drill site, site camp, ablution facility, accommodation, equipment storage, sample storage, site office, access route etc. E.g. for mining, - excavations, blasting, stockpiles, discard dumps or dams, Loading, hauling and transport, Water supply dams and boreholes, accommodation, offices, ablution, stores, workshops, plant, storm water control, berms, roads, pipelines, power lines, conveyors, etc...etc...etc.)	Aerial extent of the Activity Ha or m²	LISTED ACTIVITY (Mark with an X where applicable or affected).	APPLICABLE LISTING NOTICE (GNR 983, GNR 984 or GNR 985)	WASTE MANAGEMENT AUTHORISATION (Indicate whether an authorisation is required in terms of the Waste Management Act). (Mark with an X)
Prospecting Area	4376.32 ha	X	GNR 327 Listing Notice 1, Activity 20.	Not required
Vegetation clearing	20*30=600 m ² *16 boreholes=9600m ² 9600m ² ÷10000=0.96 ha Less than 20 ha		Not Listed	
Site camp	600 m ²		Not Listed	
Drilling	0.96 ha to be disturbed per site	X	GNR 983, Listing 20	
Equipment storage	50 m ²		Not Listed	
Site offices	40 m ²		Not Listed	
Ablution facilities	30 m ²		Not Listed	
Sample storage	40 m ²		Not Listed	

2.4 Description of the activities to be undertaken

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

The following section presents a detailed description of all the activities associated with the proposed Prospecting Application. Due to the nature of the 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 and therefore be regarded as indicative of what will be undertaken.

2.4.1 Access roads

Site access will be required during hole pegging and drilling activities (Phase 2 and 3). Access requirements can only be determined after Phase 1 has been concluded. A number of existing roads and tracks already traverse the proposed prospecting site and, where practicable, these roads will be used. During pegging activities, vehicles will access the site through the veld. Establishing a track to gain repeated access to a borehole site will not be required. The proposed area may be accessed via the R618 which span on the boundary of the one side of the project area. The R69 transverses the project area and there are multiple secondary roads to access the project area. Due to the multiple access roads present, temporary access roads will only be created if there is a need or the drill site cannot be accessed via existing roads.

2.4.2 Water supply

Water tanks /portable water will have to be brought on site from nearby suppliers. For drilling purposes and for the use of employees. A temporary 260 L on-site vertical water storage tank (for drinking water and general use by persons) will be provided at the drill site.



Figure 4: Typical example of water storage tanks

2.4.3 Ablution

On-site ablution facilities will include the installation of drum/tank-type portable toilets. This will be done because the prospecting activity is temporal for limited duration hence portable toilets is preferred.



Figure 5: Example of portable mobile toilets that will be used on site.

2.4.4 Temporary office area

A temporary site office shaded area will be erected at the drill sites. No on-site electricity will be generated by generators. Meals will be provided to staff and workers as no heating and/or cold

storage facilities will be available. A shaded eating area will be provided.



Figure 6: Example of mobile offices to be used on site during operation.

2.4.5 Accommodation

No accommodation for staff and workers will be provided on-site; all persons will be accommodated in nearby villages/town (Hlobane/Vaalbank). 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.

2.4.6 Blasting

As the PWP does not allow for bulk sampling, no blasting will take place.

2.4.7 Storage of dangerous goods

During the drilling activities, limited quantities of diesel fuel, oil and lubricants will be stored on site. The only dangerous goods that will be stored in any significant quantity is diesel fuel. A maximum amount of 60 m³ will be stored in above-ground diesel storage tanks.

2.4.8 Detailed prospecting activities

2.4.8.1 Phase 1: Data acquisition and a desktop study

A desktop study of all available data for the area will be undertaken to accumulate as much regional and historical data as possible. This includes published geological reports, infrastructure mapping, satellite imagery and existing geophysical information.

2.4.8.2 Phase 2: Drilling

Targets generated during the desktop study will be investigated on the ground and tested by initial diamond or percussion drilling. A drilling programme will be undertaken in order to delineate and give a preliminary assessment of the coal potential of the identified deposit. Should delineation and initial evaluation of the deposit indicate a sufficient size and grade to warrant further evaluation, an appropriate bulk sampling programme will be undertaken in order to establish grade and confirm its viability for mining.



Figure 7: Drilling setting and drilling equipment.

2.5 Policy and legislative context

Applicable legislation and guidelines used to compile the report	Reference where applied	Development's compliance with and response to the policy and legislative context
Specific Environmental Management Acts (SEMAs)		
National legislation		
National Environmental Management Act (NEMA), 1998	This Basic Assessment Report and Environmental Management Plan	An Application for Environmental Authorization was submitted to the KZN DMR and the application was acknowledged by the DMR.
National Water Act (NWA), 1998	Groundwater abstraction as part of drilling activities	As per Government Notices Regulation 399, the applicant may abstract 75m ³ of groundwater per ha per annum from the C33B Quaternary Catchment. This use will be generally authorized. The proposed drilling method won't hamper with National Water Act (NWA), 1998 as the water as water will be brought to site.
Commission on Restitution of Land Rights	Land claims	One of the key issues identified by the Commission on Restitution of Land Rights is the need to facilitate the land claims process. The request for a Land Claim Letter was e-mailed to Mrs Lynn Boucher on the 09 th of October 2020. On the 2 nd of November 2020 Singo Consulting received the feedback from the Commission on Restitution of Land Rights. Please refer to Figure 10 on page 36.
CARA (Conservation of Agricultural Resources Act, 1983 (Act No. 43 of 1983)	Alternatives	The conservation of soil, water resources and vegetation is promoted. Management plans to eradicate weeds and invader plants must be established to benefit the integrity of indigenous life. The prospecting activity ensure that disturbance to the environment is minimal and rehabilitation of the disturbed land is done.
Mineral and Petroleum Resources Development Act (MPRDA), 2002	Application for prospecting as per Section 16	The applicant submitted a Prospecting Right Application to the DMR.
Municipal plans		
Strategic Development Framework (SDF)	Alternatives	As per the municipal plan, various strategies and policies must be adopted to ensure effective spatial development. As per Section 5.1 of the SDF, the

		<p>municipality must provide alternative means of support to the rural population to decrease dependence on the environment and subsistence agriculture. As such, the following policies have been adopted:</p> <p>Maximize economic benefit from mining industrial, business, agricultural and tourism development within the area.</p> <p>Promote a climate for economic development.</p> <p>Improve public and investor confidence in the region through crime reduction and infrastructure development. The municipality was consulted so that the prospecting activity won't hamper with municipality's development plans</p>
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2.6 Need and desirability of the proposed activities

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

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 reserves can be mined at an economic gain. It is understood that the mining plays a pivotal 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, few people will be hired to assist with general activities. The services required can also be sourced locally depending on their availability thus growing the economy of KZN. The results from the prospecting will determine whether Atok Mining House (Pty) Ltd proceeds to apply for a mining right or mining permit.

2.7 Motivation for the overall preferred site, activities and technology alternative

2.7.1 Preferred site

As previously mentioned, Atok Mining House (Pty) Ltd applied for prospecting right over the area in question. Based on the outcomes of the competitor study, the likelihood of encountering further coal reserves was identified. The site is therefore considered the preferred site; alternative sites were not considered.

The study area is overlying the shale, a thick sequence dominated by light grey sandstones, called the Vryheid Formation. These sandstones were deposited along ancient sandy shorelines behind which lay vast swamplands with numerous *Glossopteris* plants. Close examination of the

sandstones reveals numerous fossilised burrows formed by ancient soft bodied animals. The area is prone to host coal as the Vryheid geological formation consists of coal resources.

2.7.2 Technological and site activity alternatives

Due to the nature of the proposed prospecting activities, future land use alternatives will not be compromised. Once a viable reserve has been confirmed, a comprehensive social and environmental impact assessment (EIA) will be required (in accordance with legislation), which will determine alternative land to mining. The technologies proposed have been chosen based on the long-term success of the company's prospecting history. The prospecting activities proposed in the PWP depends on the preceding phase, therefore no alternatives are indicated, but rather a phased approach of trusted prospecting techniques. The location of intrusive drilling activities will be determined during Phase 1 of the PWP. All infrastructure will be temporary and/or mobile.

2.8 Description of process followed to reach proposed preferred alternatives within the site

This section is about the determination of the specific site layout and the location of infrastructure and activities on site, having considered the issues raised by interested and affected parties (I&As) and the consideration of alternatives to the proposed site layout.

Each phase depends on the results of the preceding phase. The location and extent of coal sampling and possible core drilling can, therefore, not be determined at this stage. Prospecting activity mapping could thus not be undertaken. The stakeholder consultation phase has not been completed at this time, and therefore the comments raised by I&As have not been incorporated in this section. This will be included in the final report.

2.9 Details of the development footprint alternatives considered

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

- Property on which or location where it is proposed to undertake the activity
- Type of activity to be undertaken
- Design or layout of the activity
- Technology to be used in the activity
- Operational aspects of the activity
- Option of not implementing the activity

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

The company applied for prospecting rights on the properties in question, to determine the presence of coal, and whether further application for a Mining Right would be feasible.

2.9.2 The type of activity to be undertaken

The technologies proposed have been chosen based on the long-term success of the company's prospecting history. The prospecting activities proposed in the PWP depends on the preceding phase, therefore no alternatives are indicated, but rather a phased approach of trusted prospecting techniques.

2.9.3 The design or layout of the activity

The location of activities will be determined based on the location of the prospecting activities, which will only be determined during Phase 1 of the PWP. All infrastructure will be temporary and/or mobile (refer to Figure 04 & 05)

2.9.4 The technology to be used in the activity

In terms of the technologies proposed, these have been chosen based on the long-term success of the company in terms of their prospecting history. The prospecting activities proposed in the Prospecting Works Programme is dependent on the preceding phase as previously discussed, therefore no alternatives are indicated, but rather a phased approach of trusted prospecting techniques.

2.9.5 The operational aspects of the activity

Due to the nature of the prospecting activities, no permanent water supply, electricity, or sewerage facilities are required. The activities will commence with a desktop study, which will comprise a literature search. This approach will ensure that the client clearly delineates areas suitable for further investigation and prevent unnecessary surface disturbance.

Based on the outcomes of the desktop study, drilling and coal sampling will be undertaken for target areas only. Drilling and sampling is a low-impact exploration method in terms of environmental disturbance. After the preliminary exploration work, the anomalies identified will be ranked for exploratory drilling. Site activities as they relate to exploratory drilling, will comprise the establishment of the drill pad (drill pad clearing and compaction), drilling operations (drill maintenance, refuelling, core extraction and core storage) and rehabilitation activities (drill pad ripping and re-vegetation). No feasible alternative to the proposed exploratory drill methods currently exists. Impacts associated with the drilling operations will be managed through the implementation of a management plan, developed as part of the application for authorisation.

2.9.6 The option of not implementing the activity

The option of not approving the activity will result in a significant loss of valuable information regarding the mineral status (in terms of coal) present on these properties. In addition, should economical reserves be present and the applicant does not have the opportunity to prospect, utilising these reserves for future phases will not be possible.

In addition, the SDF of the AbaQulusi Local Municipality states that the land use for the applied for area is mining (see Figure 8 below) thus the success of Atok Mining House (Pty) Ltd could restore the economic growth of the municipal area which was consistent due to mining of coal approximately 15 years ago until closure of the surrounding mines.

According to the municipal SDF, the coal mining sector seems to be gaining momentum and has been identified in the IDP as one of the key economic sectors. This is due to high demand of coal in the country and internationally. The study done by KwaZulu Natal Trade Investments reflects that there are high volumes of coal available in the coal reserves especially in the former mines of Vryheid. As a result, the applications for coal prospecting have increased in the region. This initiative will boost the AbaQulusi local economic regeneration and strengthen the coal line corridor, which runs from Richards Bay through Ulundi, Vryheid, and Paulpietersburg and on to the mining areas of Mpumalanga Province (AbaQulusi Final SDF 2019 – 2020).

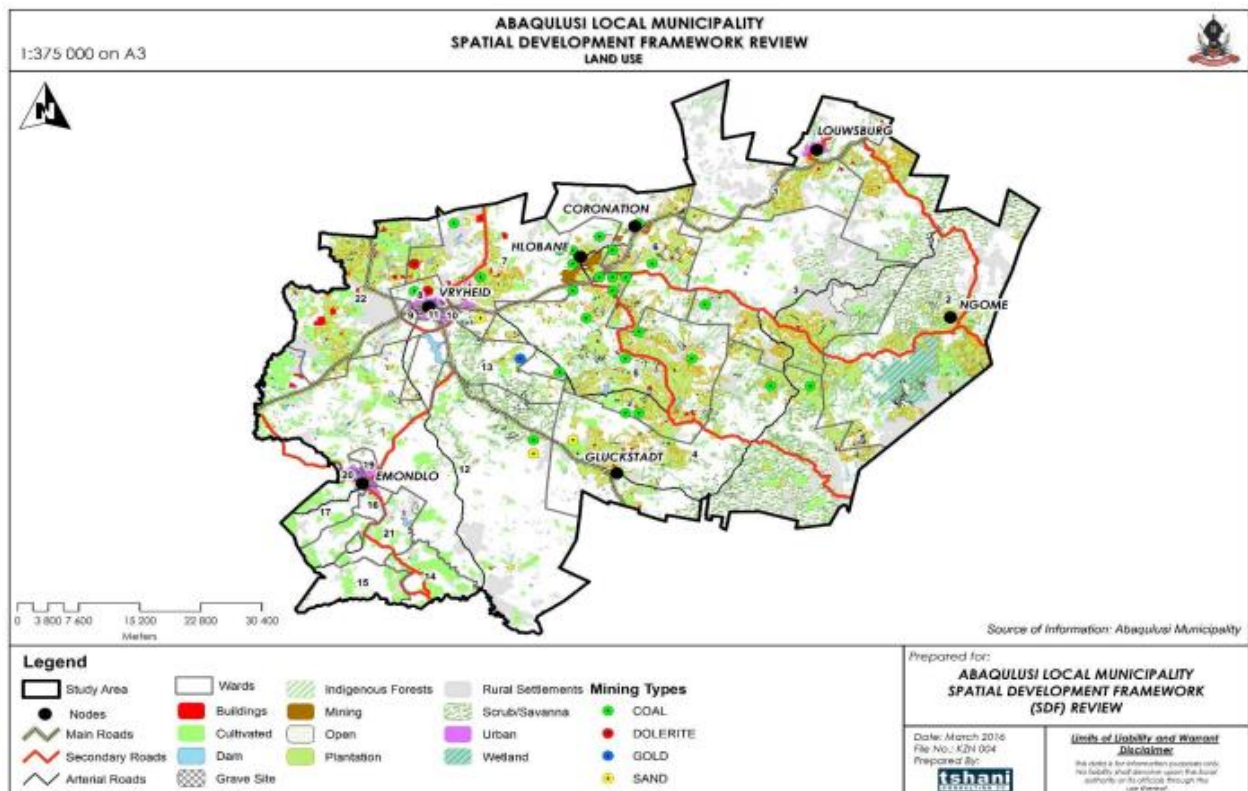


Figure 8: Land Use Map of AbaQulusi Local Municipality (Source: AbaQulusi Final SDF 2019 – 2020)



Photo 1: Mine activities observed during site inspection

In light of the above, this is the preferred site.

2.10 Details of the public participation process followed

Describe the process undertaken to consult I&APs, including public meetings and one-on-one consultation. The affected parties must be specifically consulted regardless of whether or not they attended public meetings. Information to be provided to affected parties must include sufficient detail of the intended operation to enable them to assess what impact the activities will have on them or on the use of their land.

The Basic Assessment Report will be submitted for review to the Competent Authority, commenting authorities, non-governmental organizations (NGOs), landowners, surrounding property owners and other identified stakeholders. Comments received will be recorded and are reflected in this Final Basic Assessment Report. The detailed public participation process and the Consultation Report.

2.10.1 Identification of I&APs

Identification of stakeholders, including property occupiers, owners and occupiers of land adjacent to the site, municipal officials and relevant state departments. All respondents have been added to the project database, which was used throughout the process to inform the stakeholders of the project.

A list of the stakeholders (I&APs) identified is included in Table 4.

2.10.2 Methodology of notification

- Canvassing of the issues and concerns of the broader public and ensuring that all I&APs are afforded the opportunity to comment on the application.
- Site notices (size A3) advertising the proposed development and displaying the contact details of the EAP was prepared and displayed on site and at other public places on the 21st of May 2019. The site notices inform potential I&APs of the project and affords them the opportunity to comment.

- Background Information Document and a notification letter were distributed with a registration and comment sheet, as well as the locality map, to state departments and other potential stakeholders through emails.
- Site visit to consult with stakeholder or communities identified and whether these parties are the landowner. Site notice helped in notification of I&APs.

An advert was placed in the Vryheid Herald newspaper (*in English*), which was published on Friday the 09th of October 2020 to notify the public about the Basic Assessment process, invite members of the public to register as I&APs on the project's database and notify the public of the availability of the Draft Basic Assessment Report.

Support group to help with addiction

In this modern day and age, where peer pressure and stress have become the norm, it has also become easier to obtain and use illegal substances on a daily basis. There is no blueprint as to who is vulnerable to drugs and who will fall prey to addiction.

Whether you are a drug addict, alcoholic, going through a divorce or just need someone to talk to, there is a place you can go and people who want to help you. One of those people is Don, who has firsthand experience of addiction and is now starting a support group to help others like himself...

Don is a retired teacher, but also a recovering cocaine addict and a recent divorcee. He used cocaine for almost 10 years, of which the last six saw more frequent use of the drug. Amazingly, he still managed to get promoted to deputy principal at the school where he was teaching. During this time, he obtained his Honours degree in Psychology, as well as an Honours in School Management. One would think that someone with these accolades would not fall into the dark pit of addiction, but as Don says, he didn't know how to deal with his thoughts, behaviour and emotions, and so turned to drugs. He felt isolated and needed to feel indifference, since he had stress at work and at home and the drugs helped him cope. "It's a vicious cycle, since your problems are worse the next morning, but an addict doesn't care; you just need to use again to be able to cope," he explained the reasoning behind an addict's thought process. He was on the brink of several suicide attempts and the cocaine gave him that invisible "power" to overcome all obstacles, at least in the short term. When his life became unmanageable, he made the choice to turn his life around and searched for the necessary assistance.

He found it helpful to talk to someone about his problems and "to have someone who supports you regardless of your addiction". He wants to do the same for others who need that kind of support and understanding, hence he is starting a support group for anyone who needs it. Every day is still a struggle for him and he has to make the daily choice not to use again. He followed the '12 Step' programme of the AA and NA, which will also be followed at this non-profit support group. Everyone is welcome to attend the group every Monday and Friday and can contact Don on 084-808-2892 for more information. The first group session will be on October 9 at 6.30pm at the Klipkerk.

What's On? IN THE AREA

Looking for events happening in and around Vryheid in the near future? Look no further, as the Vryheid Herald has you covered. Inform us via email at vryheid.herald@cxton.co.za of your upcoming event.

Paddadam Late Spring Market - October 10

The market will have plenty of food stalls, arts and crafts, and lots of bargains. Everyone is invited to come and support the market from 9am until 2pm. For more information, contact Marlize Harmse on 071-857-9581.

All Covid-19 regulations apply.

SANBS - October 9 and 10

The South African National Blood Service (SANBS) will be at the Klipkerk from 11am until 6pm; and Pick 'n Pay from 9am until 1pm. Please play your part in saving a life by donating blood.

17 Oktober - Klub 60

Kom geniet die oggend saam met Klub 60 om 11vm, maar onthou jou masker en bring 'n bordjie eetgoed saam. Vir meer inligting, kontak Toni op 082-877-6789.



School boasts with SA fishing champion

We all feel restricted in our movements and feel caged in during the pandemic.

As the restrictions have relaxed, it has allowed us to do what we love once again, to a certain extent. Vryheid High School (VHS) learner Zander van Greuning most certainly could not have been more delighted with the relaxing of the restrictions, as he has recently been crowned the South African fresh water angling champion. Also, congratulations to the following VHS learners who took part in the De Beers English Olympiad: E Varghese, M Patel, A Shae and R Naidoo. They all received bronze certificates. "Our learners are doing what they can, with what they have, where they are and we, as a school, couldn't be more proud."

Zander van Greuning is the South African fresh water angling champion.



Celebrating 16 years and counting for parkrun enthusiasts

16 years ago, on October 2, parkrun had the first event in London with 14 runners.

Today, there are six million runners/walkers on the membership list. Head office has not yet decided when

parkrun will re-open, but Paula Small is organising a fun-run at the golf course on Saturday, October 10. Contact Paula on 082-447-1445 for more details, starting times and the cost.

Time trials at Vryheid Athletic Club started on Monday this week (October 5), so visit them at Hoërskool Pioneer in Landdrost Street and join them for a walk or run.

NOTICE OF PUBLIC PARTICIPATION FOR PROSPECTING RIGHT AND ENVIRONMENTAL AUTHORIZATION APPLICATION

ISIZULU

Isiziso senqubo yokuLindela ilungelo Lesicelo ngokoMthetho Wezokumbiwa kanye Nezimbiwa (i-MPRDA) (Umthetho 28 ka 2002) ngokuthola iLahle ku ingxenye yengxenye ye 1, 2, 3, 6, 7, 8, 9, 13-25, 27-31, 32, 35, 36, 40, 42 kanye nansalela yepulazi iHlobane No. 506 HT, i-Erven 2-21, 23-26, 28-63, 66 & 67 weHlobane Township HT (Ikhodi yedolobha: N0Ht0683), izingxenye 5, 9, 12-15, okusele kuka 16, 18 & 20-22 wepulazi iVaalbank No. 38 HU ne-Erven 0 -16 weVaalbank Township HU (Ikhodi yedolobha: N0Hu0684), esendaweni District ye Zululand, eSifundazweni sase Kwa-Zulu Natal.

ISIMEMO SOKUPHAWULA NOKUVEZA IMIBONO MAYELANA NALE APPLICATIONS

Ngaleso sikhathi kunikezwe isiziso ngokoMthetho Wezokumbiwa phansi kanye nePetroleum Development Act (MPRDA) (Umthetho 28 ka 2002) kanye nemigomo ye-EIA 2014, ekhishwe ngaphansi kwesaziso sikaHulumeni Nombolo 982 kuGazethi Nombolo 3822 yomhla ziyi-4 kuZibandlela wezi-2014 ukuthi kuchithiyelwe ngomhla 7 Ephreli 2017 ukuthi i-Atok Mining House (Pty) Ltd ifake isicelo selungelo Lokuthola Ukumbiwa phansi kwale minerali eshiwo ngenhla nge-DMR Ref: KZN 30/5/1/2/10926 PR.

Njengengxenye yenqubo ye-EIA, ikakhulukazi inqubo yokubamba iqhaza komphakathi kule phrojekthi elhlongozwayo, Amaqembu Athintekayo Nathintekayo (IAPs) ayamenywa ukuba abhalise futhi aiethe ngomusa noma yikuphi ukuphawula noma ukukhathazeka kufinyelela kuNkosazana Nokuthula Nkosi kungakaduli ulWesihlanu, umhla ziyi-5 kuNovemba 2020, kusetshenziswa imininingwane yokuxhumana enikezwe ngezansi. Umphakathi nawo uyamenywa ukuthi ubuyekeze futhi uphawule ngombiko Owuhlaka Oyisisekelo Wokuhlola kanye ne-EMPR. Umbiko osalungiswa uzotholalaka ukuze ubuyekeze isikhathi sekhalenda sezinsuku ezingama-30 kusukela ngomhla 07 Novemba 2020 - 06 Disemba 2020. Lo mbiko uzotholalaka kuphela nge-imeyili futhi uma ucelwe futhi ungabukwa emtsheni wezinwadi osuduzane, Vryheid Library (-27.770380, 30.790701).

Ngeminye imininingwane, ukubhalisa njengeNhlangoeni Enentshisekelo noma Ethintekayo, sicela uqhutshane:-

Singo Consulting (Pty) Ltd
Office No. 16, First Floor (South Block),
Corridor Hill Crossing, 9 Langa Crescent,
Corridor Hill, eMalahleni (Wilbank), 1040

Contact Person: Ms. Nokuthula Nkosi
Tel.: 013 692 0041
Cell: 081 386 8589
Fax: 086 514 4103
Email: nokuthula@singoconsulting.co.za

ENGLISH

Notice of the Prospecting Right Application Process as per the Minerals and Petroleum Resources Development Act (MPRDA) (Act 28 of 2002) for the prospecting of Coal on portion 1, 2, 3, 6, 7, 8, 9, 13-25, 27-31, 32, 35, 36, 40, 42 and remainder of the farm Hlobane No. 506 HT, Erven 2-21, 23-26, 28-63, 66 & 67 of the Hlobane Township HT (Town code: N0Ht0683), portions 5, 9, 12-15, remainder of 16, 18 & 20-22 of the farm Vaalbank No. 38 HU and Erven 0-16 of the Vaalbank Township HU (Town Code: N0Hu0684), situated in the District Municipality of Zululand, Kwa-Zulu Natal Province.

INVITATION TO COMMENT

Notice is hereby given in terms of the Mineral and Petroleum Development Act (MPRDA) (Act 28 of 2002) and EIA regulations 2014, published under Government Notice No. 982 in Gazette No. 3822 of 4 December 2014, amended on 7 April 2017 that **Atok Mining House (Pty) Ltd** has applied for a Prospecting Right for the above-mentioned mineral with **DMR Ref: KZN 30/5/1/2/10926 PR**.

As part of the EIA process, more especially the public participation process for this proposed project, Interested and Affected Parties (I&APs) are invited to register and kindly submit any comments or concerns to reach **Miss Nokuthula Nkosi** by no later than **Friday, the 6th of November 2020**, using the contact details provided below. The public is also invited to review and comment on the Draft Basic Assessment Report and EMPr. The draft report will be available for review for a 30-days calendar period from **07 November 2020 – 06 December 2020**. This report will be available only via email and upon request and may be viewed at the nearest library, Vryheid Library (-27.770380, 30.790701).

For more information, to register as Interested or Affected Party, please contact:-

ATOK MINING HOUSE (PTY) LTD
REG NO: 2012 / 226428 / 07
313 Braam Pretorius Street, Magalieskruin, Pretoria, 0182

Contact Person: Mr. Ariel Mahlatji
Tel.: 010 072 2011
Cell: 083 672 3017
Email: ariel@atok.co.za

Should you be the landowner of the above-mentioned properties, kindly contact us immediately so that a formal meeting can be arranged with you, to formally notify discuss activity to be undertaken & conditions of accessing your land. Your assistance will be highly appreciated.

Figure 9: Proof of newspaper advert

- A copy of the Draft Basic Assessment Report was available for public review for a 30-day period from 07th of November 2020 to 06th of December 2020.
- All comments that are made during the review period will be captured and presented in final report.
- Once the DMR has made a decision on Environmental Authorisation, all registered I&APs will be notified of the outcomes (accepted or rejected).

2.10.3 Land claims

The request for a Land Claim Letter was e-mailed to Mrs Lynn Boucher on the 09th of October 2020. On the 2nd of November 2020 Singo Consulting received the following response from the Department of Rural Development & Land Reform:



OFFICE OF THE REGIONAL LAND CLAIMS COMMISSIONER: KWAZULU-NATAL
139 Langalibalele Street, PIETERMARITZBURG, 3200, Private Bag X 9120, PIETERMARITZBURG, 3200
Tel: (033) 341 2600 | Fax: (033) 342 2881

Your Ref:

Enquiries: Lynn Boucher

Singo Consulting
09 Langa Crescent
Corridor Hill Crossing
First Floor (South Block) Office No 14
EMALAHLENI
1035

Dear Sir/Madam

REQUEST INFORMATION ON PROPERTY: LAND CLAIM

We acknowledge receipt of your enquiry received on 9 October 2020 and advise that our records indicate that no claims for restitution in terms of the provisions of the Restitution of Land Rights Act, 22 of 1994 (as amended) have been lodged in respect of the properties described as:

- 1. Portions 28-31, 35, 36, 40, 42 and Remainder of the farm Hlobane No. 506;**
- 2. Erven 2-21, 23-26, 28-63, 66 & 67 of Hlobane Township;**
- 3. Portions 5, 9, 12-15, Remainder of 16, 18 & 20-22 of the farm Vaalbank No. 38; and**
- 4. Erven 0-16 of Vaalbank Township.**

Whilst great care is taken to verify the accuracy of the information regarding all claims, the Regional Land Claims Commission will not be held responsible for any damage or loss suffered as a result of information furnished in this regard as there are claims lodged with the Commission which are not yet captured in our database as they are not yet published in the relevant government gazette.

However, our records indicate that claims have been lodged on the properties described as **Portions 1, 2, 3, 6, 7, 8, 9, 13-25, 27, 32 of the farm Hlobane No. 506.**

These properties fall under the Hlobane Community claim. The notice of the claim has not been gazetted as yet.

Regards

pp LMB Boucher

MR N. P. MDLULI
MANAGER: INFORMATION AND RECORDS MANAGEMENT
DATE: 2 November 2020

Figure 10: Proof of land claim enquiry.

2.10.4 Traditional authorities

No traditional authorities were identified.

2.10.5 Municipalities

The project is located in the Magisterial District of Vryheid, under AbaQulusi Local Municipality. An email of consultation, together with the attached Background Information Document, was sent to the Local Municipality. A response was received from the municipality on 10/09/2020 (Please refer to Appendix H)

2.10.6 Landowners and notification methodology

The proposed prospecting area is situated under the Magisterial District of Vryheid, within AbaQulusi Local Municipality. A site assessment was conducted on the 12th of October 2020. The following method was applied in informing relevant stakeholders:

- Newspaper advert was placed in the Vryheid Herald Newspaper (*in English*), which was published on the 09th of October 2020 (refer to Appendix D).
- BID was sent via e-mail from the 09th of October 2020 (refer to Appendix H).
- A site visit was conducted on the 13th of October 2020 and site notices were placed around the proposed prospecting area (refer to Appendix I).
- Government Departments were informed about the application through e-mails and phone calls.
- A draft copy of the EMP was provided to all I&APs registered on the project database for a period of 30 days to allow I&APs the opportunity to comment on the EMP findings. The draft was available for review for 30 days; from 07th November 2020 to 06th December 2020.

2.10.7 Details of the engagement process

Table 3 provides identified Interested and Affected Parties (I&APs):-

Table 3: Identified key stakeholders

REF. NO.	Reg.	SECTOR	CONTACT PERSON	ALTERNATIVE	DESIGNATION
	41(b)(i)	Occupiers of the site, if the proponent or applicant is not the owner or person in control of the site			
1.		Vryheid Natal Railway Coal & Iron Company (Pty) Ltd			
2.		Transnet	Livhuwani Ndou Sue Albertyn	E: Livhuwani.Ndou@transnet.net E: sue.albertyn@transnet.net	Legal Department
3.		Telkom	Sipho Maseko	E: snm@telkom.co.za T: 011 728 8082	
4.		Eskom	Brian Akkiah Siyabonga Nsele	E: AkkiahB@eskom.co.za E: NseleSi@eskom.co.za	
5.		Mtshali Esther Thobile	Mtshali Esther Thobile		
6.		Ashanthlal Jogi	Ashanthlal Jogi	T: 034 967 1249 C: 083 772 8461	

7.		Heerden Pieter Schalk Van	Heerden Pieter Schalk Van	E: wattles@lantic.net T: 034 969 2632 C: 082 324 9829	
8.		Dlamini George Mbekiseni	Dlamini George Mbekiseni	E: gmr1@telkomsa.net T: 034 907 5392 / 034 982 2133	
9.		Kuhn Rudolf Heinrich	Kuhn Rudolf Heinrich		
10.		DRDLR	Nelisiwe Magubane	E: nelisiwe.magubane@drdlr.gov.za	
11.		Imikhumbi Kamkatshwa Family Trust			
12.		Khumalo Hlabeyakhe Johannes	Khumalo Hlabeyakhe Johannes	E: khumaloh27@gmail.com C: 082 883 1715	
13.		Kwastanella Community Trust			
14.		DRDLREA	Lynn Boucher	E: lynn.boucher@drdlr.gov.za	Senior Admin Officer: Information Management & Lodgement
15.		DAFF	PMB Resources Thembalakhe	E: PMBResourceCentre@dalrrd.gov.za E: ThembalakheS@daff.gov.za	

16.		KZN Department of Economic Development, Tourism and Environmental Affairs	Sbusiso Ndwandwe	E: sbusiso.ndwandwe.gov.za	Assistant Director: Environmental Impact Assessment Environmental Services
17.		DWS	Mr. Govender	E: govenders2@dws.gov.za	
18.		SANRAL	Jan Oliver (Statutory) Stacy Canham	E: nrstat@nra.co.za	
19.		KZN Transport	Nontokozi Ndebele	E: Nontokozi.Ndebele@kzntransport.gov.za T: 034 980 0401 C: 082 809 7327	
			Nondumiso Cele	E: Nondumiso.Cele@Kzntransport.gov.za	
20.		Land Rights	Lynn Boucher	E: lynn.boucher@drdlr.gov.za	
21.		KZN Tourism	Phindile P	E: PhindileP@zulu.org.za	

22.		KZN Public Works		E: info@kznworks.gov.za T: 033 355 5570 / 033 355 5560	
23.		AMAFA	Bernadet Pawandiwa	T: 033 394 6543 E: bernadetp@amafapmb.co.za	
24.		SAHRA	Online Submission	https://sahris.sahra.org.za/node/add/heritagereports	
25.		AbaQulusi Local Municipality		T: E:	Jurisdictional area
26.		Zululand District Municipality	B Mnguni	E: bmnguni@zululand.org.za E: ztourism@zululand.org.za	Scientific Technician Conservation Planning: IEM Ezemvelo KZN Wildlife
27.		Department of Labour	Mbongeni Tshabalala	E: Mbongeni.Tshabalala@labour.gov.za	
28.		SANBI	D Moshe	E: D.Moshe@sanbi.org.za	
29.		SANParks	Akani Shivambu	E: Akani.Shivambu@sanspark.org.za	
30.		Bird Life South Africa	Advocacy	E: advocacy@birdlife.org.za	
31.		Ezemvelo KZN Wildlife	A. Nerissa Pillay	T: (033) 845 1917 F: (033) 845 1499 E: nerissa.pillay@kznwildlife.com	

			Jenny Longmore	<p>1 Peter Brown Drive P.O. BOX 13053 Cascades 3200</p> <p>T: (033) 845 1349 F: (033) 845 1499 E: jenny.longmore@kznwildlife.com</p>	<p>Principal Conservation Planner Planning Division: IEM Section Ezemvelo KZN Wildlife PO Box 13053 Cascades, 3202</p>
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2.10.8 Issues and response register


All comments received by stakeholders are included in Table 4.



2.11 Summary of issues raised by I&APs

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


Table 4: Issues raised by stakeholders


Interested and Affected Parties List the name of persons consulted in this column, and Mark with an X where those who must be consulted were in fact consulted	Date Comments Received(Call, Fax, emails)	Issues raised	EAPs response to issues as mandated by the applicant	Section and paragraph reference in this report where the issues and or response were incorporated.
<u>AFFECTED PARTIES</u>				
Landowner/s	X			
Hlobane 506 HT				
Vryheid Natal Railway Coal & Iron Company (Pty) Ltd (Ptn 2, 3, 6, 7, 8, 32, 35 & RE) T: 034 967 1258				The landowner has been called using the number listed on the WinDeed search but the recipient was not the correct person. Investigations to find the correct contact details are underway.




<p>TRANSNET</p>  <p>(Ptn 1, 9, 13 – 16, 19 – 20, 24 – 25)</p> <p>Sue Albertyn Legal Department E: sue.albertyn@transnet.net</p> <p>Livhuwani Ndou E: Livhuwani.ndou@transnet.net</p> <p>Gabaipone Pilane Acting Principal legal Advisor Risk Regulatory and Compliance Transnet SOC Limited Transnet Property Tel: 011 308 1530 Mobile: +27 60 5693872 E-mail: gabaipone.pilane@transnet.net</p> <p>9 Country Estate Drive Waterfall Business Estate Jukskei View, Midrand, South Africa</p>	<p>X</p>		<p>Please be advised that some of affected properties(i.e houses) belong to Transnet property. Kindly provide us with information on the exact location of the mine, in order to determine if it will be the required distance away from the railway line and houses.</p>	<p>Regulation map, Google Earth map, coordinates and acceptance letter were sent to the stakeholder.</p>	<p>See Appendix H for full correspondence</p>
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 <p>(Ptn 18 & 22)</p> <p>Sipho Maseko</p> <p>T: 011 728 8082</p> <p>E: snm@telkom.co.za</p>	X		No issues raised yet.	<p>A landowner notification consultation email was sent on 09/10/2020 to notify the landowner of the PR application and also engage should they require to.</p> <p>After calling the stakeholder it was noted that the email address used was incorrect thus the email was forwarded to the landowner on 04/11/2020.</p>	See Appendix H for full correspondence
 (ptn 21) <p>Brian Akkiah</p> <p>Land & Rights Officer</p> <p>Land Development</p> <p>Eskom, Distribution</p> <p>Tel +27 (0)31 710 5369</p> <p>Cell +27 84 233 4610</p> <p>Fax 031 710 5146</p> <p>akkiahb@eskom.co.za</p> <p>Siyabonga Nsele</p>	X	04/11/2020	Please forward your request to Mr Siyabonga Nsele – Manager Lands & Rights. NseleSi@eskom.co.za	Email was forwarded to Mr Nsele.	See Appendix H for full correspondence

Manager Lands & Rights E: NseleSi@eskom.co.za				
Thobile Esther Mtshali (Ptn 27)				There are no contact details but the Councillor/Municipality will be asked to assist with the contact information of the landowner.
Ashanthlal Jogi (Ptn 29) T: 034 967 1249 C: 083 772 8461				The contact details retrieved from the WinDeed search do not work thus the Councillor/Municipality will be asked to assist with getting the correct contact details.
Vaalbank 38 HU				
Heerden Pieter Schalk Van (Ptn 5) E: wattles@lantic.net T: 034 969 2632 C: 082 324 9829	X			A Landowner notification email was sent to the landowner on 09/10/2020.
Dlamini George Mbekiseni (Ptn 9) E: gmr1@telkomsa.net T: 034 982 2133 / 034 907 5392	X			A Landowner notification email was sent to the landowner on 09/10/2020.
				See Appendix H for full correspondence
				See Appendix H for full correspondence

Kuhn Rudolf Heinrich (Ptn 12)				There are no contact details but the Councillor/Municipality will be asked to assist with the contact information of the landowner.	
 <p>rural development & land reform Department: Rural Development and Land Reform REPUBLIC OF SOUTH AFRICA</p> <p>(Ptn 13)</p> <p>Nelisiwe Magubane E: nelisiwe.magubane@drdlr.gov.za</p>	X			A consultation email was sent on 09/10/2020 to notify the stakeholder of the PR application.	See Appendix H for full correspondence
Imikhumbi Kamkatshwa Family Trust (Ptn 14)				There are no contact details but the Councillor/Municipality will be asked to assist with the contact information of the landowner.	
<p>Khumalo Hlabeyakhe Johannes (Ptn 15) E: khumalojh27@gmail.com C: 082 883 1715</p>	X			A Landowner notification email was sent to the landowner on 09/10/2020.	See Appendix H for full correspondence
Kwastanella Community Trust (Ptn 18)				There are no contact details but the Councillor/Municipality will be asked to assist with the contact information of the landowner.	

<p>T: 084 501 6883</p> <p>E Dlamini</p> <p>E: edlamini@abaqulusi.gov.za</p> <p>Speakers Office</p> <p>E: speaker@abaqulusi.gov.za</p>			<p>Please also courier a copy to our records office located at the cnr. of Mark and High Street.</p> <p>Our telephone lines are currently down and will need to contact them via email:</p> <p>Speakers office speaker@abaqulusi.gov.za</p> <p>Environmental edlamini@abaqulusi.gov.za</p>		
District Municipality: Zululand					
 <p>B Mnguni</p> <p>E: bmnguni@zululand.org.za</p> <p>E: ztourism@zululand.org.za</p> <p>T: 035 874 5500</p> <p>E: info@zululand.org.za</p>	X		No issues raised.	A consultation email was sent on 09/10/2020 to notify the municipality of the PR application. Hard copy of draft EMPR will be sent for review (07/11/2020 – 06/12/2020)	See Appendix H for full correspondence
Organs of state (Responsible for infrastructure that may be affected: Roads, Departments, Eskom, Telkom& DWA)					


 <p>water & sanitation Department: Water and Sanitation REPUBLIC OF SOUTH AFRICA</p> <p>Mr. S Govender T: 031 336 2742 E: govenders2@dws.gov.za</p>	X		No issue raised.	A consultation email was sent on 09/10/2020 via email to notify the stakeholder of the PR application.	See Appendix H for full correspondence
 <p>agriculture, forestry & fisheries Department: Agriculture, Forestry and Fisheries REPUBLIC OF SOUTH AFRICA</p> <p>Thembalakhe Sibozana E: ThembalakheS@daff.gov.za C: 060 974 2008 T: 033 392 7721 PMB ResourceCentre E: PMBResourceCentre@Dalrrd.gov.za</p>	X	09/10/2020 (email) 15/10/2020 (email)	This correspondence serves as a notice of receipt for the above document received on the 9 th October 2020. The proposed project will have an effect on the vegetation occurring on site. However, the type of vegetation and magnitude of disturbance is unclear. A vegetation study must be conducted in order to determine whether there are protected trees or trees that constitute a natural forest	Hard copy of the draft EMPR will be couriered to the Thembalakhe Sibozana for review (07/11/2020 – 06/12/2020)	See Appendix H for full correspondence
	X	/2020(courier)		BID, Regulation map and coordinates will be couriered during review (07/11/2020 – 06/12/2020)	



<p>Jan Oliver</p> <p>E: nrstat@nra.co.za</p> <p>Stacey Canham</p> <p>T: 0333928120</p> <p>58 Van Eck Place, Mkodeni, PMB, 3201</p>					
 <p>transport Department: Transport PROVINCE OF KWAZULU-NATAL</p> <p>Nondumiso Cele</p> <p>E: Nondumiso.Cele@Kzntransport.gov.za</p> <p>Nontokozi Ndebele</p> <p>E: Nontokozi.Ndebele@kzntransport.gov.za</p> <p>T: 034 980 0401</p> <p>C: 082 809 7327</p>	X		No issues raised.	A consultation email was sent on 09/10/2020 to notify the stakeholder of the PR application	See Appendix H for full correspondence
Communities					
Hlobane & Vaalbank					
			No issues raised so far.		
Dept. Land affairs					










Lynn Boucher

E: lynn.boucher@drdlr.gov.za

 Lynn Boucher E: lynn.boucher@drdlr.gov.za	X	02/11/2020	<p>There are no claims for restitution in terms of the provisions of the Restitution of Land Rights Act, 22 of 1994 (as amended) have been lodged in respect of the properties described as:</p> <ol style="list-style-type: none"> 1. Portions 28-31, 35, 36, 40, 42 and Remainder of the farm Hlobane No. 506; 2. Erven 2-21, 23-26, 28-63, 66 & 67 of Hlobane Township; 3. Portions 5, 9, 12-15, Remainder of 16, 18 & 20-22 of the farm Vaalbank No. 38; and 4. Erven 0-16 of Vaalbank Township. <p>However, our records indicate that claims have been lodged on the properties described as Portions 1, 2, 3, 6, 7, 8, 9, 13-25, 27, 32 of the farm Hlobane No. 506.</p> <p>These properties fall under the Hlobane Community claim. The notice of the claim has not been gazetted as yet.</p>	<p>Email acknowledged and further investigation into land claim is underway. Consultation with claimants will be conducted as soon as the contact details are acquired.</p>	<p>See Appendix H for full correspondence and Figure 10 on page 36 for land claim letter.</p>
Tribal leaders	X				
N/A					
Dept. of Economic Development, Tourism and Environmental affairs					

 <p>Kacy Rengasamy E: Kacy.Rengasamy@kznedtea.gov.za</p> <p>Siza Sibande E: siza.sibande@kznedtea.gov.za</p> <p>Sbusiso Ndwandwe Assistant Director: Environmental Impact Assessment E: sbusiso.ndwandwe@kzndtea.gov.za / sbusisozz57@gmail.com Tel: 035 870 9383 Cell: 082 719 9883</p>	X		<p>Our physical address and contact details will be stated hereunder. Thank you.</p> <p>KZN Department of Economic Development; Tourism and Environmental Affairs</p> <p>King Dinizulu Highway</p> <p>Legislative Assembly Building / Offices</p> <p>Second Floor; Suite 229</p> <p>Ulundi 3838</p>		
Other competent authority					
 <p>E: PhindileP@zulu.org.za</p>	X		No issues raised.	A consultation email was sent on 09/10/2020 to notify the stakeholder of the PR application.	See Appendix H for full correspondence

 <p>public works Department: Public Works PROVINCE OF KWAZULU-NATAL</p> <p>E: info@kznworks.gov.za</p> <p>T: 033 355 5570 / 033 355 5560</p>	X		No issues raised	A consultation email was sent on 09/10/2020 to notify the stakeholder of the PR application.	See Appendix H for full correspondence
 <p>AMAFA/HERITAGE KWAZULU NATAL</p> <p>Bernadet Pawandiwa</p> <p>T: 033 394 6543</p> <p>E: bernadetp@amafapmb.co.za</p>	X		No issues raised.	A consultation email was sent to AMAFA. The AMAFA application form and proof of payment will be couriered along with the draft EMPR for review period (07/11/2020 - 06/12/2020)	See Appendix H for full correspondence.
 <p>South African National Biodiversity Institute</p>  <p>Biodiversity for Life</p> <p>D Moshe</p> <p>E: D.Moshe@sanbi.org.za</p>	X		No issues raised.	A consultation email was sent on 09/10/2020 to notify the stakeholder of the PR application.	See Appendix H for full correspondence

 <p>South African NATIONAL PARKS</p> <p>Akani Shivambu E: Akani.shivambu@sanparks.org</p>	X		No issues raised.	A consultation email was sent on 09/10/2020 to notify the stakeholder of the PR application.	See Appendix H for full correspondence
 <p>BirdLife SOUTH AFRICA <i>Giving Conservation Wings</i></p> <p>E: advocacy@birdlife.org.za</p>	X		No issues raised.	On 09/10/2020 a consultation email was sent to the stakeholder to notify them of the PR application.	See Appendix H for full correspondence
 <p>E Z E M V E L O K Z N W I L D L I F E <i>Conservation, Partnerships & Ecotourism</i></p> <p>Nerissa Pillay</p>	X		No issues raised.	A consultation email was sent to the stakeholder on 09/10/2020. Draft EMPR will be couriered to the officials for review (07/11/2020 – 06/12/2020)	See Appendix H for full correspondence

<p>Scientific Technician</p> <p>Conservation Planning: IEM</p> <p>Ezemvelo KZN Wildlife</p> <p>1 Peter Brown Drive</p> <p>P.O. BOX 13053</p> <p>Cascades, 3200</p> <p>T: (033) 845 1917</p> <p>F: (033) 845 1499</p> <p>E: nerissa.pillay@kznwildlife.com</p> <p>Jenny Longmore</p> <p>Principal Conservation Planner</p> <p>Planning Division: IEM Section</p> <p>Ezemvelo KZN Wildlife</p> <p>PO Box 13053</p> <p>Cascades, 3202</p> <p>T: (033) 845 1349</p> <p>F: (033) 845 1499</p> <p>E: jenny.longmore@kznwildlife.com</p>					
SAHRA					

https://sahris.sahra.org.za/node/add/heritagereports	X	05/11/2020 (online submission)			See Appendix J for proof of submission
Other Affected Parties					
Interested parties					

2.11.1 Concluding remarks on stakeholder consultation

Most relevant stakeholders and departments were consulted. Those that we were not able to track will be sought after with help from the municipality. Some stakeholders have responded though a majority will respond once they have reviewed the document. The only responses from governs of state that we have thus far is from the AbaQulusi Local Municipality stating that the applicant would need to apply for rezoning to quire rights for mining in terms of the Spatial Planning and Land Use Management Act of 2013 as well as the municipal bylaws to obtain development rights for mining, Department of Environment, Forestry and Fisheries, KwaZulu Natal Economic Development, Tourism and Environmental Affairs and Land Claim. We have not received responses from the landowners whose contact details we were able to get a hold and the affected communities have not responded to our site notices and newspaper advertisements. We will work with the Municipality and ward councillor to engage more with the affected community as their comments are crucial.

2.12 The environmental attributes associated with the alternatives

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

Atok Mining House (Pty) Ltd applied for prospecting right over the area of interest in the close vicinity of the coal mines. Based on the outcomes of that study, the possibility of encountering further coal reserves was identified on the properties and is subject to this Prospecting Right Application.

The company applied for prospecting on the properties as discussed in this report to determine the presence of coal, and whether they are feasible and justify further studies towards a Mining Right. No alternatives are available that will have an impact on a different setting than the environment discussion provided in the following.

3 Baseline environment

3.1 Type of environment affected by the proposed activity

Current geographical, physical, biological, socio- economic, and cultural character.

Introduction

The proposed site is situated within Hlobane, Vaalbank and Pumulanga and approximately 2.73 km south of Thukuzele and roughly 15.70 km north west of Vryheid, within the AbaQulusi Local Municipality and the Zululand District Municipality, in the KwaZulu-Natal Province. The site is approximately 4 376.32 ha. Historical mines such as Hlobane Colliery which forms part of the Vryheid (Natal) Railway Coal and Iron Company Ltd.

Vegetation in the general study area comprises grassveld and plantations interspersed with scattered trees and shrubs. General terrain within the study site comprises regular plains with low hills or ridges.

There are wetlands, perennial and non-perennial rivers located within the study area. The necessary 500m buffers will be implemented to protect these water bodies.

3.1.1 Geology

The proposed farm lies on Vryheid formation and is part of the Klip River Coalfield. The Klipriver Coal Field comprises Carboniferous and Permian sediments of the Dwyka Formation and Ecca and Beaufort Groups of the Karoo Sequence, which were deposited on an undulating, glaciated surface. No pre – Karoo rocks are exposed within the area, east of the coalfield. The tillite and fluvio-glacial outwash shales of the Dwyka Formation outcrop to the north of the area. Ecca Group sediments and dolerite intrusions outcrop over almost the entire field. This group has been sub-divided, on lithological criteria, into Lower, Middle, and Upper stages. Lithostratigraphic names for these sub – divisions – Pietermaritzburg Formation, Vryheid Formation, and Volksrust Formation, respectively – have been proposed by Johnson et al (1975). Pietermaritzburg Formation with a maximum thickness of over 90 m (Visser et al., 1976) conformably overlies the Dwyka shales or, in the absence of Dwyka rests unconformably on basement. The blue – grey to black, micaceous shales, mudstones, and siltstones coarsen upwards, grading into the rhythmically alternating siltstones and sandstones of the lower Vryheid Formation. Ecca sedimentation was terminated by deposition, in deeper water, of blue – black shales and mudstones, with occasional argillaceous sandstone and limestone, of the Volksrust Formation. This has a maximum thickness of 183 m (Stear, 1920). Volksrust Formation shales outcrop along the Biggarsberg, on high ground around Dannhauser, Glencoe, and Newcastle and in small outliers on Mpatemountain. The lowermost Beaufort beds outcrop in outliers along the Biggarsberg, the base of this group being marked by alternating sandstones and shales, very similar to those of Vryheid Formation.

3.1.1.1 Local Geology

The basement and Dwyka Group are unconformably overlain by the coal bearing Ecca Group's Vryheid Formation consisting of six recognized coal seams that are separated by the sedimentary

packages consisting mainly of sandstone and thinly laminated siltstone with subordinate mudstone and shale. The lithological units are varying in thickness. The local geology of the project area is entirely covered by the Vryheid formation. The dominant rocks of the Vryheid formation that can be found are sandstones together with subequal or subordinate mudrock/rhythmite. The base of an idealized coarsening upwards deltaic cycle in the eastern part of the Vryheid formation consists of dark grey, muddy siltstone resulting from shelf suspension deposition in anoxic water of moderate depth.

The origination of the coal seams came about as peat swamps that developed on broad abandoned alluvial plains and, less commonly in interfluves (back swamps). Most of the economically important coal seams occur in the fluvial succession. The fluvial interval grades into deltaic sediments towards the southwest. The Vryheid formation can be subdivided into a lower fluvial -dominated deltaic interval, a middle fluvial interval and an upper fluvialdominated deltaic interval in the east. These subdivisions correspond approximately to the lower sandstones, coal zones and upper sandstones.

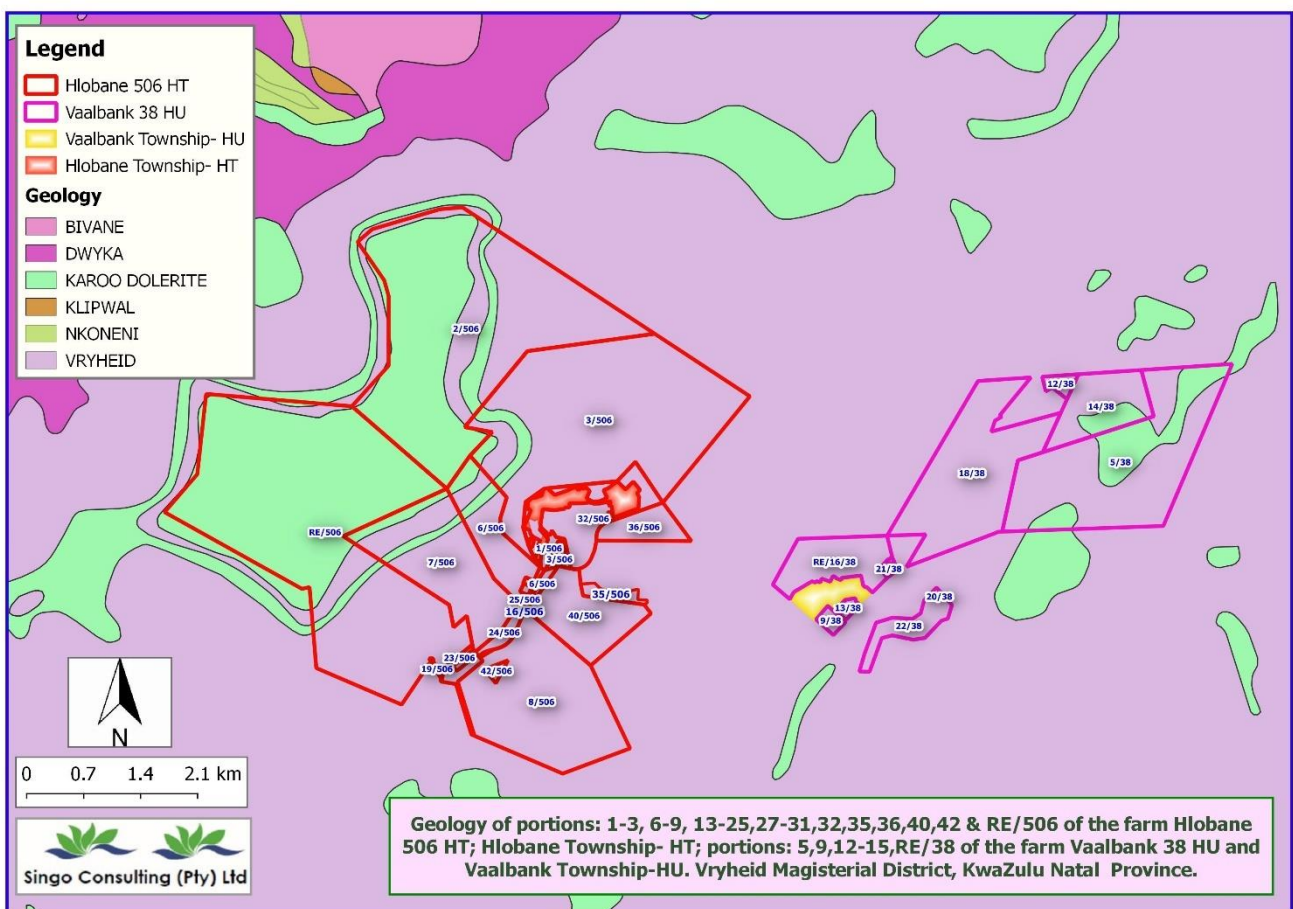


Figure 11: Geological map for the proposed project area.

Vryheid Formation is well-known for the occurrence of coal beds that resulted from the accumulation of plant material over long periods of time. Plant fossils described by Bamford (2011) from the Vryheid Formation are; Azaniodendron fertile, Cyclodendron leslii, Sphenophyllum hammanskraalensis, Annularia sp., Raniganjia sp., Asterotheca spp., Liknopetalon enigmata, Glossopteris > 20 species, Hirsutum 4 spp., Scutum 4 spp., Ottokaria 3 spp., Estcourtia sp., Arberia 4 spp., Lidgetonia sp., Noeggerathiopsis sp. and Podocarpidites sp. Coal was formed from fossils deposits.

According to Bamford (2011) "Little data have been published on these potentially fossiliferous deposits. Around the coalmines there is most likely to be good material and yet in other areas the exposures may be too poor to be of interest. When they do occur fossil plants are usually abundant and it would not be feasible to preserve and maintain all the sites, however, in the interests of heritage and science such sites should be well recorded, sampled and the fossils kept in a suitable institution. Although no vertebrate fossils have been recorded from the Vryheid Formation, invertebrate trace fossils have been described in some detail by Mason and Christie (1985).

It should be noted, however, that the aquatic reptile, *Mesosaurus*, which is the earliest known reptile from the Karoo Basin, as well as fish (*Palaeoniscus capensis*), have been recorded in equivalent-aged strata in the Whitehill Formation in the southern part of the basin (MacRae, 1999; Modesto, 2006). Indications are that the Whitehill Formation in the main basin might be correlated with the mid-Vryheid Formation. If this assumption proves correct, there is a possibility that *Mesosaurus* could be found in the Vryheid Formation (Catuneanu et al 2005).

The late Carboniferous to early Jurassic Karoo Supergroup of South Africa includes economically important coal deposits within the Vryheid Formation of Natal. The Karoo sediments are almost entirely lacking in body fossils but ichnofossils (trace fossils) are locally abundant. Modern sedimentological and ichnofaunal studies suggest that the north-eastern part of the Karoo basin was marine. In KwaZulu-Natal a shallow basin margin accommodated a prograding fluviodeltaic complex forming a broad sandy platform on which coal-bearing sediments were deposited. Ichnofossils include U-burrows (formerly *Corophioides*) which are assigned to ichnogenus *Diplocraterion* (Mason and Christie, 1985).

- Dolerite

Dolerite is the medium-grained equivalent of gabbro, composed essentially of calcic plagioclase and pyroxene in roughly equal amounts, giving it a mottled appearance. It occurs very widely as large dykes, thick sills and volcanic plugs. It is usually dark grey or black when fresh, typically weathering to a dark brown crust, and often affected by spheroidal weathering. The plagioclase feldspar commonly forms an inter-locking meshwork of lath-like crystals. Augite usually occurs as small grains occupying the spaces between the plagioclase laths, but sometimes as larger crystals enclosing the plagioclase laths to give an ophitic texture, occasionally visible in hand specimen.

The proposed area is situated in an area where coal is prone to be found. The prospecting activity will confirm the information gathered on a desktop studies and concrete conclusion will be drawn afterwards. It should be noted that geology vary from one place to another, the prospecting activity is there to confirm the availability of coal.

3.1.2 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.

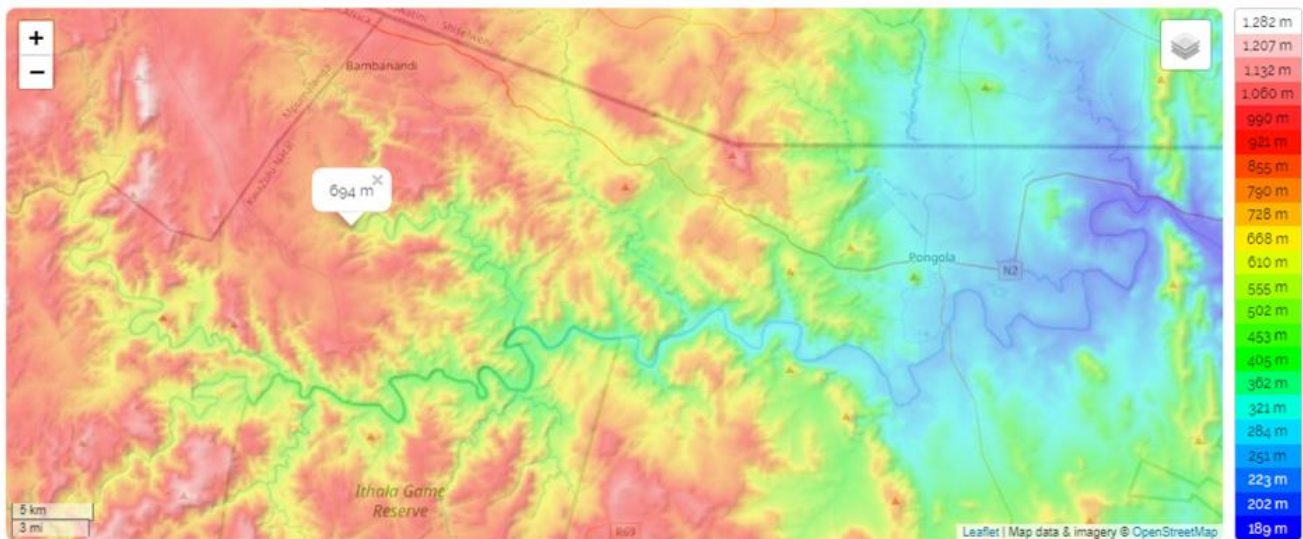
Topography in a narrow sense involves the recording of relief or terrain, the three-dimensional quality of the surface, and the identification of specific landforms. This is also known as geomorphometry. In modern usage, this involves generation of elevation data in digital form (DEM). It is often considered to include the graphic representation of the landform on a map by a variety of techniques, including contour lines, hypsometric tints, and relief shading.

Topography is an important factor in site analysis. If a site is flat, topography will not affect the location and layout of the building. But on a sloping site topography is a significant factor. The slope of a site or slope of an adjacent site will affect the access of sun & views. Topography refers to the slope and level of the land, whether the land is flat and plain, or in sloping. Topography is a measurement of elevation and slope is the percentage change in that elevation over a certain distance. Topography is measured by connecting points of same elevation. These points are known as the topographic contours. Slope is measured by the distance between one point to another point and this distance is divided by the lateral distance between them.

KwaZulu-Natal

Topographic maps > South Africa > KwaZulu-Natal > KwaZulu-Natal

Click on the map to display elevation.



KwaZulu-Natal, South Africa (-28.50383 30.88750)

Figure 12: Topography of Kwa-Zulu Natal Province

The proposed project site falls within the KwaZulu Natal region which has generally steep topography, typical of the region. The project site falls on the mountainous planes. Figure 13 below illustrates the topology of the proposed project area. The north western side/ Hlobane side of the project area consists of mostly mountainous ground while the eastern side of has contour lines that are more spread out illustrating a less mountainous plane than the western side. The project area has an average above sea level ranging from 1200 masl to 1580 masl It is believed that coal occurrence is mostly on flat laying area. The slope of this project contributes to the understanding of coal occurrence.

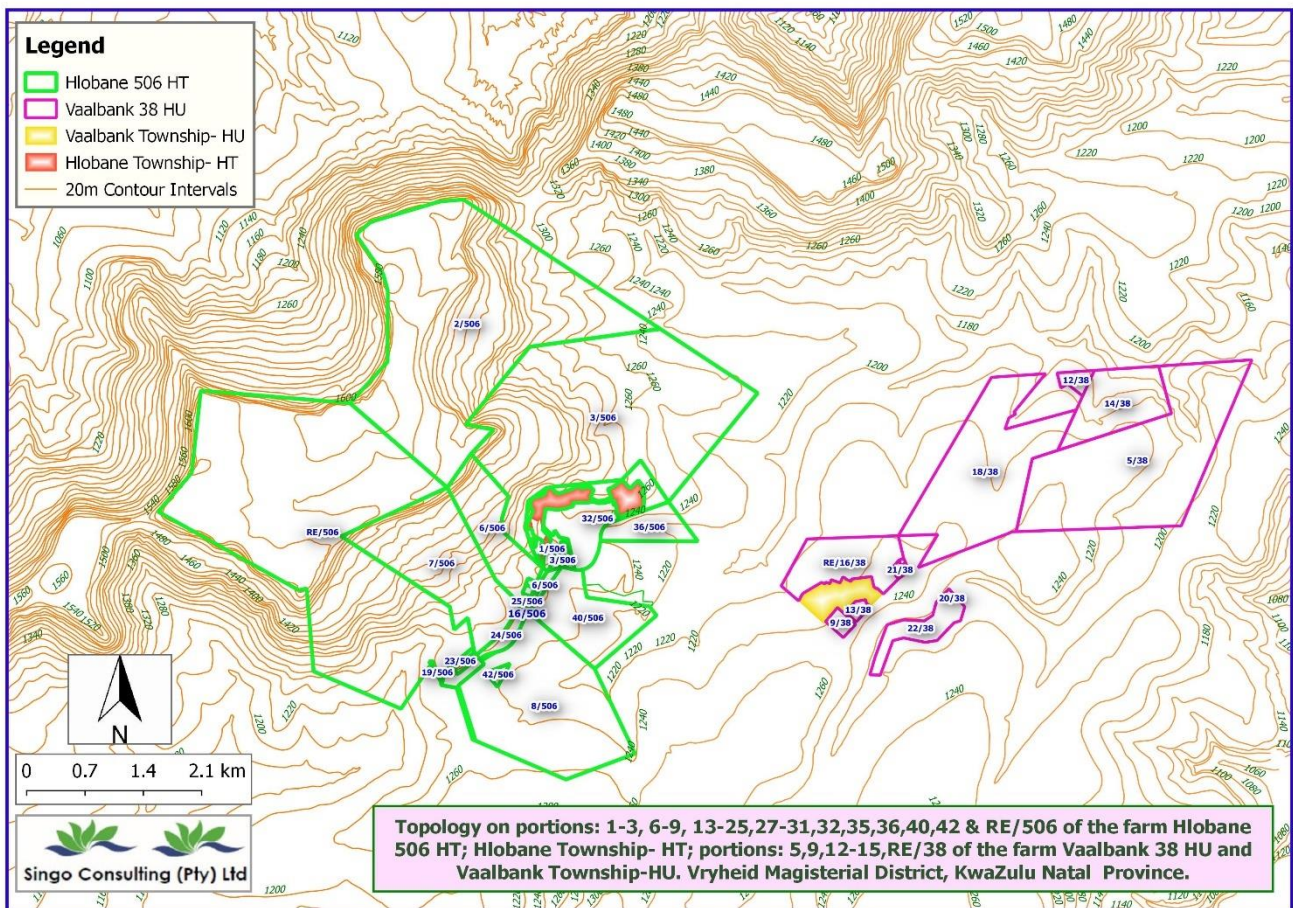


Figure 13: Map showing the topography of the proposed project area.

3.1.3 Climate

Climate is the statistics of weather over long periods of time. It is measured by assessing the patterns of variation in temperature, humidity, atmospheric pressure, wind, precipitation, atmospheric particle counts and other meteorological variables in a given region over long periods of time. Climate differs from weather, in that weather only describes the short-term conditions of these variables in a given region.

3.1.3.1 Rainfall and temperature

The proposed site area normally receives about 688mm of rain per year, with most of rainfall occurring during summer. The graph below (lower left) show the average rainfall values for Hlobane per month. It receives the lowest rainfall (3mm) in June and the highest (122mm) in December. The monthly distribution of average daily maximum temperatures (centre graph below) shows that the average midday temperatures for Hlobane range from 19.6°C in June to 26.4°C in January. The region is the coldest during June when the mercury drops to 3.5°C on average during the night. Consult the chart below (lower right) for an indication of the monthly variation of average minimum daily temperatures.

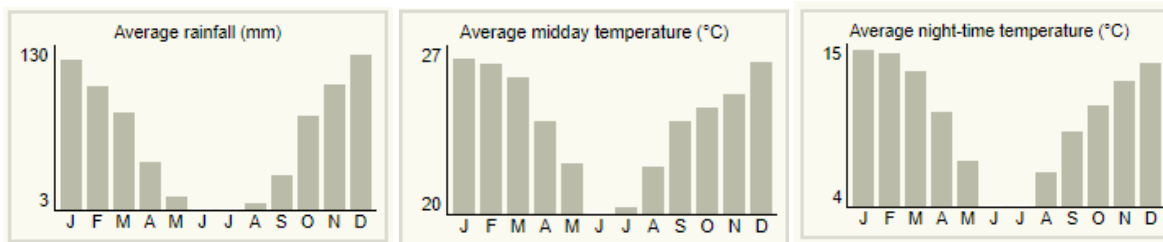


Figure 14: Graphs representing average rainfall and temperature of the proposed project area.

3.1.4 Soil

Soil is not only a support for vegetation, but it is also the pedosphere, the locus of numerous interactions between climate (water, air, temperature), soil life (micro-organisms, plants, animals) and its residues, the mineral material of the original and added rock, and its position in the landscape. During its formation and genesis, the soil profile slowly deepens and develops characteristic layers, called 'horizons', while a steady state balance is approached.

Soil users (such as agronomists) showed initially little concern in the dynamics of soil. They saw it as medium whose chemical, physical, and biological properties were useful for the services of agronomic productivity. On the other hand, pedologists and geologists did not initially focus on the agronomic applications of the soil characteristics (edaphic properties) but upon its relation to the nature and history of landscapes. Today, there is an integration of the two disciplinary approaches as part of landscape and environmental sciences.

Pedologists are now also interested in the practical applications of a good understanding of pedogenesis processes (the evolution and functioning of soils), like interpreting its environmental history and predicting consequences of changes in land use, while agronomists understand that the cultivated soil is a complex medium, often resulting from several thousands of years of evolution. They understand that the current balance is fragile and that only a thorough knowledge of its history makes it possible to ensure its sustainable use.

Soil science is the study of soil as a natural resource on the surface of the Earth including soil formation, classification and mapping; physical, chemical, biological, and fertility properties of soils; and these properties in relation to the use and management of soils.

Sometimes terms which refer to branches of soil science, such as pedology (formation, chemistry, morphology, and classification of soil) and edaphology (how soils interact with living things, especially plants), are used as if synonymous with soil science. The diversity of names associated with this discipline is related to the various associations concerned. Indeed, engineers, agronomists, chemists, geologists, physical geographers, ecologists, biologists, microbiologists, silviculturists, sanitarians, archaeologists, and specialists in regional planning, all contribute to further knowledge of soils and the advancement of the soil sciences.

Soil scientists have raised concerns about how to preserve soil and arable land in a world with a growing population, possible future water crisis, increasing per capita food consumption, and land degradation. Dependence on and curiosity about soil, exploring the diversity and dynamics of this resource continues

to yield fresh discoveries and insights. New avenues of soil research are compelled by a need to understand soil in the context of climate change, greenhouse gases, and carbon sequestration. Interest in maintaining the planet's biodiversity and in exploring past cultures has also stimulated renewed interest in achieving a more refined understanding of soil.

Most empirical knowledge of soil in nature comes from soil survey efforts. Soil survey, or soil mapping, is the process of determining the soil types or other properties of the soil cover over a landscape and mapping them for others to understand and use. It relies heavily on distinguishing the individual influences of the five classic soil forming factors. This effort draws upon geomorphology, physical geography, and analysis of vegetation and land-use patterns. Primary data for the soil survey are acquired by field sampling and supported by remote sensing

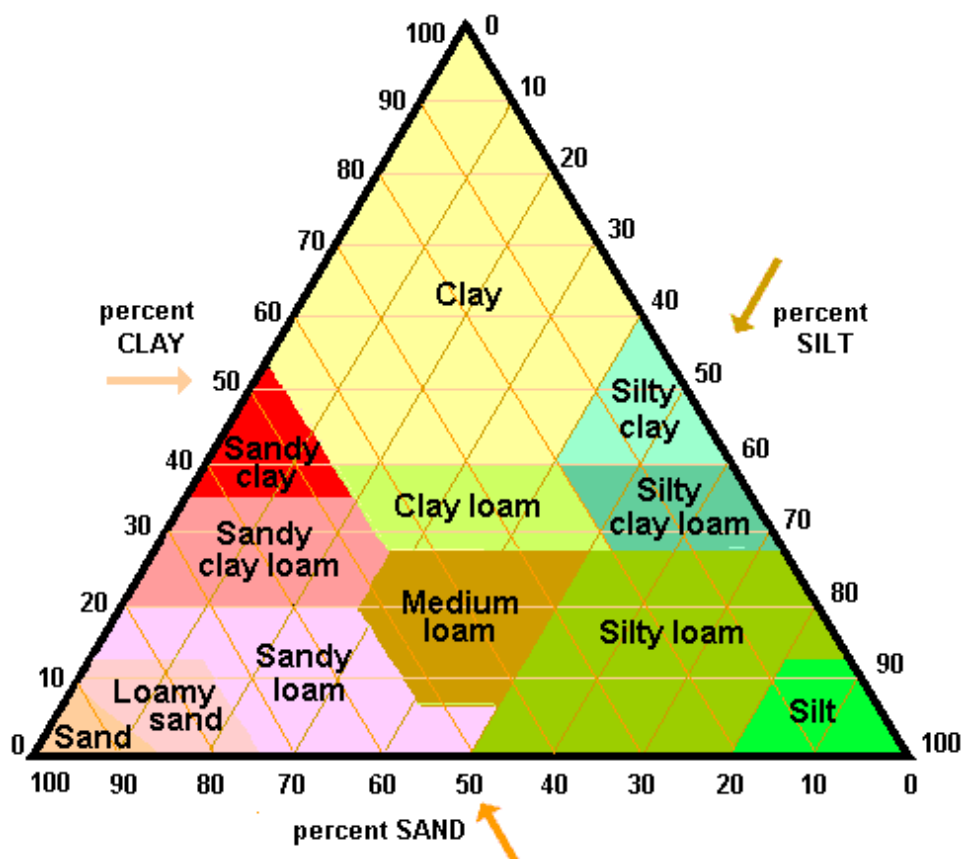


Figure 15: Soil Textural Triangle

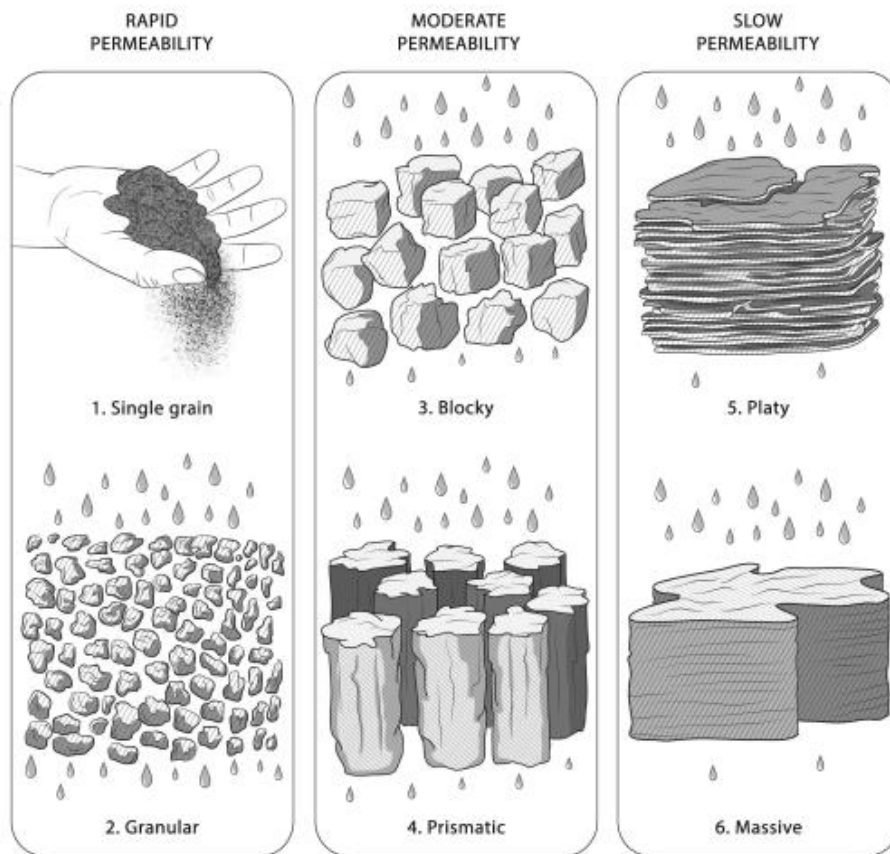


Figure 16: Soil Structure & Its Effects on Permeability

The project area as seen in Figure 17 below is composed of soils with plinthic horizon which is defined below.

✓ Hard plinthic B Horizon

Consists of an indurated zone of accumulation of iron and manganese oxides which cannot be cut with a spade, even when wet. Occurs beneath an Orthic A horizon, an E horizon or a yellow-brown apedal B.

✓ Soft plinthic B-horizon

Has grey colours caused by gleiing. This horizon has in the non-concretionary parts of the horizon, a loose, friable or slightly firm consistence. This horizon is non-indurated and can be cut with a spade when wet, even though individual mottles may have hardened irreversibly to form concretions.

In addition the mountainous area is made of soils that are limited in pedological development.

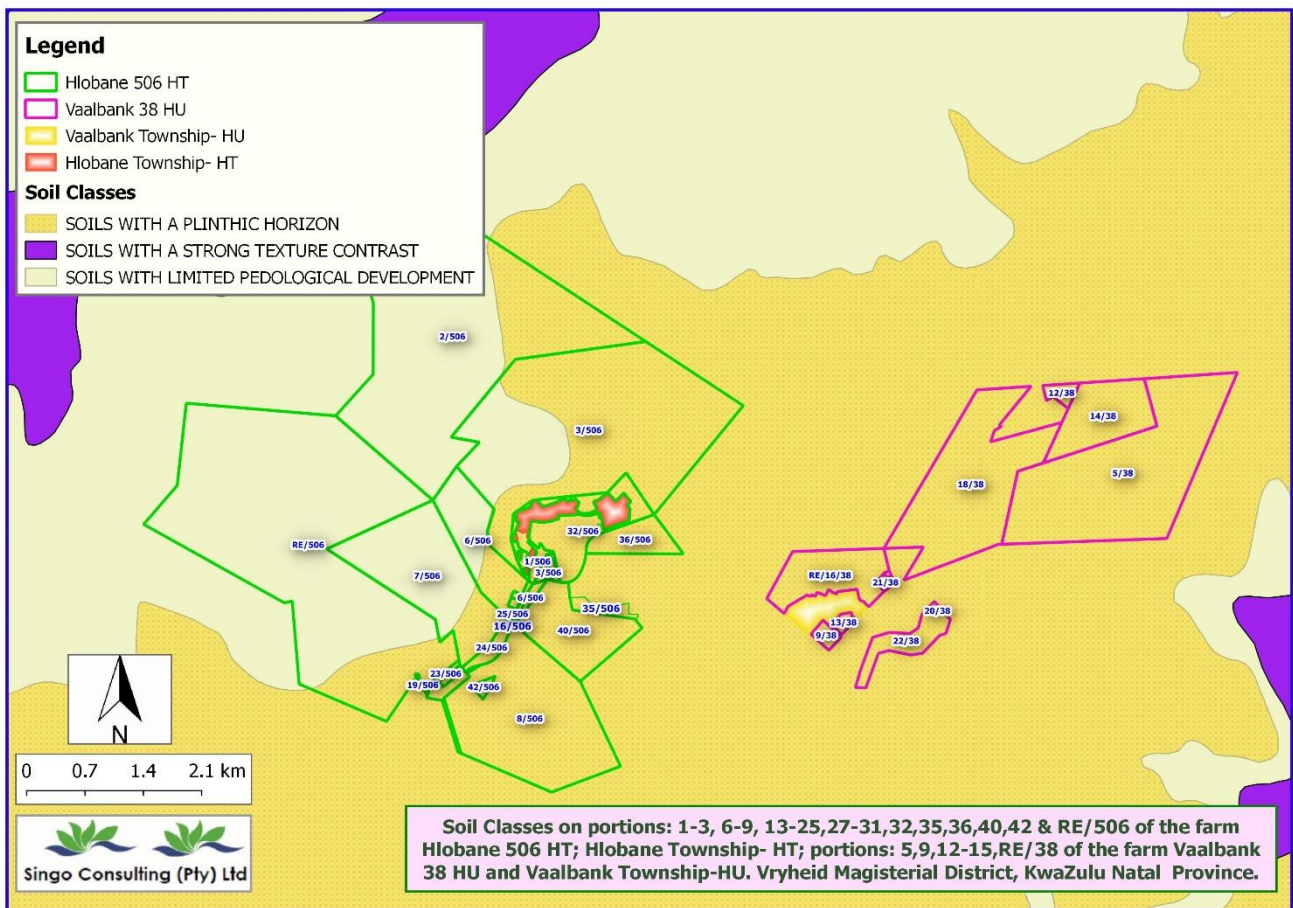


Figure 17: Soil map of the proposed project area

The moisture availability map below illustrates that the area has a low gradient in moisture ranging between no moisture to slight moisture.

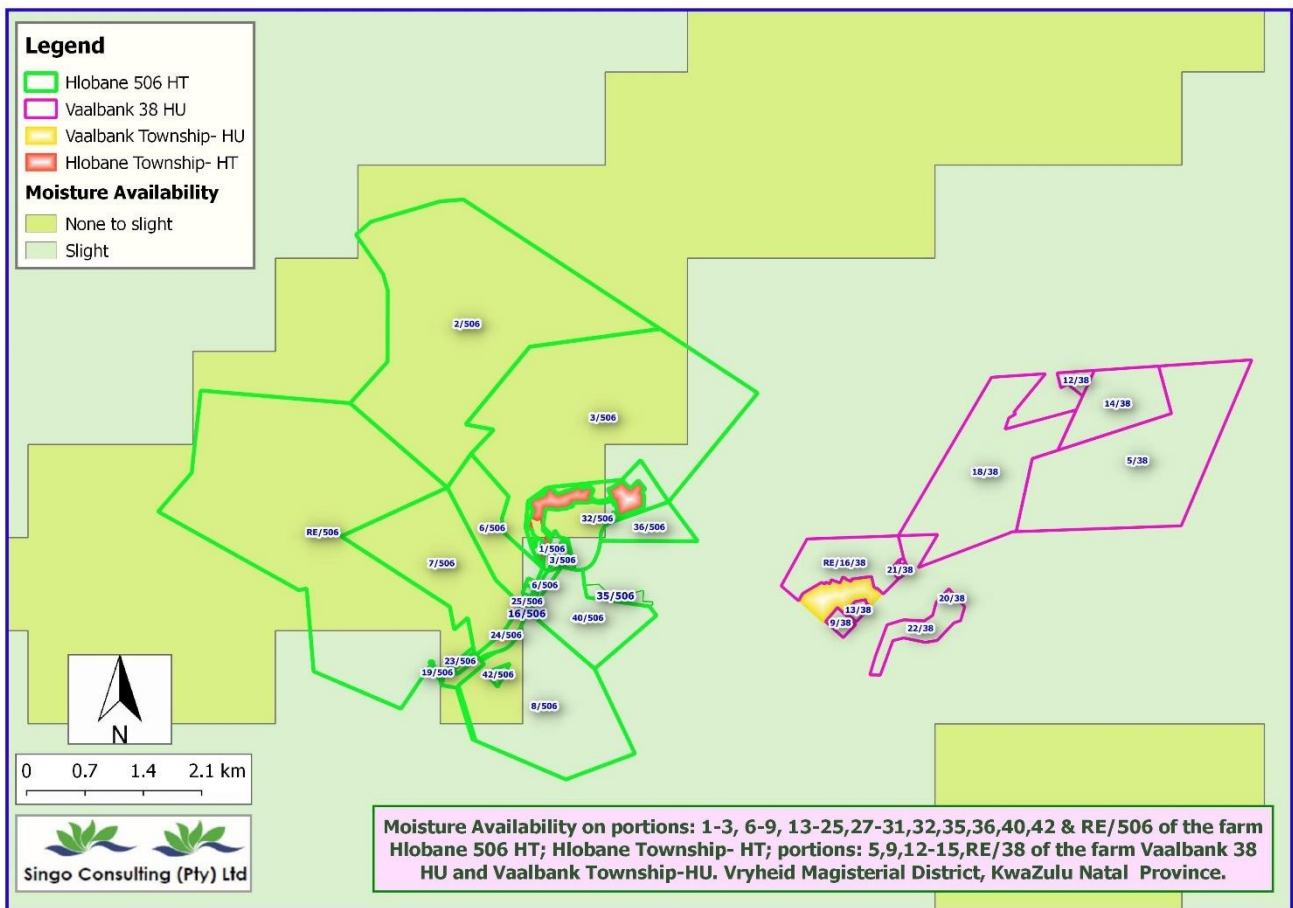


Figure 18: Moisture availability on proposed project area



Photo 2: Soil observation on site

The soil study conducted recommends the following:

- It is anticipated that the coal prospecting activities will not lead to severe loss of soils and degradation of

agricultural potential.

- It is highly recommended to do rehabilitation after the period of coal prospecting activities cease

(See Appendix A for specialist reports).

3.1.5 Surface and Groundwater

The project area falls within the W31A quaternary catchments. This WMA is situated in the centre of the Zululand District Municipality, KwaZulu-Natal province. This WMA borders both Swaziland and Mozambique, and shares two the major rivers systems, namely the Usutu and Pongola with these countries. The Indian Ocean borders the WMA in the east and the Drakensberg range in the border in north-west. Altitude ranges from approximately 2000m to sea level. Rainfall varies from almost 1500mm/annum in the western mountainous areas to as low as 600mm/annum in the Pongolapoort Dam vicinity. The WMA consists of a number of catchments, namely the Mhlathuze, Mfolozi, Mkuze/Hluhluwe, Pongola, Usutu and Lake Sibaya catchments which all form part of the Usutu Basin (otherwise referred to as the Maputo River Basin). Mfolozi River Basin consists of two main tributaries, the Black and white Mfolozi, both which flow from the eastern Drakensberg Escarpment eastwards across the Zululand coastal plain into the Indian Ocean. Mkuze catchment includes the drainage area of both the Hluhluwe and Mkuze rivers, reaching the sea through Lake St Lucia. Pongola rises in the eastern escarpment of the Drakensberg, flowing eastwards before joining the Usutu River and flowing through Mozambique into the Maputo River Basin. The Usutu River rises in the eastern escarpment of the Drakensberg, flowing eastwards through Swaziland and joining the Pongola River before crossing the Mozambique Border. Lake Sibaya Catchment is a coastal catchment north of Sodwana Bay. This area has relatively high rainfall and limited surface runoff due to the flat terrain and supports high groundwater recharge area with the KwaZulu-Natal coastal aquifer underlying much of this catchment. The Pongola River runs through the project area towards the northern side of the project boundaries cutting through the Ubombo Mountains north towards the Maputo River.

- Groundwater

Groundwater is the water present beneath Earth's surface in soil pore spaces and in the fractures of rock formations. A unit of rock or an unconsolidated deposit is called an aquifer when it can yield a usable quantity of water. The depth at which soil pore spaces or fractures and voids in rock become completely saturated with water is called the water table.

Groundwater is recharged from the surface; it may discharge from the surface naturally at springs and seeps and can form oases or wetlands. Groundwater is also often withdrawn for agricultural, municipal, and industrial use by constructing and operating extraction wells. The study of the distribution and movement of groundwater is hydrogeology, also called groundwater hydrology.

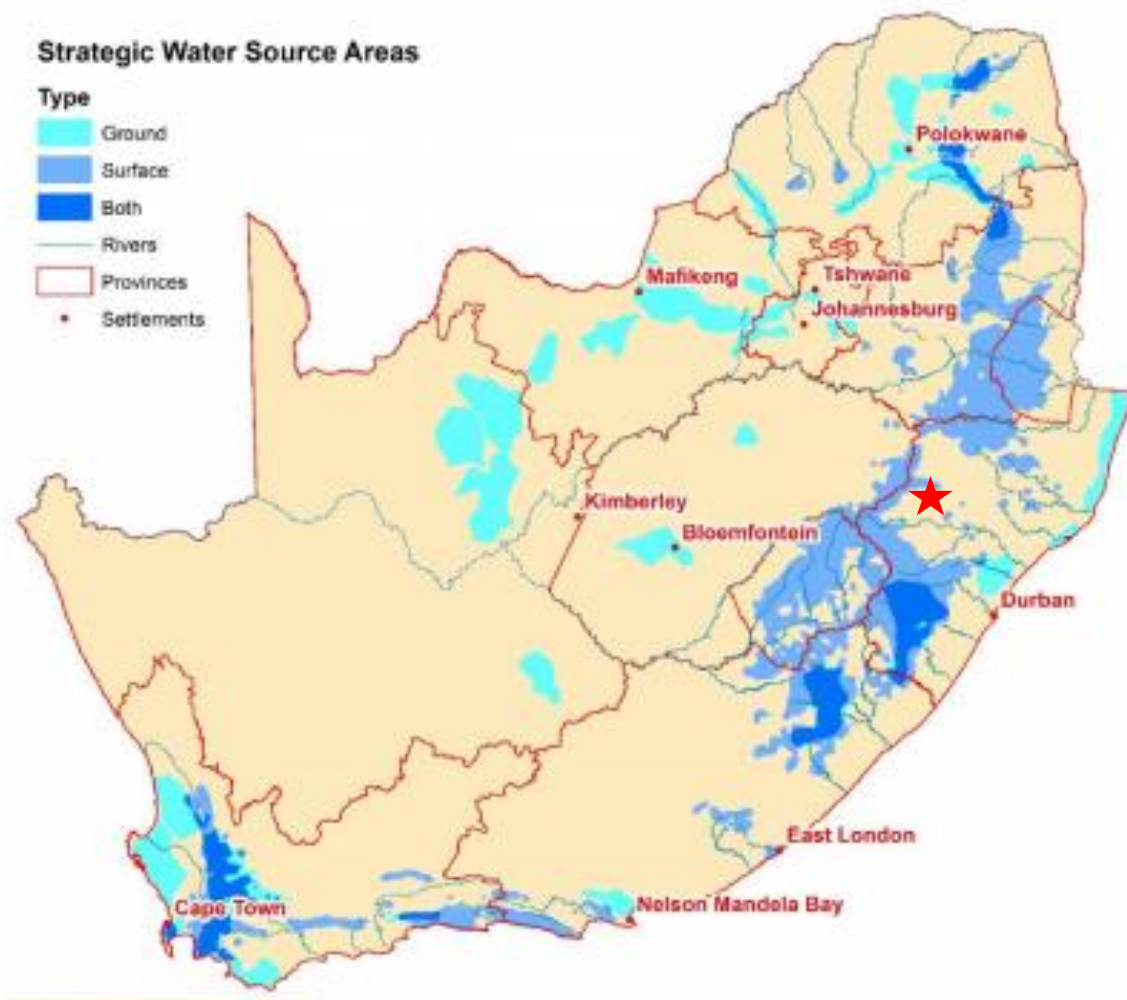


Figure 19: Spatial distribution of water resources in South Africa. Project area is the red polygon (www.nstf.org.za)

A detailed groundwater study will be conducted to research the ground water within the proposed project area. From Figure 19 above the project area does not appear to have any ground water but may be vast in surface water.

Figure 20 below illustrates the position of boreholes and dams within the quaternary catchment of the project area. From the figure there is an absence of boreholes. The lack of boreholes and water resources within the project area boundaries was also stated by a local from the project area.

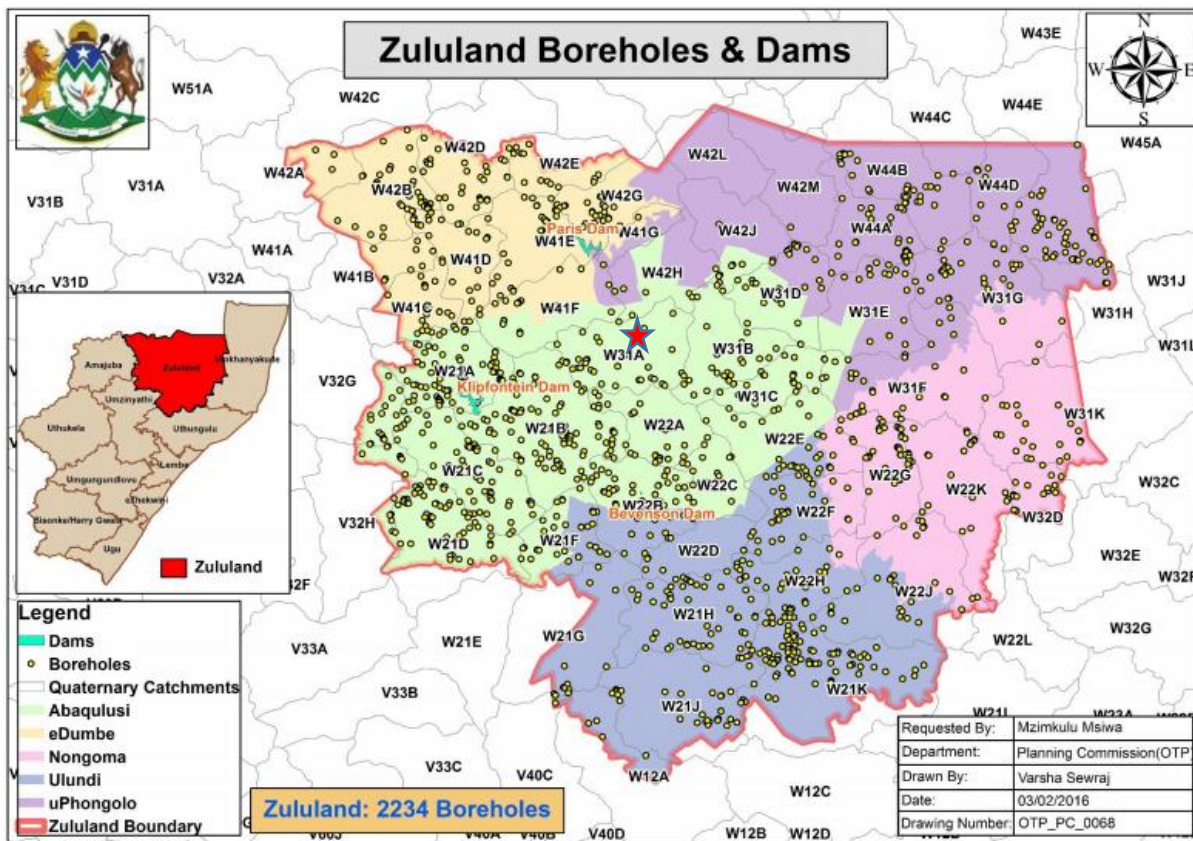


Figure 20: Boreholes and dams within the project areas district municipality and quaternary catchment. Project area is the red polygon (Source: <http://www.kznppc.gov.za>)

There are two dams located within the proposed project area namely the Hlobane Dam and the Coronation Dam found on the eastern side of the proposed project area. From the hydrology map below there is a perennial river, Mbilane River, that runs through the Hlobane Dam to the Coronation Dam where it joins to the Nkongolwana River.

The Nkongolwana non-perennial river runs between Hlobane and Vaalbank and iShoba River is located some meters away from the proposed project area on the south-western side. In terms of impacts to ground and surface water quality in the surrounding environment, it is unlikely that the proposed activity will have any direct impact to water quality under normal working conditions.

The EMP stipulates appropriate management and mitigation measures to prevent and minimise any potential impacts to water quality, including erosion and associated sedimentation impacts.

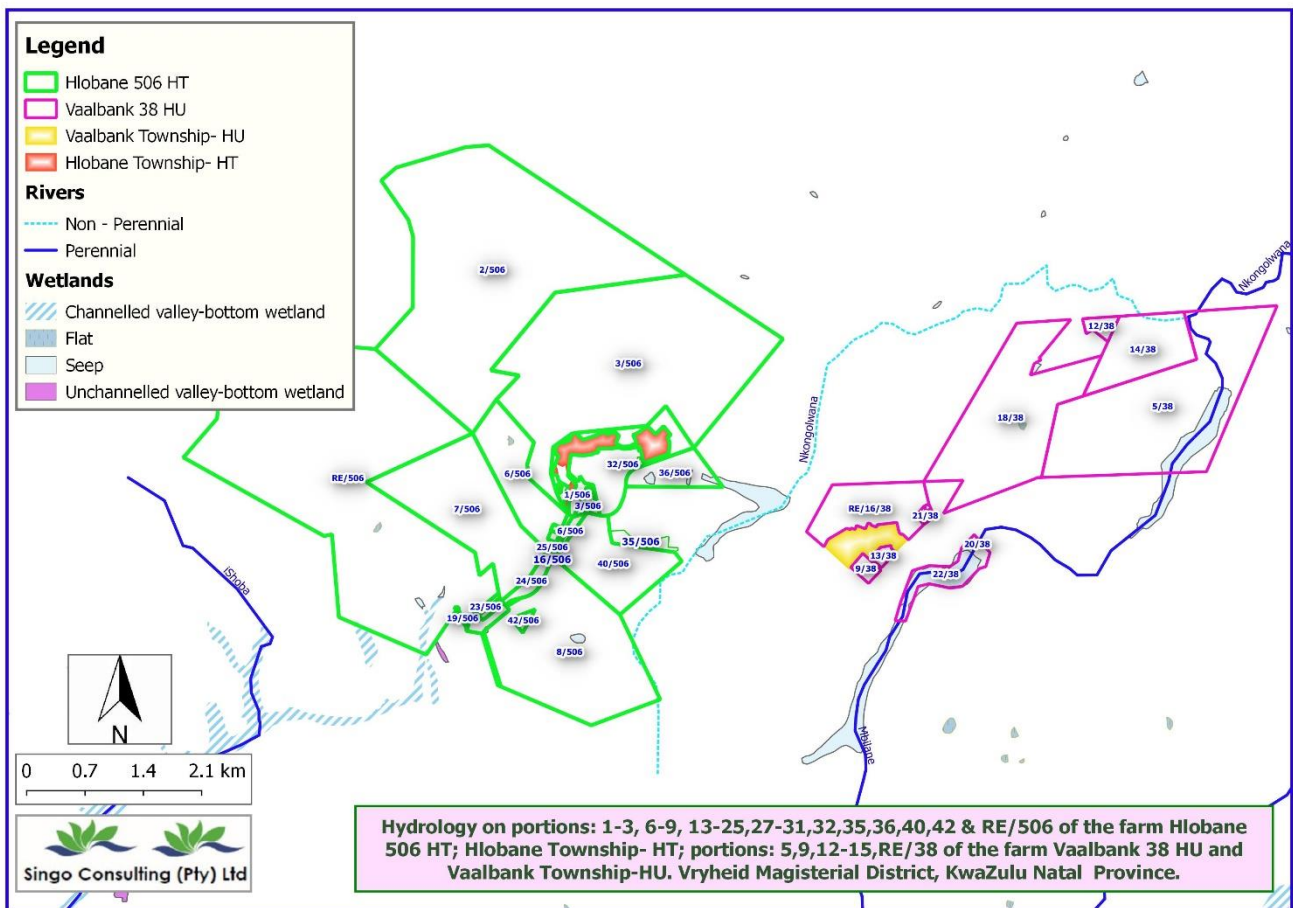


Figure 21: Hydrology Map for the proposed prospecting area.



Photo 3: Nkongolwana River

According to the Hydrological and Hydrogeological specialist report, the conclusion or recommendations regarding the hydrology of the proposed project are as follows:

- Coal prospecting will cause minimal impact on the water resources. The prospecting right activity should take place during dry seasons where the water percentages in the surrounding streams and wetlands are very low.
- The exploration geologists will be advised to drill and sample away from rivers and wetlands on site.
- No washing of any mechanical equipment's or vehicles will be allowed near the water resources.

- The exploration boreholes should be cased during drilling and properly rehabilitated after drilling.
- All the wetlands and non-perennial streams will be buffered as “no go” area preferably a 1 km buffer will apply
- The core logs of boreholes with mineral of interest should be cleared from the ground immediately after logging by the geologists to prevent washing and leaching to the water resources during rainfall

See Appendix A for specialist reports.

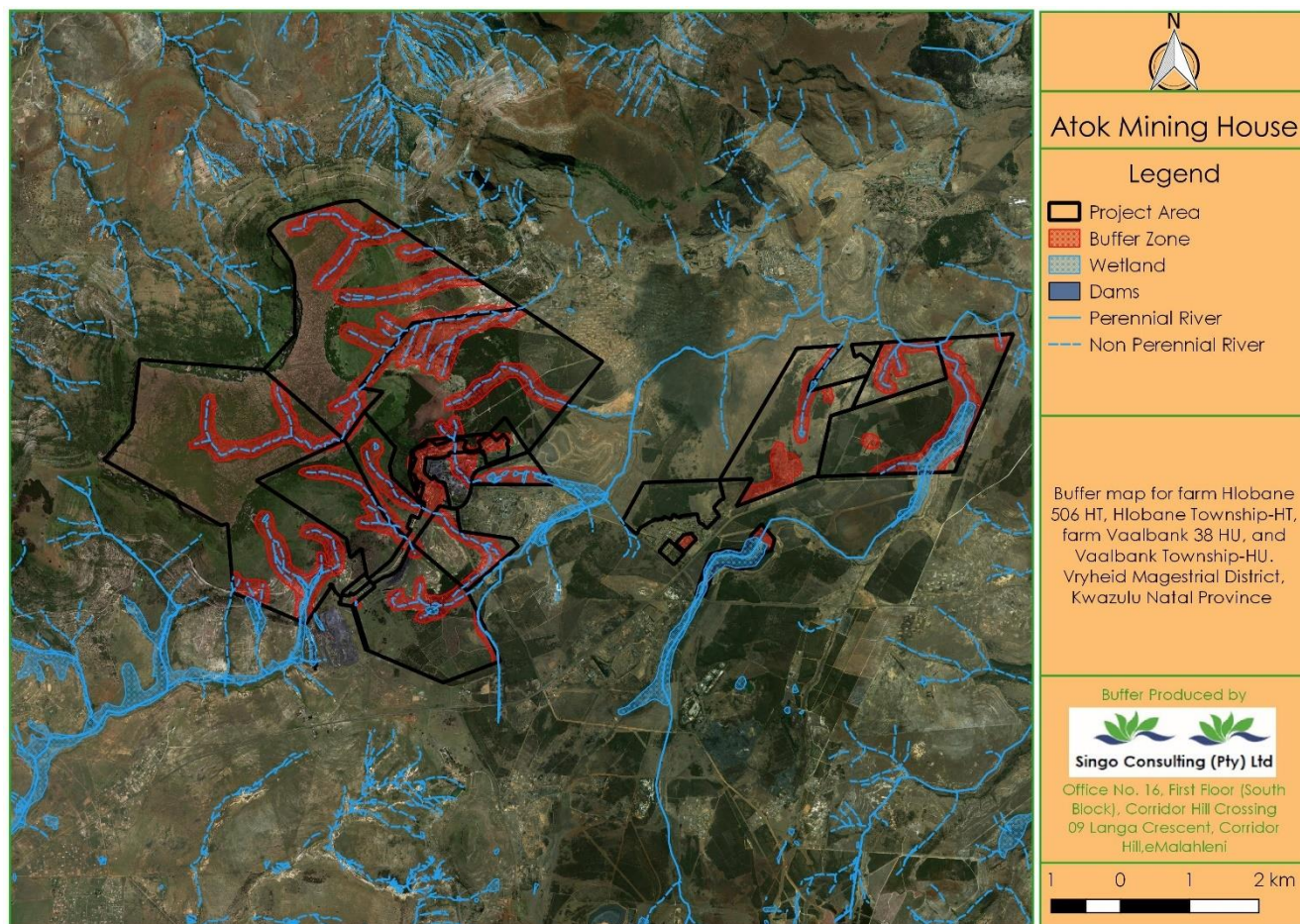


Figure 22: Buffer Zone Map

3.1.6 Flora

The site is situated within the Natal Lowveld Bushveld which is located in both the Mpumalanga and KwaZulu-Natal provinces, mainly in the broad surrounds of Piet Retief, Paulpietersburg, and Vryheid, extending westwards to east of Wakkerstroom. The Hlobane and Vaalbank moist grassland vegetation type is mainly undulating with moderate steep slopes but valley basins are wide and flat and mountainous areas occur mostly along the northern and eastern boundary. Characterised by tall-closed grassland rich in forbs and dominated by *Tristachya leucothrix*, *Themeda triandra* and *Hyparrhenia hirta*. Evergreen woody vegetation is characteristic on rocky outcrops.

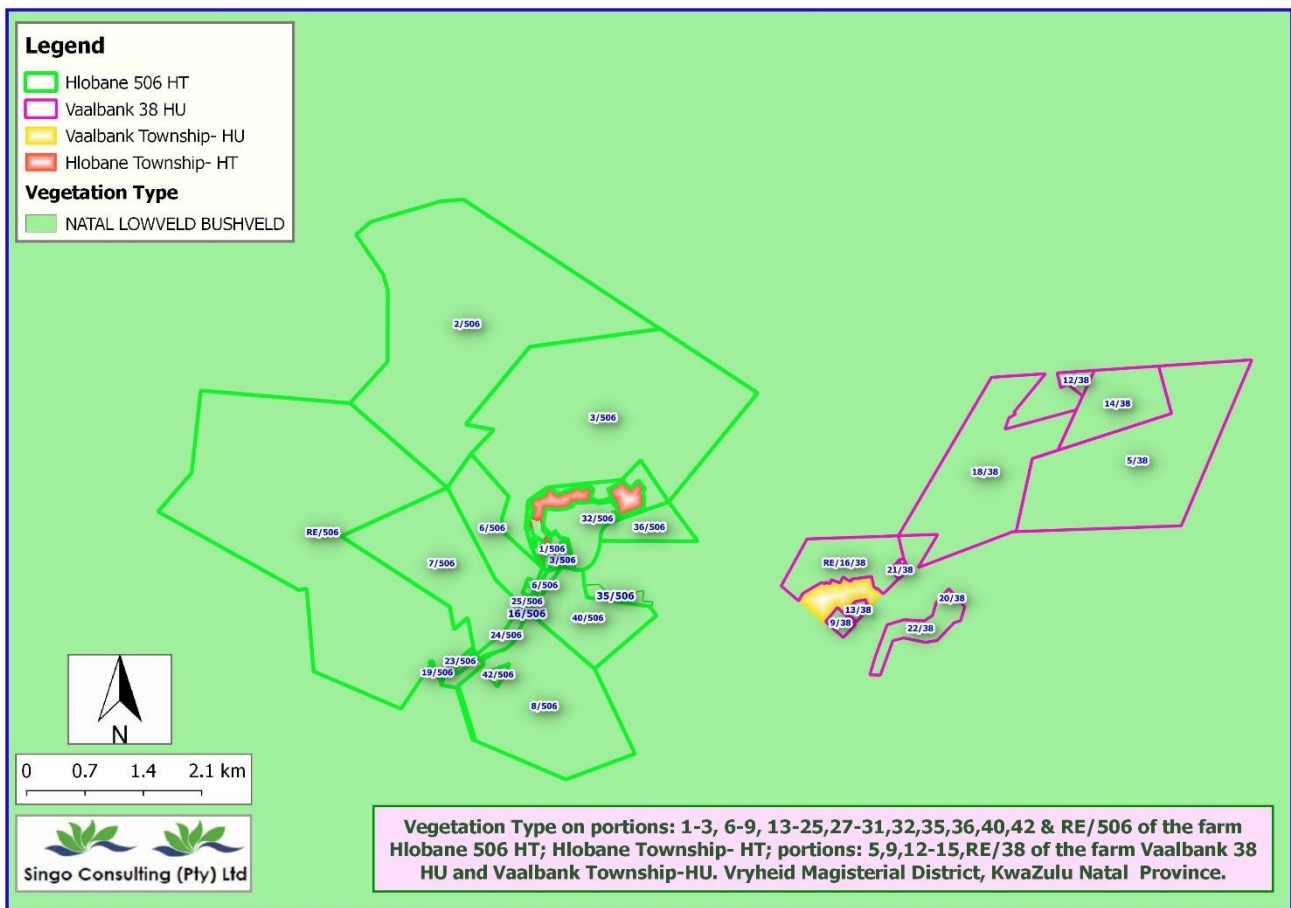


Figure 23: Vegetation map for the proposed prospecting area.

Floral species which are protected under the KwaZulu-Natal Nature Conservation Management Amendment Act, 1999, Act No 5 of 1999 were identified in the project area, namely: *Eucomis autumnalis*, *Gladiolus* sp. such as *Gladiolus dalenii*, *Gladiolus crassifolius* and *Gladiolus ecklonii*, *Habenaria filicornis*, *Eulophia* sp, *Cyathea dregei*, *Satyrium longicauda*, *S. cristatum*, *Corycium nigrescens*, *Disa versicolor*, *D. brevicornis*, *Scilla nervosa* and *Watsonia confusa*. The grassland is listed under criterion A1 and the ecosystem occurs in the uppermost catchments of the Phongolo River. Some of these species (such as *Ilex mitis*, *Cyathea dregei* and *Podocarpus henkelii* and *P. falcatus*) are limited to wetland areas and Afromontane forest in ravines. *Ilex mitis*, *Podocarpus henkelii* and *P. falcatus* are also protected under the National Forest Act (1998).



Figure 24: Vegetation found on site during site assessment.

3.1.7 Fauna

A number of protected bird species were not identified however are luckily expected to occur within the project area and surrounds. These include:

- Grey Crowned Cranes (*Balearica regulorum*) and Blue Cranes (*Anthropoides paradiseus*): these species are considered Vulnerable as the population trend is decreasing due to threats such as habitat loss and illegal removal of birds and eggs. The wetland habitat found in the near scene of the project area is highly suitable for breeding and foraging for these species
- Secretary bird (*Sagittarius serpentarius*) and Southern Bald Ibis (*Geronticus calvus*): these species are classified as Vulnerable as recent evidence suggest the population is experiencing a rapid decline due to habitat degradation, disturbance, hunting and capture for trade. Both the grasslands and wetlands found in/near the project area are suitable habitat for these species
- African Grass Owls (*Tyto capensis*) and White-winged Flufftails (*Sarothrura ayresi*): these species are likely to occur in the surrounding area and may occur on site. The White-winged Flufftail species is classified as Critically Endangered as the population is thought to be very small and is believed to be undergoing a rapid continuing decline in extent, area and habitat quality owing to the high rate of loss and degradation of habitat. Protected mammal species such as Serval (*Felis serval*) and other small mammals are highly likely to occur within the project area and surrounds. The afro-montane forest areas and wetlands provide important migratory corridors for faunal species. *All Flora and Fauna species will be conserved, & all potential impacts on Floral and faunal species will be managed using management framework stipulated on the National Environmental Management: Biodiversity Act (Act No. 10 of 2004).*

3.1.8 Critical Biodiversity

Figure 25 below of the AbaQulusi Local Municipality Biodiversity map, the proposed project area, which is demoted below with a red polygon, lies within an area that is categorized as least threatened according to the threatened ecosystems. There are not protected areas within the boundaries of the proposed prospecting area.

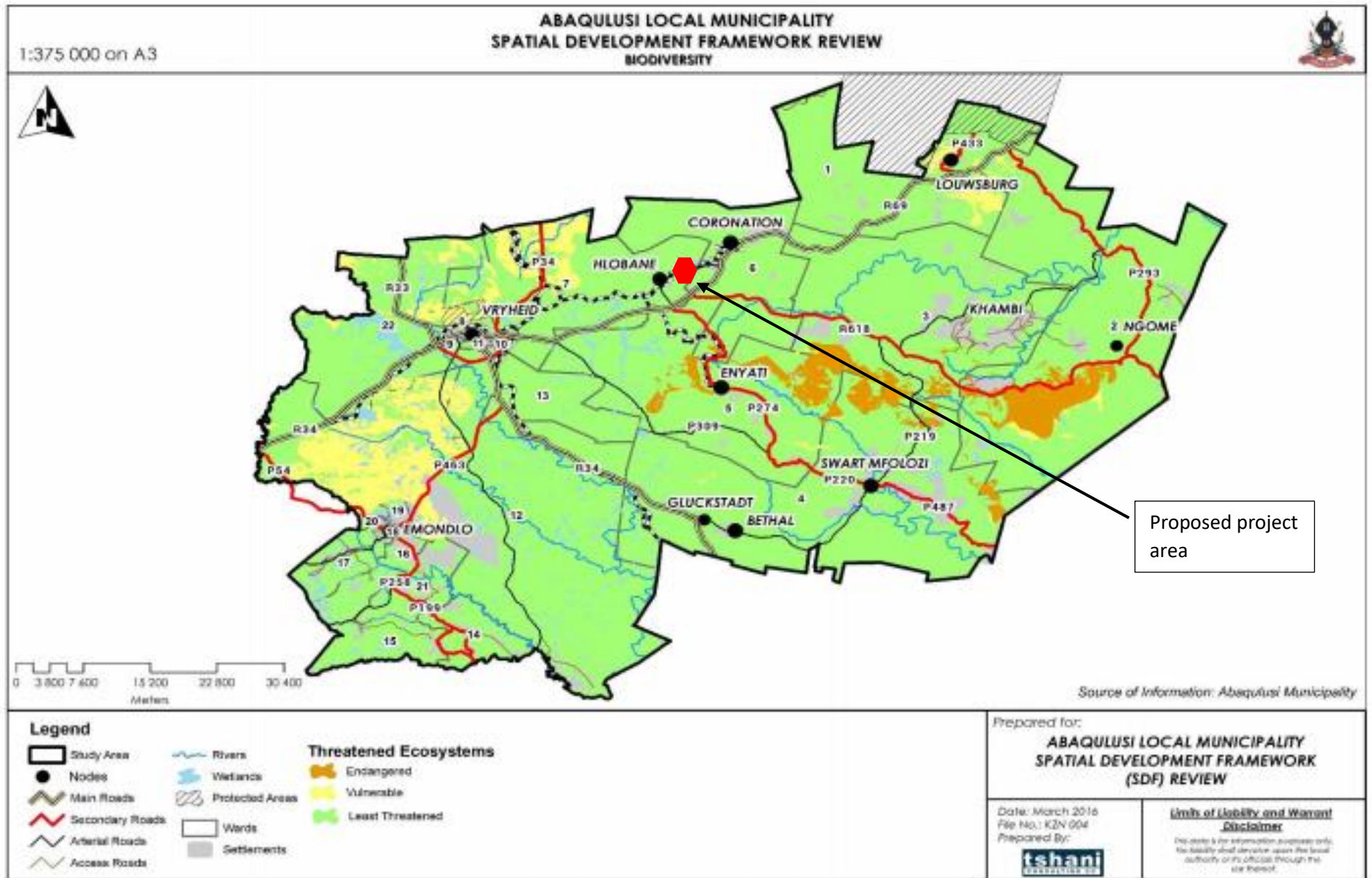


Figure 25: Critical Biodiversity map for Abaqulusi Local Municipality (Source: Abaqulusi Final SDF 2019 – 2020)

3.1.9 Heritage resources

Heritage resources such as Stone Age sites, rock paintings and engravings; stone tools; small, inconspicuous stone walled sites from the Late Iron Age farming communities; formal and informal graveyards, etc. may occur in the study area.

As the project area lies within the Hlobane and Vaalbank communities, graveyards were found within the study area. Below is a photo of the informal graveyard observed during site assessment of the proposed project area. Prospecting activities will not commence in this area and a buffer will be placed around this area.

Apart from the graveyard, other heritage sites or artefacts were not discovered within or near the prospecting area during site assessment. However, should any other heritage resources of significance be exposed during the construction or rather operational phase of the project, the South African Heritage Resources Agency (SAHRA) will be notified immediately, all development activities will be stopped, and an archaeologist accredited with the Association for Southern African Professional Archaeologist (ASAPA) will be notified to determine appropriate mitigation measures for the discovered finds. This may include obtaining the necessary authorisation (permits) from SAHRA to conduct the required mitigation measures.



Photo 4: Graves observed on site

3.1.10 Socio-economic environment

The proposed prospecting area is situated in the AbaQulusi Local Municipality, within the Zululand District Municipality. The AbaQulusi Local Municipality is located in the Northern part of KwaZulu-Natal Province and forms part of the Zululand District Municipality. It is named after the AbaQulusi, the Zulu clan whose descendants live in the vicinities of Vryheid, Utrecht, eDumbe and eNgoje.

Abaqulusi Municipality comprises of many settlements, both rural and urban, with Vryheid being its main urban settlement/town. Other areas of interest that fall within the boundaries of Abaqulusi also include Louwsburg, eMondlo, Hlobane, Corronation and Bhokuzulu. The municipality is split into 22 Wards and its geographical cover is estimated at 4185km² in extent making it one of the spatially largest

municipality's in the province, occupied by a population of approximately 243 795 people, according to the Community Survey 2016.

Population Size and Growth Rate

The table and graph below shows that the total population for Abaqulusi local municipality is estimated at having 243 795 persons as per the Community Survey 2016, a 15.5 percentage change when compared to Census 2011 results. The intercensal growth rate (2011-2016) was found to be 0.03, significantly lower than that of Census 2011 due to the time frame for the two projects (Census 2011 time frame was 10 years while Community Survey 2016 time frame was 5 years).

Table 5: Population Size

	Census 2011	Community Survey 2016
Population	211 060	243 795
Growth Rate	1%	0.03
% of Growth	10.5%	15.5%

Source: Stats SA-CS 2016

Employment

According to the table below, Youth unemployment was high at about 45% during Census 2011 above the average official unemployment rate for the municipality which was found to be 35.4%. The unemployment rate for females at 38.8% was found to be higher than those of males 32.0% during the Census 2011. Even though the employment figures are still higher than average, overall there was noted improvement in the employment figures when comparing the two censuses, i.e Census 2001 and Census 2011 data sets.

Table 6: Employment Levels

Employment Status	Census 2001	Census 2011
Labour absorption rate	19.4%	22.3%
Unemployment rate	59.4%	35.4%
Unemployment by sex		
Male	53.8%	32.0%
Female	65.2%	38.8%
Youth unemployment	69.2%	45.1%
Labour participation rate	47.8%	34.5%

Source: STATS SA Census 2011

Education

As per the table below, there was a significant decrease in the proportion of people aged 20 years or above with no schooling as the figure dropped from 16.9% in 2011 to about 8% in 2016. Also an increase in the proportion of persons aged 20 years or above who have completed matric was observed during the Community Survey 2016 with the figure recorded at 33.4% compared to the 28.1% recorded during

Census 2011. The proportion of those with higher education was observed to be just above 6% for both 2011 and 2016.

The Mthashana College (technical) offers tertiary courses on a part-time or full-time basis to about 650 students. It should also be noted that Vryheid plays an important regional educational function and draws pupils from the whole sub-region. The municipality also offers bursaries to prospective students on an annual basis, along with in-service training and internships in order to support the drive of having an educated and skilled society. The map below spatially depicts the educational facilities that exist within Abaqulusi.

Table 7: Education Status

Highest Level of Education	Census 2011	Community Survey 2016
No schooling (aged 20+)	16.9%	8.1%
% completed matric (aged 20+)	28.1%	33.4%
% completed higher education	6.6%	6.2%

Source: STATSA CS 2016

3.2 Description of the current land uses

Based on the site assessment conducted, the land use map and the land use map from the municipal SDF, it can be confirmed that the proposed prospecting area was used for mining and is currently used for plantation purposes. In addition there are township developments within the boundaries of the prospecting area.

3.3 Description of environmental features and infrastructure on the site

A number of water courses have been identified within the boundaries of the proposed prospecting site. These will be avoided and, where avoidance is not possible, impacts must be appropriately managed and remedied. Based on the outcomes of the initial prospecting phases (non-site disturbing activities), the location of any on-site drilling will be determined (site disturbing activities) and the impacts on the identified water courses will subsequently be determined. The Basic Assessment and Environmental Management Plan must be amended to include direct and indirect impacts on any water courses in the event that any prospecting activities are undertaken within such areas or within 500 m of any water course.

3.4 Environmental and current land use map

Show all environmental, and current land use features

Please refer to topography and water resources and vegetation types, indicating the environmental and land use features associated with the proposed prospecting area.

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

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.

The following table illustrates the potential impacts associated with each activity.

Table 8: Potential impacts per activity and listed activities

Phase		Activities	Potential impacts	Reversible	Irreplaceable damage	Can impact be avoided
Phase 1: Data acquisition and desktop study						
Data acquisition	N/A	Data collection and assessment (desktop only)	1. None identified.	N/A	N/A	N/A
Desktop study	N/A	Data assessment	2. None identified.	N/A	N/A	N/A
Phase 2: Drilling						
	Construction	Site access	3. Destruction and / or disturbance of on-site fauna and flora.	Partial	No	Yes
			4. Soil compaction resulting from repeated use of access roads to drill sites.	Yes	No	No
			5. Vehicle traffic noise impact affecting cattle and / or wildlife.	Yes	No	No
			6. Poor access control resulting in impacts on cattle movement, breeding and grazing practices.	Yes	No	Yes
			7. Potential destruction of heritage resources.	No	Yes	Yes
		Site establishment activities including: <ul style="list-style-type: none"> Vegetation clearing of drill pad area Topsoil stripping and stockpiling 	8. Destruction and / or disturbance of on-site fauna and flora.	Partial	No	Yes
			9. Soil disturbance and compaction and topsoil stockpiling resulting in soil erosion.	Yes	Partial	No
			10. Dust emission resulting from site clearing, soil stripping and	Yes	No	Yes

Phase		Activities	Potential impacts	Reversible	Irreplaceable damage	Can impact be avoided
		<ul style="list-style-type: none"> • Drill pad compaction 	construction activities (including vehicle entrained dust).			
		<ul style="list-style-type: none"> • Excavation and lining of drill water sump 	11. Visual impact affecting visual character and "sense of place".	Yes	No	Partial
		<ul style="list-style-type: none"> • Erection of temporary site office shaded area, potable ablution facilities and water storage tanks and core bay 	12. Influx of persons (job seekers) to site as a result of increased activity resulting in increased incidents of theft and opportunistic crime.	Yes	No	Partial
		<ul style="list-style-type: none"> • Erection of fuel storage tank • Erection of safety barrier • Waste generation and management 	13. Potential destruction of heritage resources.	No	Yes	Yes
	Operation	Exploration drilling and core sample collection and storage including: <ul style="list-style-type: none"> • Scout and delineation • drilling • Drill maintenance and re-fuelling 	14. Water and soil pollution resulting from disposal of drill fluids.	Yes	Partial	Yes
			15. Continued soil erosion from topsoil stockpile and compaction from drill pad platform.	Yes	No	Yes
			16. Potential water and soil pollution resulting from hydrocarbon spills and drill maintenance activities.	Yes	Partial	Yes
			17. Dust emissions from drilling and	Yes	No	Yes

Phase		Activities	Potential impacts	Reversible	Irreplaceable damage	Can impact be avoided
		<ul style="list-style-type: none"> Core sample collection and storage 	general site activities (including vehicle entrained dust).			
		<ul style="list-style-type: none"> Drill fluid collection, storage and evaporation Waste generation and management 	18. Visual Impact affecting visual character and "sense of place".	Yes	No	Partial
			19. Vehicle traffic and drill noise impact affecting wildlife game farm animals.	Yes	No	Partial
			20. Poor access control resulting in impacts on cattle movement, breeding and grazing practices.	No	No	Yes
			21. Influx of persons (job seekers) to site as a result of increased activity resulting in increased incidents of theft and opportunistic crime.	Yes	No	Partial
			22. Impact on the pans and associated ecosystems in the area.	No	Yes	Yes
			23. Dust emissions from decommissioning activities (including vehicle entrained dust).	Yes	No	Yes
	Decommissioning	Removal of temporary infrastructure, including office shaded area, potable ablution facilities, water storage tanks and core bay.	24. Poor access control resulting in impacts on cattle movement, breeding and grazing practices.	No	No	Yes
		Borehole capping	25. Potential water and soil pollution resulting from hydrocarbon spills.	Yes	Partial	Yes
		Drill pad rehabilitation,				

Phase		Activities	Potential impacts	Reversible	Irreplaceable damage	Can impact be avoided
		including: <ul style="list-style-type: none"> • Ripping of drill pad and access road • Re-spreading of stockpiled topsoil • Re-vegetation 	26. Soil erosion resulting from the re-spreading of topsoil before vegetation is reestablished.	Yes	No	Yes

3.6 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.

3.6.1 Criteria of assigning significance to potential impacts

Impact evaluation is conducted in terms of the criteria detailed in Table 9 to Table 14. 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. As such, an impact magnitude and significance rating is applied to rate each identified impact in terms of its overall magnitude and significance.

In order to adequately assess and evaluate the impacts and benefits associated with the project, it was necessary to develop a methodology that would scientifically achieve this and reduce the subjectivity involved in making such evaluations. To enable informed decision-making, it is necessary to assess all legal requirements and clearly defined criteria in order to accurately determine the significance of the predicted impact or benefit on the surrounding natural and social environment.

3.6.2 Impact status

The nature or status of the impact is determined by the environmental conditions prior to construction and operation. A discussion on the nature of the impact will include a description of what causes the effect, what will be affected and how it will be affected. The nature of the impact can be described as negative, positive or neutral.

Table 9: Status of impact

Rating	Description	Quantitative rating
Positive	A benefit to the receiving environment.	P
Neutral	No cost or benefit to the receiving environment.	-
Negative	A cost to the receiving environment.	N

3.6.3 Impact extent

The extent of an impact is determined by assessing its effect on a wide area or group of people. It can be site-specific (within the boundaries of the development area), local, regional or national and/or international.

Table 10: Extent of impact

Rating	Description	Quantitative rating
Low	Site-specific: Occurs within the site boundary.	1
Medium	Local: Extends beyond the site boundary. Affects the immediate surrounding environment (i.e. up to 5 km from the project site boundary).	2
High	Regional: Extends far beyond the site boundary, widespread effect (i.e. 5 km and more from the project site boundary).	3
Very high	National and/or international, extends far beyond the site boundary, widespread effect.	4

3.6.4 Impact duration

The duration of the impact refers to the time scale of the impact or benefit.

Table 11: Impact duration

Rating	Description	Quantitative rating
Low	Short term: Quickly reversible, less than project lifespan, 0-5 years.	1
Medium	Medium term: Reversible over time, approximate lifespan of the project, 5-17 years.	2
High	Long term: Permanent. Extends beyond the decommissioning phase, >17 years.	3

3.6.5 Impact probability

The probability of the impact describes the likelihood of the impact actually occurring.

Table 12: Impact probability

Rating	Description	Quantitative rating
Improbable	Possibility of the impact materialising is negligible, chance of occurrence <10%.	1
Probable	Possibility that the impact will materialise is likely, chance of occurrence 10 – 49.9%.	2
Highly probable	It is expected that the impact will occur, chance of occurrence 50 – 90%.	3
Definite	Impact will occur regardless of any prevention measures, chance of occurrence >90%.	4
Definite and cumulative	Impact will occur regardless of any prevention measures, chance of occurrence >90% and is likely to result in in cumulative impacts	5

3.6.6 Impact intensity

The intensity of the impact is determined to quantify the magnitude of the impacts and benefits associated with the proposed project.

Table 13: Impact intensity

Rating	Description	Quantitative rating
Maximum benefit	Where natural, cultural and / or social functions or processes are positively affected resulting in the maximum possible and permanent benefit.	+5
Significant benefit	Where natural, cultural and / or social functions or processes are altered to the extent that it will result in temporary but significant benefit.	+4
Beneficial	Where the affected environment is altered but natural, cultural and / or social functions or processes continue, albeit in a modified, beneficial way.	+3
Minor benefit	Where the impact affects the environment in such a way that natural, cultural and / or social functions or processes are only marginally benefited.	+2
Negligible benefit	Where the impact affects the environment in such a way that natural, cultural and / or social functions or processes are negligibly benefited.	+1
Neutral	Where the impact affects the environment in such a way that natural, cultural and / or social functions or processes are not affected.	0
Negligible	Where the impact affects the environment in such a way that natural, cultural and / or social functions or processes are negligibly affected	-1
Minor	Where the impact affects the environment in such a way that natural, cultural and / or social functions or processes are only marginally affected.	-2
Average	Where the affected environment is altered but natural, cultural and / or social functions or processes continue, albeit in a modified way.	-3
Severe	Where natural, cultural and / or social functions or processes are altered to the extent that it will temporarily cease.	-4
Very severe	Where natural, cultural and / or social functions or processes are altered to the extent that it will permanently cease.	-5

3.6.7 Impact significance

The impact magnitude and significance rating is utilised to rate each identified impact in terms of its overall magnitude and significance.

Table 14: Impact magnitude and significance rating

Impact	Rating	Description	Quantitative rating
Positive	High	Of the highest positive order possible within the bounds of impacts that could occur.	+12-16
	Medium	Impact is real, but not substantial in relation to other impacts that might take effect within the bounds of those that could occur. Other means of achieving this benefit are approximately equal in time, cost and effort.	+6-11
	Low	Impacts is of a low order and therefore likely to have a limited effect. Alternative means of achieving this benefit are likely to be easier, cheaper, more effective and less time consuming.	+1-5
No impact	No impact	Zero impact	0
Negative	Low	Impact is of a low order and therefore likely to have little real effect. In the case of adverse impacts, mitigation is either easily achieved or little will be required, or both. Social, cultural, and economic activities of communities can continue unchanged.	-1-5
	Medium	Impact is real, but not substantial in relation to other impacts that might take effect within the bounds of those that could occur. In the case of adverse impacts, mitigation is both feasible and fairly possible. Social cultural and economic activities of communities are changed but can be continued (albeit in a different form). Modification of the project design or alternative action may be required.	-6-11
	High	Of the highest order possible within the bounds of impacts that could occur. In the case of adverse impacts, there is no possible mitigation that could offset the impact, or mitigation is difficult, expensive, time-consuming or a combination of these. Social, cultural and economic activities of communities are disrupted to such an extent that these come to a halt.	-12-16

3.7 Positive and negative impacts of the proposed activity (initial site layout) and alternatives on the environment and 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 area is targeted as, historically, several coal occurrences are known in the area, and a number of these have been exploited for coal in the past. The site is therefore considered the preferred site and alternative sites are not considered. The geological map proves the potential of coal occurrence.

3.7.1 Potential impact on heritage resources

No graves have been identified through desktop investigations and site assessment. Though a Heritage Impact Assessment was not undertaken as part of the development of the Draft Environmental Management Plan, these will be of heritage and/or archaeological value. There is no potential for the presence of stone kraals are also likely based on the past studies in the surrounding areas. It is anticipated that these features might not have heritage and/or archaeological value.

Potential heritage impact will only occur once drill sites have been identified and on-site activities commences. As such, it is recommended that the Heritage Impact Assessment only be undertaken prior to these planned activities. The Heritage Impact Assessment will be conducted over identified localised drill sites to identify any cultural, heritage and or archaeological features which it may impact. The fact that the prospecting activities will be undertaken in a phased approach will allow the prospecting team to demarcate areas of cultural and/or heritage significance (such as graves and stone kraals). With the early identification of these, the impact on them will be avoided.

3.7.2 Potential impacts on communities, individuals or competing land uses in close proximity.

The following impacts are regarded as community impacts:

- Potential water and soil pollution resulting from chemical spills and soil erosion
- Noise due to the undertaking drilling machines
- Poor access control resulting in impacts on cattle movement, breeding and grazing practices
- Influx of persons (job seekers) to site as a result of increased activity and the possible resultant increase in opportunistic crime
- Visual Impact

Prospecting will be undertaken by specialist sub-contractors and it is not anticipated that employment opportunities for local and/or regional communities will result from the prospecting activities.

3.7.3 Water quality and availability

There are few small water bodies identified on site. The water quality of these water bodies was not determined however possible contamination is highly possible. The proposed area is rich in water availability and the prospecting activity will ensure the protection of water resources. Possible pollution sources include stockpiled soil and all areas cleared of vegetation. The eroded soil particles may be carried by storm water to these rivers which will result in an increase in the Total Suspended Solids (TSS) and Total Dissolved Solids (TDS) of the water courses. The storage of dangerous goods, temporary ablution facilities and discharge of drill fluids may also lead to surface water pollution if not managed appropriately.

Limited quantities of dangerous goods (fuel, oil and lubricants) will be stored on site. The transportation, handling and storage of such materials may result in spills and further water quality impacts in the event of spills when carried by storm water to the water courses. This impact is considered a cumulative impact due to the potential contribution to water quality deterioration of the river systems if not managed appropriately.

3.7.4 Influx of persons resulting in increased crime rates

The potential impacts of an increase in crime rates associated with an influx of unemployed persons travelling to mine sites seeking employment, may occur.

3.7.5 Visual impact

The general characteristics of the site and the surrounding area are regarded to be that of "wilderness" and prospecting activities may result in localised visual impacts.

3.7.6 Positive impacts (Advantages)

While no significant short-term positive impacts are associated with the prospecting activities, in the event that a viable coal reserve is confirmed and pending the outcome of a detailed social and environmental impact assessment process, positive socio-economic benefits must be investigated and optimised.

3.8 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 section provides a summary of the key management measures associated with the impacts identified in the previous section. The detailed rating and management plan is presented in Section J.

3.8.1 Measures to manage the potential impact on heritage resources

The fact that the prospecting activities will be undertaken in a phased approach will provide the opportunity to the prospecting team to demarcate areas of cultural and/or heritage significance (such as graves and stone kraals). With the early identification of these, negative impacts will be avoided. A Heritage Impact Assessment will be undertaken on each identified area where drilling activities are planned.

Prior to the establishment of new access roads, a Heritage Impact Assessment must be undertaken and mitigation and/or management measures for the protection of such resources must be implemented. Should any unknown heritage sites be identified during the drilling activities, all activities will cease immediately and the SAHRA will be contacted and an appropriate Heritage Impact Assessment will be undertaken on the site identified.

3.8.2 Measures to manage impacts on communities, individuals or competing land uses in close proximity

- Pollution prevention
 - Mitigation and management measures must be implemented to prevent environmental pollution which may impact environmental resources utilised by communities, landowners and other stakeholders. These mitigation and management measures are discussed in the following section.
- Noise due to drilling and prospecting activities
 - Directly affected, adjacent landowners and game farms in proximity to the site will be informed of the planned drilling and a grievance mechanism will be made available.
 - Site activities will be conducted during daytime hours 07h00–17h00 to avoid night time noise disturbances and collisions with fauna.
- Poor access control resulting in impacts on cattle movement, breeding and grazing practices
 - Access control procedures must be agreed on with farm owners and all staff trained on these procedures.
- Influx of persons (job seekers) to site as a result of increased activity and the possible resultant increase in opportunistic crime.

- Casual labour will not be recruited at the site, to eliminate the incentive for persons travelling to site seeking employment.
- The landowners (all private and state landowners) will be notified of unauthorised persons encountered on site.
- If deemed necessary, the South African Police Service will be informed of unauthorised persons encountered on site.
- Visual impact
 - Based on visual observation, wet dust suppression will be undertaken to manage dust emissions from vehicle movement and other construction activities when needed. Depending on the need and quantity of water used for wet suppression, a suitable, low environmental impact chemical suppression alternative must be considered to conserve water resources.
 - The portable ablution facilities, vertical water tanks and any other infrastructure should be acquired with a consideration for colour. Natural earth, green and matte black options, which will blend in with the surrounding area, must be favoured.
 - A waste management system will be implemented and sufficient waste bins will be provided on-site. A fine system will be implemented to further prohibit littering and poor housekeeping practices.
 - Prospecting will be undertaken by specialist sub-contractors and it is not anticipated that employment opportunities for local and/or regional communities will result from the prospecting activities.

3.8.3 Measures to manage the potential impact on water quality and availability

Potential water and soil pollution impacts resulting from hydrocarbon spills and soil erosion will be mitigated and managed as follows:

- Existing tracks and roads must be used as far as possible to minimise the potential for soil erosion. Where access to drill sites must be established, and if required, raised blade clearing will be undertaken with a view to maintain vegetation cover to limit soil erosion potential.
- Soil disturbances are to be limited as far as is practicable to minimise the potential for soil erosion.
- When establishing the drill pad, topsoil including the remaining vegetation, will be stripped and stockpiled up-slope of the pad. The stockpile will be shaped to divert stormwater around the drill pad to minimise soil erosion of the pad. Stockpiled topsoil will be used during rehabilitation efforts.
- Where practicable topsoil will be stripped to a depth of 10 cm.

- Topsoil will be stockpiled to a maximum height of 1.5m with a side slope of not more than 1:3.
- Mechanical erosion control methods will be implemented if required. This may include the use of geotextiles to stabilise slopes.
- To reduce the potential for water pollution during the drilling activities, a sump will be constructed with sufficient capacity to receive drill fluids and allow for evaporation.
- The sump will be constructed to divert storm water away from and/or around the sump to avoid clean storm water inflow.
- Oils and lubricant will be stored in secondary containment structures.
- Where possible, vehicle maintenance will be undertaken off-site.
- In the event that vehicle maintenance is undertaken on-site (i.e. such as breakdown maintenance), drip trays and/or UPVC sheets will be used to prevent spills and leaks onto the soil.
- A waste management system will be implemented and sufficient waste bins will be provided for onsite. A fines system will be implemented to further prohibit littering and poor housekeeping practices.
- Waste separation will be undertaken at source and separate receptacles will be provided (i.e. general waste, recyclables and hazardous waste).
- Receptacles will be closed (i.e. fitted with a lockable lid) to eliminate the possibility of access by animals overnight.
- Waste will be removed and disposed of at an appropriately licensed landfill (facility disposal licenses will be verified) and recyclables will be taken to a licensed recycling facility.
- Drill holes must be temporarily plugged immediately after drilling is completed and remain plugged until they are permanently plugged below ground to eliminate the risk posed to fauna by open drill holes.
- Drill holes must be permanently capped as soon as possible.

3.9 Motivation where no alternative sites were considered

The proposed prospecting area is targeted as, historically, several coal occurrences are known in the area, and number of these have been exploited for coal in the past. The site is therefore regarded as the preferred site and alternative sites are not considered.

3.10 Statement motivating the alternative development location in the overall site.

Provide a statement motivating the final site layout that is proposed.

As is clear from the information provided, each of the phases is dependent on the results of the preceding phase. The location and extent of possible drilling will be determined based on information derived from the desktop study. Drill sites will be selected to avoid known heritage features and water courses where practicable.

3.11 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.

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

The stakeholder consultation process was conducted in an interactive manner, providing landowners and identified stakeholders with the opportunity to provide input into the project. This is a key focus, as the local residents can provide site-specific information, which may not be available in desktop research material. Stakeholders are requested (as part of the BID) to provide their views on the project and any potential concerns they may have. All comments and concerns will be captured and included in the impact assessment.

A detailed desktop investigation was undertaken to determine the environmental setting in which the project is located. Based on the desktop investigations, various resources were used to determine the significance and sensitivity of the various environmental considerations. The desktop investigation involved the use of:

- South African National Biodiversity Institute (SANBI) Biodiversity Geographic Database LUDS system
- GIS base maps
- DWA information documents like the ISP and Groundwater Vulnerability Reports
- Municipal Integrated Development Plan
- Municipal Strategic Development Framework

During the site visit, it was ensured that the information gathered as part of the desktop investigation reflects the current status of the land.

The rating of the identified impacts was undertaken in a quantitative manner as provided from the page below (Impact Ratings). The ratings are undertaken to calculate the significance of each impact. The EAP also assesses the outcomes of the calculation to determine whether the outcome reflects the perceived and actual views. The identification of management measures is based on the significance of the impacts and measures that have been considered appropriate and successful, specifically as Best Practical and Economical Options.

3.12 Assessment of each identified potentially significant impact and risk

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

Table 15: Impact assessment and management type

NAME OF ACTIVITY E.g. for prospecting - drill site, site camp, ablution facility, accommodation, equipment storage, sample storage, site office and access route.	POTENTIAL IMPACT Including the potential impacts for cumulative impacts, e.g. dust, noise, drainage, surface disturbance, fly rock and surface water contamination.	ASPECTS AFFECTED	PHASE In which impact is anticipated, e.g. construction, commissioning, operational decommissioning, closure, post-closure.	Significance if not mitigated	MITIGATION TYPE Modify, remedy, control, or stop) through, e.g. noise control measures, storm- water control, dust control, rehabilitation, design measures, blasting controls, avoidance, relocation and alternative activity.	Significance if mitigated
Phase 1: Data acquisition and desktop study						
Data collection and assessment (desktop only)	1. None identified.	N/A	Planning	N/A	1. No mitigation proposed	N/A
Data Assessment	2. None identified.	N/A	Planning	N/A	2. No mitigation proposed	N/A
Phase 2: Data acquisition and desktop study						
Site access	3. Destruction and/or disturbance of onsite fauna and flora.	Loss of fauna and flora	Construction phase	10	3. Map indicating the location of each of the drilling sites must be submitted to the relevant landowners, as well as to the DMR and DWS. Upon agreement of the location of the activities can the applicant proceed. 4. Use existing track and roads in all	6

NAME OF ACTIVITY E.g. for prospecting - drill site, site camp, ablution facility, accommodation, equipment storage, sample storage, site office and access route.	POTENTIAL IMPACT Including the potential impacts for cumulative impacts, e.g. dust, noise, drainage, surface disturbance, fly rock and surface water contamination.	ASPECTS AFFECTED	PHASE In which impact is anticipated, e.g. construction, commissioning, operational decommissioning, closure, post-closure.	Significance if not mitigated	MITIGATION TYPE Modify, remedy, control, or stop) through, e.g. noise control measures, storm- water control, dust control, rehabilitation, design measures, blasting controls, avoidance, relocation and alternative activity.	Significance if mitigated
					instances as far as is practicable. 5. Where track clearing is necessary, raised blade clearing will be conducted to minimise disturbance and aid rehabilitation efforts and significant vegetation such as trees and large shrubs will be avoided. 6. Site activities will be conducted during daytime hours 07h00 – 17h00 to avoid night time noise disturbances and night time collisions with fauna. 7. Vehicle speed will be reduced, particularly in highly vegetated areas is one way to avoid deaths by vehicle impacts.	
	4. Soil compaction resulting from repeated use of access roads to drill sites.	Loss of soil resources	Construction phase	8	8. Where track clearing is necessary, raised blade clearing be conducted to minimise disturbance and aid rehabilitation efforts. 9. As part of rehabilitation, all compacted roads and drill pads will be ripped and re-vegetated.	5
	5. Vehicle traffic noise impact affecting cattle	Loss of fauna	Construction phase	6	10. Site activities will be conducted during daytime hours 07h00 – 17h30 to	4

NAME OF ACTIVITY E.g. for prospecting - drill site, site camp, ablution facility, accommodation, equipment storage, sample storage, site office and access route.	POTENTIAL IMPACT Including the potential impacts for cumulative impacts, e.g. dust, noise, drainage, surface disturbance, fly rock and surface water contamination.	ASPECTS AFFECTED	PHASE In which impact is anticipated, e.g. construction, commissioning, operational decommissioning, closure, post-closure.	Significance if not mitigated	MITIGATION TYPE Modify, remedy, control, or stop) through, e.g. noise control measures, storm- water control, dust control, rehabilitation, design measures, blasting controls, avoidance, relocation and alternative activity.	Significance if mitigated
	and / or wildlife.				avoid night time noise disturbances.	
	6. Poor access control resulting in impacts on cattle movement, breeding and grazing practices.	Loss of fauna	Construction phase	10	11. Access control procedures must be agreed on with farm owners and staff trained.	8
	7. Potential destruction of heritage resources.	Loss of Cultural and/or Heritage Significance	Construction phase		12. Prior to the establishment of new access roads, a heritage impact assessment must be undertaken and mitigation and / or management measure for the protection of such resources must be implemented	
Site establishment activities including: <ul style="list-style-type: none"> • Vegetation clearing of drill pad area • Topsoil stripping and stockpiling • Drill pad compaction • Excavation and lining of drill water sump • Erection of temporary site office shaded area, 	8. Destruction and / or disturbance of onsite fauna and flora.	Loss of Fauna and Flora	Construction phase	10	13. The removal of vegetation within the drill pad area will be minimized. 14. If practicable, raised blade clearing be conducted for the entire drill pad to minimize disturbance and aid rehabilitation efforts. 15. The design of the drill fluid sump must incorporate effective fauna egress to avoid entrapment. 16. A fire emergency procedure will be developed to contain and minimize the destruction of flora and faunal	7

NAME OF ACTIVITY E.g. for prospecting - drill site, site camp, ablution facility, accommodation, equipment storage, sample storage, site office and access route.	POTENTIAL IMPACT Including the potential impacts for cumulative impacts, e.g. dust, noise, drainage, surface disturbance, fly rock and surface water contamination.	ASPECTS AFFECTED	PHASE In which impact is anticipated, e.g. construction, commissioning, operational decommissioning, closure, post-closure.	Significance if not mitigated	MITIGATION TYPE Modify, remedy, control, or stop) through, e.g. noise control measures, storm- water control, dust control, rehabilitation, design measures, blasting controls, avoidance, relocation and alternative activity.	Significance if mitigated
potable ablution facilities and water storage tanks and core bay <ul style="list-style-type: none"> • Erection of fuel storage tank • Erection of safety barrier • Waste generation and management 	9. Soil disturbance and topsoil stockpiling resulting in soil compaction and erosion.	Loss of soil resources	Construction phase	11	habitat which may result from fire. 17. Topsoil including the remaining vegetation, will be stripped and stockpiled up-slope of the pad. The stockpile will be shaped to divert stormwater around the drill pad to minimize soil erosion of the pad. 18. Where practicable topsoil will be stripped to a depth of 10cm. 19. Vegetation removed through lower blade clearing will be mixed with topsoil to increase organic content and to preserve the seed bank in order to aid rehabilitation efforts. 20. Topsoil will be stockpiles to a maximum height of 1.5m with a side slope of not more than 1:3. 21. Mechanical erosion control methods will be implemented if required. This may include the use of geotextiles to stabilise slopes.	7
	10. Dust emission resulting from site clearing, soil	Dust emissions	Construction phase	10	22. Based on visual observation, wet dust suppression will be undertaken to	6

NAME OF ACTIVITY E.g. for prospecting - drill site, site camp, ablution facility, accommodation, equipment storage, sample storage, site office and access route.	POTENTIAL IMPACT Including the potential impacts for cumulative impacts, e.g. dust, noise, drainage, surface disturbance, fly rock and surface water contamination.	ASPECTS AFFECTED	PHASE In which impact is anticipated, e.g. construction, commissioning, operational decommissioning, closure, post-closure.	Significance if not mitigated	MITIGATION TYPE Modify, remedy, control, or stop) through, e.g. noise control measures, storm- water control, dust control, rehabilitation, design measures, blasting controls, avoidance, relocation and alternative activity.	Significance if mitigated
	stripping and construction activities (including vehicle entrained dust).				manage dust emissions from vehicle movement and other construction activities as and when needed. 23. Depending on the need and quantity of water used for wet suppression, a suitable, low environmental impact chemical suppression alternative must be considered in order to conserve water resources.	
	11. Visual Impact affecting visual character and "sense of place".	Loss in aesthetics	Construction phase	6	24. The shaded office area, portable ablution facilities, vertical water tanks and any other infrastructure should be acquired with a consideration for color. Natural earth, green and mat black options which will blend in with the surrounding area must be favored.	5
	12. Influx of persons (job seekers) to site as a result of increased activity resulting in increased incidents of theft and opportunistic crime.	Increase in petty crimes	Construction phase	8	25. Casual labor will not be recruited at the site to eliminate the incentive for persons travelling to site seeking employment. 26. The landowner (all private and state land owners) will be notified of unauthorized persons encountered on	7

NAME OF ACTIVITY E.g. for prospecting - drill site, site camp, ablution facility, accommodation, equipment storage, sample storage, site office and access route.	POTENTIAL IMPACT Including the potential impacts for cumulative impacts, e.g. dust, noise, drainage, surface disturbance, fly rock and surface water contamination.	ASPECTS AFFECTED	PHASE In which impact is anticipated, e.g. construction, commissioning, operational decommissioning, closure, post-closure.	Significance if not mitigated	MITIGATION TYPE Modify, remedy, control, or stop) through, e.g. noise control measures, storm- water control, dust control, rehabilitation, design measures, blasting controls, avoidance, relocation and alternative activity.	Significance if mitigated
					site. 27. If deemed necessary, the South African Police Service will be informed of unauthorized persons encountered on site.	
	13. Potential destruction of heritage resources.	Loss of Cultural and/or Heritage Significance	Construction phase	28. Prior to the site establishment, a heritage impact assessment must be undertaken and mitigation and / or management measure for the protection of such resources must be implemented		
Exploration drilling and core sample collection and storage including: <ul style="list-style-type: none"> • Scout and delineation drilling • Drill maintenance and re-fuelling • Core sample collection and storage • Drill fluid collection, storage and evaporation • Waste generation and management 	14. Water and soil pollution resulting from disposal of drill fluids.	Loss of water resources, loss of soil resources	Operational phase	12	29. A sump will be constructed with a sufficient capacity to receive drill fluids and allow for evaporation. 30. The sump will be constructed to divert stormwater away and / or around the sump to avoid clean stormwater inflow.	5
	15. Continued soil erosion from topsoil stockpile and soil compaction from drill pad platform.	Loss of soil resources	Operational phase	11	31. In the event that raise blade clearing is not undertaken, and the drill pad is cleared, topsoil will be stockpiles to a maximum height of 1.5m with a side slope of not more than 1:3. 32. The topsoil stockpile will be shaped to divert stormwater around the drill	7

NAME OF ACTIVITY E.g. for prospecting - drill site, site camp, ablution facility, accommodation, equipment storage, sample storage, site office and access route.	POTENTIAL IMPACT Including the potential impacts for cumulative impacts, e.g. dust, noise, drainage, surface disturbance, fly rock and surface water contamination.	ASPECTS AFFECTED	PHASE In which impact is anticipated, e.g. construction, commissioning, operational decommissioning, closure, post-closure.	Significance if not mitigated	MITIGATION TYPE Modify, remedy, control, or stop) through, e.g. noise control measures, storm- water control, dust control, rehabilitation, design measures, blasting controls, avoidance, relocation and alternative activity.	Significance if mitigated
					pad to minimize soil erosion of the pad. 33. Management efforts through the use of mechanical erosion control methods will be implemented if required. This may include the use of geotextiles.	
	16. Potential water and soil pollution resulting from hydrocarbon spills and drill maintenance activities.	Loss of water resources, loss of soil resources	Operational phase	12	34. Fuel storage tanks will have a secondary containment structure with a capacity of 110% of the total tank capacity. 35. Oils and lubricant will be stored within secondary containment structures. 36. Where practicable, vehicle maintenance will be undertaken off-site. 37. In the event that vehicle maintenance is undertaken on-site (i.e. such as breakdown maintenance), drip trays and / or UPVC sheets will be used to prevent spills and leaks onto the soil. 38. Unused machinery must be completely drained of oil and other hydrocarbons to ensure that leaks do	5

NAME OF ACTIVITY E.g. for prospecting - drill site, site camp, ablution facility, accommodation, equipment storage, sample storage, site office and access route.	POTENTIAL IMPACT Including the potential impacts for cumulative impacts, e.g. dust, noise, drainage, surface disturbance, fly rock and surface water contamination.	ASPECTS AFFECTED	PHASE In which impact is anticipated, e.g. construction, commissioning, operational decommissioning, closure, post-closure.	Significance if not mitigated	MITIGATION TYPE Modify, remedy, control, or stop) through, e.g. noise control measures, storm- water control, dust control, rehabilitation, design measures, blasting controls, avoidance, relocation and alternative activity.	Significance if mitigated
					not develop. 39. Regular inspections of all vehicles must be carried out to ensure that all leaks are identified early and rectified. 40. A sufficient number of waste receptacles will be provided. 41. Waste separation will be undertaken at source and separate receptacles will be provided (i.e. general waste, recyclables and hazardous waste). 42. Receptacles will be closed (i.e. fitted with a lockable lid) to eliminate the possibility of access by animals overnight. 43. Wastes will be removed and disposed of at an appropriately licensed landfill (facility disposal licenses will be verified) and recyclables will be taken to a licensed recycling facility.	
	17. Dust emissions from drilling and general site activities (including	Increase in dust emissions	Operational phase	10	44. Based on visual observation wet dust suppression will be undertaken as and when required to manage dust	6

NAME OF ACTIVITY E.g. for prospecting - drill site, site camp, ablution facility, accommodation, equipment storage, sample storage, site office and access route.	POTENTIAL IMPACT Including the potential impacts for cumulative impacts, e.g. dust, noise, drainage, surface disturbance, fly rock and surface water contamination.	ASPECTS AFFECTED	PHASE In which impact is anticipated, e.g. construction, commissioning, operational decommissioning, closure, post-closure.	Significance if not mitigated	MITIGATION TYPE Modify, remedy, control, or stop) through, e.g. noise control measures, storm- water control, dust control, rehabilitation, design measures, blasting controls, avoidance, relocation and alternative activity.	Significance if mitigated
	vehicle entrained dust)				emissions from vehicle movement. 45. Depending on the need and quantity of water used for wet suppression, chemical suppression alternatives must be considered in order to conserve water resources.	
	18. Visual Impact affecting visual character and "sense of place"	Loss in aesthetic value	Operational phase	6	46. Visual impact of structures will be mitigated through measures as included in Item 35. 47. Visual dust dispersion will be mitigated through measures as included in Item 33.	5
	19. Vehicle traffic and drill noise impact affecting wildlife game farm animals.	Loss of fauna	Operational phase	6	48. Site activities will be conducted during daytime hours 07h00 – 17h30 to avoid night time noise disturbances.	4
	20. Poor access control resulting in impacts on cattle movement, breeding and grazing practices.	Loss of cattle	Operational phase	10	49. Access control procedures must be agreed on with farm owners.	8
	21. Influx of persons (job seekers) to site as a result of increased activity	Increase in petty crimes	Operational phase	8	50. Casual labor will not be recruited at the site to eliminate the incentive for persons travelling to site seeking	7

NAME OF ACTIVITY E.g. for prospecting - drill site, site camp, ablution facility, accommodation, equipment storage, sample storage, site office and access route.	POTENTIAL IMPACT Including the potential impacts for cumulative impacts, e.g. dust, noise, drainage, surface disturbance, fly rock and surface water contamination.	ASPECTS AFFECTED	PHASE In which impact is anticipated, e.g. construction, commissioning, operational decommissioning, closure, post-closure.	Significance if not mitigated	MITIGATION TYPE Modify, remedy, control, or stop) through, e.g. noise control measures, storm- water control, dust control, rehabilitation, design measures, blasting controls, avoidance, relocation and alternative activity.	Significance if mitigated
	resulting in increased incidents of theft and opportunistic crime.				employment. 51. The landowner (the Department of Rural Development and Land Reform) will be notified of unauthorized persons encountered on site. 52. If deemed necessary, the South African Police Service will be informed of unauthorised persons encountered on site.	
	22. Impact on the pans and associated ecosystems in the area.	Loss of sensitive environments, loss of fauna, loss of flora,	Operational phase	12	53. The prospecting areas must be clearly demarcated. 54. No prospecting activities may be undertaken within the pan areas. 55. All site plans must indicate the presence of pans.	5
Removal of temporary infrastructure including: <ul style="list-style-type: none"> Removal of temporary site office shaded area, potable ablution facilities, water storage tanks and core bay 	23. Destruction and/or disturbance of onsite fauna.	Loss of sensitive environments, loss of fauna, loss of flora	Decommissioning	10	56. Drill holes must be temporarily plugged immediately after drilling is completed and remain plugged until they are permanently plugged below ground to eliminate the risk posed to fauna by open drill holes. 57. Drill holes must be permanently capped as soon as is practicable	7

NAME OF ACTIVITY E.g. for prospecting - drill site, site camp, ablution facility, accommodation, equipment storage, sample storage, site office and access route.	POTENTIAL IMPACT Including the potential impacts for cumulative impacts, e.g. dust, noise, drainage, surface disturbance, fly rock and surface water contamination.	ASPECTS AFFECTED	PHASE In which impact is anticipated, e.g. construction, commissioning, operational decommissioning, closure, post-closure.	Significance if not mitigated	MITIGATION TYPE Modify, remedy, control, or stop) through, e.g. noise control measures, storm- water control, dust control, rehabilitation, design measures, blasting controls, avoidance, relocation and alternative activity.	Significance if mitigated
<ul style="list-style-type: none"> • Borehole capping • Drill pad rehabilitation including: • Ripping of drill pad and access road • Re-spreading of stockpiled topsoil • Re-vegetation 	24. Dust emissions from decommissioning activities (including vehicle entrained dust).	Increase in dust emissions	Decommissioning	9	58. Based on visual observation wet dust suppression will be undertaken to manage dust emissions from vehicle movement. 59. Depending on the need and quantity of water used for wet suppression, chemical suppression alternatives must be considered in order to conserve water resources.	6
	25. Poor access control resulting in impacts on cattle movement, breeding and grazing practices.	Loss of cattle	Decommissioning	10	60. Access control procedures must be agreed on with farm owners and all staff trained.	8
	26. Potential water and soil pollution resulting from hydrocarbon spills	Loss of water resources, loss of soil resources	Decommissioning	12	61. All fuel storage tanks will be emptied prior to removal. 62. Drill holes must be permanently capped as soon as is practicable to eliminate the risk of groundwater contamination. 63. Wastes will be removed and disposed of at an appropriately licensed landfill (facility disposal licenses will be verified) and	7

NAME OF ACTIVITY E.g. for prospecting - drill site, site camp, ablution facility, accommodation, equipment storage, sample storage, site office and access route.	POTENTIAL IMPACT Including the potential impacts for cumulative impacts, e.g. dust, noise, drainage, surface disturbance, fly rock and surface water contamination.	ASPECTS AFFECTED	PHASE In which impact is anticipated, e.g. construction, commissioning, operational decommissioning, closure, post-closure.	Significance if not mitigated	MITIGATION TYPE Modify, remedy, control, or stop) through, e.g. noise control measures, storm- water control, dust control, rehabilitation, design measures, blasting controls, avoidance, relocation and alternative activity.	Significance if mitigated
					recyclables will be taken to a licensed recycling facility.	
	27. Soil erosion resulting from the re-spreading of topsoil before vegetation is re-established.	Loss of soil resources	Decommissioning	11	64. Mechanical erosion control methods will be implemented if required. This may include the use of geotextiles. 65. Re-vegetation will be conducted through hand seeding exposed areas using indigenous grass species as determined by a suitably qualified ecologist. 66. Re-vegetation efforts will be monitored every second month for a period of six months after initial seeding. 67. An effective vegetation cover of 45% must be achieved. Re-seeding will be undertaken if this cover has not been achieved after six months.	7

The supporting impact assessment conducted by the EAP must be attached as an appendix.

3.13 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
Hydrological Study	<ul style="list-style-type: none"> • It can be concluded that coal prospecting will cause minimal impact on the water resources. The prospecting right activity should take place during dry seasons where the water percentages in the surrounding streams and wetlands are very low. • The exploration geologists will be advised to drill and sample away from rivers and wetlands on site. • No washing of any mechanical equipment's or vehicles will be allowed near the water resources. • All the wetlands and non-perennial streams will be buffered as "no go" area preferably a 1 km buffer will apply. 	<p>X</p> <p>X</p> <p>X</p> <p>X</p>	3.1.5 Surface and Groundwater page 69
Hydrogeological Study	<ul style="list-style-type: none"> • The exploration boreholes should be cased during drilling and properly rehabilitated after drilling. • The core logs of boreholes with mineral of interest should be cleared from the ground immediately after logging by the geologists to prevent washing and leaching to the water resources during 	<p>X</p> <p>X</p>	3.1.5 Surface and Groundwater page 69

4 Environmental impact statement

4.1 Summary of the key findings of the environmental impact assessment

The proposed project site is characterised by its distinct flatness. The general fall of the land is from the high-lying areas in the west and more lower lying areas in the east. Flat surface helps in terms of mobility as it creates the movability of rig to be easy. It is believed that coal occurrence is mostly on flat laying area.

The area is currently used for plantation and residential development. A land claim enquiry was e-mailed to Lynn Boucher on the 09th of October 2020. Response from Lynn was received on the 2nd of November 2020 sating that there is one claimant namely Hlobane Community claim on portions 1, 2, 3, 6, 7, 8, 9, 13-25, 27, 32 of the farm Hlobane No. 506.

The Nkongolwana River transverses the eastern side of the proposed prospecting area. A cemetery was observed on site in the Hlobane Township. No prospecting activities will take place near water bodies, residential area or the cemetery.



Photo 5: Nkongolwana River and cemetery observed during site visit

4.2 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 A.

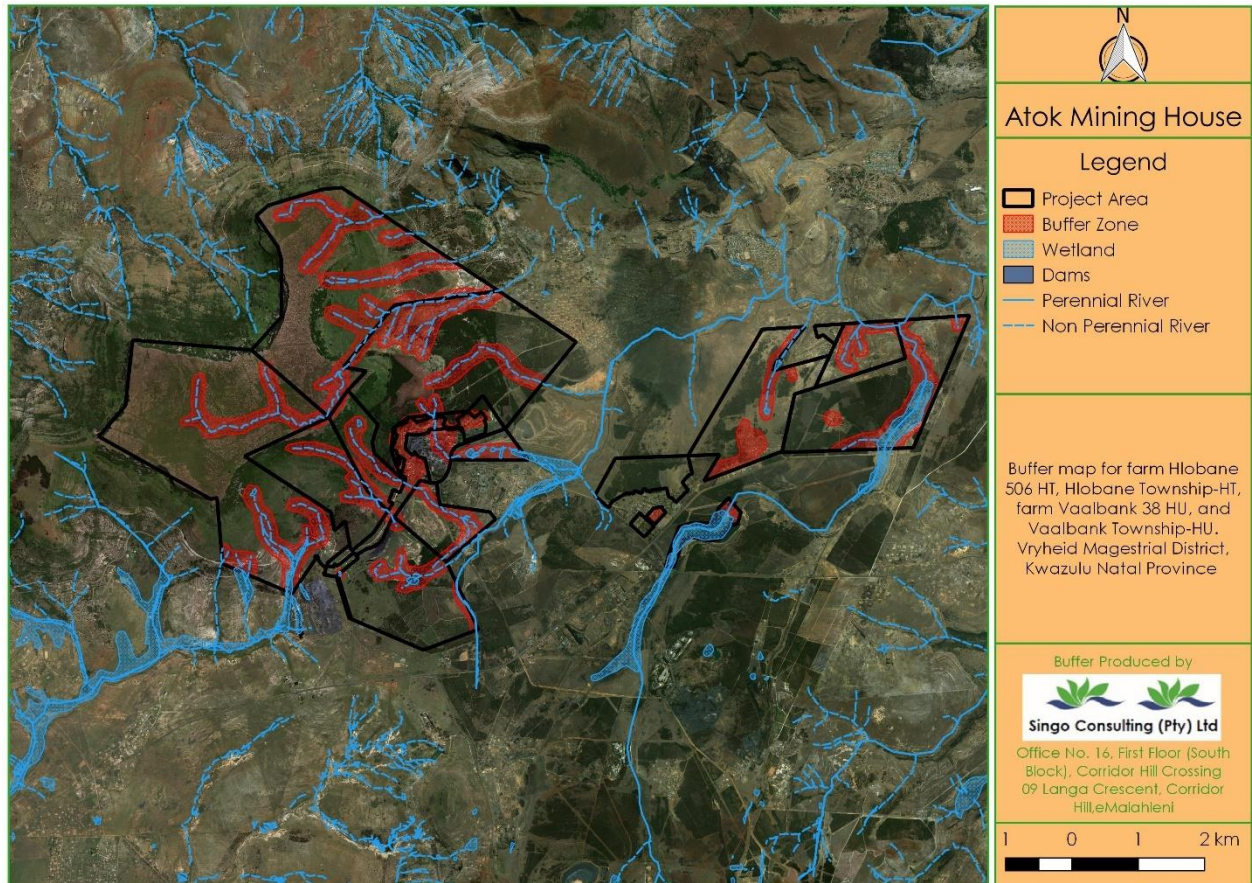


Figure 26: Buffer Zone Map

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

- Increased ambient noise levels resulting from drilling and increased traffic movement during all prospecting phases as well as drilling activities.
- Potential water and soil pollution impacts resulting from chemical (oil, diesel, hydraulic and drilling fluid) spills and soil erosion which may impact environmental resources utilised by landowners.
- Potential water and soil pollution impacts resulting from chemical (oil, diesel, hydraulic and drilling fluid) spills and soil erosion which may impact on ecosystem functioning.
- Increased vehicle activity within the area resulting in the possible destruction and disturbance of fauna and flora.
- Poor access control to farms which may impact on cattle movement, breeding and grazing practices.
- Influx of persons (job seekers) to site as a result of increased activity and the possible resultant increase in opportunistic crime.

- Potential visual impacts caused by drilling activities.
- Prospecting will be undertaken by specialist sub-contractors and it is not anticipated that employment opportunities for local and/or regional communities will result from the prospecting activities.

4.4 Proposed impact management objectives and impact management outcomes for inclusion in the EMPr

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

The objectives of the EMPr will be to:

- Provide sufficient information to strategically plan the prospecting activities and avoid unnecessary social and environmental impacts.
- Provide sufficient information and guidance to plan prospecting activities in a manner that would reduce impacts (social and environmental) as far as possible.
- Ensure an approach that will provide the necessary confidence in terms of environmental compliance.
- Provide a management plan that is effective and practical for implementation.

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

- Noise impacts can be managed through consultation and the restriction of operating hours
- Soil and water pollution can be effectively managed through containment
- Ecological impact can be managed through the implementation of pollution prevention measures, minimising land clearing, restricting working hours (faunal disturbance) and rehabilitation
- Access control to farms can be managed through developing and ensuring compliance to appropriate access control procedures
- Risks associated with crime can be mitigated by avoiding recruitment activities on site, as well as monitoring and reporting.
- Visual impact can be minimised by giving consideration to drill site infrastructure placement and materials used.

4.5 Aspects for inclusion as conditions of authorisation

Any aspects which must be made conditions of the environmental authorisation.

The following conditions should be included into the Authorisation:

- A map detailing the drilling locations should be submitted to the relevant landowners and the DWS and DMR prior to the commencement of these activities
- No activities may be undertaken in the pans
- Heritage Impact Assessment must be undertaken where roads will be cleared and drilling sites established, prior to the commencement of these activities
- No activities, with the exception of the driving to fetch, may take place within 100m from any river

4.6 Description of any assumptions, uncertainties and knowledge gaps

Which relate to the assessment and mitigation measures proposed.

The following assumptions, uncertainties and gaps are applicable to this project. Due to significant time constraints allowed for the impact assessment, and at the time of compiling the draft Basic Assessment Report and EMP:

- Traditional leaders were landowners were consulted through email and meeting
- Details from the DWS regarding Water Use Licensing requirements is not yet available
- Details regarding the presence and status of land claims are not available
- No Heritage Impact Assessment was undertaken
- No detailed site layout is available due to the nature of the prospecting activities. The study is therefore undertaken as a holistic assessment of the overall site.

4.7 Reasoned opinion as to whether the proposed activity should/should not be authorised

- It is the opinion of the EAP that the activity may be authorised
- The proposed prospecting area is targeted as, historically, coal occurrences are known in the area, and a number of these have been exploited for coal in the past.
- The site is therefore considered the preferred site and alternative sites are not considered.
- The option of not approving the activities will result in a significant loss to valuable information regarding the mineral status (in terms of coal seams) present on these properties. In addition, should economical reserves be present and the applicant does not

have the opportunity to prospect, the opportunity to utilise these reserves for future phases will be lost.

4.8 Conditions that must be included in the authorisation

The following conditions should be included into the authorisation:

- A map detailing the drilling locations should be submitted to the relevant landowners and the DWS and DMR prior to the commencement of these activities
- No activities may be undertaken in the pans
- A Heritage Impact Assessment must be undertaken where roads will be cleared and where drilling sites will be established, prior to the commencement of these activities
- No activities, with the exception of the driving to fetch water, may take place within 100m from any river

4.9 Period for which the environmental authorisation is required

The Prospecting Right has been applied for a period of five years. The Environmental Authorisation should therefore allow for the five years of prospecting and one year for decommissioning and rehabilitation.

4.10 Undertaking

Confirm that the undertaking required to meet the requirements of this section is provided at the end of the EMP and is applicable to both the Basic assessment report and the Environmental Management Programme report.

An undertaken by the EAP and the client is provided for in Section 2 of the EMP.

4.11 Financial provision

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

The financial provision for the environmental rehabilitation and closure of any mine/prospecting and its associated operations form an integral part of the MPRDA. Sections 41(1), 41(2), 41(3) and 45 of the MPRDA deal with the financial provision for rehabilitation and closure. During 2012 the DMR made updated rates available for the calculation of the closure costs, where contractor costs are not available, these are used in assessments.

The *Guideline Document for the Evaluation of Financial Provision made by the Mining Industry*, in order to empower the personnel at Regional DMR offices to review the quantum determination for the rehabilitation and closure of mining sites.

With the determination of the quantum for closure it must be assumed that the infrastructure has no salvage value (clean closure). The closure cost estimate (clean closure) was determined in accordance with the DMR guidelines and is based, where possible, on actual costs provided by a third-party contractor. The closure costs are as follows:

Sub-Total 1:	R 37 439.93 (excluding VAT)
Sub-Total 2:	R 45 676.72 (excluding VAT)
Sub-Total 3 (clean closure cost):	R 48 450.00 (including VAT)

The following sections present the methodology for the determination of the financial provision.

4.12 Explain how the aforesaid amount was derived

The following section details the methodologies adopted to calculate the quantities, associated rehabilitation (clean closure) rates and eventually the final (clean) closure cost estimate.

Most important to note is that the prescribed method for estimating closure costs, as provided for by the DMR in the form of the *Guideline Document for the Evaluation of Financial Provisions*, only acts as a guideline, and therefore indicates the minimum requirements for assessing and reporting on a closure cost estimate.

4.12.1 Method of assessment

Singo Consulting (Pty) Ltd used the *Guideline Document for the Evaluation of Financial Provisions* published by the mining industry. Table 16 presents the step-by-step details on how the financial provision was derived. For the purpose of determining the quantum for closures, it is assumed that the infrastructure will have no salvage value.

Table 16: DMR Financial Provision Methodology

Step	Description	DMR applicable table	Outcomes
1	Determine primary mineral and saleable mineral by-products	Table B.12	Mineral: Coal
2	Determine Risk Class	Table B.12	Primary Risk Class: C (Small operation, no waste, no processing). Risk Class C is considered a low risk with a low probability of occurrence of the impact with a negligible consequence.
3	Determine the Area Sensitivity	Table B.4	Low Sensitivity. The area was historically used for coal mines namely in the Hlobane and Coronation areas. Upon site visit on 12/10/2020 it was observed that some of the area was used for plantations with scattered grazing by cattle. The natural state is still present in good condition. The river systems in this area, consists of both perennial and non-perennial.

Step	Description	DMR applicable table	Outcomes
			The prospecting area comprises of the Hlobane and Vaalbank townships. From research the area was known as a mine town thus the establishment of townships around the previous mines. Closure of these mines left many people without employment. Should the prospecting activities prove that the area is economically viable for the purposes of a mining right application, it would not compromise the existing economic activity and land uses as the area is stated to be for mining according to the SDF.
4.1	Determine the level of information	N/A	Limited information is available and is based on desktop investigations and stakeholder consultation.
4.2	Determine the closure components	Table B.5	See Table 23 of this report.
4.3	Determine the unit rates for closure components	Table B.6	See Table 23 of this report. The multiplication factor for all components is 1.00.
4.4	Determine and apply the weighting factors	Table B.7 Table B.8	Weighting factor 1 (Nature of the terrain): 1 (generally flat terrain) Weighting factor 2 (Peri-urban, less than 150km from a developed urban area)): 1 .05(Rural/Urban).
4.5	Identify areas of disturbance	N/A	No areas of disturbance are considered in this assessment. The area in which the prospecting activities are planned is considered to be undisturbed.
4.6	Identify closure costs from specialist studies	Table B.9	Due to the fact that the operation in question is only a prospecting operation, no residual impacts should take place. During the Life of Prospecting and ongoing rehabilitation, the self-succession results should be assessed and monitored. If self-succession does not take place satisfactorily the client may be subjected to additional specialist investigations (ecological and pedology) to determine seeding and re-vegetation requirements.
4.7	Calculate Closure Costs	Table B.10	See the following section.

4.12.2 Quantity estimation

For the purpose of this assessment, Singo Consulting (Pty) Ltd can confirm that the method adopted to obtain and compile the schedule of quantities is sound, correct, and provides detail that is required by the DMR. The information will allow for continued monitoring and updating of quantities and provides the ideal platform to manage and monitor the actual on-site rehabilitation measures and costs incurred.

4.12.3 Determination of rates

The method of determining the applicable rehabilitation rates is based on practical experience and information by third party contractors.

Table 17 summarises the unit rates for closure components as specified in the DMR Guideline Document and indicates which rates were used by Singo Consulting in this assessment.

Table 17: Master rate calculation

The following table presents the closure cost rehabilitation undertaken in terms of the DMR Guideline Document.

CALCULATION OF THE QUANTUM

Applicant: Evaluator:		Atok Mining House (Pty) Ltd Kenneth Singo		Ref No.:		KZN 30/5/1/1/2/ (10926) PR	
				Date:		Oct-20	
No.	Description	Unit	A	B	C	D	E=A*B*C*D
			Quantity	Master Rate	Multiplication factor	Weighting factor 1	Amount (Rands)
1	Dismantling of processing plant and related structures (including overland conveyors and powerlines)	m3	0	16	0,8	0,08	0
2 (A)	Demolition of steel buildings and structures	m2	0	228	0,08	1	0
2(B)	Demolition of reinforced concrete buildings and structures	m2	0	336	0,07	1	0
3	Rehabilitation of access roads	m2	0,01	41	1	1	0,41
4 (A)	Demolition and rehabilitation of electrified railway lines	m	0	395	1	1	0
4 (A)	Demolition and rehabilitation of non-electrified railway lines	m	0	216	1	1	0
5	Demolition of housing and/or administration facilities	m2	0	455	1	1	0
6	Opencast rehabilitation including final voids and ramps	ha	0	238697	1	1	0
7	Sealing of shafts adits and inclines	m3	0	122	1	1	0
8 (A)	Rehabilitation of overburden and spoils	ha	0	159131	1	1	0
8 (B)	Rehabilitation of processing waste deposits and evaporation ponds (non-polluting potential)	ha	0	198195	1	1	0
8 (C)	Rehabilitation of processing waste deposits and evaporation ponds (polluting potential)	ha	0	575653	1	1	0
9	Rehabilitation of subsided areas	ha	0	133249	1	1	0
10	General surface rehabilitation	ha	0,9	126059	0,33	1	37439,523
11	River diversions	ha	0	126059	1	1	0
12	Fencing	m	0	144	1	1	0
13	Water management	ha	0	47931	0,08	1	0
14	2 to 3 years of maintenance and aftercare	ha	0	16776	1	1	0
15 (A)	Specialist study	Sum	0	0	1	1	0
15 (B)	Specialist study	Sum	0	0	1	1	0
Sub Total 1							37439,933
1	Preliminary and General	4492,79196		weighting factor 2		4492,79196	
2	Contingencies			1		3743,9933	
Subtotal 2							45676,72
VAT (15%)							2773,05
Grand Total							48450

Figure 27: Quantum

4.12.4 Financial provision

The financial provision required by the holder of the mining right must be determined by one or more of the following methods in order to achieve the total quantum of rehabilitation and remediation of environmental impacts and damage, as well as final closure:

- Approved dedicated trust fund
- Financial guarantee from a South African registered bank or any other approved financial institution
- Cash deposit to be deposited at the office of the Regional Manager
- Any other manner determined by the Minister

The client is required to annually assess the total quantum of environmental liability for the operation and ensure that financial provision is sufficient to cover the current liability (in the event of premature closure), as well as the end of life liability.

As per Government Legislature, the client is required to ensure full financial cover for the current liability at any point in the life of the operation. Pecuniary provision must be made for the shortfall between the existing trust fund balance and the premature closure or current environmental rehabilitation liability if applicable.

4.13 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 PWP as the case may be.

The amount required to finance the prospecting activities amounts to R48 450.00. Financing will be sourced from the capital expenditure, as planned by the company; this capital will come from the treasury of the company. The company's annual financial statement for 2017/2018 was also submitted to the DMRE for confirmation that the company has funding available to implement the proposed project.

The current expenditure provided for in the PWP does not include the calculated financial provision as included in this Basic Assessment, as these values were not available at the time of the submission of the PWP. The provision for closure must be updated in the PWP prior to the decision by the DMR, should this decision be positive.

4.14 Specific information required by the competent authority

Compliance with the provisions of sections 24(4)(a) and (b) read with section 24 (3) (a) and (7) of the NEMA (Act 107 of 1998). The EIA report must include the:

4.14.1 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.

No specific report was generated for the purposes of the socio-economic conditions. All findings are presented hereafter:

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

The following impacts are regarded as community impacts:

- Potential water and soil pollution resulting from spills and soil erosion

- Noise due to the undertaking of the drilling
- Poor access control resulting in impacts on cattle movement, breeding and grazing practices
- Influx of persons (job seekers) to site as a result of increased activity and the possible resultant increase in opportunistic crime
- Visual impact
- Prospecting will be undertaken by specialist sub-contractors and it is not anticipated that employment opportunities for local and/or regional communities will result from the prospecting activities.

4.14.1.2 Measures to manage potential impacts on communities, individuals or competing land uses in close proximity

- Pollution prevention
 - Mitigation and management measures must be implemented to prevent environmental pollution which may impact environmental resources utilised by communities, landowners and other stakeholders. These mitigation and management measures are discussed in the following section.
- Noise due to the undertaking of the prospecting activities
 - Directly affected, adjacent landowners and game farms in proximity to the site will be informed of the planned dates of drilling. Mitigation alternatives are limited to timing of the drilling which may affect aspects such as hunting activities on game farms.
 - Farms owners must be consulted and informed of activities which may affect cattle being held in restricted holding pens, to prevent possible injury or damage as a result of animals being startled by the noise.
 - Site activities will be conducted during daytime hours (07h00-17h00) to avoid night-time noise disturbances and night-time collisions with fauna.
- Poor access control resulting in impacts on cattle movement, breeding and grazing practices
 - Access control procedures must be agreed on with farm owners and all staff trained on these procedures.
- Influx of persons (job seekers) to site as a result of increased activity and the possible resultant increase in opportunistic crime.

- Casual labour will not be recruited at the site to eliminate the incentive for persons travelling to site seeking employment
- The landowner (all private and state landowners) will be notified of unauthorised persons encountered on site
- If deemed necessary, the South African Police Service will be informed of unauthorised persons encountered on site
- Visual impact
 - Based on visual observation, wet dust suppression will be undertaken to manage dust emissions from vehicle movement and other construction activities as needed. Depending on the need and quantity of water used for wet suppression, a suitable, low environmental impact chemical suppression alternative must be considered to conserve water resources.
 - The portable ablution facilities, vertical water tanks and any other infrastructure should be acquired with a consideration for colour. Natural earth, green and mat black options which will blend in with the surrounding area must be favoured.
 - A waste management system will be implemented and sufficient waste bins will be provided for on-site. A fine system will be implemented to further prohibit littering and poor housekeeping practices.
- Prospecting will be undertaken by specialist sub-contractors and it is not anticipated that employment opportunities for local and/or regional communities will result from the prospecting activities.

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

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

Prospecting will be undertaken in phases; the first phase being a desktop assessment, followed drilling. Based on the outcome of these activities, the desktop study and potential drill sites will be determined. Potential heritage impact such as the graves that were observe on site thus a study will need to be conducted and submitted as part of the final report. It is therefore recommended that the Heritage Impact Assessment be undertaken prior to drilling activities, and that the Heritage Impact Assessment be conducted over identified localised drill sites and

access routes, as opposed to the entire exploration area. This recommendation will be submitted to SAHRA for approval.

5.1 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 G.

PART B: ENVIRONMENTAL MANAGEMENT PROGRAMME REPORT

6 Environmental management programme

6.1 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.

The requirement for the provision of the details and expertise of the EAP are included in PART A, section 1(a).

6.2 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.

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).

6.3 Composite map

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

Please refer to Appendix A for the composite map.

6.4 Description of impact management objectives, including management statements.

6.4.1 Determination of closure objectives

Ensure that the closure objectives are informed by the type of environment described. Each phase of the prospecting activities depends on the success of the previous. Depending on the outcome of the Phase 1 assessment, a drilling programme will be initiated. The location and extent of drill sites can thus not be determined at this stage.

The rehabilitation plan is developed on the basis that the rehabilitated areas are safe, stable, non-polluting and able to support a self-sustaining ecosystem similar to surrounding natural environment. To ensure that the rehabilitation plan is aligned with the closure objective, a high-level risk assessment of the prospecting components has been undertaken to establish the potential risks associated therewith.

The closure objectives include:

- Eliminating any safety risk associated with drill holes and sumps through adequate drill hole capping and backfilling
- Remove and/or rehabilitate all pollution and pollution sources, such as waste materials and spills
- Establishing the rehabilitated area, which is not subject to soil erosion and may result in the loss of soil, degradation of the environment and pollution of surface water resources
- Restore disturbed area and re-vegetate these areas with grass species naturally occurring in the area to restore the ecological function of such areas as far as is practicable

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

The prospecting right will not utilise/abstract groundwater. The operation will use approximately 2500 litres of water which will be brought onto site using a water bowzer.

6.4.3 Has a water use licence has been applied for?

No, Water Use License has not been applied for. However, should it be necessary, on instruction by the Department of Water and Sanitation to submit a Water Use License application, this will be undertaken.

6.4.4 Impacts to be mitigated in their respective phases.

Measures to rehabilitate the environment affected by the undertaking of any listed activity presented in the following table.

Activities	Phase	Size and scale of disturbance	Mitigation measures	Compliance with standards	Time period for implementation
Phase 1: Desktop study					
Data collection and assessment (desktop only)	Planning	Entire property	No mitigation proposed	Identification of the potential coal seams and prospecting activities to occur within sensitive environments such as the pans and river systems, in this event the necessary consultation must be initiated with the DWS.	N/A
Phase 3: Drilling					
Site access	Construction	Less than 16 000m ²	<ol style="list-style-type: none"> 1. Map indicating the location of each drilling site must be submitted to the relevant landowners, and to the DMR and DWS. Upon agreement of the activity location, the applicant can proceed. 2. Use existing track and roads in all instances as far as possible. 3. Where track clearing is necessary, raised blade clearing will be conducted to minimize disturbance and aid rehabilitation efforts and significant vegetation, like trees and large shrubs. 4. Site activities will be conducted during the day from 07h00–17h00 to avoid night time noise disturbances and collisions with fauna. 5. Vehicle speed will be reduced, particularly in highly vegetated areas to avoid deaths by vehicle 	<ul style="list-style-type: none"> • The prospecting activities must be undertaken in line with the approved PWP. • The financial provision required for rehabilitation must be guaranteed before the commencement of prospecting activities. • Activities should stay clear of pans and outside of the 32m river buffer in order to avoid the need to apply for a Section 21 (c) and (i) Water Use License. 	Concurrently with the completion of prospecting activities in an area.

Activities	Phase	Size and scale of disturbance	Mitigation measures	Compliance with standards	Time period for implementation
			<p>impact.</p> <ol style="list-style-type: none"> 6. Where track clearing is necessary, raised blade clearing must be conducted to minimize disturbance and aid in rehabilitation efforts. 7. As part of rehabilitation, all compacted roads and drill pads will be ripped and revegetated. 8. Site activities will be conducted during the day from 07h00-17h00 to avoid night time noise disturbances. 9. Access control procedures must be agreed on with farm owners and trained staff. 10. Prior to the establishment of new access roads, a Heritage Impact Assessment must be undertaken and mitigation and/ or management measures for the protection of such resources must be implemented 		
<p>Site establishment activities including:</p> <ul style="list-style-type: none"> • Vegetation clearing of drill pad area • Topsoil stripping and stockpiling 	Construction	Approximately 4 000m ²	<ol style="list-style-type: none"> 11. The removal of vegetation in the drill pad area will be minimised. 12. If possible, raised blade clearing must be conducted for the entire drill pad to minimise disturbance and aid rehabilitation efforts. 13. The design of the drill fluid sump must incorporate effective fauna egress to avoid entrapment. 	<ul style="list-style-type: none"> • The prospecting activities must be undertaken in line with the approved Prospecting Works Programme. • The applicant must adhere to the NEMA Section 2 Principle and ensure that a cradle to grave approach is followed in terms of waste management 	Concurrently with the completion of prospecting activities in an area.

Activities	Phase	Size and scale of disturbance	Mitigation measures	Compliance with standards	Time period for implementation
<ul style="list-style-type: none"> • Drill pad compaction • Excavation and lining of drill water sump • Erection of temporary site office shaded area, potable ablution facilities and water storage tanks and core bay • Erection of fuel storage tank • Erection of safety barrier • Waste generation and management 			<p>14. A fire emergency procedure will be developed to contain and minimise the destruction of flora and faunal habitat which may result from fire.</p> <p>15. If the drill pad is cleared of all vegetation, lower blade clearing will be undertaken prior to topsoil stripping.</p> <p>16. Topsoil, including the remaining vegetation, will be stripped and stockpiled up-slope of the pad. The stockpile will be shaped to divert stormwater around the drill pad to minimize soil erosion of the pad.</p> <p>17. Where possible, topsoil will be stripped to a depth of 10cm.</p> <p>18. Vegetation removed through lower blade clearing will be mixed with topsoil to increase organic content and to preserve the seed bank in order to aid rehabilitation efforts.</p> <p>19. Topsoil will be stockpiles to a maximum height of 1.5m with a side slope of not more than 1:3.</p> <p>20. Mechanical erosion control methods will be implemented if required. This may include the use of geotextiles to stabilise slopes.</p> <p>21. Based on visual observation, wet dust suppression will be undertaken</p>	<p>and that all activities are undertaken with a precautionary approach. Where impacts may result, a proactive manner should be implemented to ensure that potential negative results are avoided.</p> <ul style="list-style-type: none"> • The applicant must comply with the conditions of the Environmental Authorization at all times. 	

Activities	Phase	Size and scale of disturbance	Mitigation measures	Compliance with standards	Time period for implementation
			<p>to manage dust emissions from vehicle movement and other construction activities as needed.</p> <p>22. Depending on the need and quantity of water used for wet suppression, a suitable, low environmental impact chemical suppression alternative must be considered to conserve water resources.</p> <p>23. The shaded office area, portable ablution facilities, vertical water tanks and any other infrastructure should be acquired with a consideration for color. Natural earth, green and mat black options which will blend in with the surrounding area must be favored.</p> <p>24. Casual labor will not be recruited at the site to eliminate the incentive for persons travelling to site seeking employment.</p> <p>25. The landowner (all private and state land owners) will be notified of unauthorized persons encountered on site.</p> <p>26. If deemed necessary, the South African Police Service will be informed of unauthorized persons encountered on site.</p>		

Activities	Phase	Size and scale of disturbance	Mitigation measures	Compliance with standards	Time period for implementation
			<p>27. Prior to site establishment, a Heritage Impact Assessment must be undertaken and mitigation and/or management measures for the protection of such resources must be implemented.</p>		
<p>Exploration drilling and core sample collection and storage including:</p> <ul style="list-style-type: none"> • Scout and delineation drilling • Drill maintenance and re-fuelling • Core sample collection and storage • Drill fluid collection, storage and evaporation • Waste generation and management 	Operational	Included into the Site establishment size of 18 450m ²	<p>28. Regular inspections of all vehicles must be carried out to ensure that leaks are identified early and rectified.</p> <p>29. A sufficient number of waste receptacles will be provided.</p> <p>30. Waste separation will be undertaken at source and separate receptacles will be provided (i.e. general waste, recyclables and hazardous waste).</p> <p>31. Receptacles will be closed (i.e. fitted with a lockable lid) to eliminate the possibility of access by animals overnight.</p> <p>32. Waste will be removed and disposed of at an appropriately licensed landfill (facility disposal licenses will be verified) and recyclables will be taken to a licensed recycling facility.</p> <p>33. Based on visual observation, wet dust suppression will be undertaken when required to manage dust</p>	<ul style="list-style-type: none"> • The applicant must adhere to the NEMA Section 2 Principle and ensure that a cradle to grave approach is followed in terms of waste management and that all activities are undertaken with a precautionary approach. Where impacts may result, a proactive manner should be implemented to ensure that potential negative results are avoided. • The applicant must comply with the conditions of the Environmental Authorization at all times. 	Concurrently with the completion of prospecting activities in an area.

Activities	Phase	Size and scale of disturbance	Mitigation measures	Compliance with standards	Time period for implementation
			<p>emissions from vehicle movement.</p> <p>34. Depending on the need and quantity of water used for wet suppression, chemical suppression alternatives must be considered to conserve water.</p> <p>35. Visual impact of structures will be mitigated through measures as included in Item 35.</p> <p>36. Visual dust dispersion will be mitigated through measures as included in Item 33.</p> <p>37. Site activities will be conducted during the day between 07h00-17h00 to avoid night time noise disturbances.</p> <p>38. Access control procedures must be agreed on with farm owners.</p> <p>39. Casual labor will not be recruited at the site to eliminate the incentive for persons travelling to site seeking employment.</p> <p>40. The landowner (the Department of Rural Development and Land Reform) will be notified of unauthorized persons encountered on site.</p> <p>41. If deemed necessary, the South African Police Service will be informed of unauthorized persons</p>		

Activities	Phase	Size and scale of disturbance	Mitigation measures	Compliance with standards	Time period for implementation
			<p>encountered on site.</p> <p>42. The prospecting areas must be clearly demarcated.</p> <p>43. No prospecting activities may be undertaken in the pan areas.</p> <p>44. All site plans must indicate the presence of pans.</p>		
<p>Removal of temporary infrastructure including:</p> <ul style="list-style-type: none"> • Removal of temporary site office shaded area, potable ablution facilities, water storage tanks and core bay <p>Borehole capping</p> <p>Drill pad rehabilitation including:</p> <ul style="list-style-type: none"> • Ripping of drill pad and access • road • Re-spreading of stockpiled 	Decommissioning	Included into the site establishment size of 18 450m ²	<p>45. Drill holes must be temporarily plugged immediately after drilling is completed and remain plugged until they are permanently plugged below ground to eliminate risk posed to fauna by open drill holes.</p> <p>46. Drill holes must be permanently capped as soon as possible.</p> <p>47. Based on visual observation, wet dust suppression will be undertaken to manage dust emissions from vehicle movement.</p> <p>48. Depending on the need and quantity of water used for wet suppression, chemical suppression alternatives must be considered to conserve water.</p> <p>49. Access control procedures must be agreed on with farm owners and all staff trained.</p> <p>50. All fuel storage tanks will be emptied prior to removal.</p> <p>51. Drill holes must be permanently</p>	<ul style="list-style-type: none"> • The applicant must adhere to the NEMA Section 2 Principle and ensure that a cradle to grave approach is followed in terms of waste management and that all activities are undertaken with a precautionary approach. Where impacts may result, a proactive manner should be implemented to ensure that potential negative results are avoided. • The applicant must comply with the conditions of the Environmental Authorization at all times. 	Concurrently with the completion of prospecting activities in an area.

Activities	Phase	Size and scale of disturbance	Mitigation measures	Compliance with standards	Time period for implementation
topsoil • Re-vegetation			<p>capped as soon as is practicable to eliminate the risk of groundwater contamination.</p> <p>52. Wastes will be removed and disposed of at an appropriately</p> <p>53. Licensed landfill (facility disposal licenses will be verified) and recyclables will be taken to a licensed recycling facility.</p> <p>54. Mechanical erosion control methods will be implemented if required. This may include the use of geotextiles.</p> <p>55. Re-vegetation will be conducted by hand seeding exposed areas using indigenous grass species as determined by a suitably qualified ecologist.</p> <p>56. Re-vegetation efforts will be monitored every 2nd month for 6 months after initial seeding.</p> <p>57. An effective vegetation cover of 45% must be achieved. Reseeding will be undertaken if this cover has not been achieved after 6 months.</p>		

6.5 Impact management outcomes

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

Activity (whether listed or not)	Potential impact	Aspects affected	Phase (in which impact is anticipated)	Mitigation type	Standard to be achieved
Phase 1: Data acquisition and desktop study					
Data collection and assessment (desktop only)	1. None identified.	N/A	Planning	<ul style="list-style-type: none"> Control potential deviations from the approved PWP through effective implementation of the data acquisition and desktop study. 	Remain within the ambits of the PWP and Environmental Authorization.
Phase 2: Drilling					
Site access	2. Destruction and/or disturbance of on-site fauna and flora.	Loss of fauna and flora	Construction phase	<ul style="list-style-type: none"> Control through the clear delineation of the prospecting area. 	Remain within the ambits of the PWP and Environmental Authorization.
	3. Soil compaction resulting from repeated use of access roads to drill sites.	Loss of soil resources	Construction phase	<ul style="list-style-type: none"> Control through clear delineation of prospecting area. Control through implementation of soil management programme in terms of the correct topsoil removal, stockpiling and rehabilitation practices as per EMP. 	Remain within the ambits of the PWP and Environmental Authorization. Retain topsoil integrity for the reuse in rehabilitation.
	4. Vehicle traffic noise impact affecting cattle and/or wildlife.	Loss of fauna	Construction phase	<ul style="list-style-type: none"> Control through clear delineation of the prospecting area. Control through the limiting of the activities to the day time and the implementation of an open and transparent channel of communication. 	Remain within the ambits of the PWP and Environmental Authorization.
	5. Poor access control	Loss of fauna	Construction	<ul style="list-style-type: none"> Control through clear delineation of 	Remain within the

Activity (whether listed or not)	Potential impact	Aspects affected	Phase (in which impact is anticipated)	Mitigation type	Standard to be achieved
	resulting in impacts on cattle movement, breeding and grazing practices.		phase	the prospecting area. • Control through the limiting of the activities to the day time and the implementation of an open and transparent channel of communication.	ambits of the PWP and Environmental Authorization.
	6. Potential destruction of heritage resources.	Loss of Cultural and/or Heritage Significance	Construction phase	• Control through the clear delineation of the prospecting area.	Comply with the requirements by SAHRA. No damage may result on heritage and cultural significant sites.
Site establishment activities including: • Vegetation clearing of drill pad area • Topsoil stripping and stockpiling • Drill pad compaction • Excavation and lining of drill water sump • Erection of temporary site office shaded area, potable ablution faculties and water storage tanks and core bay • Erection of fuel	7. Destruction and/or disturbance of on-site fauna and flora.	Loss of fauna and flora	Construction phase	• Control through the clear delineation of the prospecting area.	Remain within the ambits of the PWP and Environmental Authorization.
	8. Soil disturbance and topsoil stockpiling resulting in soil compaction and erosion.	Loss of soil resources	Construction phase	• Control through clear delineation of the prospecting area. • Control through the implementation of a soil management programme in terms of the correct topsoil removal, stockpiling and rehabilitation practices as discussed in the EMP.	Remain within the ambits of the PWP and Environmental Authorization. Retain topsoil integrity for the reuse in rehabilitation.
	9. Dust emission resulting from site clearing, soil stripping and construction activities	Dust emissions	Construction phase	• Control through implementation of dust suppression methods, when required. Dust suppression methods could include wet suppression.	Remain within the designated area demarcated for prospecting activities.

Activity (whether listed or not)	Potential impact	Aspects affected	Phase (in which impact is anticipated)	Mitigation type	Standard to be achieved
storage tank • Erection of safety barrier • Waste generation and management	(including vehicle entrained dust).				Remain within the National Environmental Management: Air Quality Act, 2004 Dust Regulation guidelines for rural communities.
	10. Visual Impact affecting visual character and "sense of place".	Loss in aesthetics	Construction phase	<ul style="list-style-type: none"> • Control through clear delineation of the prospecting area. • Control through implementation of environmental induction and toolbox talks, as well as the implementation of a fine system. 	Remain within the ambits of the PWP and Environmental Authorization. No removal of vegetation outside of demarcated areas.
	11. Influx of persons (job seekers) to site as a result of increased activity resulting in increased incidents of theft and opportunistic crime.	Increase in petty crimes	Construction phase	<ul style="list-style-type: none"> • Control through limiting of the activities to the day time and the implementation of an open and transparent channel of communication. 	Maintain a 100% crime free area within the control of the prospecting activities and applicant.
	12. Potential destruction of heritage resources.	Loss of Cultural and/or Heritage Significance	Construction phase	<ul style="list-style-type: none"> • Control through clear delineation of the prospecting area. • Control through implementation of environmental induction and toolbox talks. 	Comply with the requirements by SAHRA. No damage may result on heritage and cultural significant sites.
Exploration drilling and core sample collection	13. Water and soil pollution resulting from disposal	Loss of water resources, loss	Operational phase	<ul style="list-style-type: none"> • Control through clear delineation of the prospecting area. 	Remain within the ambits of the PWP and

Activity (whether listed or not)	Potential impact	Aspects affected	Phase (in which impact is anticipated)	Mitigation type	Standard to be achieved
and storage including: Scout and delineation drilling Drill maintenance and re-fuelling Core sample collection and storage Drill fluid collection, storage and evaporation Waste generation and management	of drill fluids.	of soil resources		<ul style="list-style-type: none"> • Control through implementation of environmental induction and toolbox talks, as well as the implementation of a fine system. • Control through implementation of a soil management programme in terms of the correct topsoil removal, stockpiling and rehabilitation practices as per the EMP. • Control through implementation • Of the NWA GN704 water management principles. 	Environmental Authorization. Retain topsoil integrity for the reuse in rehabilitation.
	14. Continued soil erosion from topsoil stockpile and soil compaction from drill pad platform.	Loss of soil resources	Operational phase	<ul style="list-style-type: none"> • Control through clear delineation of the prospecting area. • Control through implementation of a soil management programme in terms of the correct topsoil removal, stockpiling and rehabilitation practices as per the EMP 	Remain within the ambits of the PWP and Environmental Authorization. Retain topsoil integrity for the reuse in rehabilitation.
	15. Potential water and soil pollution resulting from hydrocarbon spills and drill maintenance activities.	Loss of water resources, loss of soil resources	Operational phase	<ul style="list-style-type: none"> • Control through clear delineation of the prospecting area. • Control through implementation • Of the NWA GN704 water management principles. 	Remain within the ambits of the PWP and Environmental Authorization. Retain topsoil integrity for the reuse in rehabilitation.
	16. Dust emissions from drilling and general site activities (including	Increase in dust emissions	Operational phase	<ul style="list-style-type: none"> • Control to the implementation of dust suppression methods, when this is required. Dust suppression methods 	Remain within the designated area demarcated for

Activity (whether listed or not)	Potential impact	Aspects affected	Phase (in which impact is anticipated)	Mitigation type	Standard to be achieved
	vehicle entrained dust)			could include wet suppression.	prospecting activities. Remain within the NEMA: Air Quality Act, 2004 Dust Regulation guidelines for rural communities.
	17. Visual Impact affecting visual character and "sense of place"	Loss in aesthetic value	Operational phase	<ul style="list-style-type: none"> • Control through clear delineation of the prospecting area. • Control through implementation of the conditions in the EMP. 	Remain within the ambits of the PWP and Environmental Authorization. No removal of vegetation outside of demarcated areas.
	18. Vehicle traffic and drill noise impact affecting wildlife game farm animals.	Loss of fauna	Operational phase	<ul style="list-style-type: none"> • Control through clear delineation of the prospecting area. • Control through implementation of environmental induction and toolbox talks, as well as implementation of a fine system. 	Remain within the ambits of the PWP and Environmental Authorization.
	19. Poor access control resulting in impacts on cattle movement, breeding and grazing practices.	Loss of cattle	Operational phase	<ul style="list-style-type: none"> • Control through clear delineation of the prospecting area. • Control through implementation of environmental induction and toolbox talks, as well as the implementation of a fine system. • Control through limiting of the activities to the day time and the implementation of an open and transparent channel of 	Remain within the ambits of the PWP and Environmental Authorization.

Activity (whether listed or not)	Potential impact	Aspects affected	Phase (in which impact is anticipated)	Mitigation type	Standard to be achieved
	20. Influx of persons (job seekers) to site as a result of increased activity resulting in increased incidents of theft and opportunistic crime.	Increase in petty crimes	Operational phase	communication. • Control through limiting of the activities to the day time and the implementation of an open and transparent channel of communication.	Maintain a 100% crime free area within the control of the prospecting activities and applicant.
	21. Impact on the pans and associated ecosystems in the area.	Loss of sensitive environment, loss of fauna, loss of flora	Operational phase	• Control through clear delineation of the prospecting area. • Control through implementation of environmental induction and toolbox talks, as well as the implementation of a fine system. • Control through limiting of the activities to the day time and the implementation of an open and transparent channel of communication.	Remain within the ambits of the PWP and Environmental Authorization.
Removal of temporary infrastructure including: Removal of temporary site office shaded area, potable ablution facilities, water storage tanks and core bay Borehole capping Drill pad rehabilitation including:	22. Destruction and / or disturbance of on-site fauna.	Loss of sensitive environments, loss of fauna, loss of flora	Decommissioning	• Control through clear delineation of the prospecting area. • Control through implementation of environmental induction and toolbox talks, as well as the implementation of a fine system. • Control through limiting of the activities to the day time and the implementation of an open and transparent channel of	Remain within the ambits of the PWP and Environmental Authorization.

Activity (whether listed or not)	Potential impact	Aspects affected	Phase (in which impact is anticipated)	Mitigation type	Standard to be achieved
Ripping of drill pad and access road Re-spreading of stockpiled topsoil Re-vegetation				communication.	
	23. Dust emissions from decommissioning activities (including vehicle entrained dust).	Increase in dust emissions	Decommissioning	<ul style="list-style-type: none"> Control through implementation of dust suppression methods, when this is required. Dust suppression methods could include wet suppression. 	Remain within the designated area demarcated for prospecting activities. Remain within the NEMA Air Quality Act, 2004 Dust Regulation guidelines for rural communities.
	24. Poor access control resulting in impacts on cattle movement, breeding and grazing practices.	Loss of cattle	Decommissioning	<ul style="list-style-type: none"> Control through clear delineation of the prospecting area. Control through implementation of environmental induction and toolbox talks, as well as the implementation of a fine system. Control through limiting of the activities to the day time and the implementation of an open and transparent channel of communication. 	Remain within the ambits of the PWP and Environmental Authorization.
	25. Potential water and soil pollution resulting from hydrocarbon spills.	Loss of water resources, loss of soil resources	Decommissioning	<ul style="list-style-type: none"> Control through clear delineation of the prospecting area. Control through implementation of environmental induction and 	Remain within the ambits of the PWP and Environmental Authorization.

Activity (whether listed or not)	Potential impact	Aspects affected	Phase (in which impact is anticipated)	Mitigation type	Standard to be achieved
				toolbox talks, as well as the implementation of a fine system. <ul style="list-style-type: none"> • Control through implementation • Of the NWA GN704 water management principles. 	
	26. Soil erosion resulting from the re-spreading of topsoil before vegetation is reestablished.	Loss of soil resources	Decommissioning	<ul style="list-style-type: none"> • Control through clear delineation of the prospecting area. • Control through implementation of environmental induction and toolbox talks, as well as the implementation of a fine system. • Control through implementation of a soil management programme in terms of the correct topsoil removal, stockpiling and rehabilitation practices as per the EMP. 	Remain within the ambits of the PWP and Environmental Authorization.

6.6 Impact management actions

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

ACTIVITY (whether listed or not listed)	POTENTIAL IMPACT	MITIGATION TYPE	TIME PERIOD FOR IMPLEMENTATION	COMPLIANCE WITH STANDARDS
Phase1: Data acquisition and desktop study				

ACTIVITY (whether listed or not listed)	POTENTIAL IMPACT	MITIGATION TYPE	TIME PERIOD FOR IMPLEMENTATION	COMPLIANCE WITH STANDARDS
Data collection and assessment (desktop only)	None identified.	1. No mitigation proposed	N/A	Remain within the ambits of the PWP and Environmental Authorization
Phase1: Drilling				
	Site establishment	2. Site activities will be conducted during daytime hours 07h00 – 17h30 to avoid night time noise disturbances and night time collisions with fauna. 3. Vehicle speed will be reduced, particularly in highly vegetated areas is one way to avoid deaths by vehicle impacts.		
	Soil compaction	4. Where track clearing is necessary, raised blade clearing be conducted to minimize disturbance and aid rehabilitation efforts. 5. As part of rehabilitation, all compacted roads and drill pads will be ripped and re-vegetated.	Concurrently with the completion of prospecting activities	<ul style="list-style-type: none"> • Remain within the ambits of the PWP and Environmental Authorization. • Retain topsoil integrity for the reuse in rehabilitation.
	Vehicle traffic noise impact affecting cattle and/or wildlife.	6. Site activities will be conducted during daytime hours 07h00-17h30 to avoid night time noise disturbances.	Concurrently with the completion of prospecting activities	Remain within the ambits of the PWP and Environmental Authorization.
	Poor access control resulting in impacts on cattle movement, breeding and grazing practices.	7. Access control procedures must be agreed on with farm owners and staff trained.	Concurrently with the completion of prospecting activities	Remain within the ambits of the PWP and Environmental Authorization.

ACTIVITY (whether listed or not listed)	POTENTIAL IMPACT	MITIGATION TYPE	TIME PERIOD FOR IMPLEMENTATION	COMPLIANCE WITH STANDARDS
	Potential destruction of heritage resources.	8. Prior to the establishment of new access roads, a heritage impact assessment must be undertaken and mitigation and / or management measure for the protection of such resources must be implemented	Concurrently with the completion of prospecting activities	<ul style="list-style-type: none"> • Comply with the requirements by SAHRA. • No damage may result on heritage and cultural significant sites.
Site establishment activities including: <ul style="list-style-type: none"> • Vegetation clearing of drill pad area • Topsoil stripping and stockpiling • Drill pad compaction • Excavation and lining of drill water sump • Erection of temporary site office shaded area, potable ablution facilities and water storage tanks and core bay • Erection of fuel storage tank • Erection of safety barrier • Waste generation and management 	Destruction and / or disturbance of on-site fauna and flora.	9. The removal of vegetation within the drill pad area will be minimized. If practicable, raised blade clearing be conducted for the entire drill pad to minimize disturbance and aid rehabilitation efforts. The design of the drill fluid sump must incorporate effective fauna egress to avoid entrapment. 10. A fire emergency procedure will be developed to contain and minimize the destruction of flora and faunal habitat which may result from fire.	Concurrently with the completion of prospecting activities	Remain within the ambits of the PWP and Environmental Authorization.
	Soil disturbance and topsoil stockpiling resulting in soil compaction and erosion.	11. In the event that the drill pad is cleared of all vegetation, lower blade clearing will be undertaken prior to the stripping of topsoil. 12. Topsoil including the remaining vegetation, will be stripped and stockpiled up-slope of the pad. The stockpile will be shaped to divert storm water around the drill pad to minimize soil erosion of the pad. 13. Where practicable topsoil will be stripped to a depth of 10cm.	Concurrently with the completion of prospecting activities	<ul style="list-style-type: none"> • Remain within the ambits of the PWP and Environmental Authorization. • Retain topsoil integrity for the reuse in rehabilitation.

ACTIVITY (whether listed or not listed)	POTENTIAL IMPACT	MITIGATION TYPE	TIME PERIOD FOR IMPLEMENTATION	COMPLIANCE WITH STANDARDS
		<p>14. Vegetation removed through lower blade clearing will be mixed with topsoil to increase organic content and to preserve the seed bank in order to aid rehabilitation efforts.</p> <p>15. Topsoil will be stockpiles to a maximum height of 1.5m with a side slope of not more than 1:3.</p> <p>16. Mechanical erosion control methods will be implemented if required. This may include the use of geotextiles to stabilise slopes.</p>		
	<p>Dust emission resulting from site clearing, soil stripping and construction activities (including vehicle entrained dust).</p>	<p>17. Based on visual observation, wet dust suppression will be undertaken to manage dust emissions from vehicle movement and other construction</p> <p>18. Activities as and when needed.</p> <p>19. Depending on the need and quantity of water used for wet suppression, a suitable, low environmental impact chemical suppression alternative must be considered in order to conserve water resources.</p>	<p>Concurrently with the completion of prospecting activities</p>	<ul style="list-style-type: none"> • Remain within the designated area demarcated for prospecting activities. • Remain within the NEMA Air Quality Act, 2004 Dust Regulation guidelines for rural communities.
	<p>Visual Impact affecting visual character and "sense of place".</p>	<p>20. The shaded office area, portable ablution facilities, vertical water tanks and any other infrastructure should be acquired with a consideration for color. Natural earth, green and mat black options which will blend in with the surrounding area must be favored.</p>	<p>Concurrently with the completion of prospecting activities</p>	<ul style="list-style-type: none"> • Remain within the ambits of the PWP and Environmental Authorization. • No removal of vegetation outside of demarcated areas.
	<p>Influx of persons (job seekers)</p>	<p>21. Casual labor will not be recruited at the site</p>		<p>Maintain a 100% crime</p>

ACTIVITY (whether listed or not listed)	POTENTIAL IMPACT	MITIGATION TYPE	TIME PERIOD FOR IMPLEMENTATION	COMPLIANCE WITH STANDARDS
	to site as a result of increased activity resulting in increased incidents of theft and opportunistic crime.	to eliminate the incentive for persons travelling to site seeking employment. 22. The landowner (all private and state land owners) will be notified of unauthorized persons encountered on site. 23. If deemed necessary, the South African Police Service will be informed of unauthorized persons encountered on site.		free area within the control of the prospecting activities and applicant.
	Potential destruction of heritage resources.	24. Prior to the site establishment, a heritage impact assessment must be undertaken and mitigation and / or management measure for the protection of such resources must be implemented	Concurrently with the completion of prospecting activities	<ul style="list-style-type: none"> • Comply with the requirements by SAHRA. • No damage may result on heritage and cultural significant sites.
Exploration drilling and core sample collection and storage including: <ul style="list-style-type: none"> • Scout and delineation drilling • Drill maintenance and re-fuelling • Core sample collection and storage • Drill fluid collection, storage and evaporation • Waste generation and management 	Water and soil pollution resulting from disposal of drill fluids.	25. A sump will be constructed with a sufficient capacity to receive drill fluids and allow for evaporation 26. The sump will be constructed to divert storm water away and / or around the sump to avoid clean stormwater inflow.	Concurrently with the completion of prospecting activities	<ul style="list-style-type: none"> • Remain within the ambits of the PWP and Environmental Authorization. • Retain topsoil integrity for the reuse in rehabilitation.
	Continued soil erosion from topsoil stockpile and soil	27. In the event that raise blade clearing is not undertaken, and the drill pad is cleared,	Concurrently with the completion of	<ul style="list-style-type: none"> • Remain within the ambits of the PWP and

ACTIVITY (whether listed or not listed)	POTENTIAL IMPACT	MITIGATION TYPE	TIME PERIOD FOR IMPLEMENTATION	COMPLIANCE WITH STANDARDS
	compaction from drill pad platform.	<p>topsoil will be stockpiles to a maximum height of 1.5m with a side slope of not more than 1:3.</p> <p>28. The topsoil stockpile will be shaped to divert storm water around the drill pad to minimize soil erosion of the pad.</p> <p>29. Management efforts through the use of mechanical erosion control methods will be implemented if required. This may include the use of geotextiles.</p>	prospecting activities	<p>Environmental Authorization.</p> <ul style="list-style-type: none"> • Retain topsoil integrity for the reuse in rehabilitation.
	Potential water and soil pollution resulting from hydrocarbon spills and drill maintenance activities.	<p>30. Fuel storage tanks will have a secondary containment structure with a capacity of 110% of the total tank capacity.</p> <p>31. Oils and lubricant will be stored in secondary containment structures.</p> <p>32. Where practicable, vehicle maintenance will be undertaken off-site.</p> <p>33. If vehicle maintenance is done on-site (like breakdown maintenance), drip trays and/or UPVC sheets will be used to prevent spills and leaks onto the soil.</p> <p>34. Unused machinery must be completely drained of oil and other hydrocarbons to ensure that leaks do not develop.</p> <p>35. Regular inspections of all vehicles must be carried out to ensure that all leaks are identified early and rectified.</p> <p>36. A sufficient number of waste receptacles will be provided.</p>	Concurrently with the completion of prospecting activities	<ul style="list-style-type: none"> • Remain within the ambits of the PWP and Environmental Authorization. • Retain topsoil integrity for the reuse in rehabilitation.

ACTIVITY (whether listed or not listed)	POTENTIAL IMPACT	MITIGATION TYPE	TIME PERIOD FOR IMPLEMENTATION	COMPLIANCE WITH STANDARDS
		<p>37. Waste separation will be undertaken at source and separate receptacles will be provided (general waste, recyclables and hazardous waste).</p> <p>38. Receptacles will be closed (i.e. fitted with a lockable lid) to eliminate the possibility of access by animals overnight.</p> <p>39. Wastes will be removed and disposed of at an appropriately licensed landfill (facility disposal licenses will be verified) and recyclables will be taken to a licensed recycling facility.</p>		
	Dust emissions from drilling and general site activities (including vehicle entrained dust)	<p>40. Based on visual observation wet dust suppression will be undertaken when required to manage dust emissions from vehicle movement.</p> <p>41. Depending on the need and quantity of water used for wet suppression, chemical suppression alternatives must be considered in order to conserve water resources.</p>	Concurrently with the completion of prospecting activities	<ul style="list-style-type: none"> • Remain within the designated area demarcated for prospecting activities. • Remain within the NEMA Air Quality Act, 2004 Dust Regulation guidelines for rural communities.
	Visual Impact affecting visual character and "sense of place"	<p>42. Visual impact of structures will be mitigated through measures as included in Item 35.</p> <p>43. Visual dust dispersion will be mitigated through measures as included in Item 33.</p>	Concurrently with the completion of prospecting activities	<ul style="list-style-type: none"> • Remain within the ambits of the PWP and Environmental Authorization. • No removal of vegetation outside of demarcated areas.

ACTIVITY (whether listed or not listed)	POTENTIAL IMPACT	MITIGATION TYPE	TIME PERIOD FOR IMPLEMENTATION	COMPLIANCE WITH STANDARDS
	Vehicle traffic and drill noise impact affecting wildlife game farm animals.	44. Site activities will be conducted during daytime hours 07h00-17h00 to avoid night time noise disturbances.	Concurrently with the completion of prospecting activities	Remain within the ambits of the PWP and Environmental Authorization.
	Poor access control resulting in impacts on cattle movement, breeding and grazing practices	45. Access control procedures must be agreed on with farm owners.	Concurrently with the completion of prospecting activities	Remain within the ambits of the PWP and Environmental Authorization.
	Influx of persons (job seekers) to site as a result of increased activity resulting in increased incidents of theft and opportunistic crime.	46. Casual labor will not be recruited at the site to eliminate the incentive for persons travelling to site seeking employment. 47. The landowner (Department of Rural Development and Land Reform) will be notified of unauthorized persons encountered on site. 48. If deemed necessary, the South African Police Service will be informed of unauthorized persons encountered on site.	Concurrently with the completion of prospecting activities	Maintain a 100% crime free area within the control of the prospecting activities and applicant.
	Impact on the pans and associated ecosystems in the area.	49. The prospecting areas must be clearly demarcated. 50. No prospecting activities may be undertaken within the pan areas. 51. All site plans must indicate the presence of pans.	Concurrently with the completion of prospecting activities	Remain within the ambits of the PWP and Environmental Authorization.
Removal of temporary infrastructure including: • Removal of temporary site office shaded area, potable ablution	Destruction and / or disturbance of on-site fauna.	52. Drill holes must be temporarily plugged immediately after drilling is completed and remain plugged until they are permanently plugged below ground to eliminate the risk posed to fauna by open drill holes.	Concurrently with the completion of prospecting activities	Remain within the ambits of the PWP and Environmental Authorization.

ACTIVITY (whether listed or not listed)	POTENTIAL IMPACT	MITIGATION TYPE	TIME PERIOD FOR IMPLEMENTATION	COMPLIANCE WITH STANDARDS
faculties, water storage tanks and core bay • Borehole capping Drill pad rehabilitation including: • Ripping of drill pad and access road • Re-spreading of stockpiled topsoil • Re-vegetation		53. Drill holes must be permanently capped as soon as is practicable		
	Dust emissions from decommissioning activities (including vehicle entrained dust).	54. Based on visual observation wet dust suppression will be undertaken to manage dust emissions from vehicle movement. 55. Depending on the need and quantity of water used for wet suppression, chemical suppression alternatives must be considered in order to conserve water resources.	Concurrently with the completion of prospecting activities	<ul style="list-style-type: none"> • Remain within the designated area demarcated for prospecting activities. • Remain within the NEMA Air Quality Act, 2004 Dust Regulation guidelines for rural communities.
	Poor access control resulting in impacts on cattle movement, breeding and grazing practices.	56. Access control procedures must be agreed on with farm owners and all staff trained.	Concurrently with the completion of prospecting activities	Remain within the ambits of the PWP and Environmental Authorization.
	Potential water and soil pollution resulting from hydrocarbon spills.	57. All fuel storage tanks will be emptied prior to removal. 58. Drill holes must be permanently capped as soon as is practicable to eliminate the risk of groundwater contamination. 59. Wastes will be removed and disposed of at	Concurrently with the completion of prospecting activities	Remain within the ambits of the PWP and Environmental Authorization.

ACTIVITY (whether listed or not listed)	POTENTIAL IMPACT	MITIGATION TYPE	TIME PERIOD FOR IMPLEMENTATION	COMPLIANCE WITH STANDARDS
		<p>an appropriately licensed landfill (facility disposal licenses will be verified) and recyclables will be taken to a licensed recycling facility.</p>		
	<p>Soil erosion resulting from the re-spreading of topsoil before vegetation is reestablished.</p>	<p>60. Mechanical erosion control methods will be implemented if required. This may include the use of geotextiles.</p> <p>61. Re-vegetation will be conducted through hand seeding exposed areas using indigenous grass species as determined by a suitably qualified ecologist.</p> <p>62. Re-vegetation efforts will be monitored every 2nd month for 6 months after initial seeding.</p> <p>63. An effective vegetation cover of 45% must be achieved. Re-seeding will be undertaken if this cover has not been achieved after 6 months.</p>	<p>Concurrently with the completion of prospecting activities</p>	<p>Remain within the ambits of the PWP and Environmental Authorization.</p>

7 Determination of the amount of financial provision

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

Each phase of the prospecting activities depends on the success of the previous. Depending on the outcome of the Phase 1 assessment, a drilling programme will be initiated. The location and extent of the drill sites cannot be determined at this stage.

The rehabilitation plan is developed on the basis that the rehabilitated areas are safe, stable, non-polluting and able to support a self-sustaining ecosystem similar to surrounding natural environment. To ensure that the rehabilitation plan is aligned with the closure objective, a high-level risk assessment of the prospecting components has been undertaken to establish the potential risks associated therewith.

The closure objectives are to:

- Eliminate any safety risk associated with drill holes and sumps through adequate drill hole capping and backfilling
- Remove and/or rehabilitate all pollution and pollution sources such as waste materials and spills
- To establish rehabilitated area which is not subject to soil erosion which may result in the loss of soil, degradation of the environment and cause pollution of surface water resources
- Restore disturbed area and re-vegetate these areas with grass species naturally occurring in the area to restore the ecological function of such areas as far as is practicable

7.1 Consultation with landowners

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

This Basic Assessment Report and Environmental Management Plan will be made available to each registered stakeholder for review and comment. All comments will be captured in the issues and response section and will be included into the final report.

7.2 Rehabilitation plan

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

Each phase of the prospecting activities depends on the success of the previous. Depending on the outcome of the Phase 1 assessment, an airborne/ground geophysics survey and/or loam sampling programme will be initiated. Targets that have been prioritised through detailed anomaly-specific loam sampling will be tested by initial drilling. The location and extent of soil

sampling and drill sites cannot be determined at this stage. Prospect activity mapping could thus not be undertaken.

Due to the nature of the activities, the impacts will be limited and of short duration. The management plan is provided in such a manner as to ensure concurrent rehabilitation. The areas for drilling purposes will be the main area experiencing impacts. In this event the activities will be temporary in nature, and a detailed management plan has been provided to address potential impacts associated with these activities. The only rehabilitation that will specifically be required is borehole capping and revegetation.

7.2.1 Borehole capping

Drill holes must be permanently capped as soon as is practicable.

7.2.2 Re-vegetation

It is recommended that a standard commercial fertilizer high in the standard elements is added to the soil before re-vegetation, at a rate of 10-20kg/ha (application rate to be confirmed based on input from a suitably qualified specialist). The fertilizer should be added to the soil in a slow release granular form. A suitably qualified ecologist will be appointed to determine the appropriate veld grass mix for hand seeding. Re-vegetation efforts will be monitored every second month for a period of 6 months after initial seeding. An effective vegetation covers of 45% must be achieved. Re-seeding will be undertaken if this cover has not been achieved after 6 months.

7.3 Compatibility of rehabilitation plan with closure objectives

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

Due to the nature of the activities, the impacts will be limited and of short duration. The management plan is provided in such a manner as to ensure concurrent rehabilitation. The areas for drilling purposes will be the main area experiencing impacts. In this event the activities will be temporary in nature, and a detailed management plan has been provided to address potential impacts associated with these activities.

7.4 Quantum of financial provision required

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

The financial provision for the environmental rehabilitation and closure of any mine/prospecting and its associated operations forms an integral part of the MPRDA. Sections 41(1), 41(2), 41(3) and 45 of the MPRDA deal with the financial provision for rehabilitation and closure. During 2012 the DMR made updated rates available for the calculation of the closure costs, where contractor's costs are not available these are used in assessments.

The closure costs are as follows:

Sub-Total 1:	R 37 439.93 (excluding VAT)
Sub-Total 2:	R 45 676.72 (excluding VAT)
Sub-Total 3 (clean closure cost):	R 48 450 (including VAT))

7.5 Financial provision as determined

Confirm that the financial provision will be provided as determined.

The prospecting activities will require R48 450.00. Financing will be sourced from the capital expenditure as planned by the company; this capital will come from the treasury of the company. As part of the complete PWP, the applicant will provided the annual financial statement for the current financial year.

It should be noted that the current expenditure provided for in the PWP does not included the calculated Financial Provision as included in this Basic Assessment, as these values were not available at the time of the submission of the PWP. The provision for closure should be included in the PWP prior the decision by the DMR should this decision be positive.

7.6 Compliance monitoring mechanisms

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

- Monitoring of Impact Management Actions
- Monitoring and reporting frequency
- Responsible persons
- Time period for implementing impact management actions
- Mechanism 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
Phase 1: Data acquisition and desktop study	None identified.	None	N/A	N/A
Phase 2: Target generation and ground trothing	Noise impacts resulting from site fly-overs affecting cattle and game farm animals	Adjacent landowners will be informed of the planned dates of the Airborne geophysics survey and a grievance mechanism will be made available.	Prospecting Manager	<ul style="list-style-type: none"> • Once-off upfront consultation with affected parties. • As required as grievances are received. • Consultation to be signed off by Environmental Management. • All grievances to be signed-off by Environmental Management. • All corrective action and close out of grievances to be signed-off by Environmental Management. • Proof of consultation to be submitted to the Department of Mineral Resources prior to airborne survey is conducted. • Record of grievances, corrective action taken and close out to be submitted to the Department of Mineral resources at

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
				the end of the project phase.
Phase 3: Ground geophysics and soil sampling	All site activities to be undertaken must be communicated with directly affected landowners.	As soon as the extent of site activities are known. These must be communicated with directly affected landowners. The following procedures must developed in conjunction with these landowners: Emergency Preparedness and Response Plan; and Access control procedures and requirements.	Prospecting manager	<ul style="list-style-type: none"> • Confirmation of the extent of site activities to be submitted to the Department of Mineral Resources prior to such activities been undertaken. • Proof of consultation with directly affected landowners and the outcome of such consultation to be submitted to the Department of Mineral Resources. • Continuous monitoring of compliance with the access control procedure will be undertaken.
Phase III: Exploratory Drilling	Visual inspection of soil erosion and / or compaction	All exposed areas, access roads, the drill pad and soil stockpiles must be monitored for erosion on a regular basis and specifically after rain events.	Prospecting Manager Contractor	<ul style="list-style-type: none"> • Weekly and after rain events • Monthly monitoring reports to be signed-off by the Environmental Manager. • Corrective action to be confirmed and signed-off by the Environmental Manager. • Consolidated monthly monitoring reports (including the corrective action taken) to be submitted to the Department of Mineral Resources.
	Dust generated will be assessed through visual	If dust outfall is excessive and regarded to affect any sensitive	Prospecting Manager Contractor	<ul style="list-style-type: none"> • On-going • Monthly monitoring reports to be

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
	observation	receptors a monitoring programme must be initiated based on the input of a suitably qualified air quality specialist.		<p>signed-off by the Environmental Manager.</p> <ul style="list-style-type: none"> • Corrective action to be confirmed and signed-off by the Environmental Manager. • Consolidated monthly monitoring reports (including the corrective action taken) to be submitted to the Department of Mineral Resources.
	Visual inspection of biodiversity impacts and the occurrence of invader species	Visual inspection of clearing activities and other possible secondary impact on biodiversity will be undertaken. The introduction of alien invasive vegetation species will be determined.	Prospecting Manager Contractor	<ul style="list-style-type: none"> • Once-off during clearing activities • Weekly inspection of secondary impacts • Monthly monitoring reports to be signed-off by the Environmental Manager. • Corrective action to be confirmed and signed-off by the Environmental Manager. • Consolidated monthly monitoring reports (including the corrective action taken) to be submitted to the Department of Mineral Resources.
	Visual inspection of pollution incidents, the integrity of secondary containment structures and waste management	All secondary containment structure will be inspected on a regular basis to confirm the integrity thereof and to identify potential leaks. All spill incidents will be identified, and corrective action taken in accordance with an established spill response procedure.	Prospecting Manager Contractor	<ul style="list-style-type: none"> • Monthly monitoring reports to be signed-off by the Environmental Manager. • Corrective action to be confirmed and signed-off by the Environmental Manager. • Consolidated monthly monitoring reports (including the corrective action

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
		Waste management practices will be monitored to prevent contamination and littering.		taken) to be submitted to the Department of Mineral Resources. <ul style="list-style-type: none"> • Incident reporting will be undertaken as required in terms of the relevant legislation including, but not limited to, the Mineral and Petroleum Resources Development Act 28 of 2002; and National Water Act 36 of 1998.
<ul style="list-style-type: none"> • Post-closure monitoring 	<ul style="list-style-type: none"> • Follow up inspections and monitoring of rehabilitation 	<ul style="list-style-type: none"> • Inspection of all rehabilitated areas to assess whether any soil erosion is occurring and implement corrective action where required. • Confirm that the set target of 45% cover for all re-vegetated areas have been achieved after a period of 6 months and re-seed where required • Identify any areas of subsidence around drill holes and undertake additional backfilling if required. 	Prospecting Manager	<ul style="list-style-type: none"> • Monthly for a period of 6 months after rehabilitation activities are concluded. • Monthly monitoring reports to be signed-off by the Environmental Manager. • Corrective action to be confirmed and signed-off by the Environmental Manager. • Consolidated monthly monitoring reports (including the corrective action taken) to be submitted to the Department of Mineral Resources. • Final impact and risk assessment report for site closure to be submitted to the DMR for approval.

7.7 Frequency of performance assessment submission

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

Annual performance assessments must be undertaken on the EMP. These reports must include the financial provision assessment. The reports should be submitted to the DMR.

7.8 Environmental Awareness Plan

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

An Environmental Awareness and Risk Assessment Schedule have been developed and is outline in Table 18. The purpose of this schedule is to ensure that employees are not only trained but that the principles are continuously reenforced.

Table 18: Environmental training and awareness schedule

Frequency	Time allocation	Objective
Induction (all staff and workers)	1-hour training on environmental awareness training as part of site induction	<ul style="list-style-type: none"> • Develop an understanding of what is meant by the natural environmental and social environment and establish a common language as it relates to environmental, health, safety and community aspects. • Establish a basic knowledge of the environmental legal framework and consequences of non-compliance. • Clarify the content and required actions for the implementation of the Environmental Management Plan. • Confirm the spatial extent of areas regarded as sensitive and clarify restrictions. • Provide a detailed understanding of the definition, the method for identification and required response to emergency incidents.
Monthly Awareness Talks (all staff and workers)	30-minute awareness talks	Based on actual identified risks and incidents (if occurred) reinforce legal requirements, appropriate responses and measures for the adaptation of mitigation and/or management practices.
Risk Assessments (supervisor and workers involved in task)	Daily task-based risk assessment	Establish an understanding of the risks associated with a specific task and the required mitigation and management measures daily as part of daily tool box talks.

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

As prescribed in Table 24, Task / Issue Based Risk Assessments must be undertaken with all worker involved in the specific task in order to establish an understanding of the risks associated with a specific task and the required mitigation and management measures.

8.1 Environmental Awareness Training Content – Induction Training

The following environmental awareness training will be provided to all staff and workers who will be involved in prospecting activities.

- Description of the approved prospecting activities and content of the prospecting right
- Overview of the applicable legislation and regulations as it relates to environmental, health, safety and community including (but not limited to):
 - General Environmental Legal Principles and Requirements
 - Air Quality Management
 - Water and Wastewater Management
 - Hazardous Substances
 - Non-Mining-Related Waste Management
 - The Appropriate Remediation Strategies & Deteriorated Water Resources
 - Biodiversity
 - Weeds and Invader Plants
 - Rehabilitation
 - Contractors and Tenants
 - Energy & Conservation
 - Heritage Resources
 - General Health and Safety Matters
 - Basic Conditions of Employment
 - Compensation for Occupational Injuries and Diseases
 - General Mine Health and Safety Matters
 - Smoking in the Workplace
 - Noise & Hearing Conservation
 - Handling, Storage and use of Hazardous Substances
 - Weapons and Firearms
- Content and implementation of the approved Environmental Management Plan
 - Allocated responsibilities and functions
 - Management and mitigation measures
 - Identification of risks and requirements adaptation
- Sensitive environments and features
 - Description of environmentally sensitive areas and features
 - Prohibitions as it relates to activities in or in proximity to such areas
- Emergency situations and remediation



- Methodology for the identify areas where accidents and emergency situations may occur, communities and individuals that may be impacted
- An overview of the response procedures,
- Equipment and resources
- Designate of responsibilities
- Communication, including communication with potentially Affected Communities
- Training schedule to ensure effective response.

8.2 Development of procedures and checklists

The following procedures will be developed, and all staff and workers will be adequately trained on the content and implementation thereof.

8.2.1 Emergency preparedness and response

The procedure will be developed to specifically include risk identification, preparedness, response measures and reporting. The procedure will specifically include spill and fire risk, preparedness and response measures. The appropriate emergency control centres (fire department, hospitals) will be identified and the contact numbers obtained and made available on site. The procedure must be developed in consultation with all potentially affected landowners. In the event that risks are identified which may affected adjacent landowners (or other persons), the procedure will include the appropriate communication strategy to inform such persons and provide response measures to minimise the impact.

8.2.2 Incident reporting procedure

Incident reporting will be undertaken in accordance with an established incident reporting procedure to (including but not limited to):

- Provide details of the responsible person including any person who: (i) is responsible for the incident; (ii) owns any hazardous substance involved in the incident; or (iii) was in control when the incident occurred
- Provide details of the incident (time, date, location)
- The details of the cause of the incident
- Identify the aspects of the environment impacted
- The details corrective action taken
- The identification of any potential residual or secondary risks that must be monitored and corrected or managed



8.2.3 Environmental and social audit checklist

An environmental audit checklist will be established to include the environmental and social mitigation and management measures as developed and approved as part of the Environmental Management Plan. Non-conformances will be identified and corrective action taken where required.

8.3 Specific information required by the Competent Authority

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

No specific information was required by the Competent Authority.



9 UNDERTAKING

The EAP herewith confirms:

- The correctness of the information provided in the reports
- The inclusion of comments and inputs from stakeholders and I&APs
- The inclusion of inputs and recommendations from the specialist reports where relevant
- 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)

Singo Consulting (Pty) Ltd

Name of company

12/11/2020

Date



10 Undertaking by the client

Herewith I, the person whose name and identity number is stated below, confirm that I am the person authorised to act as representative of the applicant in terms of the resolution submitted with the application, and confirm that the above report comprises EIA and EMP compiled in accordance with the guideline on the Departments official website and the directive in terms of sections 29 and 39 (5) in that regard, and the applicant undertakes to execute the Environmental management plan as proposed.

Full names and surname	Ariel Mahlatji
Identity number	8604125678087
Designation	Director
Signature	
Date	

-END-



Appendix A: Specialist Reports

1. Hydrological Study



BASIC PROSPECTING RIGHT APPLICATION FOR HYDROLOGICAL STUDY



ATOK MINING HOUSE (PTY)

Prospecting Right Application for Coal on Portion 1, 2, 3, 6, 7, 8, 9, 13-25, 27-31, 35, 36, 40, 42 and Remainder of the Farm Hlobane 506 HT, Erven 2-21, 23-26, 63, 66 & 67 of the Hlobane Township HT (Town code: N0ht0683), Portions 5, 9, 15, remainder of 16, 18 & 20-22 of the farm Vaalbank No. 38 HU and Erven 0-16 of the Vaalbank Township HU (Town Code: N0hu0684) situated under the Magisterial District of Vryheid, KwaZulu- Natal province.

DMRE REF NO: KZN 30/5/1/1/2/10926 PR

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2020

PROJECT INFORMATION

Report type Hydrological Report

Project Title Prospecting Right Application for Coal on Portion 1, 2, 3, 6, 7, 8, 9, 13-25, 27-31, 32, 35, 36, 40, 42 and Remainder of the Farm Hlobane 506 HT, Erven 2-21, 23-26, 28-63, 66 & 67 of the Hlobane Township HT (Town code: N0ht0683), Portions 5, 9, 12-15, remainder of 16, 18 & 20-22 of the farm Vaalbank No. 38 HU and Erven 0-16 of the Vaalbank Township HU (Town Code: N0hu0684) situated under the Magisterial District of Vryheid, KwaZulu-Natal province.

Mineral Coal

Site Location Magisterial District of Vryheid, KwaZulu-Natal Province.

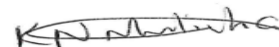
Compiled for Atok Mining House (Pty) Ltd

Electronic Signatures

Lead Author Talelani A Singo (Land and Water Division Lead)



Author Hulisani N Mulivha (Junior Hydrologist)



Assessed by Talelani A Singo

Date 03 November 2020

DECLARATION:

This is a legally binding document and many of the actions and recommendations remain the responsibility of the client (as the owner/lessee of the property).

Singo Consulting (Pty) Ltd and the authors of this report are protected from any legal action, possible loss, damage or liability resulting from the content of this report. This document is considered confidential and remains so unless requested by a court of law. Please consider the environment and only print this document if necessary.

The findings, results, observations, conclusions and recommendations given in this report are based on the author's best scientific and professional knowledge, as well as available information. Information utilized and contained in this report is based on data/information supplied to Singo Consulting (Pty) Ltd by the client and other external sources (including previous site investigation data and external specialist studies).

Singo Consulting (Pty) Ltd exercises due care and diligence in rendering services and preparing documents, however it has been assumed that the information provided to Singo Consulting (Pty) Ltd is correct and as such the accuracy of the conclusions made are reliant on the accuracy and completeness of the data supplied.

No responsibility is accepted by Singo Consulting (Pty) Ltd for incomplete or inaccurate data supplied by the client and/or other external sources. Opinions expressed in this report apply to the site conditions and features that existed at the time of the start of the investigations and the production of this document. For this reason Singo Consulting (Pty) Ltd accepts no liability, and the client by receiving and therefore accepting this document, indemnifies Singo Consulting (Pty) Ltd and its directors against all actions, claims, demands, losses, liabilities, costs, damages and expenses arising from or in connection with the services rendered, directly or indirectly.

The document may not be altered or added to without the prior written consent of the author. This also refers to electronic copies of the report which are supplied for the purposes of inclusion as part of other reports.



EXECUTIVE SUMMARY

Singo Consulting (Pty) Ltd was appointed by Atok Mining House (Pty) Ltd to conduct a Hydrological study for the Prospecting Right Application which has been submitted for the prospecting of coal within Portion 1, 2, 3, 6, 7, 8, 9, 13-25, 27-31, 32, 35, 36, 40, 42 and Remainder of the Farm Hlobane 506 HT, Erven 2-21, 23-26, 28-63, 66 & 67 of the Hlobane Township HT (Town code: NOht0683), Portions 5, 9, 12-15, remainder of 16, 18 & 20-22 of the farm Vaalbank No. 38 HU and Erven 0-16 of the Vaalbank Township HU (Town Code: NOhu0684) situated under the Magisterial District of Vryheid, KwaZulu- Natal province.

Terms of reference

This project involves the compilation of a specialist surface water report for the proposed mine. This includes the following aspects:

- ❖ Baseline assessment.
- ❖ Impact assessment and mitigation measures.

Environmental Legislation - DWAF Government Notice 704

Government Notice 704 (Government Gazette 20118 of June 1999) (hereafter referred to as GN 704), was established to provide regulations on the use of water for mining and related activities aimed at the protection of water resources. Whilst the proposed ferrochrome smelter is not a mine, it is a related activity; more specifically it is a mineral processing facility, as listed under GN 704. Therefore, the proposed infrastructure is designed in accordance with GN 704, and the following design principles are applicable:

- ❖ *Condition 4* which defines the area in which, mine workings or associated structures may be located, with reference to a watercourse and associated flooding. Any residue deposit, dam, reservoir together with any associated structure or any other facility should be situated outside the 1:100-year flood-line. Any underground or opencast mining, prospecting or any other operation or activity should be situated or undertaken outside of the 1:50 year flood-line. Where the flood-line is less than 100 metres away from the watercourse, then a minimum watercourse buffer distance of 100 metres is required for infrastructure and activities.



- ❖ *Condition 5* which indicates that no residue or substance which causes or is likely to cause pollution of a water resource may be used in the construction of any dams, impoundments or embankments or any other infrastructure which may cause pollution of a water resource.
- ❖ *Condition 6* which describes the capacity requirements of clean and dirty water systems. Clean and dirty water systems must be kept separate and must be designed, constructed, maintained and operated to ensure conveyance of flows of a 1:50 year recurrence event. Clean and dirty water systems should not spill into each other more frequently than once in 50 years. Any dirty water dams should have a minimum freeboard of 0.8m above full supply level.
- ❖ *Condition 7* which describes the measures which must be taken to protect water resources. All dirty water or substances which may cause pollution should be prevented from entering a water resource (by spillage, seepage, erosion etc) and ensure that water used in any process is recycled as far as practicable.
- ❖ *Condition 10* which describes the requirements for operations involving extraction of material from the channel of a watercourse. Measures should be taken to prevent impacts on the stability of the watercourse, prevent scour and erosion resulting from operations, prevent damage to in-stream habitat through erosion, sedimentation, alteration of vegetation and flow characteristics, construct treatment facilities to treat water before returning it to the watercourse, and implement control measures to prevent pollution by oil, grease, fuel and chemicals.

METHODOLOGY

A desktop study was conducted to evaluate current and previous land uses to assess the implications for hydrology contaminations.

Software employed in the study includes:

- ❖ QGIS 2.14.9 for Geographic Information Systems (GIS) work and
- ❖ Design Rainfall Estimation package (Smithers and Schulze, 2003) for 24 design rainfall depth;

A site visit was conducted in order to obtain information on normal flow rates, river health and potential factors that could influence hydrological modelling of flows.



The likely surface water impact associated with the planned mining development was identified and possible mitigation measures were recommended to reduce the impacts thereof.

MONITORING PLAN

The objective of the surface water management and monitoring measures is to minimise the impact on surface water dependent systems to be retained from disturbance within and adjacent to controlled sites; to maintain hydrological regimes of surface water so that the environmental values are protected and , to check compliance with license requirements and for reporting purposes.

CONCLUSION

- ❖ It can be concluded that the coal prospecting will cause minimal impact on the water resources. The prospecting right activity should take place during dry seasons where the water percentages in the surrounding streams and wetlands are very low.
- ❖ Drilling activity should not be conducted near these water resources, the exploration geologists will be advised to drill and sample away from rivers and wetlands on site.
- ❖ Extreme caution should be taken during prospecting, owing to the perennial rivers, non-perennial rivers and the wetlands existing within the project area. No washing of any mechanical equipment or vehicles will be allowed near the water resources.
- ❖ All the wetlands and non-perennial streams will be buffered as “no go” area preferably a 1 km buffer will apply.



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ACRONYMS AND ABBREVIATIONS

Acronyms / Abbreviations	Definition
AMSL	Above Mean Sea Level
DDF	Depth-Duration-Frequency
DWA	Department of Water Affairs
MAP	Mean Annual Precipitation
SANRAL	South African National Road Agency
SAWS	South African Weather Services



1 INTRODUCTION

Singo Consulting (Pty) Ltd was appointed by Atok Mining House (Pty) Ltd to conduct a Hydrological study for the Prospecting Right Application which has been submitted for the prospecting of coal within Portion 1, 2, 3, 6, 7, 8, 9, 13-25, 27-31, 32, 35, 36, 40, 42 and Remainder of the Farm Hlobane 506 HT, Erven 2-21, 23-26, 28-63, 66 & 67 of the Hlobane Township HT (Town code: N0ht0683), Portions 5, 9, 12-15, remainder of 16, 18 & 20-22 of the farm Vaalbank 38 HU and Erven 0-16 of the Vaalbank Township HU (Town Code: N0hu0684) situated under the Magisterial District of Vryheid, KwaZulu- Natal province.

This report is not planned to be an intensive description of the proposed project; however, it is conducted as a specialist surface water study providing the surface water information required for the environmental authorisations for the proposed prospecting project.

1.1 OBJECTIVES AND AIMS OF THE STUDY

The overall objective of this desktop hydrological study entails to:

- ❖ Identify the potential for surface contamination within the study area and the nature of likely contaminants to be encountered where coal prospecting will take place;
- ❖ Gathering all the relevant information and recommendations in a hydrological report, prepared in such a way that it can be included into the Environmental Management Program document.

1.2 LOCALITY

A locality map created by QGIS software illustrates detailed and comprehensive information regarding the surrounding settlements and infrastructure of the proposed project area. The applied project is located situated within Hlobane, Vaalbank and Pumulanga and approximately 2.73 km south of Thukuzele and roughly 15.70 km north west of Vryheid, within the AbaQulisi Local Municipality.



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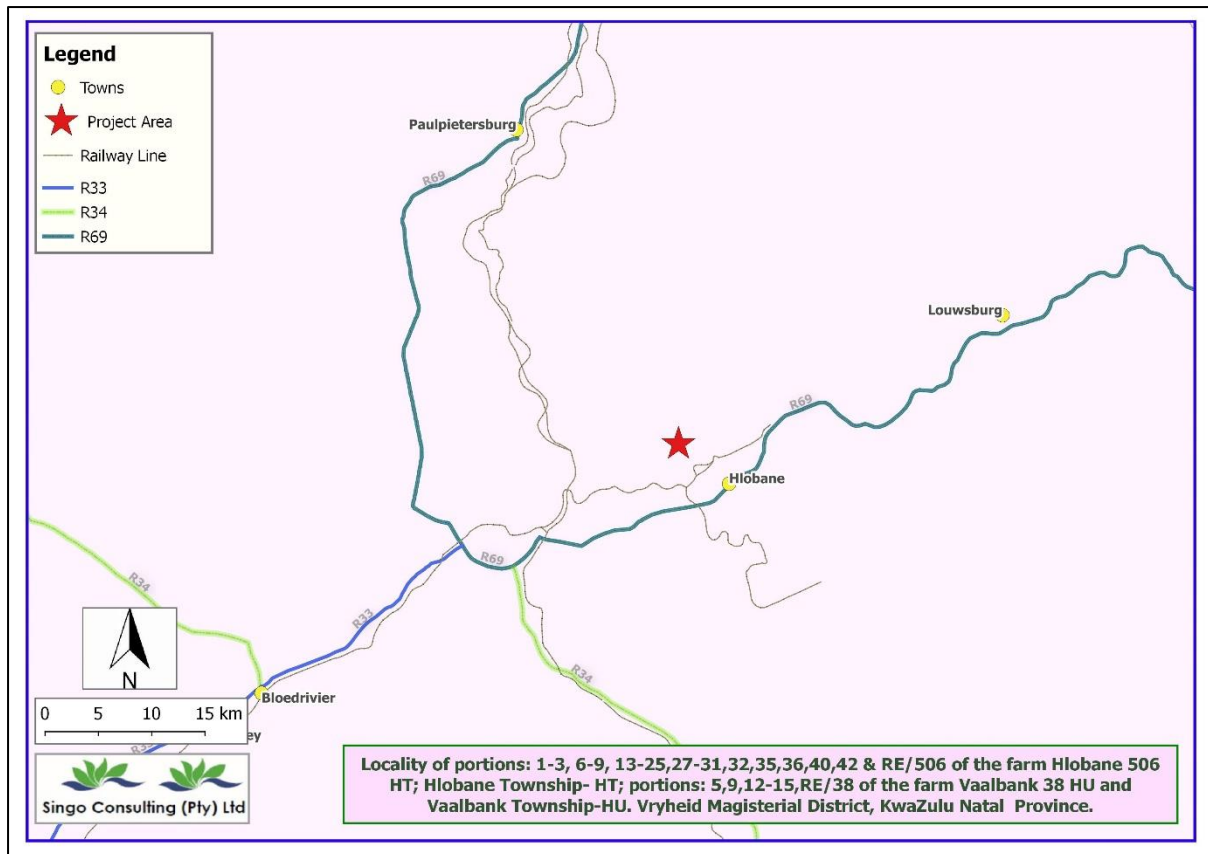


Figure 1- 1: Locality Map

2 SCOPE OF WORK

The scope of work included the following:

- ❖ Baseline study
 - Site visit to correlate the information that was collected during the desk study.
 - Maps from the hydrology study will be used to indicate the catchment areas and any strategic points.
 - The Mean Annual Runoff (MAR), peak flow rates and volumes will be estimated for these catchments using WR2012 data.
- ❖ Impacts assessment
 - All surface water impacts will be described and mitigation measures will then be proposed as normally required for the Environmental Impact Assessment/Environmental Management Plan (EIA/EMP), for the construction, operation, decommissioning and post closure phases.



3 METHODOLOGY

3.1 DESKTOP STUDY

A desktop study was conducted to evaluate current and previous land uses to assess the implications for hydrology contaminations. The desktop study included:

- ❖ Assessment of historical aerial photography for the precinct and surrounding areas;
- ❖ A desk study to collect background information regarding climate, rainfall, geology and hydrology structures within the proposed development area. This information will aid in conforming calculated decisions regarding the development of the proposed prospecting project with respect to possible associated impacts on the local surface water regime;
- ❖ Software employed in the study area was QGIS 2.14.9 for Geographic Information Systems (GIS) work.
- ❖ Review and summary of any previous reports or studies regarding environmental, geological or groundwater conditions, in or within the vicinity of the study area.

4 Overview of Relevant Legislation and Standards

4.1 Legal Framework

DWA's vision for water quality management in South Africa is to:

- ❖ ensure the continuous improvement of Water Quality Management
- ❖ become a recognized world leader in Water Quality Management
- ❖ be proactive, dynamic, efficient and effective in its delivery of services to the public
- ❖ provide the necessary policies and systems to ensure integrated sustainable management of water quality
- ❖ promote cooperative governance across all spheres of management and
- ❖ ensure a fully capacitated, loyal workforce to support its functions



4.2 National Legislation

National legislation applicable to surface water management includes:

- ❖ Constitution of the Republic of South Africa, 1996 (No. 108 of 1996) – The Bill of Rights states that everyone has the right to an environment that is not harmful to their health or well-being.
- ❖ National Water Act, 1998 (Act 36 of 1998) – Provides for the protection of the quality of water and water resources in South Africa and provides for the establishment of Water Management.

4.3 National Policy/Guidelines

National policy and guidelines applicable to surface water management includes:

- ❖ South African Water Quality Guidelines, First Edition, 1996 – These guidelines set out the minimum water quality requirements for a range of water quality parameters for each water user.
- ❖ Development of a Waste Discharge Charge System: Framework Document. Second Edition, 2000 – Provides a framework for the implementation of a system to charge for water use such as the discharge of waste that impacts on water resources.
- ❖ Best Practice Guidelines for the mining sector, DWAF 2006, 2008 dealing with aspects of DWA's water management hierarchy and deals with integrated mine water management, pollution prevention and minimisation of impacts, water reuse and reclamation and water treatment.
- ❖ Best Practice Guidelines for the mining sector, DWAF 2006, 2008 dealing with general water management strategies, techniques and tools which could be applied cross – sectorial and deals with storm water management, water and salt balances, water monitoring systems, impact prediction.
- ❖ Best Practice Guidelines for the mining sector, DWAF 2006-2008 dealing with specific mining activities and addresses the prevention and management of impacts from small scale mining, water management for Mine Residue Deposits, pollution control dams, water management for surface mines, and water management for underground mines.



5 BASELINE ENVIRONMENTAL DESCRIPTION

5.1 Climate

According to (Climate-data.org), Vryheid lies on 1154m above sea level. The climate in Vryheid is warm and temperate. The summers here have a good deal of rainfall, while the winters have little. This climate is considered to be Cwb according to the Köppen-Geiger climate classification. In Vryheid, the average annual temperature is 17.6 °C | 63.8 °F. About 886 mm | 34.9 inch of precipitation falls annually.

The driest month is June, with 11 mm | 0.4 inch of rain. Most of the precipitation here falls in December, averaging 149 mm | 5.9 inch. January is the warmest month of the year. The temperature in January averages 21.0 °C | 69.8 °F. June is the coldest month, with temperatures averaging 12.8 °C | 55.0 °F. There is a difference of 138 mm | 5 inch of precipitation between the driest and wettest months. Throughout the year, temperatures vary by 8.2 °C | 46.8 °F.

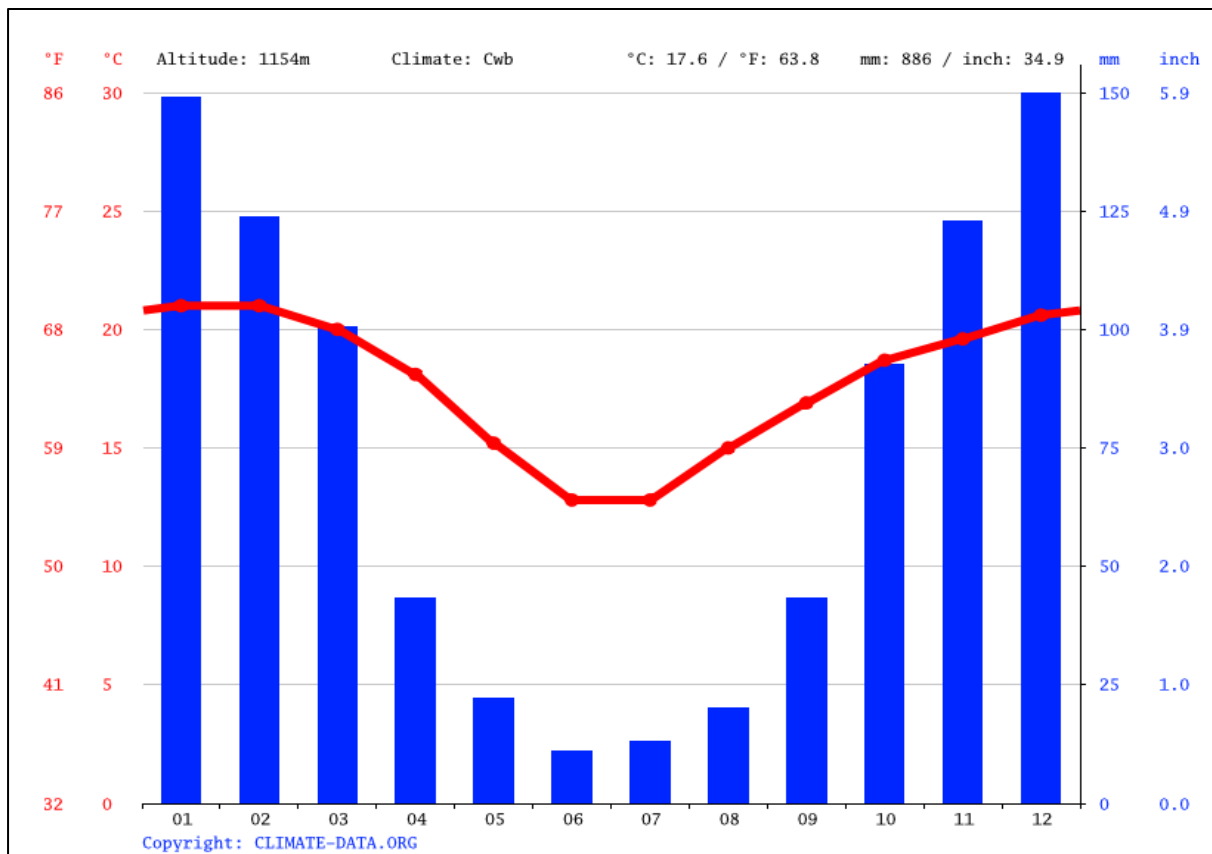


Figure 5- 1: vryheid climate graph



5.2 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. The proposed prospecting area is situated within a region characterized hills topography in the North to western side of the farm Hlobane 506 HT and a valley in the eastern side. This can be observed on the topology map attached below as the altitude is generally on average of 820-1600 metres above sea level and a contour interval of 20m. The flow of surface water during rainy seasons and groundwater flows from the area of high elevation in the South eastern side to the area of low elevation North eastern side as it is indicated or displayed by contour lines.

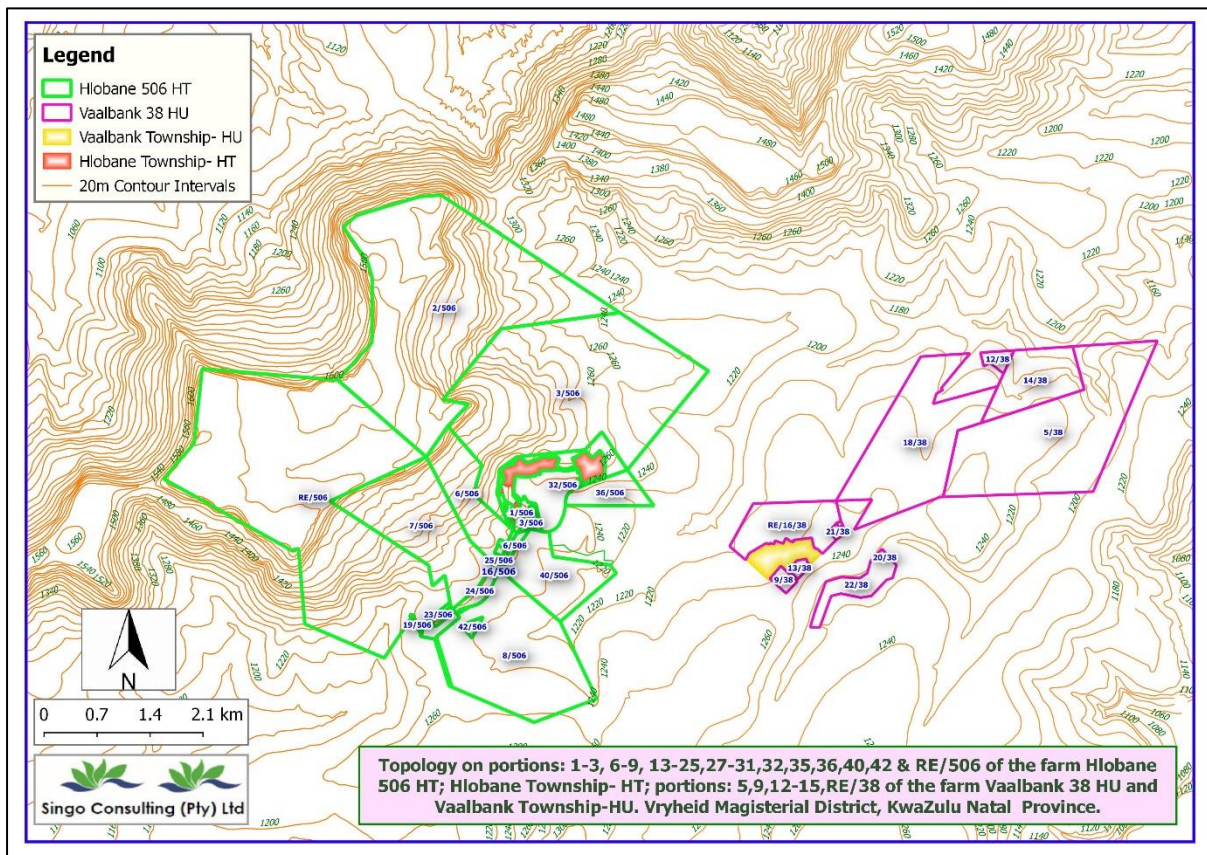


Figure 5- 2: Topographical Map



5.3 Geology

5.3.1 Regional Geology

The coal deposits in South Africa are largely hosted by the Karoo Supergroup, which was deposited in the Gondwana basin that covered parts of Africa, Antarctica, South America, and Australia. The basal Stratigraphy of the Karoo Supergroup comprises the Dwyka Group which is a Late Carboniferous to Early Permian (~320Ma) sequence of glacial and periglacial sediments including diamictite, till moraine, conglomerate, sandstone, mudstone and varved shale.

The Dwyka group is overlain by the Ecca Group which is an Early to Late Permian (~260 Ma) sequence composed of sandstone, siltstone, mudstone, and large deposits of coal seams deposited in a terrestrial basin on a gently subsiding shelf platform. In the surrounding Witbank Coalfield areas, the Ecca Group is overlain by the Beaufort Group, which is Early Triassic (~260 to 210 Ma), comprising multi-coloured mudstone and sandstone with only minor coal accumulation, and was deposited in a fluvial environment.

The Molteno Formation rests unconformably on the Beaufort Group and comprises Late Triassic (~210 Ma) coarse, immature sandstone with minor argillaceous layers derived from braided streams. This in turn is overlain by the Elliot Formation consisting of red mudstone and sandstone and the Clarens Formation comprising Aeolian sandstone. At the top of the Karoo Supergroup stratigraphy is the Drakensburg Group, which comprises Early to Middle Jurassic (~180 Ma) flood basalts.

According to the 2628 East Rand 1:250 000 geology series map the site is situated on Permian (245 000 – 290 000 million years) sandstone, shale and coal beds of the Vryheid Formation of the Ecca Group, and Karoo Supergroup. Jurassic (145 000 – 208 000 million years) dolerite sills intruded into the older sediments through vertical feeder dykes. Quaternary surficial deposits of alluvium and ferricrete can be found throughout the surrounding area.

The Ecca Group, which is part of the Karoo Supergroup, comprises of sediments deposited in shallow marine and fluvial-deltaic environments with coal accumulated as peat in swamps and marshes associated with these environments. The sandstone and coal layers are normally reasonable aquifers, while the shale trends to act as aquitards. Several layered aquifers perched on the relative impermeable shale are common in such sequences. The Dwyka Formation comprises consolidated



products of glaciations (with high amounts of clay) and is normally considered have impermeable qualities.

The general horizontally disposed sediments of the Karoo Supergroup are typically undulating with a gentle regional dip to the south. The extent of the coal is largely controlled by the pre-Karoo topography. Abundant dolerite intrusions are present in the Ecca sediments. These intrusions comprise sills, which vary from being concordant to transgressive in structure, and feeder dykes. Although these structures serve as aquitards and tend to compartmentalize the groundwater regime, the contact zones with the pre-existing geological formations also serve as groundwater conduits. There are common occurrences of minor slips or faults, particularly in close proximity to the dolerite intrusions. Within the coalfield, these minor slips, displacing the coal seam by a matter of 1 to 2 meters, are likely to be common in places.

5.3.2 LOCAL GEOLOGY

The basement and Dwyka Group are unconformably overlain by the coal bearing Ecca Group's Vryheid Formation consisting of six recognized coal seams that are separated by the sedimentary packages consisting mainly of sandstone and thinly laminated siltstone with subordinate mudstone and shale. The lithological units are varying in thickness.

The local geology of the project area is entirely covered by the Vryheid formation. The dominant rocks of the Vryheid formation that can be found are sandstones together with subequal or subordinate mudrock/rhythmite. The base of an idealized coarsening upwards deltaic cycle in the eastern part of the Vryheid formation consists of dark grey, muddy siltstone resulting from shelf suspension deposition in anoxic water of moderate depth.

The origination of the coal seams came about as peat swamps that developed on broad abandoned alluvial plains and, less commonly in interfluves (back swamps). Most of the economically important coal seams occur in the fluvial succession. The fluvial interval grades into deltaic sediments towards the southwest. The Vryheid formation can be subdivided into a lower fluvial -dominated deltaic interval, a middle fluvial interval and an upper fluvial-dominated deltaic interval in the east. These subdivisions correspond approximately to the lower sandstones, coal zones and upper sandstones.



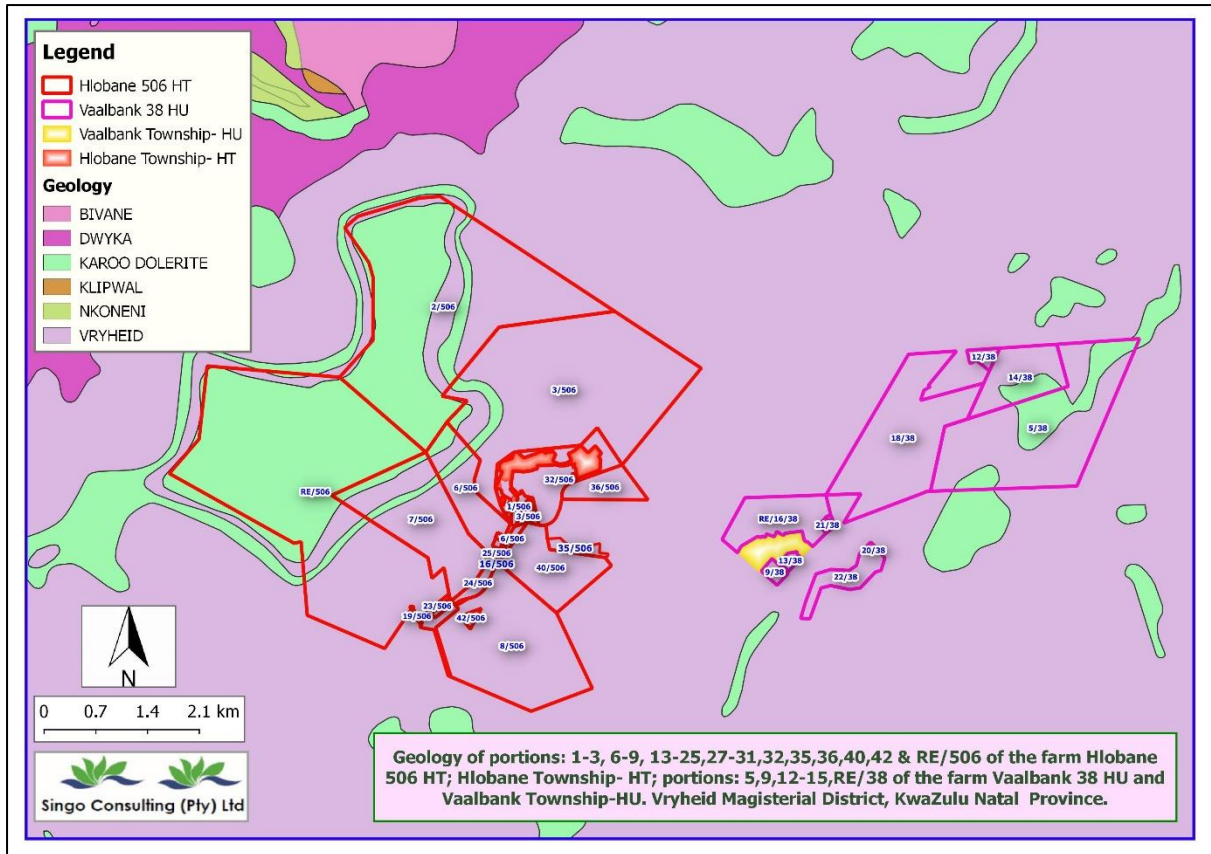


Figure 5-3: Geology map

5.4 HYDROLOGICAL DESCRIPTION

5.4.1 Catchment

The mining area falls within the Usuthu to Mhlathuze Water Management Area (WMA). The farm portions of the prospecting right falls within the quaternary catchment W31A. Figure 5- 4 below illustrates the Quaternary catchment and the Water Management Area (WMA).



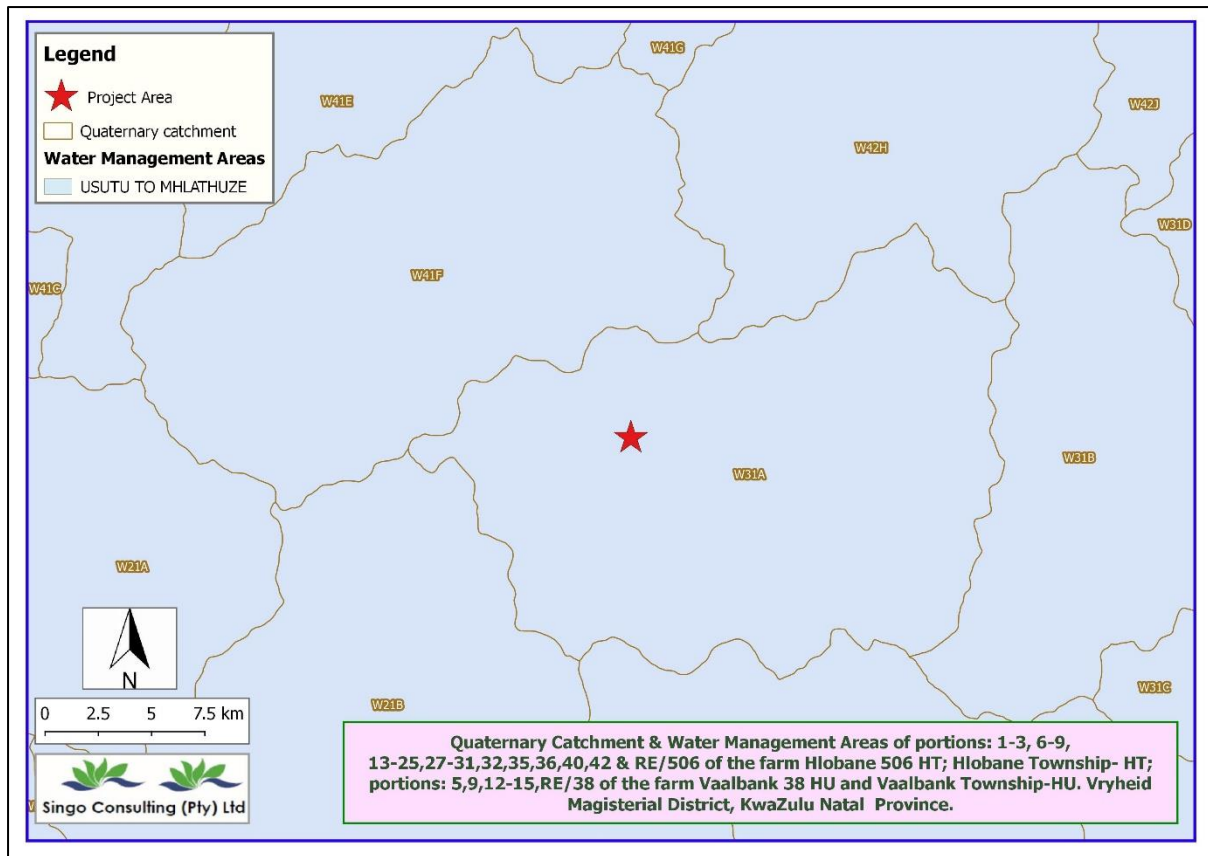


Figure 5- 4: Quaternary Catchment and WMA

The catchment area, mean annual runoff (MAR) and mean annual precipitation (MAP) as taken from WR2012 is described in Table 5- 1.

Table 5- 1: Catchment Areas, MAR, and MAP

QUARTERNARY CATCHMENT	CATCHMENT AREA (square metre)	MAR (mcm)	MAP (mm)
W31A	370	37.19	805

5.4.2 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. The hydrology map, illustrates that the following water bodies exists:

- ❖ Channelled valley-bottom wetland
- ❖ Flat wetland



- ❖ Seep wetland
- ❖ Unchanneled valley-bottom wetland
- ❖ Non- perennial river (Nkongolwana river)
- ❖ Perennial river (Mbilane River and Ishoba River)

There is a perennial river; namely Ishoba River situated on the south west side of the Farm Hlobane 506 HT and flows from the western side to South west direction. There is a channelled valley-bottom wetland, seep wetland and a flat wetland within RE/506 of the Farm Hlobane 506 HT. Seep wetland within portion 8 and portion 36; and a flat wetland within portion 6 of the Farm Hlobane 506 HT. The Nkongolwana non- perennial river cuts through portion 8 of the Farm Hlobane and portion 8 of the Farm Vaalbank 38 HU. Mbilane perennial river passes through portion 5, 20 and 22 of the Farm Vaalbank 38 HU. There is a flat wetland within portion 18 and a seep wetland within portion 5,20 and 22 of the Farm Vaalbank 38 HU.

For this project where prospecting right poses a risk on them, there should be measures and guidelines put in place that will protect the water resources in this area to ensure optimal conservation of water. The prospecting right activities should take place during dry seasons when the water percentages are very low. Extreme caution should be taken during prospecting, owing to the rivers and numerous wetlands existing nearby and within the project area. And all the perennial and non-perennial rivers will be buffered as a no go area approximately a 1km buffer should apply.



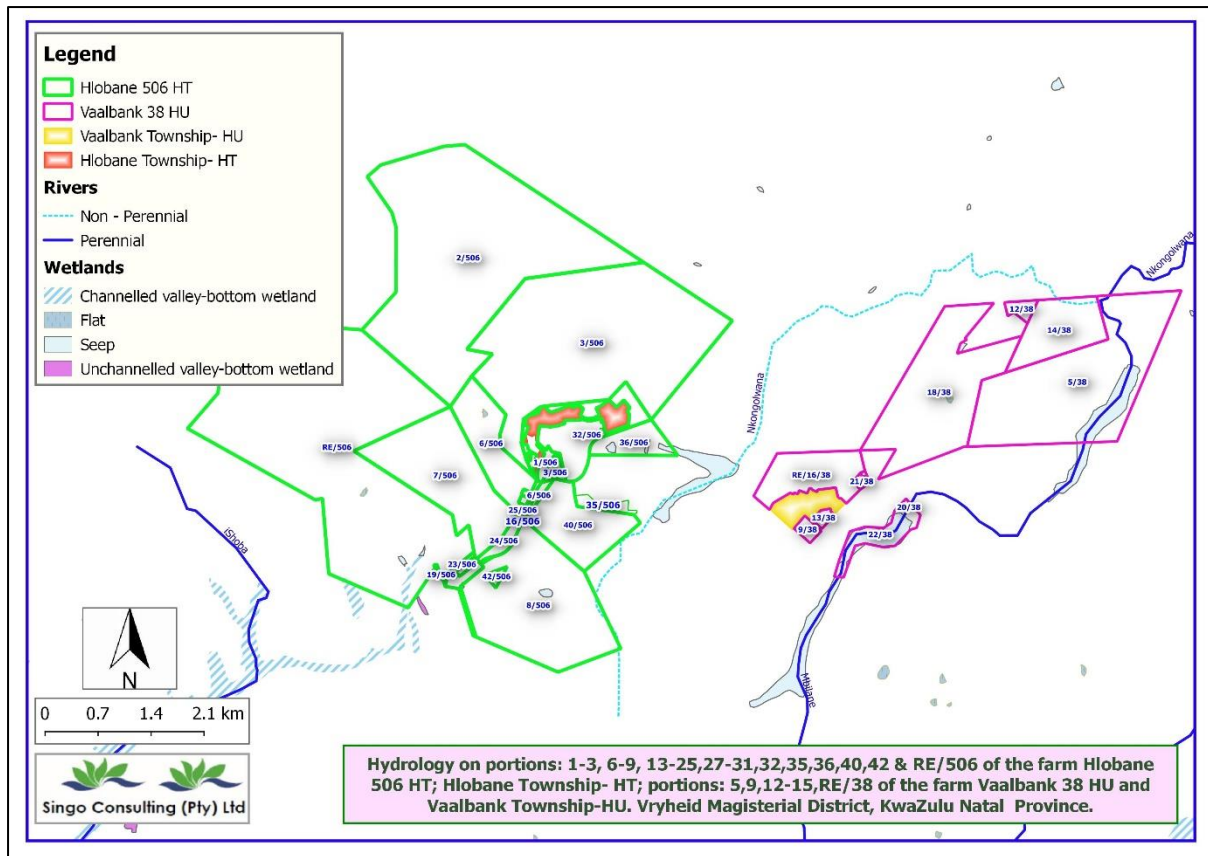


Figure 5- 5: Hydrological Map

6 DESCRIPTION OF SITE HYDROLOGY

6.1 Rainfall

Rainfall Data for the site was obtained from the WR2005 study (Middleton and Bailey, 2009), the Rainfall Extraction Utility Programme (Kunz, 2004) and the Design Rainfall Estimation Program (Smithers and Schulze, 2002). The daily rainfall extraction utility contains daily patched rainfall data for all official South African Weather Services stations. The rainfall stations considered were close to the site had a reasonable length of record and a relatively complete and reliable data set.

The Smithers and Schulze method of DDF rainfall estimation is considered more robust than previous single site methods. WRC Report No. K5/1060 provides further detail on the verification and validation of the method. Also, for comparison purposes, rainfall depth estimates for the site using the Hydrological Research Unit (HRU) methodology (WR2005) have also been undertaken for the 24-hour duration event of various return periods (as presented in the last line of Table 2-3). The HRU



methodology is a simplistic methodology which enables the estimation of DDF rainfall based on the MAP for the site (592 mm) and a site location factor in order to determine the DDF estimate. Comparison of the 24-hour rainfall depths estimated by each methodology indicates that the Smithers and Schulze method is higher than the HRU method estimates for all events except for the 1:200-year event.

Table 6- 1: Depth Duration Frequency estimates for the Site

Duration (hours)	Rainfall Depth (mm)						
	1:2yr	1:5yr	1:10yr	1:20yr	1:50yr	1:100yr	1:200yr
0.08	8.5	11.9	14.4	17.1	21.1	24.5	28.2
0.167	12.4	17.2	20.8	24.8	30.6	35.4	40.8
0.25	15.3	21.3	25.9	30.8	37.9	44.0	50.7
0.5	19.6	27.2	33.1	39.3	48.4	56.2	64.8
0.75	22.6	31.4	38.2	45.4	55.9	64.9	74.7
1	25.0	34.8	42.3	50.2	61.9	71.8	82.8
1.5	28.9	40.2	48.8	58.0	71.5	82.9	95.5
2	32.0	44.5	54.0	64.2	79.1	91.8	105.8
4	38.1	52.9	64.3	76.4	94.2	109.2	125.9
6	42.2	58.6	71.1	84.6	104.3	120.9	139.3
8	45.3	63.0	76.5	90.9	112.1	130.0	149.8
10	47.9	66.6	80.9	96.2	118.5	137.5	158.4
12	50.2	69.7	84.7	100.7	124.1	143.9	165.8
16	53.9	74.9	91.0	108.2	133.3	154.7	178.2
20	57.0	79.3	96.2	114.4	141.0	163.6	188.5
24	59.7	83.0	100.7	119.8	147.6	171.2	197.3

6.2 Average Evaporation and Rainfall

The table below shows the monthly rainfall and evaporation situation around the site, the rainfall around the site is 723.0 mm/year with evaporation of 2 067.2 mm/year.

Table 6- 2: Average Evaporation and Rainfall

Month	Rainfall (mm)	Lake Evaporation (mm)
Jan	123.5	156.8
Feb	81.9	139.0
Mar	59.6	137.2
Apr	58.1	107.9
May	12.3	97.7
Jun	5.9	81.8
Jul	6.3	88.5
Aug	9.8	117.9
Sep	28.3	144.9



Oct	87.5	156.8
Nov	139.3	144.9
Dec	135.8	161.8
Total	745.7	1 535.2

7 SURFACE WATER IMPACT ASSESSMENT

This Environmental Management Programme (EMPr) addresses the management of potential environmental impacts related to the proposed project in respect of surface water and should be used for managing, mitigating, and monitoring of the environmental impacts.

This exercise of risk identification and mitigation involves identification of streams found downstream of the proposed development, as well as a description of the identified risks the environment may incur during the various phases of the project.

The risk rating matrix methodology used is based on the following quantitative measures:

- ❖ The probability of impact occurrence;
- ❖ The frequency of impact occurrence;
- ❖ The special extent of impact occurrence;
- ❖ The intensity of impact occurrence; and
- ❖ Duration of impact occurrence.

Risk significance value = (magnitude + duration + intensity + frequency) x probability

The maximum value is 18 risk points and ratings are scaled from high, medium to low in respect to their environmental impact. The ranking system used in the study is presented in Table 8- 1.

Table 8- 1: Risk Assessment Significance Value

The maximum value that can be achieved is 100 Significance Points (SP). Environmental effects were rated as follows:		
Significance	Environmental Significance Points	Colour Code
High (positive)	>60	H
Medium (positive)	30 to 60	M
Low (positive)	<30	L
Neutral	0	N
Low (negative)	>-30	L
Medium (negative)	-30 to -60	M
High (negative)	<-60	H



Status of Impact

+: Positive (A benefit to the receiving environment)

N: Neutral (No cost or benefit to the receiving environment)

-: Negative (A cost to the receiving environment)

Magnitude: =M

Duration: =D

10: Very high/don't know

5: Permanent

8: High

4: Long-term (ceases with the operational life)

6: Moderate

3: Medium-term (5-15 years)

4: Low

2: Short-term (0-5 years)

2: Minor

1: Immediate

0: Not applicable/none/negligible

0: Not applicable/none/negligible

Scale: =S

Probability: =P

5: International

5: Definite/don't know

4: National

4: Highly probable

3: Regional

3: Medium probability

2: Local

2: Low probability

1: Site only

1: Improbable

0: Not applicable/none/negligible

0: Not applicable/none/negligible

7.1 IMPACTS THAT MIGHT OCCUR

During the coal prospecting period the following impacts are envisioned:



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- ❖ Clearing of vegetation leading to increased runoff and less infiltration.
- ❖ Diesel and oil spillages from the drill rig
- ❖ Increase in volume of contaminated water that needs to be managed within the footprint
- ❖ Erosion of stream banks because of crossings and diversions leading to siltation of the streams

8.2 Mitigation

During the coal prospecting period the following management measures will apply:

- ❖ All spillages will need to be cleaned up as soon as practically possible
- ❖ Providing spill absorbing material
- ❖ All equipment utilizing hydrocarbons will be stored on a hard-standing surface.
- ❖ Vehicles and machinery will be maintained in good order to minimize leakages
- ❖ Clean up spillages immediately and dispose of contaminated materials to a permitted waste site.

8 MONITORING PLAN

The objective of the surface water management and monitoring measures is to minimise the impact on surface water dependent systems to be retained from disturbance within and adjacent to controlled sites; to maintain hydrological regimes of surface water so that the environmental values are protected and , to check compliance with license requirements and for reporting purposes.

Water dependent systems are parts of the environment in which the composition of species and natural ecological processes are determined by the permanent or temporary presence of flowing or standing surface water or groundwater. The in-stream areas of rivers, riparian vegetation, springs, wetlands, floodplains, groundwater-dependent terrestrial vegetation are all examples of water dependent systems (Department of Water, January 2013). The objectives of these systems will be achieved if there is no impact on the in-stream and downstream fitness for use criteria.



9 CONCLUSIONS

- ❖ It can be concluded that coal prospecting will cause minimal impact on the water resources. The prospecting right activity should take place during dry seasons where the water percentages in the surrounding streams and wetlands are very low.
- ❖ Drilling activity should not be conducted near these water resources, the exploration geologists will be advised to drill and sample away from rivers and wetlands on site.
- ❖ Extreme caution should be taken during prospecting, owing to the perennial rivers (Ishoba and Mbilane river) and Nkongolwana non-perennial and the Channelled valley-bottom wetlands, flat s, seep and unchanneled valley-bottom wetlands existing within the project area. No washing of any mechanical equipment's or vehicles will be allowed near the water resources.
- ❖ All the wetlands and non-perennial streams will be buffered as “no go” area preferably a 1 km buffer will apply.



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2. Hydrogeologic Study



BASIC HYDROGEOLOGICAL STUDY FOR PROSPECTING RIGHT APPLICATION



ATOK MINING HOUSE (PTY) LTD

Proposed Prospecting Right Application for Coal on portion 1, 2, 3, 6, 7, 8, 9, 13-25, 27-31, 32, 35, 36, 40, 42 and remainder of the farm Hlobane No. 506 HT, Erven 2-21, 23-26, 28-63, 66 & 67 of the Hlobane Township HT (Town code: N0ht0683), portions 5, 9, 12-15, remainder of 16, 18 & 20-22 of the farm Vaalbank No. 38 HU and Erven 0-16 of the Vaalbank Township HU (Town Code: N0hu0684), Kwa-Zulu Natal.

DMRE Ref: KZN 30/5/1/1/2/10926 PR

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2020

Project Information

Report Type	Geohydrological Report
Project Title:	Proposed Prospecting Right Application of for Coal on portion 1, 2, 3, 6, 7, 8, 9, 13-25, 27-31, 32, 35, 36, 40, 42 and remainder of the farm Hlobane No. 506 HT, Erven 2-21, 23-26, 28-63, 66 & 67 of the Hlobane Township HT (Town code: NOht0683), portions 5, 9, 12-15, remainder of 16, 18 & 20-22 of the farm Vaalbank No. 38 HU and Erven 0-16 of the Vaalbank Township HU (Town Code: NOhu0684) under AbaQulisi Local Municipality, Kwa-Zulu Natal.
Mineral (s)	Coal
Site Location	AbaQulisi Local Municipality.
Compiled For	Atok Mining House (Pty) Ltd
Compiled By	Mutshidzi Munyai (MSc. Candidate Geohydrology, BSc. Hons Geohydrology, BSc. Geology) Tshinavhe Daniel (BSc Environmental Sciences)
Assessed By	Talelani A Singo (MSc. Candidate Environmental Management, BSc (Hons) Hydrology & Water Resources. Professional Affiliations)
Version	Version 01
Date	03 November 2020

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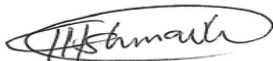

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Declaration:

We hereby declare:

- 1) We have no conferred interest in the project that is the subject of this report as well as its attachments. we have no special interest with respect to the parties involved in this project.
- 2) We have no bias regarding this project or with respect to the various stakeholders involved in this project.
- 3) We have not obtained, nor have we been presented, any significant form of unsuitable reward for compiling this report.

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11 Executive Summary

Singo Consulting (Pty) Ltd was appointed by Atok Mining House (Pty) Ltd to conduct a hydrogeological study for the Prospecting Right Application which has been submitted for the prospecting of Coal on portion 1, 2, 3, 6, 7, 8, 9, 13-25, 27-31, 32, 35, 36, 40, 42 and remainder of the farm Hlobane No. 506 HT, Erven 2-21, 23-26, 28-63, 66 & 67 of the Hlobane Township HT (Town code: N0ht0683), portions 5, 9, 12-15, remainder of 16, 18 & 20-22 of the farm Vaalbank No. 38 HU and Erven 0-16 of the Vaalbank Township HU (Town Code: N0hu0684) under AbaQulisi Local Municipality, Kwa-Zulu Natal

Outcomes of the Investigation

- ❖ The Coal prospecting activity is short term. AMD is expected to occur due to the drilling activity that will create cracks and fractures thereby disturbing the lithology which may leach into underground water.
- ❖ Drilling activity will not be conducted near water resources.
- ❖ And all the wetlands, non-perennial and perennial rivers will be buffered as no go area preferably a 100m buffer will apply.
- ❖ Extreme caution should be taken during prospecting, owing to the non-perennial and perennial river passing through and numerous wetlands existing in the project area. No washing of any mechanical equipment's or vehicles will be allowed near the water resources.
- ❖ Water samples must be taken from all the exploration boreholes by using approved sampling techniques and adhering to recognized sampling procedures. Samples should be analyzed for both organic as well as inorganic pollutants, as mining activity often lead to hydrocarbon spills in the form of diesel and oil.
- ❖ The core logs of exploration boreholes should be cleared from the ground immediately after logging by the geologists to prevent washing and leaching to the water resources during rainfall.
- ❖ After prospecting, rehabilitation of the disturbed area should take place.
- ❖ The numerical model should be recalibrated as soon as more hydrogeological data are made available. This would enhance model predictions and certainty.



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12 1 Introduction

Singo Consulting (Pty) Ltd was appointed by Atok Mining House (Pty) Ltd to conduct a hydrogeological study for the Prospecting Right Application which has been submitted for the prospecting of coal on portion 1, 2, 3, 6, 7, 8, 9, 13-25, 27-31, 32, 35, 36, 40, 42 and remainder of the farm Hlobane No. 506 HT, Erven 2-21, 23-26, 28-63, 66 & 67 of the Hlobane Township HT (Town code: N0ht0683), portions 5, 9, 12-15, remainder of 16, 18 & 20-22 of the farm Vaalbank No. 38 HU and Erven 0-16 of the Vaalbank Township HU (Town Code: N0hu0684) under AbaQulisi Local Municipality, Kwa-Zulu Natal

This report is not planned to be an intensive description of the proposed project; however, it is conducted as a specialist provisional geohydrological study to evaluate the geohydrological impact the prospecting activity has on the environment.

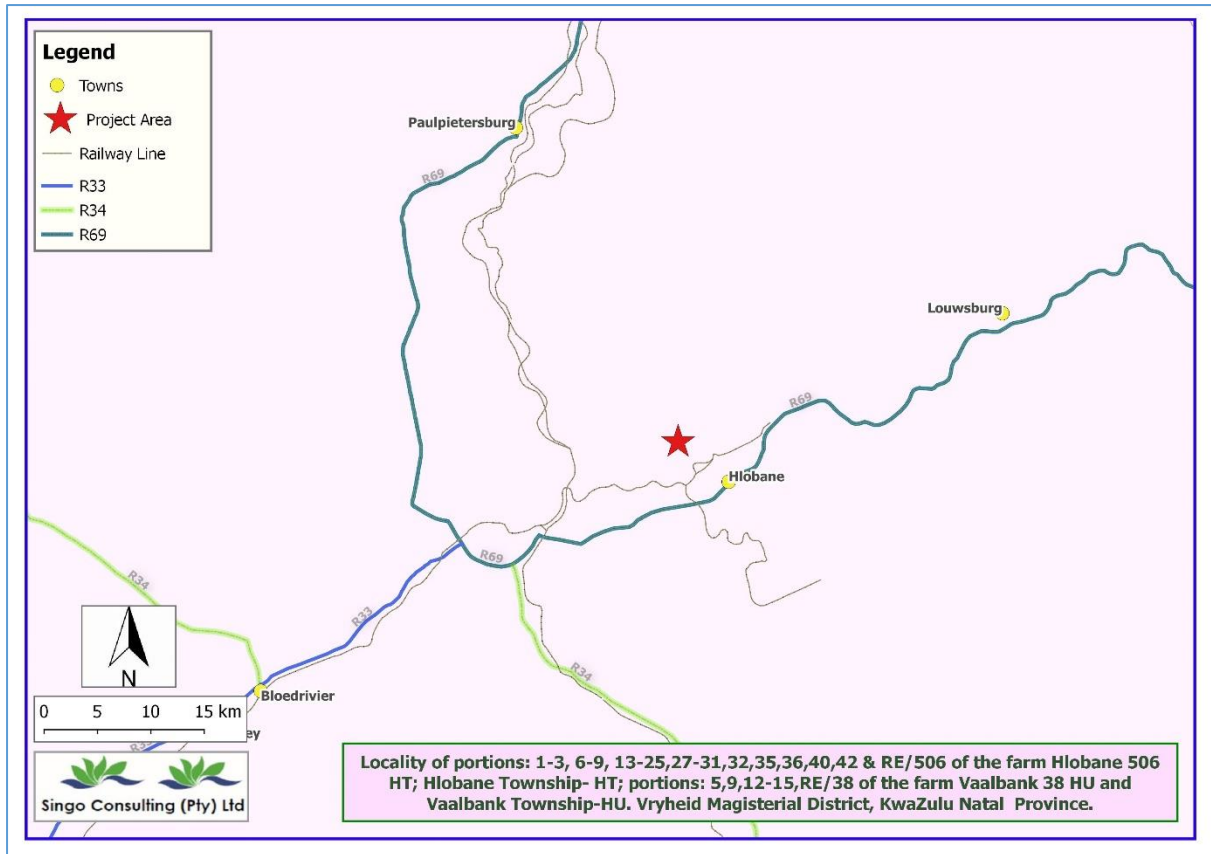
1.1 This geohydrological study aims and objectives

-  Description of the geohydrological environment where coal and pseudocoal prospecting will take place.
-  Forecasting of the environmental impacts of the proposed prospecting activity on the geohydrological regime of the area. Including the description of potential negative impacts during drilling, sampling, logging and of post-prospecting period.
-  Predicting the effect of the prospecting on the receiving environment.
-  Gathering all the relevant information and recommendations in a geohydrological report, prepared in such a way that it can be included into the Environmental Management Program document.

1.2 Project location

A locality map created by QGIS software illustrates detailed and comprehensive information regarding the surrounding settlements and infrastructure of the proposed project area. The area of interest is situated within Hlobane, Vaalbank and Pumulanga and approximately 2.73 km south of Thukuzele and roughly 15.70 km north west of Vryheid, within the AbaQulisi Local Municipality. The map below shows the locality of the study area.





Map 1: Locality map of the proposed project

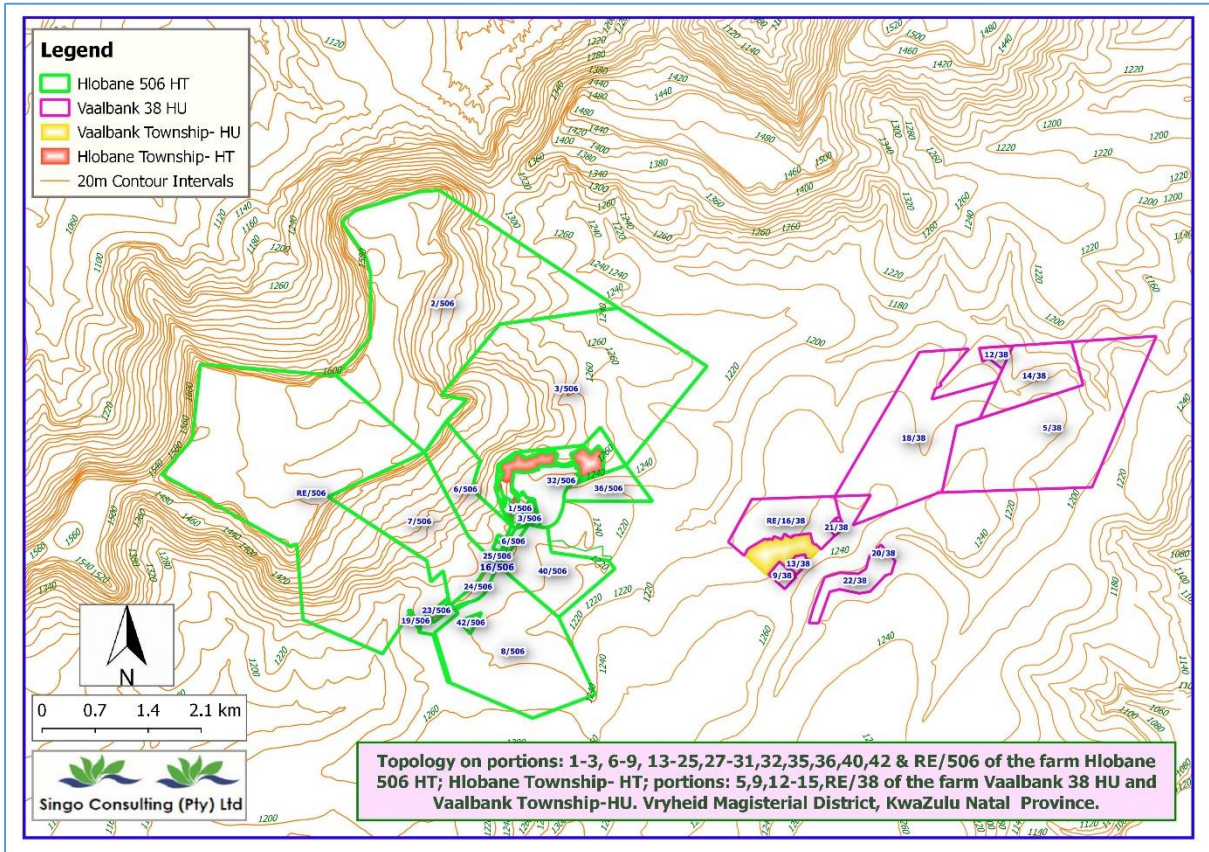
2 Geohydrological setting

12.1

2.1 Topography and drainage






Topography is the study of the shape and features of land surfaces. The topography of an area could refer to the surface shapes and features themselves, or a description (especially their depiction in maps). Topography is a field of geoscience and planetary science and is concerned with local detail in general, including not only relief but also natural and artificial features, and even local history and culture. The proposed prospecting area is situated within a region characterized hills topography in the North to western side of the farm Hlobane 506 HT and a valley in the eastern side. This can be observed on the topology map attached below as the altitude is generally on average of 820-1600 metres above sea level and a contour interval of 20m. The flow of surface water during rainy seasons and groundwater flows from the area of high elevation in the South eastern side to the area of low elevation North eastern side as it is indicated or displayed by contour lines.





Map 2: Topography of the prospecting right area

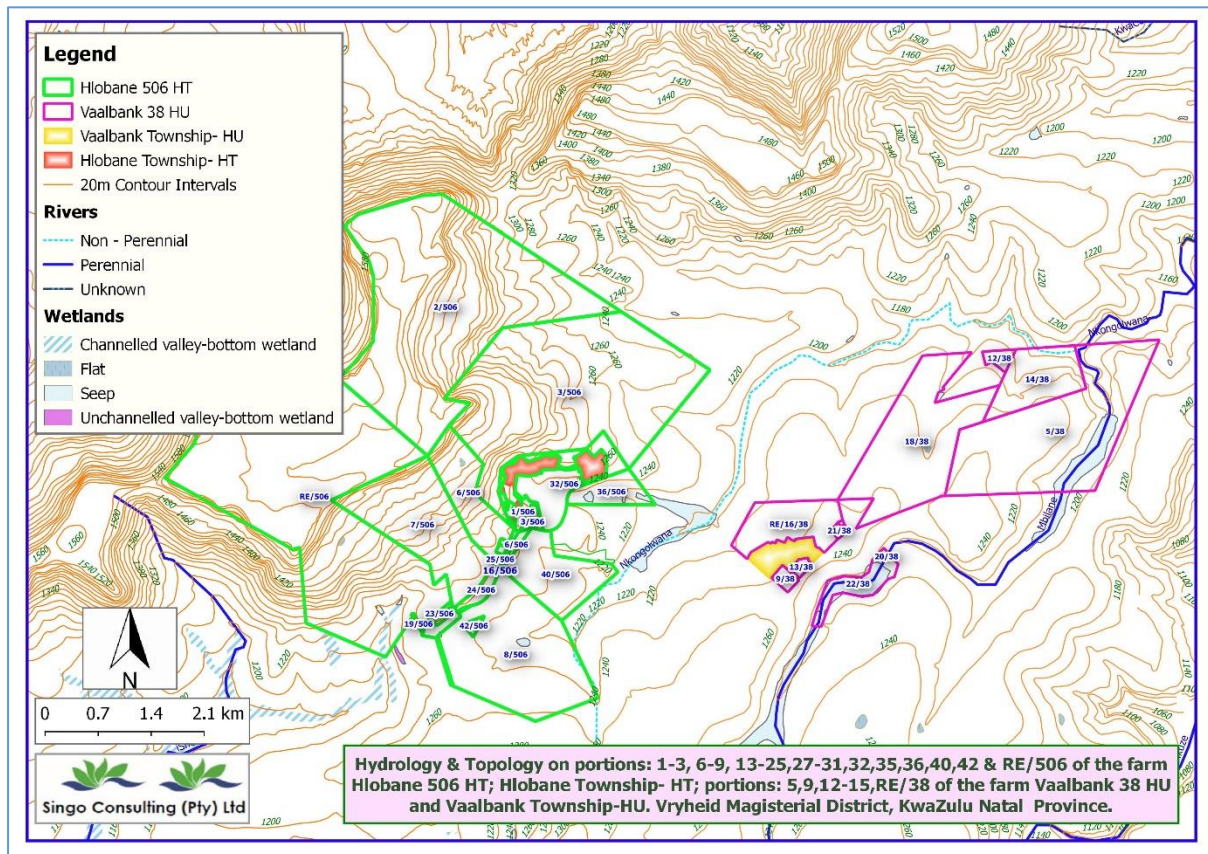
The hydrology surrounding the proposed area is of vital importance as well. In this context hydrology is all the surface waters appearing within and nearby the proposed project area, where a potential to be impacted upon by the project exist.

-  Channeled valley-bottom wetland
-  Non-perennial river
-  Perennial river
-  Seep wetland
-  Unchanneled valley-bottom wetland

This is an important natural water resources that should not be disturbed by anthropogenic activities. For this project where prospecting right poses a risk on them, there should be measures and guidelines put in place that will protect the water resources in this area to ensure optimal conservation of water. The prospecting right should take place during dry seasons where the water percentages are exceptionally low. Drilling activity should not be conducted near these water resources, the exploration geologists will be advised to drill and sample away from rivers and wetlands on site.



Extreme caution should be taken during prospecting, owing to the non-perennial river and numerous wetlands existing within and nearby the project area. No washing of any mechanical equipment's or vehicles will be allowed near the water resources, and all the perennial and non-perennial rivers will be buffered as no go area preferably a 100m buffer will apply.



Map 3: Hydrology of the prospecting right area

12.2 2.2 Climate

KwaZulu Natal, is bordered by the Indian Ocean to the east and the Drakensberg Mountain escarpment to the west producing a warm, subtropical climate. The climate of KwaZulu Natal is tourist friendly all-year-round. Situated in the Southern Hemisphere the seasons are reversed, this means traveling from a Northern Hemisphere winter to KZN you will arrive in summer and experience warm weather, lush vegetation and a multitude of birds and animals. The proposed project area lies within Umfolozi which is characterized by a temperate oceanic climate. This climate generally features cool summers and cool but not cold winters, with a relatively narrow annual temperature range and few extremes of temperature.



Summer (November – February) are hot and humid averaging 28°C and experience the majority of the annual rainfall. Although summer is an excellent time to observe wildlife in prime condition, the game is often obscured by tall grass and thick bush which flourishes in the rainy season. Heavy rains and electrical thunderstorms are common.

Autumn (March – May) in KZN are mild as temperatures begin to cool. This is a good time to see migrating birds gathering for their journey north. Winter (June – August) with average temperatures of 23°C, are warm, dry, and clear. There is occasional frost in the interior and snow often falls in the higher reaches during the winter. Winter sunshine averages almost seven hours a day, some of the highest in the country.

Winters (June-August) are dry, and this is conducive to grass fires, most reserves provide areas for barbecues, but caution is advised when open fires are lit.

Spring (September – October) is the beginning of the rainy season and temperatures begin to warm. This is often the perfect time for viewing game as most wildlife are raising newly born offspring on the fresh growth that arrives with the first rains. This is also the perfect time for viewing flowers as everything is blooming. Migrating birds begin to arrive back during spring and into summer. The precipitation varies 95 mm | 4 inches between the driest month and the wettest month. During the year, the average temperatures vary by 7.7 °C | 45.9 °F.

Annual Temperature in Vryheid

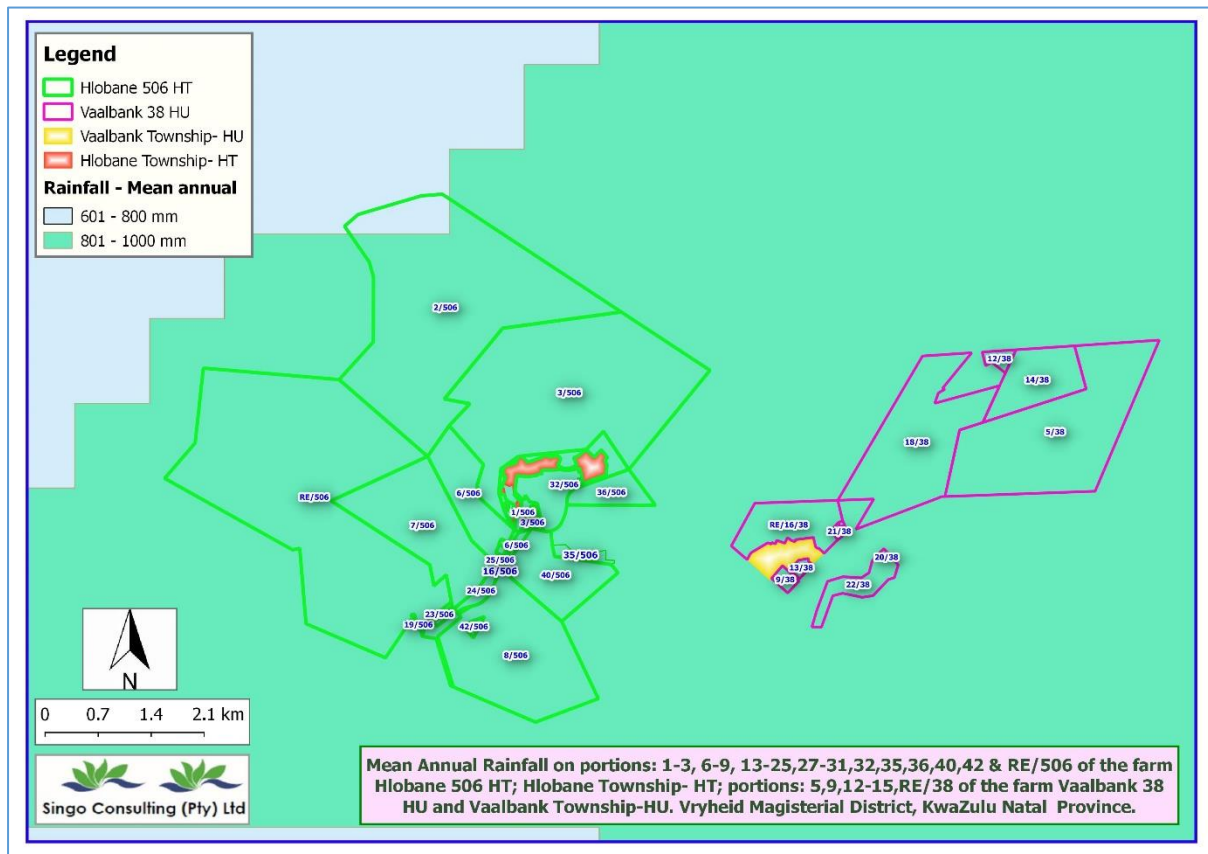
	January	February	March	April	May	June	July	August	September	October	November	December
Avg. Temperature (°C)	24.1	24.5	23.7	21.8	19.4	17.2	16.8	17.9	19.2	20.5	21.8	23.4
Min. Temperature (°C)	20.6	20.9	19.9	17.5	14.4	11.6	11.3	12.9	15	16.8	18.2	19.8
Max. Temperature (°C)	27.7	28.1	27.6	26.1	24.4	22.9	22.4	22.9	23.5	24.2	25.4	27
Avg. Temperature (°F)	75.4	76.1	74.7	71.2	66.9	63.0	62.2	64.2	66.6	68.9	71.2	74.1
Min. Temperature (°F)	69.1	69.6	67.8	63.5	57.9	52.9	52.3	55.2	59.0	62.2	64.8	67.6
Max. Temperature (°F)	81.9	82.6	81.7	79.0	75.9	73.2	72.3	73.2	74.3	75.6	77.7	80.6
Precipitation / Rainfall (mm)	124	113	125	71	56	30	31	46	64	95	110	110

Figure 28: High and low temperatures

Rainfall





Rainfall Data for the mining permit area was obtained from the WR2005 study (Middleton and Bailey, 2009), the Rainfall Extraction Utility Programme (Kunz, 2004) and the Design Rainfall Estimation Program (Smithers and Schulze, 2002). The daily rainfall extraction utility contains daily patched rainfall data for all official South African Weather Services stations. The rainfall stations considered were close to the site had a reasonable length of record and a relatively complete and reliable data set. Mean annual rainfall within the project area is 801-1000mm. Vryheid experiences rain during all months of the year, although there are significant seasonal variations in the monthly rainfall







Map 4: Average monthly rainfall

3 Scope of work

The following work procedure has been pursued in order to stick to the scope of work:

-  Comprehensive site visit, mapping of relevant geohydrological features and gathering of desktop information in the form of maps, textbooks, scientific journals, and article.
-  Basic analysis of surface water protection



-  Existing Hydrocensus information for the groundwater potential (quality & quantity) of the area will be evaluated. The data gathered during this phase will assist in the development of a groundwater-monitoring program. If suitable boreholes exist in the study area, they will be included into the monitoring program.
-  In order to quantify potential impacts of the various project phases on the ambient groundwater environment, a numerical groundwater flow model for the project area will be developed. The impacts associated with prospecting activities are anticipated to be temporary as this activity of prospecting takes place within a short period of time.
-  Accessible data was interpreted and assembled for the prediction of the possible environmental impact and to abstract mitigation measures.
-  Management and mitigation measures for identified impacts should be outlined for each phase of the prospecting right project and associated monitoring, management and mitigation measures recommended.

4 Methodology

4.1 Desktop study

Section 16 of the Mineral and Petroleum Resources Development Act (MPRDA) (No. 28 of 2002) requires, upon request by the Minister, that an Environmental Management Programme should be submitted and that the applicant notifies and consults with Interested and Affected Parties (I&APs). Section 24 of the National Environmental Management Act (NEMA) requires that activities which may impact the environment be authorized by the relevant authority before commencing with that activity. Such activities are listed under Regulations Listing Notice 1 Government Notice (GN) 983 of the NEMA.

During the process of consultation, the affected parties requested this hydrogeological study, which will outline the possible impacts on their water resources and how the applicant anticipate on mitigating them. As part of the prospecting phase, physical prospecting is planned to be conducted on site and will involve the use of diamond core drilling to investigate the existence of the expected mineralization, the thickness of the orebodies and its distribution. Core logs will be taken off-site to be sampled and analyzed.







4.2 Hydrocensus

The Hydrocensus main objective is to record the groundwater data available i.e. counting the number of boreholes if present, recording their names, conditions, coordinates as well as measuring the water levels. This helps to identify the baseline groundwater use and users within the study area. A detailed Hydrocensus will be conducted within the project area to obtain a representative population of the boreholes in the area. During the Hydrocensus, all available details of boreholes, conditions and water samples will be collected and recorded.

4.3 Geophysical study

Geophysics is basically an application of physics to investigations of the Earth, Moon and planets. The relevant geophysical type in this sense would be Applied/ Exploration Geophysics which is the study of the Earth's crust and near surface to achieve a practical/economic aim. It can be for:

-  Mineral exploration
-  Engineering Geophysics
-  Hydrogeophysics (Groundwater Geophysics) which is basically geophysical investigation focusing on groundwater problems.
-  Environmental Geophysics

Geophysical methods




There are two types of geophysical methods that can be used, there is **passive methods** and **Active methods**.

Passive methods are those that detect variations within the natural fields associated with the Earth, such as the gravitational and magnetic fields.


Active methods are those in which artificially generated signals are transmitted into the ground.


There are various Geophysical methods, measuring different properties of earth materials with different applications, all requiring some contrast in the physical properties of the earth materials


Types of surveys that can be undertaken

-  Ground geophysics Measurements are taken on the Earth's surface.
-  Borehole geophysics Measurements are taken down a borehole.
-  Underground geophysics Measurements are taken underground, e.g. mine shafts



 Airborne geophysics Measurements are taken from an airplane, helicopter, droid, and balloon.

 Satellite geophysics Measurements are taken from a satellite orbiting the Earth.

 Marine geophysics Measurements are taken at the surface of the oceans.

In the present study geophysical survey was not conducted as the aim of this hydro study is not focusing on the available water within the prospecting area. Geophysics methods would have been more significant in determining the positions to drill for water which is not within the scope of this study.




4.4 Drilling and sitting of boreholes

An estimated 30 boreholes will be drilled one at a time at various locations within the proposed project area. The depths of the drill holes will average 150 m and will be determined onsite whilst the drilling programme is underway as influenced by the depths and dips measured in other holes. A buffer of 1 km will be kept from identified wetlands. A buffer of 100 meters will be kept from public roads.

The drill site will be fenced off, cleared and drilled. Rehabilitation will occur immediately after drilling. As a site is drilled, it will be rehabilitated, and the drilling crew will move onto the next planned hole. This procedure will be followed until all the holes are drilled. Drilling will be conducted in consultation with the landowners. No other excavations, bulk sampling or pitting is planned throughout prospecting phase.

4.5 Aquifer testing

Pumping tests are important tools that provide information on the hydraulic behavior of a borehole, the reservoir and the reservoir boundaries. All this information is essential for efficient aquifer and well field management. In general, the objectives of a pumping test are:

-  To obtain an understanding of the aquifer,
-  To quantify the aquifer's hydraulic and physical properties and
-  To determine the sustainable yield and efficiency of a borehole.

The interpretation of pumping test data is based on mathematical models that relate drawdown response to discharge in the abstraction borehole. The results obtained from these short duration tests can then be used to project the borehole's performance over a long period of time. In fractured-rock aquifers, the geometry and permeability of the system have a large influence on the drawdown.



The scale of heterogeneity in a fractured rock system may be large in relation to the scale of the test. Therefore, convention models developed for homogeneous porous aquifers might not be viable in fractured rock systems.

4.6 Groundwater modelling

During model setup, the conceptual model is translated into a numerical model. This stage entails selecting the model domain, defining the model boundary conditions, discretizing the data spatially and over time, defining the initial conditions, selecting the aquifer type, and preparing the model input data. The above conditions together with the input data are used to simulate the groundwater flow in the model domain for pre steady state conditions.

Conceptual model

A conceptual model is a simplification of the complex real system down to familiar aspects that can easily be solved. This conceptual model is just a step prior to a solution model which can either be analytical or numerical.

Numerical model

Numerical groundwater modelling consists of flow and transport modelling types. Groundwater flow modelling can be represented by finite difference method or finite element. In this project finite difference method is used. The chosen software is MODFLOW

4.7 Groundwater availability assessment

The fractured aquifer system (~ 15 to 40m) present in the fresh rock below the weathered zone are well cemented, and do not allow significant water flow. All groundwater movement therefore occurs along secondary structures such as fractures, cracks, and joints in the rock. These structures are best developed in sandstone and quartzite; hence the better water yielding properties of the latter rock type.

Dolerite sills and dykes are generally impermeable to water movement, except in the weathered state. In terms of water quality, the fractured aquifer always contains higher salt loads than the upper weathered aquifer. The higher salt concentrations are attributed to a longer contact time between the water and rock (IGS, 2008).



5 Baseline information

5.1 Geology

12.2.1 5.1.1 Regional Geology

The coal deposits in South Africa are largely hosted by the Karoo Supergroup, which was deposited in the Gondwana basin that covered parts of Africa, Antarctica, South America, and Australia. The basal Stratigraphy of the Karoo Supergroup comprises the Dwyka Group which is a Late Carboniferous to Early Permian (~320Ma) sequence of glacial and periglacial sediments including diamictite, till moraine, conglomerate, sandstone, mudstone and varved shale.

The Dwyka group is overlain by the Eccca Group which is an Early to Late Permian (~260 Ma) sequence composed of sandstone, siltstone, mudstone, and large deposits of coal seams deposited in a terrestrial basin on a gently subsiding shelf platform. In the surrounding Witbank Coalfield areas, the Eccca Group is overlain by the Beaufort Group, which is Early Triassic (~260 to 210 Ma), comprising multi-colored mudstone and sandstone with only minor coal accumulation, and was deposited in a fluvial environment.

The Molteno Formation rests unconformably on the Beaufort Group and comprises Late Triassic (~210 Ma) coarse, immature sandstone with minor argillaceous layers derived from braided streams. This in turn is overlain by the Elliot Formation consisting of red mudstone and sandstone and the Clarens Formation comprising Aeolian sandstone. At the top of the Karoo Supergroup stratigraphy is the Drakensburg Group, which comprises Early to Middle Jurassic (~180 Ma) flood basalts.

According to the 2628 East Rand 1:250 000 geology series map the site is situated on Permian (245 000 – 290 000 million years) sandstone, shale and coal beds of the Vryheid Formation of the Eccca Group, and Karoo Supergroup. Jurassic (145 000 – 208 000 million years) dolerite sills intruded into the older sediments through vertical feeder dykes. Quaternary surficial deposits of alluvium and ferricrete can be found throughout the surrounding area.

The Eccca Group, which is part of the Karoo Supergroup, comprises of sediments deposited in shallow marine and fluvial-deltaic environments with coal accumulated as peat in swamps and marshes



associated with these environments. The sandstone and coal layers are normally reasonable aquifers, while the shale trends to act as aquitards. Several layered aquifers perched on the relative impermeable shale are common in such sequences. The Dwyka Formation comprises consolidated products of glaciations (with high amounts of clay) and is normally considered have impermeable qualities.

The general horizontally disposed sediments of the Karoo Supergroup are typically undulating with a gentle regional dip to the south. The extent of the coal is largely controlled by the pre-Karoo topography. Abundant dolerite intrusions are present in the Ecca sediments. These intrusions comprise sills, which vary from being concordant to transgressive in structure, and feeder dykes. Although these structures serve as aquitards and tend to compartmentalize the groundwater regime, the contact zones with the pre-existing geological formations also serve as groundwater conduits. There are common occurrences of minor slips or faults, particularly in close proximity to the dolerite intrusions. Within the coalfield, these minor slips, displacing the coal seam by a matter of 1 to 2 meters, are likely to be common in places.

12.2.2 5.1.2 Local geology

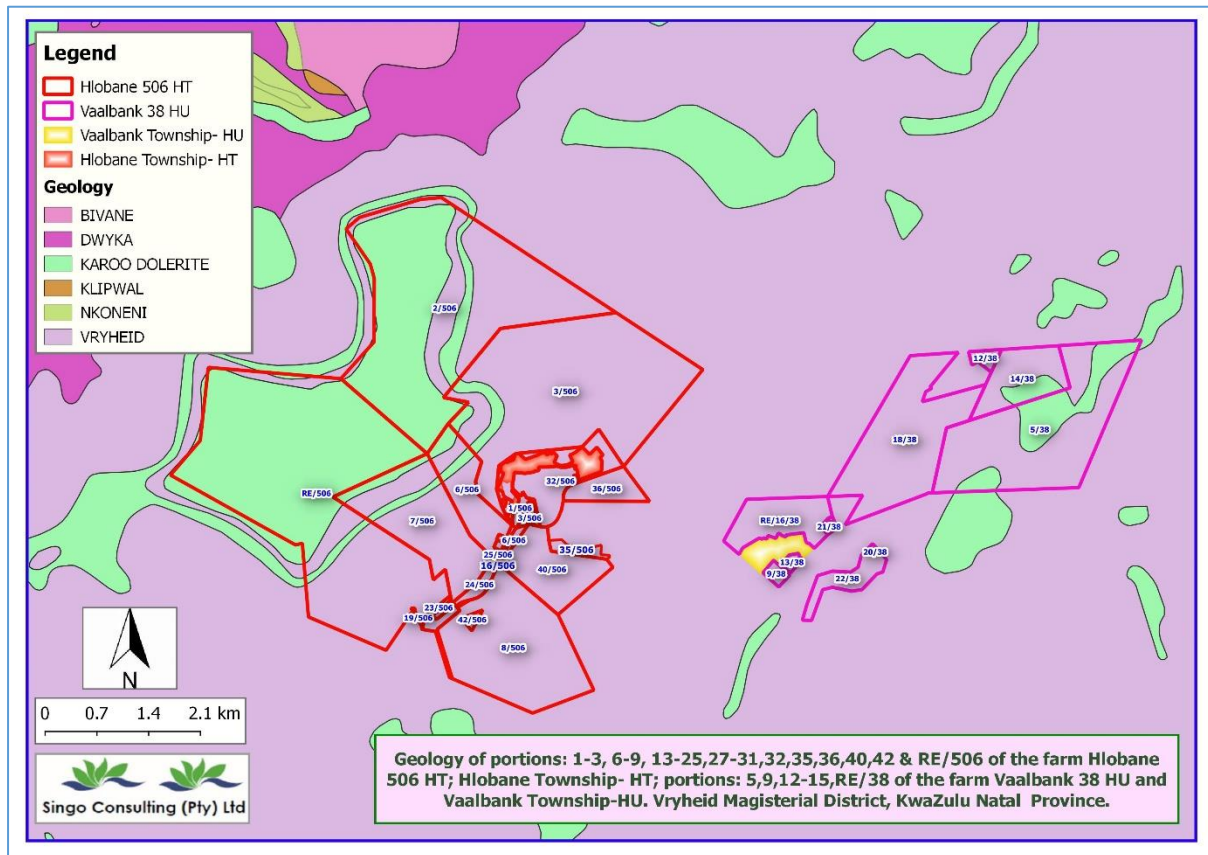
The basement and Dwyka Group are unconformably overlain by the coal bearing Ecca Group's Vryheid Formation consisting of six recognized coal seams that are separated by the sedimentary packages consisting mainly of sandstone and thinly laminated siltstone with subordinate mudstone and shale. The lithological units are varying in thickness.

The local geology of the project area is entirely covered by the Vryheid formation. The dominant rocks of the Vryheid formation that can be found are sandstones together with subequal or subordinate mudrock/rhythmite. The base of an idealized coarsening upwards deltaic cycle in the eastern part of the Vryheid formation consists of dark grey, muddy siltstone resulting from shelf suspension deposition in anoxic water of moderate depth.

The origination of the coal seams came about as peat swamps that developed on broad abandoned alluvial plains and, less commonly in interfluves (back swamps). Most of the economically important



coal seams occur in the fluvial succession. The fluvial interval grades into deltaic sediments towards the southwest. The Vryheid formation can be subdivided into a lower fluvial -dominated deltaic interval, a middle fluvial interval and an upper fluvial-dominated deltaic interval in the east. These subdivisions correspond approximately to the lower sandstones, coal zones and upper sandstones



Map 5: Geology of the prospecting right area

5.2 Acid generation capacity

12.2.3

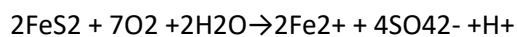
5.2.1 Acid mine drainage

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

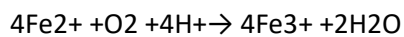


When contaminants leaches to underground water AMD can potentially occur. Therefore, acid mine drainage studies should be included as one of the impacts to be mitigated in this area. Acid mine drainage occurrence in an area will be indicated by a decrease in pH. The equations below show the process of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

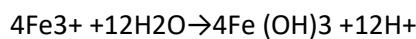
1. Oxidation of Polysulfide to sulphate by O₂



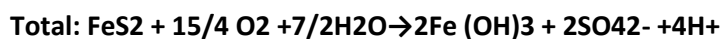
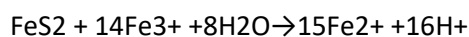
2. Oxidation of Fe²⁺ (ferrous iron) to Fe³⁺ (ferric iron) by O₂






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



4. Oxidation of polysulfide to sulphate by Fe³⁺ at low pH



Acid mine drainage can be treated in various ways including:

-  An increase in pH or raising alkalinity. This can be achieved by neutralization reactions, introducing alkalinity reagents such as Na₂CO₃ or NaOH,
-  Removing metals like iron, zinc and aluminium from water.
-  Conducting passive treatments of acid mine drainage (limestone leach beds) as well as conducting active treatment of acid mine drainage (treatment plants)

5.3 Hydrogeology

The fractured aquifer consists of the various lithologies of siltstone, shale, sandstone, and the coal seams. The pores of the geological units are generally well cemented, and the principle flow mechanism is fractured flow along secondary structures e.g. faults, bedding plane fractures etc. The intrusion of the fractured aquifer by dolerite dykes and sills has led to the formation of preferential flow paths along the contacts of these lithologies due to the formation of cooling joints. The dykes may act as permeable or semi-permeable features to impede flow across the dykes.



The flow mechanism is fracture flow as can be expected from the crystalline nature of the shale rocks. The water quality is generally characterized by high fluoride levels which limits exploitation of this aquifer in combination with the general low yields, deep (expensive) drilling and the low recharge (Grobbelaar et al, 2004). Mining of the coal seams has resulted in the introduction of an artificial aquifer system which generally dominates the groundwater flow on a local and regional scale.

Below is a cross sectional figure of a typical fractured aquifer. Water exists in fractures in Karoo weathered aquifers. Two important characterizations that exist in the study area is the upper weathered aquifer system and the lower fractured aquifer system. If the purpose of drilling boreholes is for the supply of water, drillers will usually be directed to drill targeting the fault zones, however in the present study where the boreholes to be drilled are for coal and pseudocoal exploration, fault zones and contacts should be avoided at all costs, to minimize the impact to groundwater. The boreholes drilled must be cased to avoid clogging and contamination.

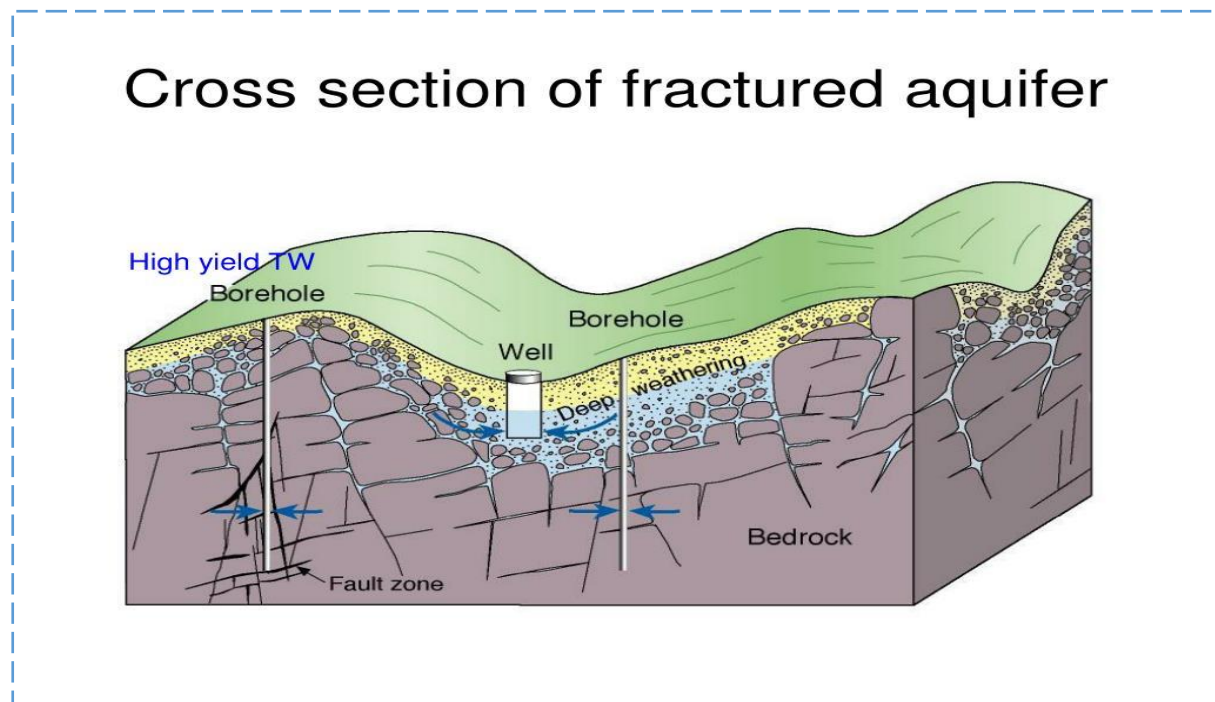


Figure 29: Cross section of a fractured aquifer

5.4 Potential contaminants

The potential contaminants for the prospecting of coal are minimal and can be controlled easily as this activity will only take place for a short period of time. Fuel and oil handling facilities are likely sources



of hydrocarbon related contaminants. Oils, grease, and other hydrocarbon products (such as petrol and diesel) handled in these areas may contaminate the environment by spillages and leakages (e.g. from drill rigs).

12.3 5.5 Aquifer classification

The figure below illustrates aquifer classification of different areas in South Africa. It can be deduced that the project area comprises of minor aquifers and the dominant water source is the combination of surface water and groundwater. Table 19 interprets the meaning of the aquifer classification and when an area is said to have a minor aquifer it means that the aquifer is Moderately yielding aquifer of acceptable quality or high yielding aquifer of poor-quality water.

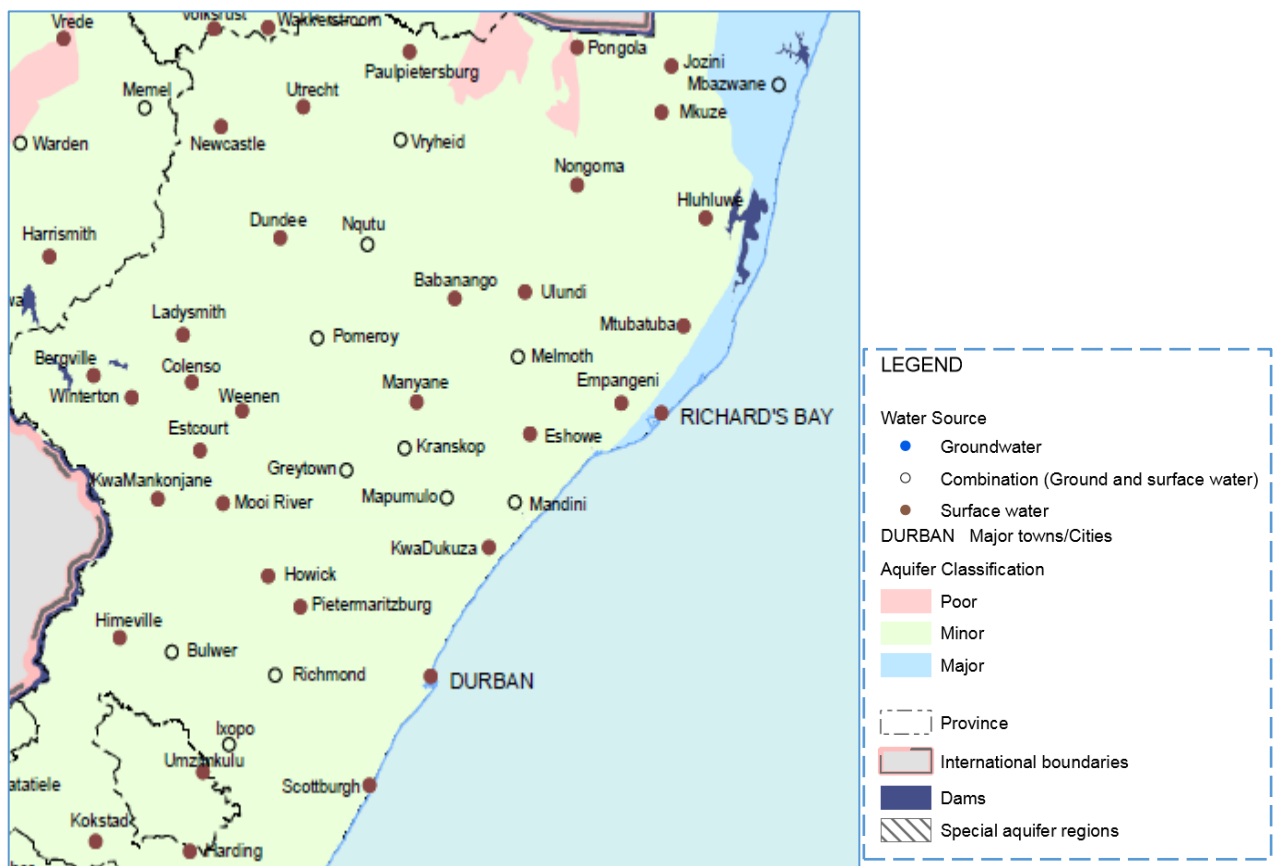


Figure 30: Aquifer classification of South Africa

Table 19: Aquifer characterization



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

6 Groundwater Modelling

6.1 Software model choice

MODFLOW software is the chosen software to model groundwater flow and contaminant transport in this situation. The finite difference numerical model was created using the US Department of Defence Groundwater Modelling System (GMS9.2) as Graphical User Interface (GUI) for the well-established MODFLOW and MT3DMS numerical codes.

MODFLOW is a 3D, cell-centred, finite difference, saturated flow model developed by the United States Geological Survey. MODFLOW can perform both steady state and transient analyses and has a wide variety of boundary conditions and input options. It was developed by McDonald and Harbaugh of the US Geological Survey in 1984 and underwent eight overall updates since. The latest update (MODFLOW-NWT) incorporates several improvements extending its capabilities considerably, the most important being the introduction of the Newton formulation of MODFLOW. This dramatically improved the handling of dry cells that has been a problematic issue in MODFLOW in the past.

MT3DMS is a 3-D model for the simulation of advection, dispersion, and chemical reactions of dissolved constituents in groundwater systems. MT3DMS uses a modular structure similar to the structure utilized by MODFLOW and is used in conjunction with MODFLOW in a two-step flow and



transport simulation. Heads are computed by MODFLOW during the flow simulation and utilized by MT3DMS as the flow field for the transport portion of the simulation.

Elevation data is crucial for developing a credible numerical model, as the groundwater table in its natural state tends to follow topography. The best currently available elevation data is derived from the SRTM (Shuttle Radar Tomography Mission) DEM (Digital Elevation Model) data. The SRTM consisted of a specially modified radar system that flew on board the Space Shuttle Endeavour during an 11-day mission in February of 2000, during which elevation data was obtained on a near-global scale to generate the most complete high-resolution digital topographic database of Earth. Data is available on a grid of 30 meters in the USA and 90 meters in all other areas.

6.2 Model set-up and boundaries

During model setup, the conceptual model is translated into a numerical model. This stage entails selecting the model domain, defining the model boundary conditions, discretizing the data spatially and over time, defining the initial conditions, selecting the aquifer type, and preparing the model input data. The above conditions together with the input data are used to simulate the groundwater flow in the model domain for pre steady state conditions.

12.4 7.3 Groundwater elevation and gradient

- ❖ Constant head boundary conditions on west and east boundaries
- ❖ Single layer aquifer of 30 m thickness
- ❖ Steady state simulation (seconds)
- ❖ Hydraulic head of 10 m along western boundary and 30 m along the eastern boundary
- ❖ Uniform hydraulic conductivity of 0.01 m/d

12.5 7.4 Groundwater sources and sinks

Following the characterization of the aquifers, contaminant sources and groundwater receptors, the conceptual model was transformed into a numerical model so that the groundwater flow conditions, and mass transport can be solved numerically. A conceptual model is a simplified, but representative description of the groundwater system that illustrates the interaction of the sources, pathways, and receptors at the site.



- ❖ The **sources** represent any entity that contributes to the groundwater quantity and/or quality
- ❖ The **pathways** are the aquifers through which the groundwater and contaminants migrate and
- ❖ The **receptors** are humans, rivers or natural ecosystems that depend on the groundwater and will be impacted negatively if the water is depleted by dewatering or is contaminated.




12.6 7.5 Model results

Prior to the drilling of the prospecting boreholes, a baseline steady state groundwater flow model was set-up and calibrated. The objective of the steady state model is to simulate the undisturbed groundwater system in the region prior to commencement of prospecting activities. The impacts of the prospecting activities can then be determined by comparing the transient state results with the steady state results. Groundwater flow model was developed to determine the flow direction as well as flow velocity of water before any disturbances to the natural environment.

12.6.1 7.5.1 Groundwater flow model

Before any activity can take place, the surrounding environment and the groundwater will not be affected by solute contamination. The concentration of possible contaminants is assumed to be zero, therefore we will only have a groundwater flow model illustrating how the groundwater is flowing before any activity commence.

Data:

-  Steady state flow simulation
-  Recharge
-  Simulation time in seconds (5 years)

The model below illustrates that the arrow has uneven flow directions towards the lower elevations where the stream and tributaries are located. The general flow direction as per the model below is uneven, with reference from the prospecting farms. The flow velocities are more near the rivers, depicted by light blue solid lines passing through the prospecting farms. The dome shape at the bottom of the model illustrates the water level in this area.



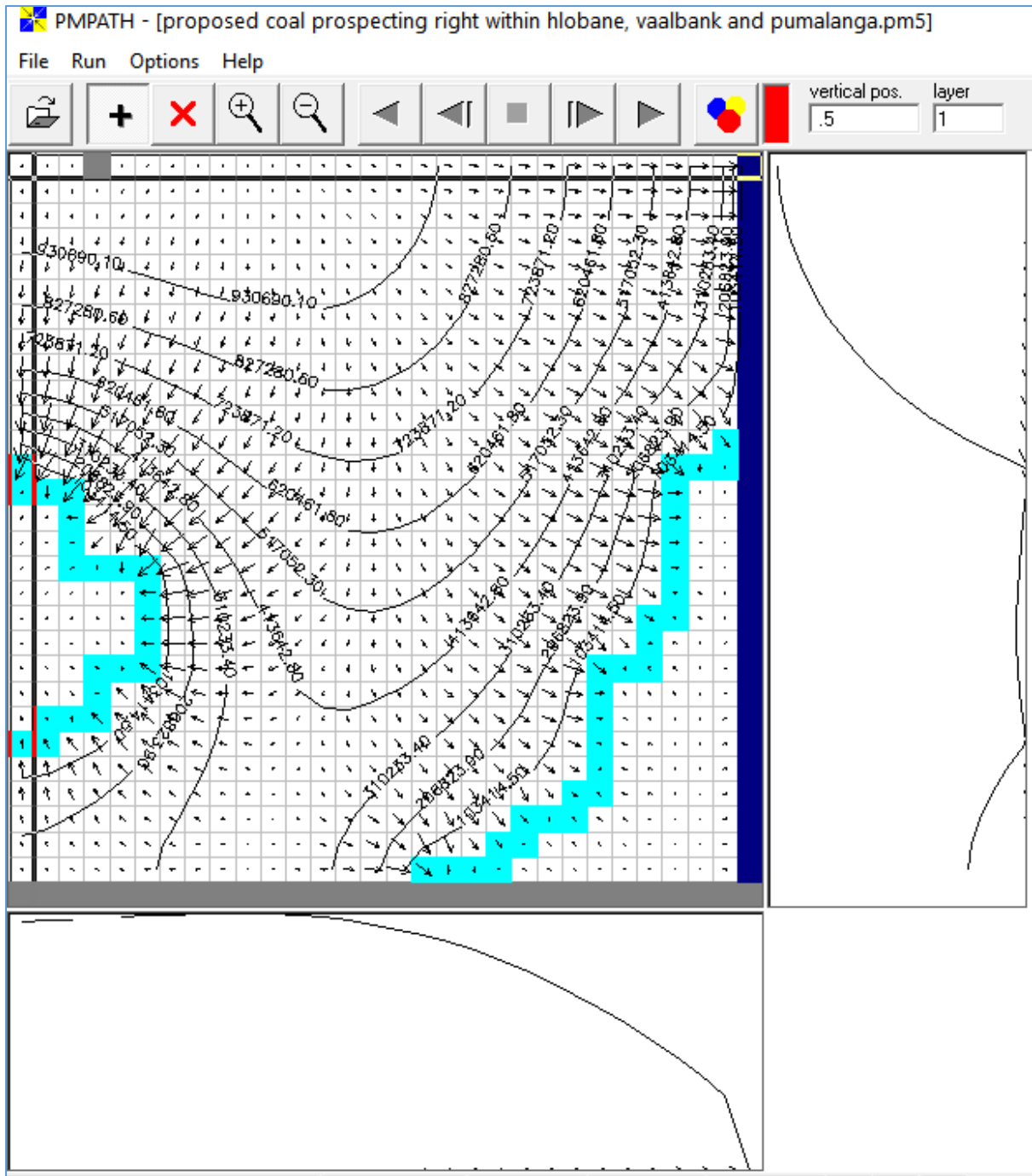


Figure 31: Groundwater flow model



7 Geohydrological impacts

During the prospecting phase for coal and pseudocoal the following impacts are envisioned:





-  Clearing of vegetation leading to increased runoff and less infiltration.
-  Diesel and oil spillages from the drill rig
-  Increase in volume of contaminated water that needs to be managed within the footprint
-  Erosion of stream banks as a result of crossings and diversions leading to siltation of the streams



Table 20: Groundwater impact assessment

Prospecting right impact assessment table						
Name of Company: Singo Consulting (Pty) Ltd			Sector: Environmental Consulting firm			
Department: Land and water division						
Risk Assessment						
Potential environmental impact	Cause of the impact	Recommended measures/remarks for mitigation	Impact risk before mitigation	Impact risk after mitigation	Responsible person(s)	When mitigation should be implemented
Fuel & hydrocarbon spills	Drill rig, trucks and cars	Clean up immediately after accidental spills & Divert run-off from highways that may contain hydrocarbons into pollution control dams to regulate the pollution. Providing spill absorbing material All equipment utilizing hydrocarbons will be stored on a hard-standing surface Vehicles and machinery will need to be maintained in good order to minimize leakages			The project management team	During the prospecting activities
Aquifer contamination	During drilling exploration boreholes	<ul style="list-style-type: none"> • Install casing and rehabilitate the exploration boreholes • Take water samples from the drilled boreholes 			The project management team	After drilling
Clearing of vegetation leading to increased runoff	During pegging, and preparation of the drilling yard	<ul style="list-style-type: none"> • Rehabilitate the site by using a hoe to dug the compacted soil or a tractor. 			The project management team	After pegging and drilling









and less infiltration						
Surface water contamination	<ul style="list-style-type: none"> Washing of working equipments machinery Using water from the river to operate the drill rig 	<ul style="list-style-type: none"> Avoid drilling near surface water Do not wash equipments and vehicles at or near water bodies Conduct prospecting during dry seasons when the water percentages in wetlands and rivers are very low All the wetlands and rivers will need to be buffered as no go area 			The project management team	During prospecting period
Erosion of stream banks as a result of crossings and diversions leading to siltation of the streams	During prospecting activities like logging and sampling	Do desktop study and avoid working near the water bodies			Prospecting team	During the prospecting phase
Soil compaction	During constructing gravel roads to access the site	Rehabilitate these roads by digging with tractors and ploughing vegetation			The project management team	After the prospecting phase
Water and soil contamination	Core logging	The core logs of boreholes with mineral of interest should be cleared from the ground immediately after logging by the geologists to prevent washing and leaching to the water resources during rainfall			The project management team	After the prospecting phase
Impact Classification						



Low environmental Impact.	Medium environmental Impact	High environmental impact	Very High environmental impact
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8 Conclusions and recommendations

-  It can be concluded that the prospecting activity will cause minimal impact on the water resources. The prospecting right activity should take place during dry seasons where the water percentages in the surrounding streams and wetlands are exceptionally low.
-  Drilling activity should not be conducted near these water resources, the exploration geologists will be advised to drill and sample away from rivers and wetlands on site.
-  The exploration boreholes should be cased during drilling and properly rehabilitated after drilling.
-  Extreme caution should be taken during prospecting, owing to the non- perennial rivers and perennial river and numerous wetlands existing within and nearby the project area. No washing of any mechanical equipments or vehicles will be allowed near the water resources.
-  All the wetlands, perennial river and non-perennial rivers will be buffered as no go area preferably a 100m buffer will apply.
-  The core logs of boreholes with mineral of interest should be cleared from the ground immediately after logging by the geologists to prevent washing and leaching to the water resources during rainfall

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4. Soil Study

BASIC SOIL STUDY

FOR COAL PROSPECTING RIGHT AND ENVIRONMENTAL AUTHORIZATION APPLICATIONS FOR ATOK MINING HOUSE (PTY) LTD ON PORTION 1, 2, 3, 6, 7, 8, 9, 13-25, 27-31, 32, 35, 36, 40, 42 AND REMAINDER OF THE FARM HLOBANE NO. 506 HT, ERVEN 2-21, 23-26, 28-63, 66 & 67 OF THE HLOBANE TOWNSHIP HT (TOWN CODE: N0HT0683), PORTIONS 5, 9, 12-15, REMAINDER OF 16, 18 & 20-22 OF THE FARM VAALBANK NO. 38 HU AND ERVEN 0-16 OF THE VAALBANK TOWNSHIP HU (TOWN CODE: N0HU0684) UNDER ABAQULISI LOCAL MUNICIPALITY, KWA-ZULU NATAL PROVINCE

DMRE REF: KZN 30/5/1/1/2/10926 PR

APPLICANT



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2020



REPORT INFORMATION

Soil study for the coal prospecting right application and environmental authorization application for Atok Mining House (Pty) Ltd covering an area extent of 4376.32 ha on portion 1, 2, 3, 6, 7, 8, 9, 13-25, 27-31, 32, 35, 36, 40, 42 and remainder of the farm Hlobane No. 506 HT, Erven 2-21, 23-26, 28-63, 66 & 67 of the Hlobane Township HT (Town code: N0ht0683), portions 5, 9, 12-15, remainder of 16, 18 & 20-22 of the farm Vaalbank No. 38 HU and Erven 0-16 of the Vaalbank Township HU (Town Code: N0hu0684) under AbaQulisi Local Municipality, Kwa-Zulu Natal

REQUESTED BY

ATOK MINING HOUSE (PTY) LTD

COMPILED BY

SINGO CONSULTING (PTY) LTD

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Date: 05 November 202

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1. Introduction

Singo Consulting (Pty) Ltd was appointed by Atok Mining House (Pty) Ltd to conduct a soil study for the Prospecting Right Application which has been submitted for the prospecting of Coal on an area approximately 4376.32 ha on portion 1, 2, 3, 6, 7, 8, 9, 13-25, 27-31, 32, 35, 36, 40, 42 and remainder of the farm Hlobane No. 506 HT, Erven 2-21, 23-26, 28-63, 66 & 67 of the Hlobane Township HT (Town code: N0ht0683), portions 5, 9, 12-15, remainder of 16, 18 & 20-22 of the farm Vaalbank No. 38 HU and Erven 0-16 of the Vaalbank Township HU (Town Code: N0hu0684) under AbaQulisi Local Municipality, Kwa-Zulu Natal Province

12.7 1.1 Project background

A locality map created by QGIS software illustrates detailed and comprehensive information regarding the surrounding settlements and infrastructure of the proposed project area. A locality map created by QGIS software illustrates detailed and comprehensive information regarding the surrounding settlements and infrastructure of the proposed project area. The area of interest is situated within Hlobane, Vaalbank and Pumulanga and approximately 2.73 km south of Thukuzele and roughly 15.70 km north west of Vryheid, within the AbaQulisi Local Municipality. The proposed prospecting area can be accessed via R69.

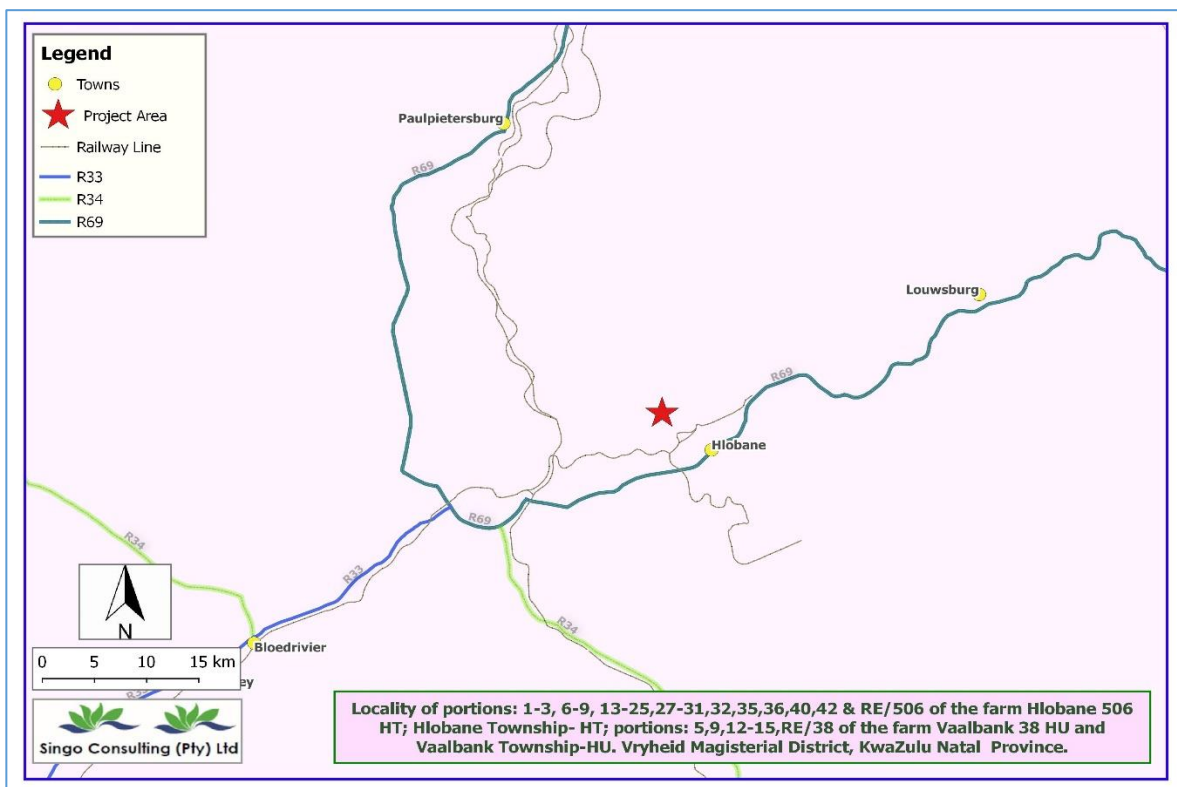


Figure 32: Locality map

2. Study Objectives

The study objectives were to:

- ❖ Conduct a basic soil assessment of the proposed prospecting right project
- ❖ Determine soil assessment impacts of the proposed Coal prospecting activity and provide associated mitigation measures.
- ❖ Classify and map soil forms according to the South African Taxonomic Soil Classification System, 1991
- ❖ Derive and map land capability based on soil properties
- ❖ Map all current land uses

13 3 Project Description

The prospecting right activity will be carried out in five (5) phases namely:

Phase 1: Non-Invasive Prospecting: - Desktop Study - Analysis of Existing Data GIS & analytical desktop studies Surveys.

Phase 2: Non-Invasive Prospecting: - Multi-Spectral and Aerial Surveys

Phase 3: Invasive Prospecting: - Reconnaissance Borehole drilling, Sampling and Analysis.

Phase 4: Invasive Prospecting: - Resource drilling, Sampling and Analysis, Resource Estimation and Pre-Feasibility Study.

Phase 5- Feasibility Studies

Since exploration is temporary in nature no permanent structures will be constructed, negotiations and agreements may be made with the farm owners to use any existing infrastructure like access roads. No accommodation will be provided on site.

The figure below illustrates the basic conceptual model of the area to be disturbed during the prospecting period per drilled borehole.

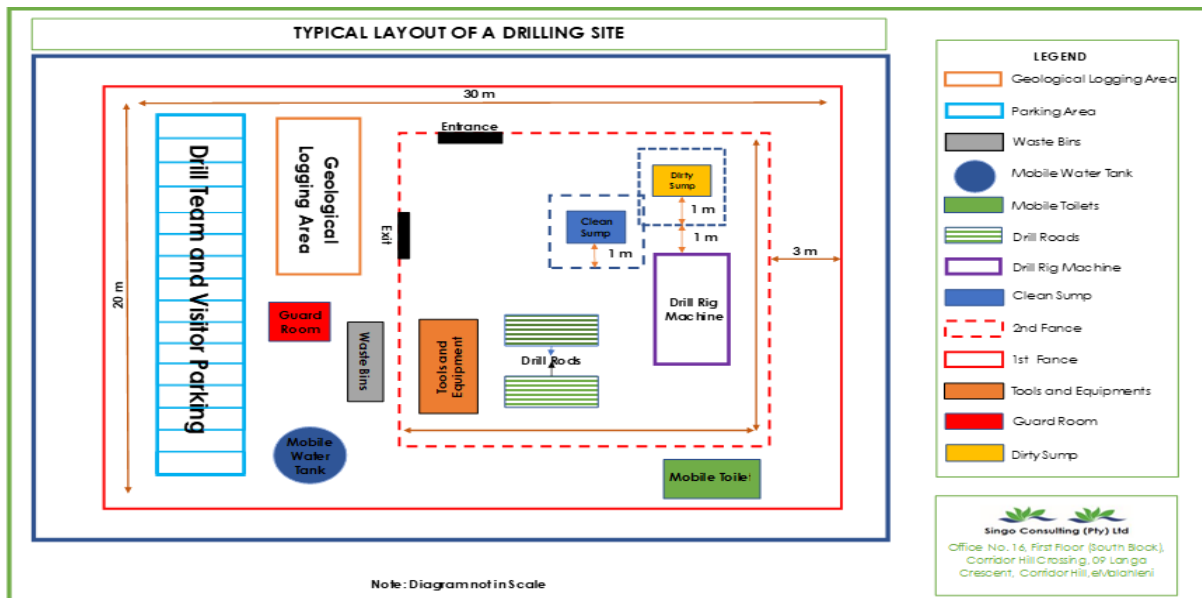


Figure 33: General Layout for prospecting area activities.

14 4 Soil survey Methodology

14.1 4.1 Soil survey procedures

This allows soil surveyors to enter the project area and study colour, texture, structure, and other soil properties as well to differentiate between horizons. This allows for classification. Chemical tests can be carried out in the field (e.g. pH, test for carbonates and test for Mn oxides). Classification is done at this stage, which provides information on the chemical, physical and mineralogical characterization of the soil. Soil scientists that map the area, familiarize themselves with soils they expect to find and use characteristics to distinguish them from other soils in the area by doing desktop study.

Delineating soil boundaries

To avoid digging random soil pits with an auger, a map of the area will be taken, and a grid will be made on the map to determine where samples will be taken from. An efficient soil mapper looks at changes in vegetation, topography, and soil colour. A bare soil map can also be looked at to see where changes in colour occur indicating differences in soil. Once the project area is established, an auger will be used to dig holes in order to determine the soil profiles.

14.2 4.2 Soil and land capability

Land capability depends on soil capability in combination with climate. The land capability depends on soil depth which was determined at soil survey positions. Survey positions will be recorded as waypoints using a handheld Global Positioning System (GPS).

14.3 4.3 Structure of the SA classification system

- ❖ Procedure to follow when identifying a soil:
- ❖ Demarcate master horizons in profile.
- ❖ Identify diagnostic horizons/materials.
- ❖ Establish soil form
- ❖ Identify family differentiae.
- ❖ Establish soil family.
- ❖ Determine textural class.
- ❖ Determine moisture retention capability

14.4 4.4 Environmental Impact Assessment

The impact rating process is designed to provide a numerical rating of the various environmental impacts identified using the Input-Output model. It must be stressed that the purpose of this process is not to provide an incontrovertible rating of the significance of various aspects, but rather to provide a structured, traceable and defensible methodology of rating the relative significance of impacts in a specific context. This gives the project proponent a greater understanding of the impacts of this project and the issues which need to be addressed by mitigation and give the regulators information on which to base their decisions.

The significance rating process follows the established impact/risk assessment formula:

$$\text{Significance} = \text{Consequence} \times \text{Probability}$$

Where

$$\text{Consequence} = \text{Severity} + \text{Spatial Scale} + \text{Duration}$$

$$\text{Probability} = \text{Likelihood of an impact occurring}$$

The matrix calculates the rating out of 147, whereby Severity, Spatial Scale, Duration and Probability are each rated out of seven as indicated in Table 1. Weighting can be applied to the various parameters.

Impacts are rated prior to mitigation and again after consideration of the mitigation measure proposed in the Environmental Management Plans (EMP). The significance of an impact is then determined and categorized into one of four categories, as indicated in Table 2, which supports Table 3. Management actions will be assigned for all identified impacts.

A neutral impact implies that it causes the area to return to a pre-project state. This is not regarded as positive, as there would have been no need for this activity if the operation were not carried out.

Table 21: Impact assessment parameter ratings

Rating	Severity		Spatial scale	Duration	Probability
	Environmental	Social, cultural and heritage			
7	Very significant impact on the environment. Irreparable damage to highly valued species, habitat or eco system. Persistent severe damage	Irreparable damage to highly valued items of great cultural significance or complete breakdown of social order.	International The effect will occur across international borders	Permanent: No Mitigation No mitigation measures of natural process will reduce the impact after implementation	Certain/Definite. The impact will occur regardless of the implementation of any preventative or corrective actions.
6	Significant impact on highly valued species, habitat or ecosystem	Irreparable damage to highly valued items of cultural significance or breakdown of social order.	National Will affect the entire country	Permanent: Mitigation measures of natural process will reduce the impact	Almost certain/Highly probable It is most likely that the impact will occur
5	Very serious, long term environmental impairment of ecosystem function that may take several years to rehabilitate	Very serious widespread social impacts. Irreparable damage to highly valued items.	Province/ Region Will affect the entire province or region	Project Life The impact will cease after the operational life span of the project	Likely The impact may occur
4	Serious medium term environmental effects. Environmental damage can be reversed in less than a year On	On-going serious social issues. Significant damage to structures / items of cultural significance	Municipal Area Will affect the whole municipal area	Long term 6-15 years	Probable Has occurred here or elsewhere and could therefore occur
3	Moderate, short-term effects but not affecting ecosystem function. Rehabilitation requires intervention of external specialists and can be done in less than a month	On-going social issues. Damage to items of cultural significance. Local	Local Local extending only as far as the development site area	Medium term 1-5 years	Unlikely Has not happened yet but could happen once in the lifetime of the project, therefore there is a possibility that the impact will occur

2	Minor effects on biological or physical environment. Environmental damage can be rehabilitated internally with/without help of external consultants	Minor medium-term social impacts on local population. Mostly repairable. Cultural functions and processes not affected.	Limited to the site and its immediate surroundings	Short term Less than 1 year	Rare/ improbable Conceivable, but only in extreme circumstances and/ or has not happened during lifetime of the project but has happened elsewhere. The possibility of the impact materializing is very low as a result of design, historic experience or implementation of adequate mitigation measures
1	Limited damage to minimal area of low significance, (e.g. ad hoc spills within plant area). Will have no impact on the environment.	Low-level repairable damage to commonplace structures	Very limited to specific isolated parts of the site.	Immediate Less than 1 month	Highly unlikely/None Expected never to happen

Table 22: Probability Consequence Matrix

Significance		Consequence (severity + scale + duration)								
		1	3	5	7	9	11	15	18	21
Probability / Likelihood	1	1	3	5	7	9	11	15	18	21
	2	2	6	10	14	18	22	30	36	42
	3	3	9	15	21	27	33	45	54	63
	4	4	12	20	28	36	44	60	72	84
	5	5	15	25	35	45	55	75	90	105
	6	6	18	30	42	54	66	90	108	126
	7	7	21	35	49	63	77	105	126	147

Table 23: Impact significance threshold limits

Significance		
High	108- 147	
Medium-High	73 - 107	
Medium-Low	36 - 72	
Low	0 - 35	

15 5 Description of the Receiving Environment

The area of interest is situated within Hlobane, Vaalbank and Pumulanga and approximately 2.73 km south of Thukuzele and roughly 15.70 km north west of Vryheid, within the AbaQulisi Local Municipality on portion 1, 2, 3, 6, 7, 8, 9, 13-25, 27-31, 32, 35, 36, 40, 42 and remainder of the farm Hlobane No. 506 HT, Erven 2-21, 23-26, 28-63, 66 & 67 of the Hlobane Township HT (Town code: N0ht0683), portions 5, 9, 12-15, remainder of 16, 18 & 20-22 of the farm Vaalbank No. 38 HU and Erven 0-16 of the Vaalbank Township HU (Town Code: N0hu0684)

15.1 5.1 Climate

15.2 5.2 Soil

A map in Figure 3 was produced from a desktop study. From the map, it can be deduced that the mining area is covered with Soils with a plinthic horizon.

The proposed area consists of Soils with a plinthic horizon that is confirmed on a soil map by GIS specialist. This type of soil consist of an orthic A horizon which grades into a soft or hard plinthic B horizon either directly, or indirectly via a red apedal B, yellow brown apedal B or E horizon. Soil within the proposed project is a Soft plinthic B-horizon which has grey colours caused by gleying. This horizon has in the non-concretionary parts of the horizon, a loose, friable, or slightly firm consistence. This horizon is non-indurated and can be cut with a spade when wet, even though individual mottles may have hardened irreversibly to form concretions.

Red apedal soils

These soils have a structure that is weaker than moderate blocky or prismatic in the moist state, if structure is borderline, CEC (NH₄OAc, pH7) per kg soil is less than 11cmol (+)/kg soil. These soils are non-calcareous in any part of the horizon which occurs within 1500mm of the soil surface but may contain infrequent, discrete, relict lime nodules in a non-calcareous soil matrix. It does not have alluvial or aeolian stratifications.

The B horizons that have more or less uniform colours, falling within the range defined as red and that in the moist state, lack well-formed peds other than porous micro-aggregates, qualify as red apedal. The concept of these macroscopically weakly structured or structureless materials embraces that kind of weathering that takes place in a well-drained oxidizing environment to produce coatings of iron oxides on individual soil particles (hence the diagnostic red colours) and clay minerals dominated by non-swelling 1:1 type.

Yellow apedal soil

This horizon does not have grey colours in the dry state as defined for the E horizon. Although colour must be substantially uniform, some variability is permitted, for example mottles or concretions which are insufficient to qualify the horizon as a diagnostic plinthic B, faunal reworking may also result in acceptable colour variegations. It is non-calcareous within any part of the horizon which occurs within 1500mm of the surface but may contain infrequent, discrete, relict lime nodules in a non-calcareous soil matrix. Does not have alluvial or aeolian stratifications, directly underlies a diagnostic topsoil horizon or an E horizon.

Yellow brown apedal B horizons occur over approximately the same climatic spread as their red counterparts and so are also very widely distributed throughout the country. They may be found on all types of parent material.

Soft plinthic B-horizon

Has grey colors caused by gleiing. This horizon has in the non-concretionary parts of the horizon, a loose, friable, or slightly firm consistence. This horizon is non-indurated and can be cut with a spade when wet, even though individual mottles may have hardened irreversibly to form concretions.

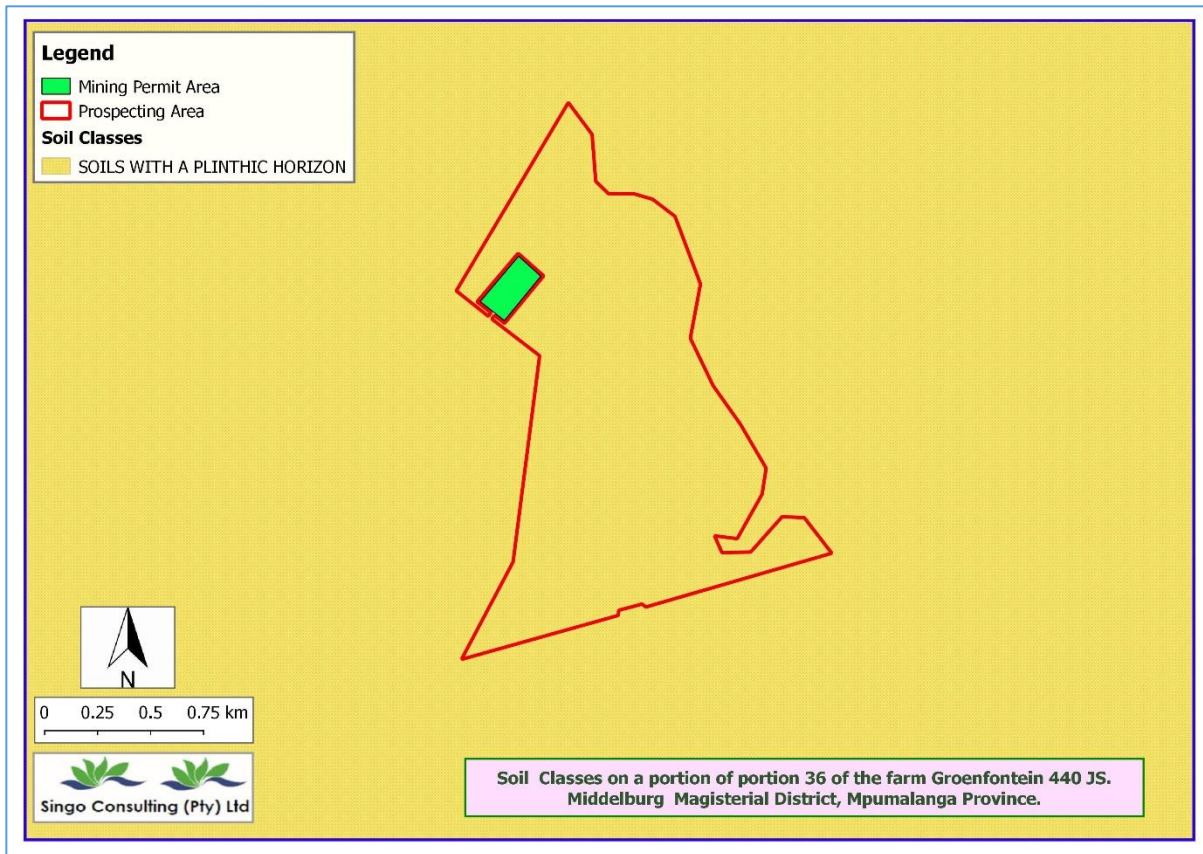


Figure 34: Soil classes map

15.3

5.3 Land use

The map in Figure 4 illustrates a variety of land uses that is currently taking place in the proposed prospecting right area. These land uses include large cultivated area, water bodies and uncategorized land. The prospecting right activity possess a lower risk in these soil types as the prospecting activity is short term and no huge excavation impact will be caused by this activity.

Where the land use is currently cultivation, drilling will only take place after the reaping period is over to avoid destroying the crops. Because of numerous waterbodies in place, drilling will also be conducted during dry season when the water percentage is low in the wetlands and non-perennial streams within the project area.

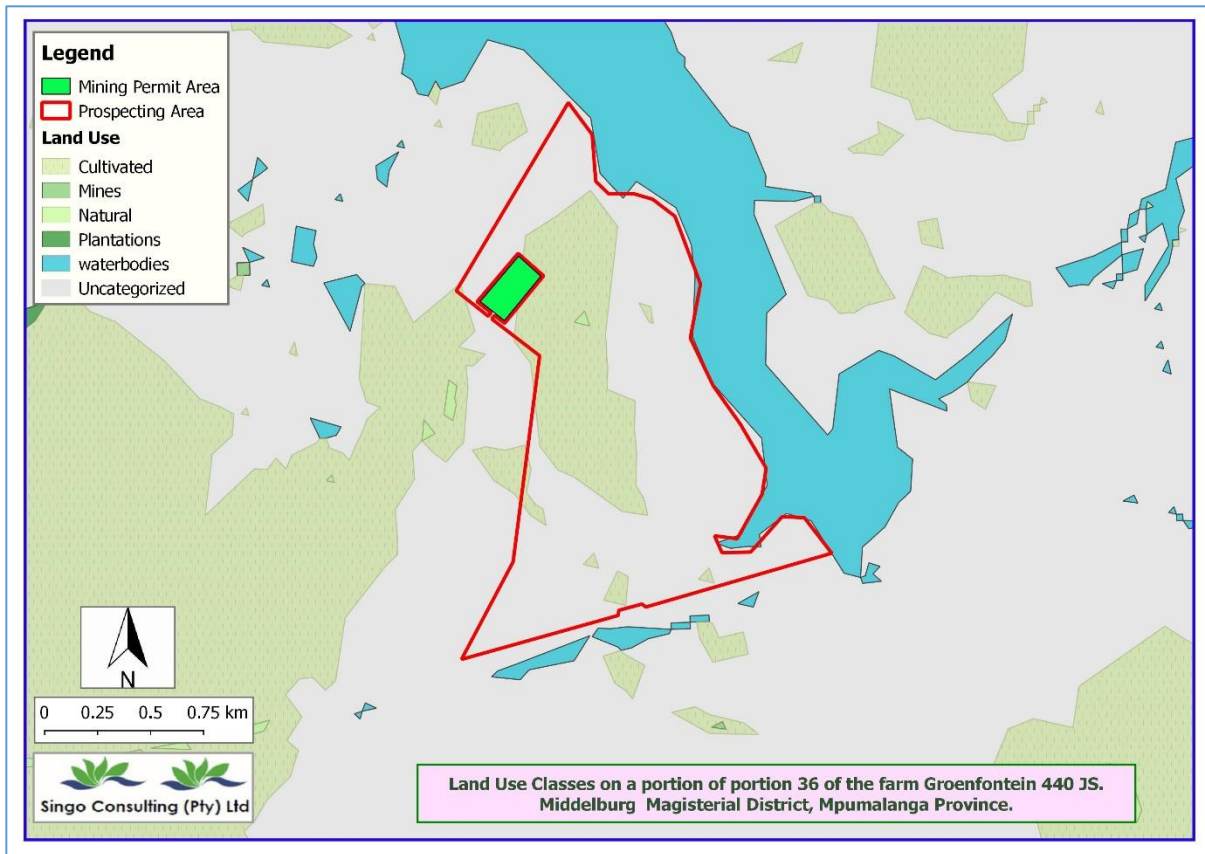


Figure 35: Land use map

16 6 Potential Environmental Impacts

16.1 6.1 Prospecting Phase

During the coal prospecting phase, the work carried out will mainly be mapping, logging, sampling, and diamond core drilling to investigate the existence of the expected mineralization, the thickness of the orebodies and its distribution. Core logs will be taken off-site to be sampled and analyzed. During these activities only a little space will be disturbed, as prospecting is a short-term operation.

The topography and natural drainage lines may also be disturbed. The overall impact will be loss of topsoil as a result of erosion as well as potential contamination of the soil, fuel, and oils (hydrocarbons) as a result of the drill rigs that will be used during core drilling.

Prospecting activities will however not change/ alter the land use from natural, cultivated to wilderness. The pathways that will be developed during prospecting will be temporary and not paved, they should be

rehabilitated and closed after prospecting. No toxic chemicals are anticipated to flow within the soils as the operation will not involve any mining activity or blasting.

17 7 Impact Assessment

The environmental impact assessment is designed to identify impacts related to prospecting of activities and how to mitigate these impacts. It is anticipated that with the correct mitigation measures being put in place these impacts can be reduced. The rating of impacts is based on the type of activity that will be undertaken. Similar activities that will have the same impact to soil, land use and land capability have been grouped together and discussed for particular impacts, such as loss of topsoil as a resource.

When the impact rating is significantly different as a result of the activity, a separate rating has been given for those particular activities. The activities, such as coal prospecting would potentially have a lower impact on soil, land capability and land use as these areas are less disturbed. For the purpose of this impact assessment activities that are located within relatively undisturbed areas have been rated together and all other activities falling within the prospecting area have been rated together with respect to the level of the impacts.

17.1 7.1 Prospecting Phase

Topsoil will not be removed as there will not be any mining related activities taking place. No foundation excavations will be needed for fuel storage depot as fuel will be transported to site daily during the drilling phase.

17.1.1 7.1.1 Impact: loss of topsoil as a resource, erosion, and compaction

Table 24: Impact: loss of topsoil as a resource, erosion, and compaction

Criteria	Details / Discussion
Description of impact	<p>During diamond core drilling the land clearance and earthworks will have a minor impact. Even though soil will be cleared from most of the areas where infrastructure will be placed, areas that are not disturbed by the drilling will remain in their current land use.</p> <p>The boreholes footprint will be minimal. The pathways to be created to provide access of the drill rig can cause compaction of soil.</p>

During clearance of vegetation there is a greater risk, when compared to other areas, that topsoil would be exposed and there is potential risks for increased erosion in these areas during rainfall events, resulting in a potential loss of soil as a resource. In addition, wind erosion would be greater as these areas are exposed as a result of the removal of vegetation.

Mitigation required

- ❖ Pathways are to be stripped when the soil is dry (as far as practical possible), as to reduce compaction; and
 - ❖ To be stripped according to the stripping guideline and management plan, and further recommendations contained within the rehabilitation plan.
 - ❖ Minimise the period of exposure of soil disturbances through a planning schedule
-

18 8 Soil Management Plan

18.1

8.1 Background

More important than chemical imbalances which can be easily restored at cost, is soil compaction and volumes of replacement during soil reclamation. Heavy drill rigs equipment to be used during prospecting may lead to areas of low soil and land capabilities. Such areas have limited land use options and specialized management needs. However, this impact will be minimal.

18.2 8.2

Physical

mitigation

Good quantity and quality topsoil are an essential ingredient in the process of soil reclamation. Factors leading to decay in soil quality are:

- ❖ Contamination impacts on soil quality
- ❖ Erosion impacts on soil volume
- ❖ Indiscriminate storage impacts on soil quality and
- ❖ Indiscriminate use impacts on soil volume.

Therefore, care must be taken during the prospecting process to prevent compaction on the one hand and to replace soil volumes back to a representative pre-process plant soil and land capability while emulating the pre prospecting landscape.

18.3 8.3 Soil quality indicators

Deciding on and monitoring soil quality indicators during soil impacts and reclamation can greatly improve the chances of reclaiming soil to a sustainable resource. The following actions should form part of monitoring soil quality and rehabilitation sustainability:

- ❖ Visual soil assessment by a specialist
- ❖ Soil quality monitoring system
- ❖ Visual assessment should include specialist recording of water ponding, plant intensity, earthworms, runoff, ease of cultivation, soil colour, soil aroma, soil structure and opacity of the soil.
- ❖ Soil quality monitoring should include, bulk density, infiltration rate, water holding capacity, electrical conductivity, pH, soil nitrate and microbial activity.

Organic matter must be added back into the soil; hence soil is pre-mixed with organic material and placed back to the disturbed area. Continuous visual and soil quality monitoring as mentioned under soil quality indicators above should ensure that the best possible soil reclamation procedure is followed. Vehicle movements must be restricted on freshly dumped soil to prevent compaction as much as possible.

19 9 Conclusion and Recommendations

A soil, land use and agricultural potential investigation was conducted for the proposed coal prospecting project. The topographical, land use and soil type data available for the site were compiled using both desktop and field assessment data to determine the potential impacts of the prospecting activities.

The following conclusions are made in this study:

- ❖ The soils within the area have the dominant red or yellow structureless soils with plinthic horizon.
- ❖ The land use on the investigation site is covered largely by cultivated land use type, waterbodies, natural as well as mine land use type.
- ❖ The coal prospecting infrastructure will have less impact on soils and footprint will be minimal.
- ❖ It is anticipated that the coal prospecting activities will not lead to severe loss of soils and degradation of agricultural potential.
- ❖ It is highly recommended to do rehabilitation after the period of coal prospecting activities cease.
- ❖ And all the wetlands and non-perennial rivers will be buffered as “no go” area preferably a 500 m buffer will apply

- ❖ No washing of any mechanical equipments or vehicles should be allowed 500 m from the water resources.
- ❖ The core logs of boreholes with coal material should be cleared from the ground immediately after logging by the geologists to prevent washing and leaching to the water resources during precipitation events.

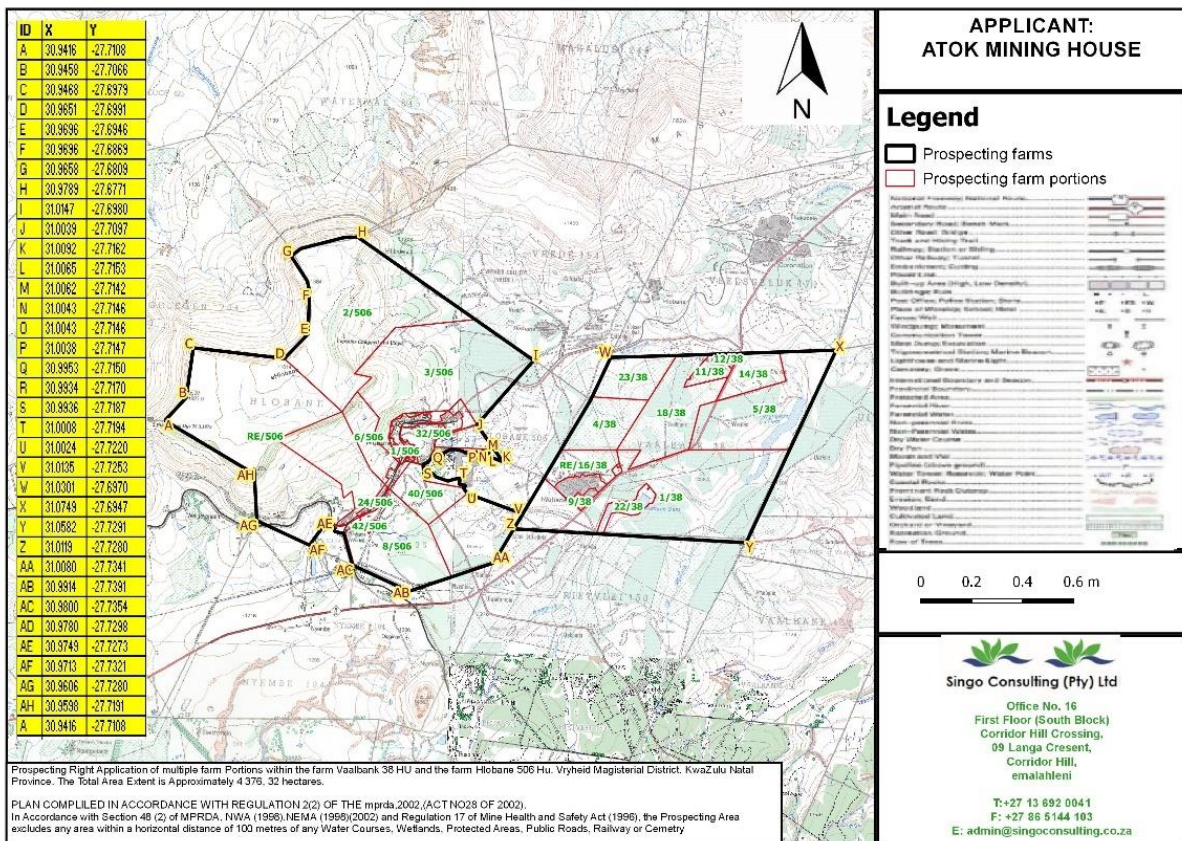
20 10 References

Land Type Survey Staff. 1972 – 2006. Land Types of South Africa: Digital map (1:250 000 scale) and soil inventory databases. ARC-Institute for Soil, Climate and Water, Pretoria.

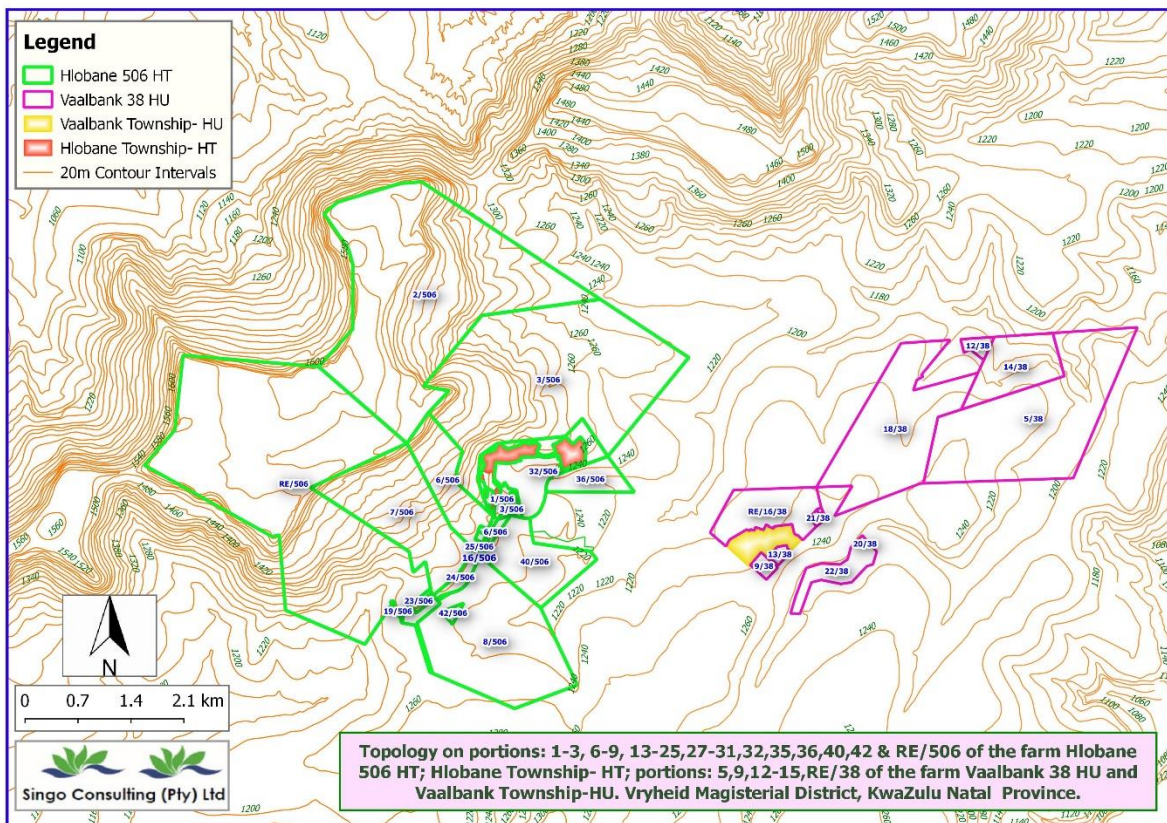
Schoeman, J.L., van der Walt, M., Monnik, K.A., Thackrah, A., Malherbe, J. and le Roux, R.E., 2000. The development and application of a land capability classification system for South Africa. ARC-ISCW Report No GW/A/2000/57, ARC-Institute for Soil, Climate and Water, Pretoria

Soil Classification Working Group, 1991. Soil Classification – a taxonomic system for South Africa. ARC-Institute for Soil, Climate and Water, Pretoria.

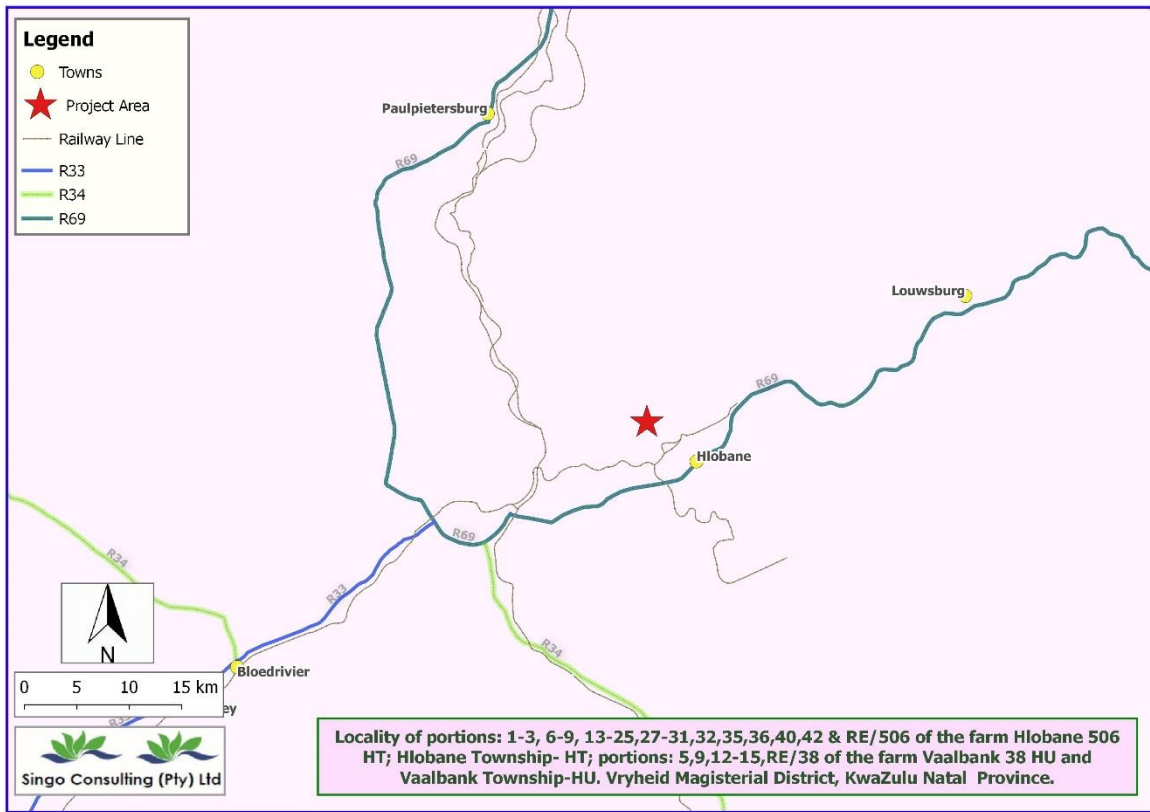
Appendix B: Project Maps



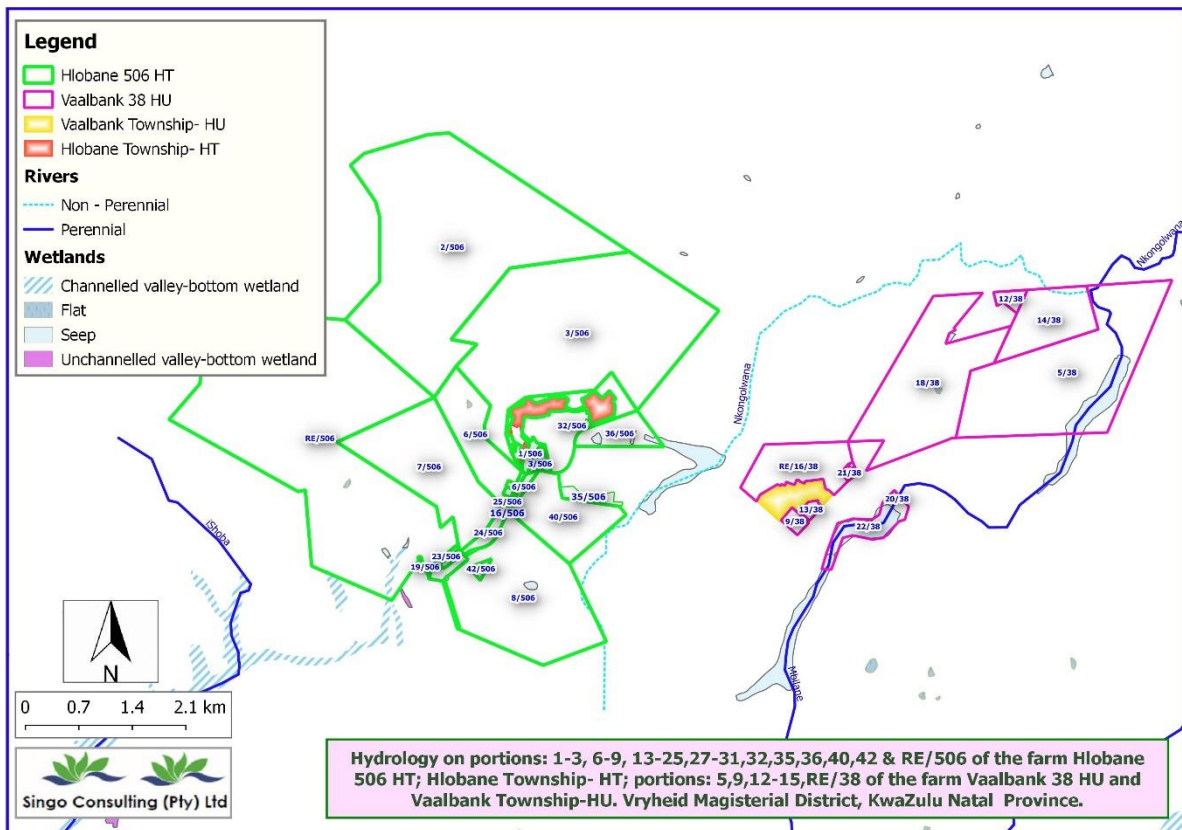
Regulation Map



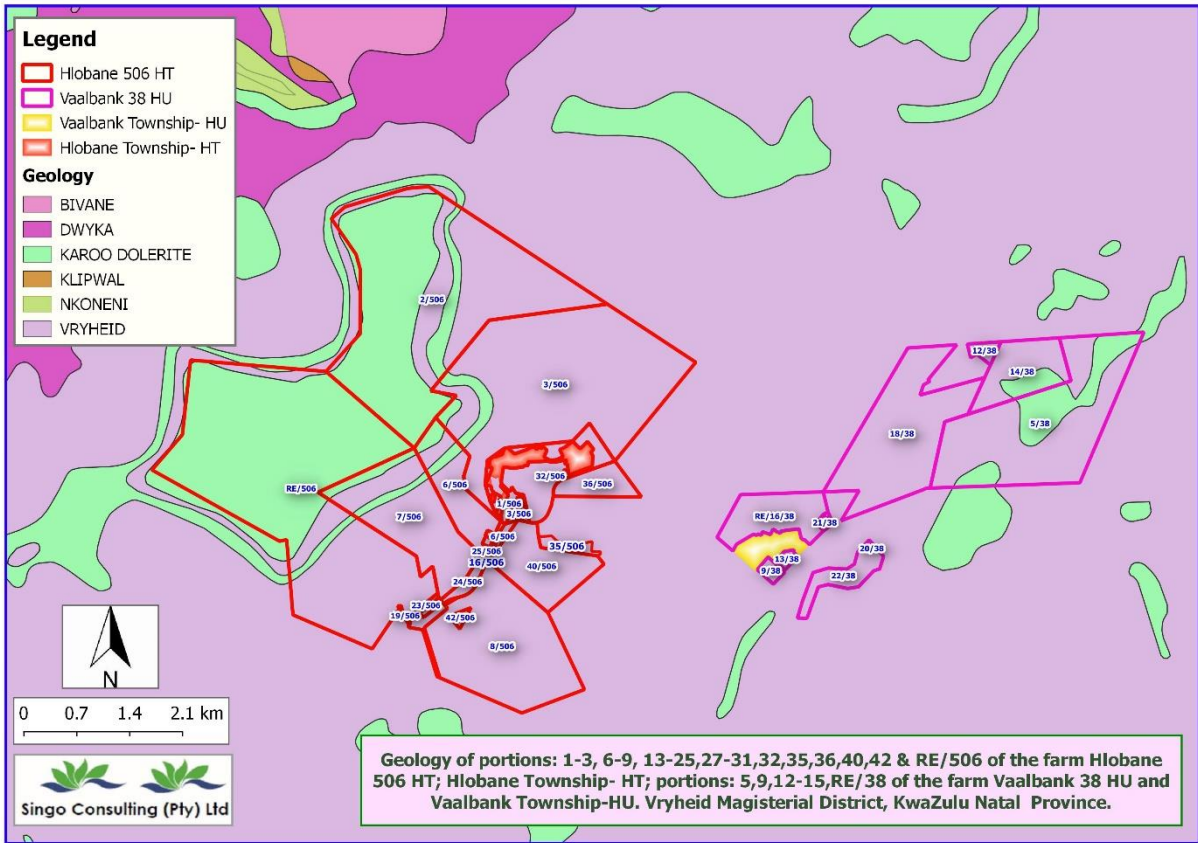
Topographical Map



Locality Map



Hydrological Map



Geology Map

Appendix C: DMRE Acceptance Letter



mineral resources
& energy

Department
Minerals Resources and Energy
REPUBLIC OF SOUTH AFRICA

Private Bag X 54307, Durban, 4000, 333 Anton Lembede Street, 3rd Floor Durban Bay House, Durban, Tel (031) 335 9600, Fax (031) 305 5801
Reference: KZN 30/5/1/1/2/ 10926 PR Enquiries: Mr. Sandile Njapha Email address: Sandile.njapha@dmr.gov.za, Date: 25th September 2020

REGISTERED MAIL

THE MANAGER
ATOK MINING HOUSE (PTY) LTD
P.O BOX 7297
HIGHVELD MALL
EMALAHLENI (WITBANK)
1035

Dear Sir/Madam

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

1. Please be informed that your application for Prospecting of Coal on Portions 1, 2, 3, 3, 6, 6, 7, 8, 9, 13-25, 27-31, 32, 32, 32, 32, 32, 32, 35, 36, 40, 42 and Remainder (Whole Farm) of the Farm Hlobane No. 506-HT, Erven 2-21, 23-26, 28-63, 66 & 67 (Whole Farm) of the Hlobane Township-HT (Town Code N0ht0683), Portions 5, 9, 12-15, Remainder 16, 18 & 20-22 (Whole Farm) of the Farm Vaalbank No. 38-HU, Erven 0-16 (Whole Area) of the Vaalbank Township-HU (Town Code: N0hu0684) situated in the Magisterial District of Zululand, is hereby accepted on the above mentioned properties, in terms of section 16 (2) of the Act
2. *Take note that this application is rejected on Portion 5 of Farm Hlobane No. 506-HT, Portion of Portion 1 of Farm Vaalbank No. 38-HU and Portion 2, 4, 11, 17 and 23 of Farm Vaalbank No. 38-HU, since there two right one which is accepted and the other which is issued on the same area and for the same mineral.*

Acceptance of an Application for Prospecting Right in Terms of Section 16 of the Mineral and Petroleum Resources Development Act, (Act 28 Of 2002) To Prospect for Coal on Portions 1, 2, 3, 3, 6, 6, 7, 8, 9, 13-25, 27-31, 32, 32, 32, 32, 32, 32, 35, 36, 40, 42 and Remainder (Whole Farm) of the Farm Hlobane No. 506-HT, Erven 2-21, 23-26, 28-63, 66 & 67 (Whole Farm) Of The Hlobane Township-HT (Town Code N0ht0683), Portions 5, 9, 12-15, Remainder 16, 18 & 20-22 (Whole Farm) of the Farm Vaalbank No. 38-HU, Erven 0-16 (Whole Area) of the Vaalbank Township-HU

6. You are further directed to amend your regulation 2.2 plan to reflect the above, by exclude the portions/ farm wherein your application has been rejected and submit the amended plan on or before 05th November 2020.

4. Take note that in light of the minimum requirements as stipulated on regulation 16 (1) and 16 (2) of the EIA Regulations, your application for an Environmental Authorisation was deemed incomplete as it was not accompanied by this acceptance letter as per Regulation 16 (1) (ix) and considering that it is now completed by this acceptance letter, you are hereby required to submit the documents as stipulated on Regulation 19 (1) to 19 (8) of the EIA Regulation (only in cases where Basic Assessment Report is applicable or Regulation 21 (Scoping Report and Regulation 23 (Environmental Impact Report) (only in cases where applicable). All submission timeframes are effective from the dates of this acceptance letter.

5. Please take further note that in terms of section 16 (4) of the Act, you are required to: -

5.1 Upload unto the SAMRAD system one copy and submit three (03) hard copies of the requisite environmental reports as required by section 16 of the MPRDA within ninety (90) days from the date of this letter. **(02nd February 2021).**

5.2 to consult in the prescribed manner with the landowner, lawful occupier and any interested and affected party including the Land Restitution Commission and include the result of such consultation in the relevant environmental reports to be submitted and uploaded on the SAMRAD system on or before **06th November 2020 (within 30 days from the date of this letter)**

Please note that the consultation process referred to in paragraph 2.2 above does not imply issuing letters and requesting the affected parties to indicate whether they support your proposed project or not.

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

Acceptance of an Application for Prospecting Right in Terms of Section 16 of the Mineral and Petroleum Resources Development Act, (Act 28 Of 2002) To Prospect for Coal on Portions 1, 2, 3, 3, 3, 6, 6, 7, 8, 9, 13-25, 27-31, 32, 32, 32, 32, 32, 35, 36, 40, 42 and Remainder (Whole Farm) of the Farm Hlobane No. 506-HT, Erven 2-21, 23-26, 28-63, 66 & 67 (Whole Farm) Of The Hlobane Township-HT (Town Code N0ht0683), Portions 5, 9, 12-15, Remainder 16, 18 & 20-22 (Whole Farm) of the Farm Vaalbank No. 38-HU, Erven 0-16 (Whole Area) of the Vaalbank Township-HU


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

6. Should the land be owned by the communities or a Trust on behalf of the community, a proper and thorough consultation process must be engaged upon and a legitimate Tribal Resolution or consent must be obtained from the Traditional Authority / Council or Trust and be submitted with the results of consultation. *Should you need any assistance or guidance relating to the required consultation process & procedure in traditional institutions, please contact the District office of the Department of Cooperative Governance and Traditional Affairs in **Zululand District Municipality**.*
7. Further note that the acceptance of your application does not grant you the right to commence with **prospecting activities**. It only signifies that your application will be processed and evaluated. The Minister or his delegate will make a decision once the process of the evaluation and appeal on the Environmental Authorization application has been finalized.
8. You are in terms of Section 17(1) of the Act required to give effect to the objects referred to in Section 2 (d) of the Act. Therefore please submit on or before **21st December 2020 (within 60 days from the date of this letter)** to this office for the attention of Regional Manager any documentation proving such including but not limited to:-
 - 8.1 Duly signed shareholders agreements with your empowerment partner in which provision **shall** be made for entrepreneurs, local community and employees,
 - 8.2 Share certificates,
 - 8.3 Details relating to the equity by the BEE shareholders, Any other agreement relating to the BEE shareholding including the voting pool agreement where applicable,
 - 8.4 Articles and memorandum of association of the company.
 - 8.5 Any other information that may be necessary to explain and serve as evidence that the applicant meets the appropriate HDSA ownership and/or compliance requirements of the aforesaid Act and Mining Charter.

Acceptance of an Application for Prospecting Right in Terms of Section 16 of the Mineral and Petroleum Resources Development Act, (Act 28 Of 2002) To Prospect for Coal on Portions 1, 2, 3, 3, 6, 6, 7, 8, 9, 13-25, 27-31, 32, 32, 32, 32, 32, 35, 36, 40, 42 and Remainder (Whole Farm) of the Farm Hlobane No. 506-HT, Erven 2-21, 23-26, 28-63, 66 & 67 (Whole Farm) Of The Hlobane Township-HT (Town Code N0ht0683), Portions 5, 9, 12-15, Remainder 16, 18 & 20-22 (Whole Farm) of the Farm Vaalbank No. 38-HU, Erven 0-16 (Whole Area) of the Vaalbank Township-HU

9. Please submit within 30 days (21 November 2020) from date of this letter for the attention of Regional Manager a complete prospecting work programme prepared in terms of Regulation 7 of the Mineral and Petroleum Resources Development Act, 2002 (Act no 28 of 2002): Mineral and Petroleum Development Regulation.
10. You are also required to adhere with the requirements of Mine Health and Safety Inspectorate and upload on system the required information and details on or before **06th November 2020 (within 30 days from the date of this letter)**
11. Please be advised that your application might be processed in terms of section 9 (1) (b) of the Act. If this office discovers that there is an existing or pending application on the same properties and for the same mineral, this application shall discontinue.
12. Please take note that failure to adhere to the timeframe stipulated above and to submit any documentation required in terms of this notice will result into non-compliance with the provision of the Act and the Amendment Act and will result in the refusal of your application.

Yours faithfully


REGIONAL MANAGER
KWAZULU NATAL REGION
DATE: 25/09/2020

Acceptance of an Application for Prospecting Right in Terms of Section 16 of the Mineral and Petroleum Resources Development Act, (Act 28 Of 2002) To Prospect for Coal on Portions 1, 2, 3, 3, 6, 7, 8, 9, 13-25, 27-31, 32, 32, 32, 32, 32, 35, 36, 40, 42 and Remainder (Whole Farm) of the Farm Hlobane No. 506-HT, Erven 2-21, 23-26, 28-63, 66 & 67 (Whole Farm) Of The Hlobane Township-HT (Town Code N0ht0683), Portions 5, 9, 12-15, Remainder 16, 18 & 20-22 (Whole Farm) of the Farm Vaalbank No. 38-HU, Erven 0-16 (Whole Area) of the Vaalbank Township-HU

Appendix D: Newspaper Advert and Proof of Publishing

NOTICE OF PUBLIC PARTICIPATION FOR PROSPECTING RIGHT AND ENVIRONMENTAL AUTHORIZATION APPLICATION

ISIZULU

Isaziso senqubo yokuLindela ilungelo Lesicelo ngokoMthetho Wezokumbiwa kanye Nezimbiwa (i-MPRDA) (Umthetho 28 ka 2002) ngokuthola iLahle ku ingxenye yengxenye ye 1, 2, 3, 6, 7, 8, 9, 13-25, 27-31, 32, 35, 36, 40, 42 kanye nensalela yepulazi iHlobane No. 506 HT, i-Erven 2-21, 23- 26, 28-63, 66 & 67 weHlobane Township HT (Ikhodi yedolobha: N0ht0683), izingxenye 5, 9, 12-15, okusele kuka 16, 18 & 20-22 wepulazi iVaalbank No. 38 HU ne-Erven 0-16 weVaalbank Township HU (Ikhodi yedolobha: N0hu0684), esendaweni District ye Zululand, eSifundazweni sase Kwa-Zulu Natal.

ISIMEMO SOKUPHAWULA NOKUVEZA IMIBONO MAYELANA NALE APPLICATIONI

Ngaleso sikhathi kunikezwe isaziso ngokoMthetho Wezokumbiwa phansi kanye nePetroleum Development Act (MPRDA) (Umthetho 28 ka 2002) kanye nemigomo ye-EIA 2014, ekhishwe ngaphansi kwesaziso sikaHulumeni Nombolo 982 kuGazethi Nombolo 3822 yomhla ziyi-4 kuZibandlela wezi-2014 ukuthi kuchitshiyelwe ngomhlaka 7 Ephreli 2017 ukuthi i-Atok Mining House (Pty) Ltd ifake isicelo selungelo Lokuthola Ukumbiwa phansi kwale minerali eshiwo ngenhla nge-DMR Ref: KZN 30/5/1/1/2/10926 PR.

Njengengxenye yenqubo ye-EIA, ikakhulukazi inqubo yokubamba iqhaza komphakathi kule phrojekthi ehlongozwayo, Amaqembu Athintekayo Nathintekayo (IAPs) ayamenywa ukuba abhalise futhi alethe ngomusa noma yikuphi ukuphawula noma ukukhathazeka ukufinyelela kuNkosazana Nokuthula Nkosi kungakadluli ulwesihlanu, umhla ziyi-6 kuNovemba 2020, kusetshenziswa imininingwane yokuxhumana enikezwe ngezansi. Umphakathi nawo uyamenywa ukuthi ubuyekeze futhi uphawule ngombiko Owuhlaka Oyisisekelo Wokuhlola kanye ne-EMPr. Umbiko osalungiswa uzotholakala ukuze ubuyekeze isikhathi sekhelanda sezinsuku ezingama-30 kusukela ngomhlaka 07 Novemba 2020 - 06 Disemba 2020. Lo mbiko uzotholakala kuphela nge-imeyili futhi uma uceliwe futhi ungabukwa emtatsheni wezinchwadi oseduzane, Vryheid Library (-27.770380, 30.790701).

Ngeminye imininingwane, ukubhalisa njengeNhlango Enentshisekelo noma Ethintekayo, sicela uthinte: -



Office No. 16, First Floor (South Block),
Corridor Hill Crossing, 9 Langa Crescent,
Corridor Hill, eMalahleni (Witbank), 1040

Contact Person: Ms. Nokuthula Nkosi
Tel: 013 692 0041
Cell: 081 386 8589
Fax: 086 514 4103
Email: nokuthula@singoconsulting.co.za

ENGLISH

Notice of the Prospecting Right Application Process as per the Minerals and Petroleum Resources Development Act (MPRDA) (Act 28 of 2002) for the prospecting of Coal on portion 1, 2, 3, 6, 7, 8, 9, 13-25, 27-31, 32, 35, 36, 40, 42 and remainder of the farm Hlobane No. 506 HT, Erven 2-21, 23-26, 28-63, 66 & 67 of the Hlobane Township HT (Town code: N0ht0683), portions 5, 9, 12-15, remainder of 16, 18 & 20-22 of the farm Vaalbank No. 38 HU and Erven 0-16 of the Vaalbank Township HU (Town Code: N0hu0684), situated in the District Municipality of Zululand, Kwa-Zulu Natal Province.

INVITATION TO COMMENT

Notice is hereby given in terms of the Mineral and Petroleum Development Act (MPRDA) (Act 28 of 2002) and EIA regulations 2014, published under Government Notice No. 982 in Gazette No. 3822 of 4 December 2014, amended on 7 April 2017 that Atok Mining House (Pty) Ltd has applied for a Prospecting Right for the above-mentioned mineral with DMR Ref: KZN 30/5/1/1/2/10926 PR.

As part of the EIA process, more especially the public participation process for this proposed project, Interested and Affected Parties (I&APs) are invited to register and kindly submit any comments or concerns to reach Miss Nokuthula Nkosi by no later than Friday, the 6th of November 2020, using the contact details provided below. The public is also invited to review and comment on the Draft Basic Assessment Report and EMPr. The draft report will be available for review for a 30-days calendar period from 07 November 2020 – 06 December 2020. This report will be available only via email and upon request and may be viewed at the nearest library, Vryheid Library (-27.770380, 30.790701).

For more information, to register as Interested or Affected Party, please contact: -



ATOK MINING HOUSE (PTY) LTD
REG NO: 2012 / 226428 / 07

313 Braam Pretorius Street, Magalieskruin, Pretoria, 0182

Contact Person: Mr. Ariel Mahlatji
Tel.: 010 072 2011
Cell: 083 672 3017
Email: ariel@atok.co.za

Should you be the landowner of the above-mentioned properties, kindly contact us immediately so that a formal meeting can be arranged with you, to formally notify, discuss activity to be undertaken & conditions of accessing your land. Your assistance will be highly appreciated.

Newspaper Advertisement

Support group to help with addiction

In this modern day and age, where peer pressure and stress have become the norm, it has also become easier to obtain and use illegal substances on a daily basis. There is no blueprint as to who is vulnerable to drugs and who will fall prey to addiction.

Whether you are a drug addict, alcoholic, going through a divorce or just need someone to talk to, there is a place you can go and people who want to help you. One of those people is Don, who has firsthand experience of addiction and is now starting a support group to help others like himself...

Don is a retired teacher, but also a recovering cocaine addict and a recent divorcee. He used cocaine for almost 10 years, of which the last six saw more frequent use of the drug. Amazingly, he still managed to get promoted to deputy principal at the school where he was teaching. During this time, he obtained his Honours degree in Psychology, as well as an Honours in School Management. One would think that someone with these accolades would not fall into the dark pit of addiction, but as Don says, he didn't know how to deal with his thoughts, behaviour and emotions, and so turned to drugs. He felt isolated and needed to feel indifference, since he had stress at work and at home and the drugs helped him cope. "It's a vicious cycle, since your problems are worse the next morning, but an addict doesn't care; you just need to use again to be able to cope," he explained the reasoning behind an addict's thought process. He was on the brink of several suicide attempts and the cocaine gave him that invisible "power" to overcome all obstacles, at least in the short term. When his life became unmanageable, he made the choice to turn his life around and searched for the necessary assistance.

He found it helpful to talk to someone about his problems and "to have someone who supports you regardless of your addiction". He wants to do the same for others who need that kind of support and understanding, hence he is starting a support group for anyone who needs it. Every day is still a struggle for him and he has to make the daily choice not to use again. He followed the '12 Step' programme of the AA and NA, which will also be followed at this non-profit support group. Everyone is welcome to attend the group every Monday and Friday and can contact Don on 084-808-2892 for more information. The first group session will be on October 9 at 6.30pm at the Klipkerk.

"What's On?" IN THE AREA

Looking for events happening in and around Vryheid in the near future? Look no further, as the Vryheid Herald has you covered. Inform us via email at vryheid.herald@cxton.co.za of your upcoming event.

Paddadam Late Spring Market - October 10

The market will have plenty of food stalls, arts and crafts, and lots of bargains. Everyone is invited to come and support the market from 9am until 2pm. For more information, contact Marliez Harmse on 071-857-9581.

All Covid-19 regulations apply.

SANBS - October 9 and 10

The South African National Blood Service (SANBS) will be at the Klipkerk from 11am until 6pm; and Pick 'n Pay from 9am until 1pm. Please play your part in saving a life by donating blood.

17 October - Klub 60

Kom geniet die oggend saam met Klub 60 om 11vm, maar onthou jou masker en bring 'n bordjie eetgoed saam. Vir meer inligting, kontak Toni op 082-877-6789.



School boasts with SA fishing champion

We all feel restricted in our movements and feel caged in during the pandemic.

As the restrictions have relaxed, it has allowed us to do what we love once again, to a certain extent. Vryheid High School (VHS) learner Zander van Greuning more certainly could not have been more delighted with the relaxing of the restrictions, as he has recently been crowned the South African fresh water angling champion. Also, congratulations to the following VHS learners who took part in the De Beers English Olympiad: E Varghese, M Patel, A Shac and R Naidoo. They all received bronze certificates. "Our learners are doing what they can, with what they have, where they are and we, as a school, couldn't be more proud."

Zander van Greuning is the South African fresh water angling champion.



Celebrating 16 years and counting for parkrun enthusiasts

16 years ago, on October 2, parkrun had the first event in London with 14 runners.

Today, there are six million runners/walkers on the membership list.

Head office has not yet decided when

parkrun will re-open, but Paula Small is organising a fun-run at the golf course on Saturday, October 10. Contact Paula on 082-447-1445 for more details, starting times and the cost.

Time trials at Vryheid Athletic Club started on Monday this week (October 5), so visit them at Hoërskool Pioneer in Landdrost Street and join them for a walk or run.

NOTICE OF PUBLIC PARTICIPATION FOR PROSPECTING RIGHT AND ENVIRONMENTAL AUTHORIZATION APPLICATION

ISIZULU

Isaziso senqubo yokuLindela ilungelo Lesicelo ngokoMthetho Wezokumbiwa kanye Nezimbwiwa (i-MPRDA) (Umthetho 28 ka 2002) ngokuthola iLahle ku ingxenye yengxenye ye 1, 2, 3, 6, 7, 8, 9, 13-25, 27-31, 32, 35, 36, 40, 42 kanye nensalela yepulazi iHlobane No. 506 HT, i-Erven 2-21, 23-26, 28-63, 66 & 67 weHlobane Township HT (Ikhodi yedolobha: N0ht0683), izingxenye 5, 9, 12-15, okusele kuka 16, 18 & 20-22 wepulazi iVaalbank No. 38 HU ne-Erven 0-16 weVaalbank Township HU (Ikhodi Yedolobha: N0hu0684), esendaweni District ye Zululand, eSifundazweni sase Kwa-Zulu Natal.

ISIMEMO SOKUPHAWULA NOKUVEZA IMIBONO MAYELANA NALE APPLICATIONI

Ngaleso sikhathi kunikezwe isaziso ngokoMthetho Wezokumbiwa phansi kanye nePetroleum Development Act (MPRDA) (Umthetho 28 ka 2002) kanye nemigomo ye-EIA 2014, ekhishwe ngaphansi kwesaziso sikaHulumeni Nombolo 982 kuGazethi Nombolo 3822 yomhla ziyi-4 kuZibandlalele wezi-2014 ukuthi kuchithiyelwe ngomhla 7 Epreli 2017 ukuthi i-Atok Mining House (Pty) Ltd ifake isicelo selungelo Lokuthola Ukumbiwa phansi kwale minerali eshiwo ngenhla nge-DMR Ref: KZN 30/5/1/1/2/10926 PR.

Njengengxenye yenqubo ye-EIA, ikahlukekazi inqubo yokubamba iqhaza komphakathi kule phrojekthi elhlongozwayo, Amaqembu Athintekayo Nathintekayo (IAPs) ayamenywa ukuba abhalise futhi alethe ngomusa noma yikuphi ukuphawula noma ukukhathazeka ukufinyelela kuNkosazana Nokuthula Nkosi kungakadluli uLwesihlanu, umhla ziyi-6 kuNovemba 2020, kusetshenziswa imininingwane yokuxhumana enikezwe ngezansi. Umphakathi nawo uyamenywa ukuthi ubuyekeze futhi uphawule ngombiko Owuhlaka Oyisisekelo Wokuhlola kanye ne-EMPr. Umbiko osalungiswa uzotholalala ukuze ubuyekezeze isikhathi sekhelenda sezinsuku ezingama-30 kusukela ngomhla 07 Novemba 2020 - 06 Disemba 2020. Lo mbiko uzotholalala kuphela nge-imeyili futhi uma ucellwe futhi ungabukwa ematsheni wezinwadi esezudane, Vryheid Library (-27.770380, 30.790701).

Ngeminye imininingwane, ukubhalisa njengeNhlangoana Enentshisekelo noma Ethintekayo, sicela uthinte: -



Office No. 16, First Floor (South Block), Corridor Hill Crossing, 9 Langa Crescent, Corridor Hill, eMalahleni (Witbank), 1040

Contact Person: Ms. Nokuthula Nkosi
Tel: 013 692 0041
Cell: 081 386 8589
Fax: 086 514 4103
Email: nokuthula@singoconsulting.co.za

ENGLISH

Notice of the Prospecting Right Application Process as per the Minerals and Petroleum Resources Development Act (MPRDA) (Act 28 of 2002) for the prospecting of Coal on portion 1, 2, 3, 6, 7, 8, 9, 13-25, 27-31, 32, 35, 36, 40, 42 and remainder of the farm Hlobane No. 506 HT, Erven 2-21, 23-26, 28-63, 66 & 67 of the Hlobane Township HT (Town code: N0ht0683), portions 5, 9, 12-15, remainder of 16, 18 & 20-22 of the farm Vaalbank No. 38 HU and Erven 0-16 of the Vaalbank Township HU (Town Code: N0hu0684), situated in the District Municipality of Zululand, Kwa-Zulu Natal Province.

INVITATION TO COMMENT

Notice is hereby given in terms of the Mineral and Petroleum Development Act (MPRDA) (Act 28 of 2002) and EIA regulations 2014, published under Government Notice No. 982 in Gazette No. 3822 of 4 December 2014, amended on 7 April 2017 that Atok Mining House (Pty) Ltd has applied for a Prospecting Right for the above-mentioned mineral with DMR Ref: KZN 30/5/1/1/2/10926 PR.

As part of the EIA process, more especially the public participation process for this proposed project, Interested and Affected Parties (I&APs) are invited to register and kindly submit any comments or concerns to reach Miss Nokuthula Nkosi by no later than Friday, the 6th of November 2020, using the contact details provided below. The public is also invited to review and comment on the Draft Basic Assessment Report and EMPr. The draft report will be available for review for a 30-days calendar period from 07 November 2020 - 06 December 2020. This report will be available only via email and upon request and may be viewed at the nearest library, Vryheid Library (-27.770380, 30.790701).

For more information, to register as Interested or Affected Party, please contact: -



ATOK MINING HOUSE (PTY) LTD
REG NO: 2012 / 226428 / 07

313 Braam Pretorius Street, Magalieskruin, Pretoria, 0182

Contact Person: Mr. Ariel Mahlatji
Tel.: 010 072 2011
Cell: 083 672 3017
Email: ariel@atok.co.za

Should you be the landowner of the above-mentioned properties, kindly contact us immediately so that a formal meeting can be arranged with you, to formally notify, discuss activity to be undertaken & conditions of accessing your land. Your assistance will be highly appreciated.

Proof of publication

Appendix E: AMAFA FORM J

ACTIVITIES. THERE WILL BE NO BLASTING AS BULK SAMPLING WILL NOT BE CONDUCTED	
AS STATED IN THE PWP. ALL ACTIVITIES WILL BE GUIDED BY THE PROJECT'S EMP TO	
ENSURE THE PROJECT DOES NOT IMPACT THE ENVIRONMENT NEGATIVELY.	
3. EXTENT OF THE SITE:	43 763 200 m2 4 376.32 ha
EXTENT OF THE DEVELOPMENT AREA (m2): 9 600	
GPS CO-ORDINATES: (Decimal format only)	
SOUTH: 27.7108	EAST: 30.9416
1:50 000 SHEET no:	1:10 000 SHEET no:

D. IMPACT ON HERITAGE RESOURCES:	
To your knowledge would the Development impact on any known heritage resources protected in terms of the KZN Amafa and Research Institute Act (5/2018), or is the development located in the vicinity of any of the above? If yes, the Heritage Practitioner must create a site on sahris pinpointing the position of the heritage resource/s discovered. tick thea ro riate box/boxes below	
s37 - Structures or part thereof that can reasonably be expected to be over 60 years of	

H. CHECKLIST OF DOCUMENTATION SUBMITTED

HARD COPY APPLICATION FORM (COMPLETED & SIGNED BY OWNER, DEVELOPER & CONSULTANT)	
APPLICATION FORM UPLOADED TO SAHRIS	
MOTIVATION	
SITE PHOTOGRAPHS/CASE IMAGES	
1:50 000 MAP & SATELLITE AERIAL VIEW	
KML FILE MAP	
SITE PLAN SHOWING ALL FEATURES & HERITAGE RESOURCES	
DEVELOPMENT PLAN SHOWING ALL FEATURES & HERITAGE RESOURCES SUPERIMPOSED THEREON	
PROOF OF PROFESSIONAL ACCREDITATION (e.g. copy of accreditation card/certificate)	
PROOF OF PUBLIC PARTICIPATION	
ENVIRONMENTAL IMPACT ASSESSMENT	
HERITAGE IMPACT ASSESSMENT	
CONSENT LETTER FROM THE OWNER	
LETTER OF APPOINTMENT OF CONSULTANT	
PROOF OF PAYMENT OF SUBMISSION FEE (EFT/BANK DEPIAMAFI CARD)	


NAME: ARIEL NKWANE MAHLATJI	
POSTAL ADDRESS	
	POST CODE
TEL: 010 072 2011	FAX/EMAIL
DECLARATION BY OWNER	
I, _____	
(full names of owner/person authorized to sign on behalf of the owner) undertake strictly to observe the terms, conditions, restrictions, by-laws and directions under which the KZN Amafa and Research Institute may issue the comment to me.)	
Signature _____	
Place _____	
Date _____	

2. DELEGATED AUTHORITY (The name of the person authorized to act on behalf the applicant where the owner is a company, trust, or institution — Power or Attorney/proof of authorization to be attached)

NAME	
TEL	FAX/EMAIL

3. DEVELOPER'S DETAILS

4. CONSULTANT'S DETAILS

NAME(Company/institution/individual)		SINGO CONSULTING (PTY) LTD	
POSTAL ADDRESS: POSTNET SUITE 125, PRIVATE BAG X7214,			
BEN FLEUR, WITBANK		POST CODE 1036	
TEL +27 13 629 0041	FAX	+27 86 514 4103	
CELL +27 78 272 7839	EMAIL kenneth@singoconsulting.co.za		
S		DATE 05/11/2020	

<p>F. SUBMISSION FEE: R800.00 (subject to annual increment on the 1 April) The submission fee is payable to the KZN Amafa and Research Institute by bank deposit/internet banking (EFT) and proof of payment must be submitted with the application.</p> <p>ACCOUNT DETAILS: ABSA BANK: Branch: UI-UNDI Bank Code: 630330 Account in the name of AMAFA AKWAZULU-NATALI Account No. 40-5935-6024 USE SAHRIS ID AS REFERENCE</p>
--

G. PUBLIC PARTICIPATION: (Contact details of Interested and Affected Parties Consulted written opinion to be attached to form and drawings to be signed by I & A P. See Guidelines)


Name MS NKOSI

Telephone: 0813868589

Fax _____

Any development involving three or more existing erven or sub-divisions thereof						
Any other activity involving three or more existing erven or sub-divisions thereof						
Any development or other activity involving three or more existing erven or sub-divisions thereof which have been consolidated within the past 5 years						
Any development or other activity the costs of which will exceed a sum set out in the regulations						
Re-zoning of a site exceeding 10 000m2						
2. DEVELOPMENTS THAT TRIGGER OTHER LEGISLATION (NEMA, ENVIRONMENTAL CONSERVATION ACT, MINERALS ACT, ETC)						
RESPONSE REQUIRED IN TERMS OF s41 (8) (tick the appropriate box/boxes)						
BID	<input checked="" type="checkbox"/>	BAR	<input checked="" type="checkbox"/>	EIA	<input checked="" type="checkbox"/>	
EMP	<input checked="" type="checkbox"/>	WULA		MPRDA	<input checked="" type="checkbox"/>	
OTHER (describe)						
s40 - Battlefield sites , archaeological sites, rock art sites, palaeontological sites, historic fortifications, ruins over 100 years old, meteorite or meteorite impact sites and an effects or ecofacts associated therewith						
s42 - Protected areas is the site within a known roTECTED area?						
s43 - Specially protected heritage resources are listed in Schedule of Heritage Resources						
s44 - Herita e Landmarks includin the site on which the are situated						
s45 - Provincial Landmarks and the site on which the are situated state owned						
s46 - Graves of members of the Ro al Famil listed in Schedule of Herita e Resources						
s47 - Battlefield site, public monument or memorial listed in the Schedule of Heritage Resources and any public monument defined in the NHRA and protected in terms of Section 37 of the NHRA, & Section 47 of the KZN Amafa and Research Institute Act 5/2018						
s49- Artefacts, or collections thereof on which Heritage Object status has been conferred						

E. CONTACT DETAILS

NAME(Company/institution/individual) ATOK MINING HOUSE (PTY) LTD			
POSTAL ADDRESS : PO BOX 557, ROSSLYN,			
PRETORIA, GAUTENG		POST CODE 0001	
TEL: 010 072 2011		FAX: N/A	
CELL: 083 672 3017		EMAIL: ariel@atok.co.za	
SIGNATURE 		DATE 02/09/2020	
1. APPLICANT'S DETAILS (OWNER OF PROPERTY)			

s38 - Graves of victims of conflict,		
s39 - Informal and private burial grounds (traditional graves or graves outside of a formal cemetery) on a farm or farm cemetery that are over 60 years of age		
B. PROPERTY DESCRIPTION:		
Name of property: HLOBANE, HLOBANE TOWNSHIP, VAALBANK & VAALBANK TOWNSHIP	Title Deed No.: T32127/1993, T1873/1922, T32120/1993, T32121/1993, T32122/1993, T32123/1993, T32124/1993, T32125/1993, T32126/1993, T2111/1928, T1981/1947, T7421/1956, T9980/1947, T911/1947, T21250/1998, T8983/1965, T8983/1965, T1431/1974, T13184/1982, T24502/1983, T5028/1983, T3497/1986, T6452/2007, T3316/2011, T27576/1998, T27574/1998, T52269/2001, T36631/2008, T25980/1957PN, T2073/1968, T36292/2012, T1630/2010, T52065/2008, T6895/2003	
Erf/Lot/Farm No: 506 HT & 38 HU, N0ht0683, N0hu0684	GPS Co-ordinates – 27.7108, 30.9416	
Street Address:		
Local Municipality : ABAQULUSI	District Municipality : ZULULAND	
Traditional Authority Area		
Current zoning	Present use : PLANTATION, MINING	

C. DEVELOPMENT TYPE:	
1. DECISION REQUIRED IN TERMS OF SECTION s41(1) (tick the appropriate box/boxes)	
Linear Development/Barrier exceeding 300m in length e.g. road, pipe/power line, trench, canal or wall	
Other similar form of linear development/barrier exceeding 300m in length	
Construction of a bridge or similar structure exceeding 50m in length	
Any development exceeding 5 000m ² in extent or any other category of development provided for in regulations	X
Any other activity which would change the character of an area of land or water exceeding 10 000m ² in extent	

Payment receipt

Beneficiary name
AMAFA A KWAZULU-NATA

Account number
4059356024

Bank
ABSA BANK

Branch
ALL BRANCHES (63200500)

Beneficiary reference
15734

Your reference
15734

Payment date
13 November 2020

Amount
R 800.00

The Standard Bank of South Africa Limited (Reg. No. 1962/000738/06. Authorised financial services provider. VAT Reg No. 4100105461 Registered credit provider (NCRCP15). We subscribe to the Code of Banking Practice of the Banking Association South Africa and, for unresolved disputes, support resolution through the Ombudsman for Banking Services.

Appendix F: BACKGROUND INFORMATION DOCUMENT

BACKGROUND INFORMATION DOCUMENT (BID)

For prospecting right for coal on portion 1, 2, 3, 6, 7, 8, 9, 13-25, 27-31, 32, 35, 36, 40, 42 and remainder of the farm Hlobane No. 506 HT, Erven 2-21, 23-26, 28-63, 66 & 67 of the Hlobane Township HT (Town code: N0ht0683), portions 5, 9, 12-15, remainder of 16, 18 & 20-22 of the farm Vaalbank No. 38 HU and Erven 0-16 of the Vaalbank Township HU (Town Code: N0hu0684)
Kwa-Zulu Natal
KZN 30/5/1/1/2/10926 PR

PREPARED FOR



ATOK MINING HOUSE (PTY) LTD

REG NO: 2012 / 226428/ 07
313 Braam Pretorius Street, Magalieskruin,
Pretoria, 0182
Tel.: +27 10 072 2011
Email: ariel@atok.co.za

PREPARED BY



Office No. 16, First Floor (South Block),
Corridor Hill Crossing, 9 Langa Crescent, Corridor Hill,
eMalahleni (Witbank), 1040
Tel: 013 692 0041
Cell: 072-081-6682/078-2727-839
Fax: 086-514-4103
E-mail: kenneth@singoconsulting.co.za

Purpose

The purpose of this Background Information Document (BID) is to consult with lawful landowner(s), stakeholders and all Interested and Affected Parties (I&APs) of the proposed prospecting project and to provide them with the opportunity to receive information, provide comments, and to raise any concerns related to the prospecting right application process.

Introduction

Atok Mining House (Pty) Ltd has applied for a Prospecting Right with associated Environmental Authorisation in order to prospect Coal. The application was lodged with the KwaZulu Natal Province Department of Mineral Resources and accepted on the 25th of September 2020. In order to undertake prospecting activities, Atok Mining House (Pty) Ltd requires a granted Prospecting Right (PR) in terms of the Mineral and Petroleum Resources Development Act (MPRDA, Act No.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 275: 2017). Atok Mining House (Pty) Ltd is also required to obtain an Environmental Authorisation (EA) in terms of the National Environmental Management Act (NEMA, Act No. 107 of 1998) which requires the submission of an Environmental Management Plan Report. Singo Consulting (Pty) Ltd has been appointed by Atok Mining House (Pty) Ltd to be the Environmental Assessment Practitioner (EAP) to assist in complying with these requirements.

Table 1: Environmental Assessment Practitioner Details

ENVIRONMENTAL ASSESSMENT PRACTITIONER	SINGO CONSULTING (PTY) LTD
Contact Person(s)	: Nokuthula Nkosi
Cell No.	: 076 607 4041 / 081 386 8589
Tel. No.	: 013 692 0041
Fax No.	: 086 5144 103
Email(s)	: nokuthula@singoconsulting.co.za
Physical Address	: Office No: 16 First Floor (South Block) Corridor Hill Crossing 09 Langa Crescent, Corridor Hill, eMalahleni, 1035.
Postal Address	: Private Bag X 7297, Postnet Suite 87, Highveld mall Witbank 1035

Table 2: Project Applicant Details

NAME OF APPLICANT	ATOK MINING HOUSE (PTY) LTD
Contact Person	: Ariel Mahlatji
Tel. No.	: 010 072 2011
Cell No.	: 083 672 3017
Email	: ariel@atok.co.za
Physical Address	: 313 Braam Pretorius Street, Magalieskruin, Pretoria, 0182
DMRE Reference No.	: KZN 30/5/1/1/2/10926 PR

Aim of the BID

This document aims to provide the following:

- To provide background information to landowners and interested and affected parties (I&APs) on the proposed prospecting activities and the legal framework;
- To give an overview of environmental baseline information and environmental impacts that may potentially occur;
- To explain the Public Participation Process (PPP) to be followed; and
- To consult stakeholders and provide them the opportunity to register as I&APs.

NOTE: The proposed application directly affects portions owned by: **VRYHEID NATAL RAILWAY COAL & IRON CO LTD, TRANSNET, TELKOM SA LTD, ESKOM FINANCE CO PTY LTD, MTSHALI ESTHER THOBILE, JOGI ASHANTHLAL, HEERDEN PIETER SCHALK VAN, DLAMINI GEORGE MBEKISENI, KUHN RUDOLF HEINRICH, PROVONCIAL GOVERNMENT OF THE PROVINCE OF KWA-ZULU NATAL, IMIKHIMBI KAMKATSHWA FAMILY TRUST, KHUMALO HLABEYAKHE JOHANNES and KWASTANELLA COMMUNITY TRUST.** Please kindly contact us immediately so that a formal meeting can be arranged with you, to formally notify, discuss activities to be undertaken and conditions of accessing your land. Your assistance will be highly appreciated.

Locality

The area of interest is situated within Hlobane, Vaalbank and Pumalanga and approximately 2.73 km south of Thukuzele and roughly 15.70 km north west of Vryheid, within the AbaQulusi Local Municipality. Figure 1 below illustrates the regulation map of the proposed project

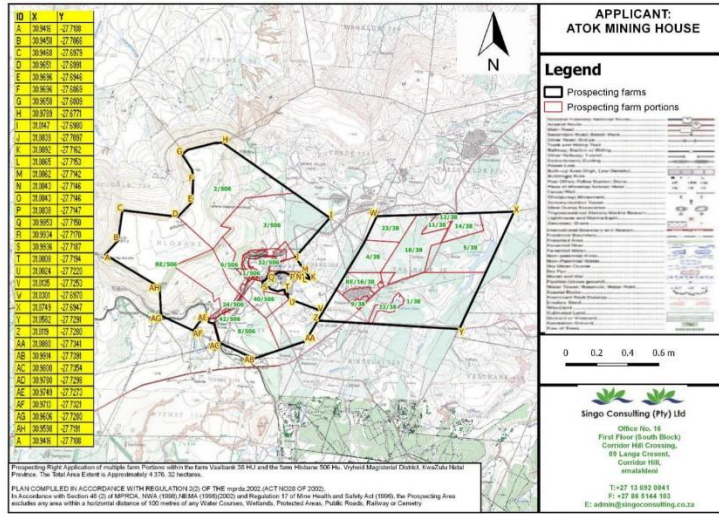


Figure 1: Location of the proposed project



Figure 2: Google earth view of project area

Need

The coal that is being prospected has the potential to supply local & regional power stations and possible international customers. Coal is crucial for the generation of electricity in South Africa, supplying more than 90% of the population. After prospecting activities, which is the thorough search of a mineral through core drilling, it will be accessed if mining coal will be viable not only for the company but also for the community. The success of the project will contribute to the economic development in the Local Municipal area

After prospecting activities, which is the thorough search of a mineral through core drilling, it will be accessed if mining the above-mentioned minerals will be viable not only for the company but also for the community. The success of the project will contribute to the economic development in the Local Municipal area.

Legislative requirements

The prospecting right application is subjected to the following Acts:

- National Environmental Management Act (Act 38 of 1998)
- Environmental Impact Assessment regulations as amended (April 2017);
- Mineral and Petroleum Resources Development Act, (Act 28 of 2002);
- National Water Act, 1998 (Act 36 of 1998);
- National Air Quality Standards (GN 1210: 2009); and
- National Dust Control Regulations (GN 275: 2017).

Basic and Environmental Impact Assessment Processes

During this process the positive and negative impacts associated with the prospecting activities are assessed; and suitable alternatives and/or management measures are proposed to reduce the environmental impacts.

As the application relates to prospecting activities (Listing Notice 2), an EMPR will be completed. It is intended to supply the competent authority with sufficient information to make an informed decision in granting or refusing an environmental authorisation associated with the prospecting right application.

1. Technical process involves :

- Submitting application forms to DMRE;
- Compiling the Draft Environmental Management Plan Report;
- Submit the Draft Environmental Management Plan Report to all I&APs for comments;
- Incorporate comments into final Environmental Management Plan Report; and
- Submit final Environmental Management Plan Report to the DMRE.

2. Public participation:

Public input is an important legislated requirement of the prospecting right application process. The proposed PPP for this study will include a number of steps, as listed below:

Issuing notification of this proposal to:

- Owners and occupiers of the farms as well as those adjacent to the site;
- The municipal councillor and local taxpayer's association;
- The municipality which has jurisdiction (uPhongolo Local Municipality);
- Any organ of the state having jurisdiction;
- Placing an advert in a local newspaper;
- Placing a notice on the site;
- Meetings with landowners and key I&APs, as required;

- Documenting stakeholder correspondence within the Draft Environmental Management Plan that will be made available for public review;
- Public review of the Draft Environmental Management Plan Report; and
- Notifying stakeholders when the Environmental Management Plan Report approved.

Prospecting Methodology

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 EMP.

Develop Impacts Assessment Methods

Impact assessment methods were developed to:

- Identify the potential impacts of a proposed development on the social and natural environment;
- Predict the probability of these impacts; and
- Evaluate the significance of the potential impacts.

The following are associated with the prospecting activities to be undertaken:

- **Access roads**

The applicant will require access to the site for both personnel and machinery associated with prospecting activities. Existing routes will be used such as the R69 which intersects through the project area and new access routes might be created with the agreement of the landowner, only when necessary. Potential impacts associated with the creation and use of access roads include soil compaction, generation of dust on gravel roads, machinery and vehicles and noise levels while drilling. However, with the appropriate mitigation strategies in place, including applying buffers to sensitive landscapes, notifying settlements around of the drilling times and using existing roads and access tracks wherever possible, the significance of these potential impacts can be reduced to low.

- **Faunal Disturbance**

Animals within the prospecting area will be moved to other locations because of the temporary disturbances.

- **Air pollution**

Prospecting is not as invasive as mining thus air pollution will be due to movement of mobile machinery on the site. Dust will be generated during the drilling or clearing vegetation. Mitigation Measure:

- ✓ Air quality will be minimised by means of the following:
 - Dust suppressions by means of water spraying will be implemented when there is a need.
 - Avoidance of unnecessary removal of vegetation.
 - Vehicles will be properly serviced in order for them to minimise emission of CO₂.
- ✓ Re-vegetation of rehabilitated areas not occupied by plant infrastructure to take place as soon as possible.

- **Noise pollution**

Noise will be generated by the drilling equipment and may disturb inhabitants. Mitigation measures:

- ✓ The company will comply with the Occupational Noise Regulations of the Occupational Health and Safety Act, Act 85 of 1993. The company will comply with the measures for good practice with regards to management of noise related impacts during construction and operation.
- ✓ Workers will be inducted with regard to the measure to reduce noise pollution on site.

- **Soil pollution**

Contamination of soil may occur from accidental spillages from the machineries brought to the site.

Mitigation measures:

- ✓ If any soil is contaminated during the prospecting activities, it will be immediately scooped and stored for collection in the enclosed containers or plastic and transported to a recognized facility or company for further treatment.
- ✓ Small spills will be treated on site using bio-sorb or oil cap.

- **Surface disturbance**

Only a small segment of the surface will be disturbed as a result of drilling due to prospecting activities.

- **Vegetation Loss**

Some of the vegetation will be disturbed on areas that drilling will be done. In all areas where site is going to be established vegetation will be disturbed. Mitigation measures:

- ✓ Vegetation will be protected by avoiding unnecessary clearance and by using existing roads at all times.
- ✓ All vehicles will be monitored so that they move on the existing tracks at all times. All prospected areas will be rehabilitated.
- ✓ Fire extinguisher will always be available on site through the prospecting period. If invader species are encountered, they will be uprooted or cut off and destroyed completely.

- **Water Use**

Water required for the operation and potable water for domestic use will be sourced and the details thereof will be finalised at a later stage.

- **Socio-Economic Factors**

There is minimal potential for employment due to the nature of prospecting activities. Minimal opportunities are to be expected for the affected/surrounding communities.

Decision making by competent authority (CA)

The Department of Mineral Resource and Energy (DMRE) are the competent authorities in respect of both the NEMA and the MPRDA processes. Based on the information provided in the Environmental Management Plan Report, the CA will decide regarding the continuation with phase 2 of the application. I&APs will be notified and given direction and information about the approval/rejection of the application, given an opportunity to appeal and a way forward.

Timeframes and Important Dates

I&AP's are invited to send us their comments on local knowledge or any relevant information regarding the project that we may incorporate into developing a well-informed draft Basic Assessment & Environmental Management Plan Report during the stakeholder engagement and consultation period which will call to order on the 06th of November 2020. During the review period, kindly submit any comments based on the draft BA&EMPR to Ms Nokuthula Nkosi no later than the 06th of December 2020 using the contact details provided below on the comment form. The draft report will only be made available via email and upon request.

Kindly note the following dates:

- Stakeholder engagement and consultation: **08 October 2020– 06 November 2020**
- Review of Draft EMPR: **07 November 2020 – 06 December 2020**
- Submission of the Final EMPR Report: **02 February 2021**

THIS SERVES AS YOUR INVITATION TO PROVIDE COMMENTS.

We appreciate your interest and participation in this process. Should you wish to register as an I&AP and/or have any issues, questions or concerns regarding this proposed project please complete the form below. Please write neatly and legibly and feel free to attach an additional sheet.



Office No: 16, First Floor (South Block)
 Corridor Hill Crossing, 09 Langa Crescent,
 Corridor Hill, Emalahleni
 Tel: +27 76 607 4041/ +27 13 692 0041
 Fax: +27 86 5144 103
 Email: nokuthula@singoconsulting.co.za
 : admin@singoconsulting.co.za

REGISTRATION & COMMENT SHEET (DMRE REF NO. KZN 30/5/1/1/2/10926 PR)

Attention: Nokuthula Nkosi

Email: nokuthula@singoconsulting.co.za

Date: ___/___/_____

Name & Surname	:			
Company	:			
Designation	:			
Address	:			
Tel No.	:	Fax No.	:	
E-mail	:	Cell No.	:	
How would you like to receive your notifications? (mark with "X"):				
Post:	<input type="checkbox"/>	Fax:	<input type="checkbox"/>	Email: <input type="checkbox"/>
Please provide your issues/interests/concerns & comments here.				
Please add any person you think may be an I&AP.				
Full name	:	Company	:	
Address	:			
E-mail	:	Cell No.	:	

Appendix G: LANDOWNER NOTIFICATION



Singo Consulting (Pty) Ltd

- 09 Langa Crescent, Corridor Hill Crossing, First Floor (South Block) Office No. 16, eMalaheni
- kenneth@singoconsulting.co.za
- www.singoconsulting.co.za
- +27 13 692 0041
- +27 86 514 4103

12 October 2020

PROSPECTING RIGHT APPLICATION FOR THE PROPOSED COAL RESOURCES, IN THE MAGISTERIAL DISTRICT OF VRYHEID/UTRECHT, KWAZULU-NATAL PROVINCE.

Dear Landowner

Singo Consulting (Pty) Ltd wishes to inform you about the prospecting right application lodged on behalf of Atok Mining House (Pty) Ltd for prospecting of the above-mentioned resources on the farm Hlobane No. 506 HT, Hlobane Township HT (Town Code: N0ht0683), Vaalbank No. 38 HU and the Vaalbank Township HU (Town Code: N0hu0684). Atok Mining House (Pty) Ltd have applied for Prospecting Right together with Environmental Authorizations (EA) in terms of Section 16 of the Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002) (MPRDA), on portion 1, 2, 3, 6, 7, 8, 9, 13-25, 27-31, 32, 35, 36, 40, 42 & Remainder of the farm Hlobane No. 506 HT, Erven 2-21, 23-26, 28-63, 66 & 67 of the Hlobane Township HT (Town Code: N0ht0683), portions 5, 9, 12-15, Remainder of 16, 18 & 20-22 of the farm Vaalbank No. 38 HU and Erven 0-16 of the Vaalbank Township HU (Town Code: N0hu0684), situated under the Magisterial district of Vryheid, KwaZulu-Natal Province. Kindly see attached Background Information Document for more information regarding the proposed project.

Singo Consulting (Pty) Ltd has been appointed as an independent Environmental Assessment Practitioner (EAP). We are conducting a Basic Assessment process, if you have any comment(s) concerning the proposed project or terms and conditions you want to lay down, kindly fill the comment form below and register your comments.

Kindly note that as a landowner your comments are critical in decision making at DMRE concerning the proposed project. Should you have any queries regarding the proposed project, please do not hesitate to contact me.

Kind regards,



Nokuthula, Nkosi
Junior Consultant
Environmental Management (Cand.)

- +27 81 386 8589
- +27 13 692 0041
- nokuthula@singoconsulting.co.za
- www.singoconsulting.co.za



Singo Consulting (Pty) Ltd

09 Langa Crescent, Office No.16
Corridor Hill Crossing
First Floor (South Block)
eMalaheni

LinkedIn Facebook WhatsApp Instagram



Appendix H: STAKEHOLDER CONSULTATION AND CORRESPONDENCE

From: Gabaipone Pilane Transnet Property JHB <Gabaipone.Pilane@transnet.net>
Sent: Friday, 06 November 2020 12:49
To: nokuthula@singoconsulting.co.za
Cc: Kgaogelo Moubax Transnet Properties Johannesburg <Kgaogelo.Moubax@transnet.net>;
Tshinakaho Rambuda Transnet Properties Johannesburg <Tshinakaho.Rambuda@transnet.net>;
Keitumetse Segami Transnet Property JHB <Keitumetse.Segami@transnet.net>
Subject: FW: PROSPECTING RIGHT APPLICATION BY ATOK MINING HOUSE (PTY) LTD DMR
REFERENCE NUMBER: KZN 30/5/1/1/2/10926 PR

Good day Nokuthula

Trust you are well.

Below email refers. Please be advised that some of affected properties(i.e houses) belong to Transnet property. Kindly provide us with information on the exact location of the mine, in order to determine if it will be the required distance away from the railway line and houses.

Kind Regards

 Gabaipone Pilane
Acting Principal legal Advisor
Risk Regulatory and Compliance
Transnet SOC Limited | Transnet Property |

Tel: 011 308 1530 | Mobile: +27 60 5693872

E-mail: gabaipone.pilane@transnet.net

9 Country Estate Drive

Waterfall Business Estate

Jukskei View, Midrand, South Africa

From: Nokuthula [<mailto:nokuthula@singoconsulting.co.za>]
Sent: 04 November 2020 12:18 PM
To: Sue Albertyn Corporate JHB <Sue.Albertyn@transnet.net>
Cc: 'Kenneth, Singo' <kenneth@singoconsulting.co.za>; rudzani@singoconsulting.co.za
Subject: FW: PROSPECTING RIGHT APPLICATION BY ATOK MINING HOUSE (PTY) LTD DMR
REFERENCE NUMBER: KZN 30/5/1/1/2/10926 PR

Good Day Sue

We trust this email finds you well,

We were directed to you by Pertunia Mohlabi regarding the email correspondence below. Transnet has been identified as one of the landowners of the applied for area (portions 1, 9, 13 – 16, 19 – 20 & 24 – 25 of the farm Hlobane 506 HT) thus you are receiving this email.

It was stated by Pertunia Mohlabi that you are the correct/relevant person to consult regarding the prospecting right application that has been lodged by Atok Mining House (Pty) Ltd as you are within the legal department of Transnet.

May you kindly find attached **WinDeed search results (276773920)** and **DMR Acceptance Letter** and **BID** to review as well as a **registration comment form** to complete.

In addition, the review period will commence on the 7th of November 2020. Should you be the correct person to consult may you kindly share your address for courier purposes. If you are not the correct person may you kindly direct us to the official that may assist with this matter.

We trust the above is order,

Kind regards,

Nokuthula, Nkosi
Junior Consultant
Environmental Management (Cand.)

+27 81 386 8589
+27 13 692 0041
nokuthula@singoconsulting.co.za
www.singoconsulting.co.za

Singo Consulting (Pty) Ltd
09 Langa Crescent, Office No.16
Corridor Hill Crossing
First Floor (South Block)
eMalahleni

LinkedIn Facebook WhatsApp Instagram

From: Nokuthula <nokuthula@singoconsulting.co.za>

Sent: Friday, 09 October 2020 10:28

To: ray.teichmann@transnet.net; Livhuwani.ndou@transnet.net

Cc: 'Kenneth, Singo' <kenneth@singoconsulting.co.za>; 'Rudzani Shonisani' <rudzani@singoconsulting.co.za>

Subject: PROSPECTING RIGHT APPLICATION BY ATOK MINING HOUSE (PTY) LTD DMR REFERENCE NUMBER: KZN 30/5/1/1/2/10926 PR

Good Day,

We hope this email finds you well.

Singo Consulting (Pty) Ltd on behalf of **Atok Mining House (Pty) Ltd** hereby wish to inform you that it has submitted an application for a Prospecting Right together with an Environmental Authorization to the Mpumalanga Department of Mineral Resources (DMR) for the proposed project of prospecting for **Coal**, on **portion 1, 2, 3, 6, 7, 8, 9, 13-25, 27-31, 32, 35, 36, 40, 42** and **remainder** of the farm **Hlobane No. 506 HT, Erven 2-21, 23-26, 28-63, 66 & 67** of the **Hlobane Township HT (Town code: N0ht0683)**, **portions 5, 9, 12-15, remainder** of **16, 18 & 20-22** of the farm **Vaalbank No. 38 HU** and **Erven 0-16** of the **Vaalbank Township HU (Town Code: N0hu0684)**, situated under the Magisterial District of Vryheid, Kwa-Zulu Natal Province.

This Notification is being given in compliance with the terms of: Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002) (MPRDA), National Environmental Management Act, 1998 (Act No. 107 of 1998), and EIA Regulations (as amended, 07 April 2017) which requires that stakeholders must be notified of **Atok**

Ming House (Pty) Ltd's intention to obtain Prospecting Right for the above mentioned minerals.

This invitation is being extended to you because the department that you represent might be somehow enforcing any of the Republic of South Africa's laws of which ensures; prevention of pollution & environmental degradation, promotes sustainable development & socio-economic development, or instead might be affected by mining activities. Hence you are being offered an opportunity to:

- Register as an I&AP and to respond to the environmental compliance process;
- Raise issues of concern and provide suggestions for enhanced benefits;
- Contribute to local knowledge;
- Comment on the Draft Basic Assessment Report (DBAR) & Environmental Management Program (EMP)

Singo Consulting (Pty) Ltd has been appointed as an independent Environmental Assessment Practitioner (EAP) to manage the environmental authorization process, by conducting Environmental Impact Assessment, Public Participation for the proposed project and compile an Environmental Management Plan. A Basic Assessment process has commenced, for your participation kindly fill the comment form in the page below and register your comments, issues, questions that you have about the proposed project. Should you need any clarity on the attached documents or have any queries with regards to the project, please do not hesitate to contact me on the details below.

Please find the attached Background Information Document (BID) for detailed description of the proposed project and timelines and Registration Form. To provide security, the document is password encrypted. When prompted for a password, kindly use the following password: SC2012

If you know anyone who might be interested in this project, kindly forward this email to that person.

Kind regards,

Nokuthula, Nkosi
Junior Consultant
Environmental Management (Cand.)

+27 81 386 8589
+27 13 692 0041
nokuthula@singoconsulting.co.za
www.singoconsulting.co.za

Singo Consulting (Pty) Ltd

09 Langa Crescent, Office No.16
Corridor Hill Crossing
First Floor (South Block)
eMalaheni

LinkedIn Facebook WhatsApp Instagram

From: Nokuthula <nokuthula@singoconsulting.co.za>

Sent: Wednesday, 04 November 2020 12:55

To: 'snm@telkom.co.za' <snm@telkom.co.za>

Cc: 'Kenneth, Singo' <kenneth@singoconsulting.co.za>; 'rudzani@singoconsulting.co.za' <rudzani@singoconsulting.co.za>

Subject: FW: LANDOWNER NOTIFICATION

Importance: High

Good Day

We trust this email finds you well,

May you kindly see email correspondence below regarding a prospecting right application that has been lodged by Atok Mining House (Pty) Ltd.

Telkom has been identified as the landowner for portion 18 and 22 of the farm Hlobane 506 HT (kindly see attached WinDeed Search Results (276773920) and contact detail results (ptn 18, 22)].

May you kindly read the attached Bid and Landowner Notification Letter for more information. To provide security, the documents are password encrypted. When prompted for a password, kindly enter 'SC2012'.

The review period for the draft EMPR will commence on 07/11/2020. May you kindly share your address for courier purposes. If you are not the official to assist in this matter, may you kindly direct us the relevant person so that we may further consult them.

We trust the above is order,

Kind Regards,

Nokuthula, Nkosi
Junior Consultant
Environmental Management (Cand.)

+27 81 386 8589
+27 13 692 0041
nokuthula@singoconsulting.co.za
www.singoconsulting.co.za

Singo Consulting (Pty) Ltd

09 Langa Crescent, Office No.16
Corridor Hill Crossing
First Floor (South Block)
eMalaheni

LinkedIn Facebook WhatsApp Instagram

From: Nokuthula <nokuthula@singoconsulting.co.za>

Sent: Friday, 09 October 2020 15:01

To: beryl.luther@za.bp.com

Cc: 'Kenneth, Singo' <kenneth@singoconsulting.co.za>; 'Rudzani Shonisani' <rudzani@singoconsulting.co.za>

Subject: LANDOWNER NOTIFICATION

Importance: High

Good Day

I hope this email finds you well.

Singo Consulting (Pty) Ltd on behalf of Atok Mining House(Pty) Ltd, hereby wishes to inform you that Atok Mining House (Pty) Ltd has submitted a Prospecting Right application together with Environmental Authorization application to the Kwa-Zulu Natal Department of Mineral Resources and Energy for prospecting **Coal** on **portion 1, 2, 3, 6, 7, 8, 9, 13-25, 27-31, 32, 35, 36, 40, 42** and **remainder** of the farm **Hlobane No. 506 HT, Erven 2-21, 23-26, 28-63, 66 & 67** of the **Hlobane Township HT (Town code: N0ht0683)**, **portions 5, 9, 12-15, remainder** of **16, 18 & 20-22** of the farm **Vaalbank No. 38 HU** and **Erven 0-16** of the **Vaalbank Township HU (Town Code: N0hu0684)**, situated under the Magisterial District of Vryheid, Kwa-Zulu Natal Province.

Kindly note that you have been identified as one of the landowners for the above-mentioned property. As part of consultation and Public Participation Process, please see the attached documents for the brief description of the project and kindly fill in the form to raise your comments or concerns.

To provide security, the documents are password encrypted. When prompted for a password, kindly enter 'SC2012'.

For more information or clarity regarding the project, do not hesitate to contact us using the details below.

Warm Regards,

Nokuthula, Nkosi
Junior Consultant
Environmental Management (Cand.)

+27 81 386 8589
+27 13 692 0041
nokuthula@singoconsulting.co.za
www.singoconsulting.co.za

Singo Consulting (Pty) Ltd
09 Langa Crescent, Office No.16
Corridor Hill Crossing
First Floor (South Block)
eMalahleni

LinkedIn Facebook WhatsApp Instagram

Read: NOTICE OF PROSPECTING RIGHT APPLICATION BY **ATOK** MINING HOUSE (PTY) LTD - DMR REF. NUMBER: KZN30/5/1/1/2/10926PR

Siyabonga Nsele <NseleSi@eskom.co.za>

Sent Wed 2020/11/04 15:13

To Nokuthula

Your message

To: Siyabonga Nsele

Subject: FW: NOTICE OF PROSPECTING RIGHT APPLICATION BY **ATOK** MINING HOUSE (PTY) LTD - DMR REF. NUMBER: KZN30/5/1/1/2/10926PR

Sent: Wednesday, November 04, 2020 12:35:30 PM (UTC+02:00) Harare, Pretoria

was read on Wednesday, November 04, 2020 3:12:36 PM (UTC+02:00) Harare, Pretoria.

From: Nokuthula <nokuthula@singoconsulting.co.za>

Sent: Wednesday, 04 November 2020 12:36

To: 'NseleSi@eskom.co.za' <NseleSi@eskom.co.za>

Cc: 'Brian Akkiah' <AkkiahB@eskom.co.za>

Subject: FW: NOTICE OF PROSPECTING RIGHT APPLICATION BY ATOK MINING HOUSE (PTY) LTD - DMR REF. NUMBER: KZN30/5/1/1/2/10926PR

Good Day Mr. Nsele

We trust this email finds you well,

We were directed you by Mr. Akkiah as the official who might be able to assist with the matter below.

May you kindly find attached documents to review and also advise us in a way forward in terms of consultation and the sharing of the draft EMPR for review which commences on 07/11/2020.

We look forward to your response.

Kind regards,

Nokuthula, Nkosi
Junior Consultant
Environmental Management (Cand.)

+27 81 386 8589
+27 13 692 0041
nokuthula@singoconsulting.co.za
www.singoconsulting.co.za

Singo Consulting (Pty) Ltd

09 Langa Crescent, Office No.16
Corridor Hill Crossing
First Floor (South Block)
eMalaheni

LinkedIn Facebook WhatsApp Instagram

From: Brian Akkiah <AkkiahB@eskom.co.za>

Sent: Wednesday, 04 November 2020 12:25

To: Nokuthula <nokuthula@singoconsulting.co.za>

Subject: RE: NOTICE OF PROSPECTING RIGHT APPLICATION BY ATOK MINING HOUSE (PTY) LTD -
DMR REF. NUMBER: KZN30/5/1/1/2/10926PR

Good Day,

Please forward your request to Mr Siyabonga Nsele – Manager Lands & Rights.

NseleSi@eskom.co.za

Regards & #CUL8R,

Brian Akkiah

Land & Rights Officer

Land Development

Eskom, Distribution

Ikhwezi Building 25 Valley View Road New Germany 3600

PO Box 66 New Germany 3610

Tel +27 (0)31 710 5369

Cell +27 84 233 4610

Fax 031 710 5146

akkiahb@eskom.co.za

From: Nokuthula <nokuthula@singoconsulting.co.za>

Sent: Wednesday, 04 November 2020 11:08

To: Brian Akkiah <AkkiahB@eskom.co.za>

Subject: NOTICE OF PROSPECTING RIGHT APPLICATION BY ATOK MINING HOUSE (PTY) LTD - DMR
REF. NUMBER: KZN30/5/1/1/2/10926PR

Good Day Brian

We trust this email finds you well,

We are hoping that you will be able to assist us. A Prospecting Right has been lodged within Hlobane and Vaalbank, KZN.

May you kindly direct us to the person responsible for this area.

In addition, Kindly find **WinDeed Search (276773920)** and **Acceptance letter** for the PR application. It is stated that Eskom is the landowner of portion 21 of the farm Hlobane 506 HT of which has also been applied for. We have contacted a representative from Eskom Mr. Roderick de Brissac who stated that he cannot help. It would be appreciated if you could also assist with this matter for consultation purposes.

Lastly, kindly find attached **BID, Regulation Map** and **Coordinates** of the applied for area.

Kind Regards,

The image shows two business cards. The left card is for Nokuthula, Nkosi, Junior Consultant in Environmental Management (Candidate). It lists contact details: mobile +27 81 386 8589, office +27 13 692 0041, email nokuthula@singoconsulting.co.za, and website www.singoconsulting.co.za. The right card is for Singo Consulting (Pty) Ltd, located at 09 Langa Crescent, Office No.16, Corridor Hill Crossing, First Floor (South Block), eMalaheni. It includes social media icons for LinkedIn, Facebook, WhatsApp, and Instagram.

From: Nokuthula <nokuthula@singoconsulting.co.za>
Sent: Friday, 09 October 2020 14:59
To: wattles@lantic.net
Cc: 'Kenneth, Singo' <kenneth@singoconsulting.co.za>; 'Rudzani Shonisani' <rudzani@singoconsulting.co.za>
Subject: LANDOWNER NOTIFICATION
Importance: High

Good Day

I hope this email finds you well.

Singo Consulting (Pty) Ltd on behalf of Atok Mining House(Pty) Ltd, hereby wishes to inform you that Atok Mining House (Pty) Ltd has submitted a Prospecting Right application together with Environmental Authorization application to the Kwa-Zulu Natal Department of Mineral Resources and Energy for prospecting **Coal** on **portion 1, 2, 3, 6, 7, 8, 9, 13-25, 27-31, 32, 35, 36, 40, 42** and **remainder** of the farm **Hlobane No. 506 HT, Erven 2-21, 23-26, 28-63, 66 & 67** of the **Hlobane Township HT (Town code: N0ht0683)**, **portions 5, 9, 12-15, remainder** of **16, 18 & 20-22** of the farm **Vaalbank No. 38 HU** and **Erven 0-16** of the **Vaalbank Township HU (Town Code: N0hu0684)**, situated under the Magisterial District of Vryheid, Kwa-Zulu Natal Province.

Kindly note that you have been identified as one of the landowners for the above-mentioned property. As part of consultation and Public Participation Process, please see the attached documents for the brief description of the project and kindly fill in the form to raise your comments or concerns.

To provide security, the documents are password encrypted. When prompted for a password, kindly enter 'SC2012'.

For more information or clarity regarding the project, do not hesitate to contact us using the details below.

Warm Regards,

The image shows two business cards. The left card is for Nokuthula, Nkosi, Junior Consultant in Environmental Management (Cand.). It lists contact numbers: +27 81 386 8589 (mobile), +27 13 692 0041 (office), and +27 86 514 4103 (fax). It also provides the email address nokuthula@singoconsulting.co.za and the website www.singoconsulting.co.za. The right card is for Singo Consulting (Pty) Ltd, located at 09 Langa Crescent, Office No.16, Corridor Hill Crossing, First Floor (South Block), eMalaheni. It includes social media icons for LinkedIn, Facebook, WhatsApp, and Instagram.

From: Nokuthula <nokuthula@singoconsulting.co.za>
Sent: Friday, 09 October 2020 14:49
To: gmr1@telkomsa.net
Cc: 'Kenneth, Singo' <kenneth@singoconsulting.co.za>; 'Rudzani Shonisani' <rudzani@singoconsulting.co.za>
Subject: LANDOWNER NOTIFICATION
Importance: High

Good Day

I hope this email finds you well.

Singo Consulting (Pty) Ltd on behalf of Atok Mining House(Pty) Ltd, hereby wishes to inform you that Atok Mining House (Pty) Ltd has submitted a Prospecting Right application together with Environmental Authorization application to the Kwa-Zulu Natal Department of Mineral Resources and Energy for prospecting **Coal on portion 1, 2, 3, 6, 7, 8, 9, 13-25, 27-31, 32, 35, 36, 40, 42 and remainder of the farm Hlobane No. 506 HT, Erven 2-21, 23-26, 28-63, 66 & 67 of the Hlobane Township HT (Town code: N0ht0683), portions 5, 9, 12-15, remainder of 16, 18 & 20-22 of the farm Vaalbank No. 38 HU and Erven 0-16 of the Vaalbank Township HU (Town Code: N0hu0684)**, situated under the Magisterial District of Vryheid, Kwa-Zulu Natal Province.

Kindly note that you have been identified as one of the landowners for the above-mentioned property. As part of consultation and Public Participation Process, please see the attached documents for the brief description of the project and kindly fill in the form to raise your comments or concerns.

For more information or clarity regarding the project, do not hesitate to contact us using the details below.

Warm Regards,

Nokuthula, Nkosi
Junior Consultant
Environmental Management (Cand.)

+27 81 386 8589
+27 13 692 0041
nokuthula@singoconsulting.co.za
www.singoconsulting.co.za

Singo Consulting (Pty) Ltd
09 Langa Crescent, Office No.16
Corridor Hill Crossing
First Floor (South Block)
eMalahleni

LinkedIn Facebook WhatsApp Instagram

From: Nokuthula <nokuthula@singoconsulting.co.za>
Sent: Friday, 09 October 2020 15:47
To: khumalojh27@gmail.com
Cc: 'Kenneth, Singo' <kenneth@singoconsulting.co.za>; 'Rudzani Shonisani' <rudzani@singoconsulting.co.za>
Subject: LANDOWNER NOTIFICATION
Importance: High

Good Day

I hope this email finds you well.

Singo Consulting (Pty) Ltd on behalf of Atok Mining House(Pty) Ltd, hereby wishes to inform you that Atok Mining House (Pty) Ltd has submitted a Prospecting Right application together with Environmental Authorization application to the Kwa-Zulu Natal Department of Mineral Resources and Energy for prospecting **Coal** on **portion 1, 2, 3, 6, 7, 8, 9, 13-25, 27-31, 32, 35, 36, 40, 42** and **remainder** of the farm **Hlobane No. 506 HT, Erven 2-21, 23-26, 28-63, 66 & 67** of the **Hlobane Township HT (Town code: N0ht0683)**, **portions 5, 9, 12-15, remainder** of **16, 18 & 20-22** of the farm **Vaalbank No. 38 HU** and **Erven 0-16** of the **Vaalbank Township HU (Town Code: N0hu0684)**, situated under the Magisterial District of Vryheid, Kwa-Zulu Natal Province.

Kindly note that you have been identified as one of the landowners for the above-mentioned property. As part of consultation and Public Participation Process, please see the attached documents for the brief description of the project and kindly fill in the form to raise your comments or concerns.

To provide security, the documents are password encrypted. When prompted for a password, kindly enter 'SC2012'.

For more information or clarity regarding the project, do not hesitate to contact us using the details below.

Warm Regards,

Nokuthula, Nkosi
Junior Consultant
Environmental Management (Cand.)

+27 81 386 8589
+27 13 692 0041
nokuthula@singoconsulting.co.za
www.singoconsulting.co.za

Singo Consulting (Pty) Ltd
09 Langa Crescent, Office No.16
Corridor Hill Crossing
First Floor (South Block)
eMalahleni

LinkedIn Facebook WhatsApp Instagram

Read: PROSPECTING RIGHT APPLICATION BY **ATOK** MINING HOUSE (PTY) LTD DMR REFERENCE NUMBER: KZN 30/5/1/1/2/10926 PR
Municipal Manager - Abaqulusi Municipality <municipalmanager@abaqulusi.gov.za>
Sent Wed 2020/11/04 10:53
To Nokuthula

Your message

To: 'Sainessa Dookhilal'; municipalmanager@abaqulusi.gov.za
Cc: 'Kenneth, Singo'; rudzani@singoconsulting.co.za
Subject: RE: PROSPECTING RIGHT APPLICATION BY **ATOK** MINING HOUSE (PTY) LTD DMR REFERENCE NUMBER:
KZN 30/5/1/1/2/10926 PR
Sent: 2020/11/04 10:36 AM

was read on 2020/11/04 10:51 AM.

Read: PROSPECTING RIGHT APPLICATION BY **ATOK** MINING HOUSE (PTY) LTD DMR REFERENCE NUMBER: KZN 30/5/1/1/2/10926 PR
Speaker <speaker@abaqulusi.gov.za>
Sent Wed 2020/11/04 15:12
To Nokuthula

Your message

To: edlamini@abaqulusi.gov.za; speaker@abaqulusi.gov.za
Cc: 'Sainessa Dookhilal'; 'Kenneth, Singo'; rudzani@singoconsulting.co.za
Subject: FW: PROSPECTING RIGHT APPLICATION BY **ATOK** MINING HOUSE (PTY) LTD DMR REFERENCE NUMBER:
KZN 30/5/1/1/2/10926 PR
Sent: 2020/11/04 12:59 PM

was read on 2020/11/04 03:11 PM.

From: Nokuthula <nokuthula@singoconsulting.co.za>
Sent: Wednesday, 04 November 2020 12:59
To: 'edlamini@abaqulusi.gov.za' <edlamini@abaqulusi.gov.za>; 'speaker@abaqulusi.gov.za' <speaker@abaqulusi.gov.za>
Cc: 'Sainessa Dookhilal' <svdookhilal@abaqulusi.gov.za>; 'Kenneth, Singo' <kenneth@singoconsulting.co.za>; 'rudzani@singoconsulting.co.za' <rudzani@singoconsulting.co.za>
Subject: FW: PROSPECTING RIGHT APPLICATION BY ATOK MINING HOUSE (PTY) LTD DMR REFERENCE NUMBER: KZN 30/5/1/1/2/10926 PR

Good Day

We trust this email finds you well,

We have been struggling to reach you telephonically thus this email today.

Att: Mr/Ms Dlamini

May you kindly share your address for courier purposes so that you are able to review the draft EMPr for the proposed prospecting project.

Att: Speakers Office

May you kindly find attached BID and Google Earth map to review and share the councillor contact details of the applied for section for consultation purposes.

To provide security, the document is password encrypted. When prompted for a password, kindly use the following password: 'SC2012'.

We trust the above is order. Should you require further clarity, please do not hesitate to contact me.

Kind regards,

Nokuthula, Nkosi
Junior Consultant
Environmental Management (Cand.)

+27 81 386 8589
+27 13 692 0041
nokuthula@singoconsulting.co.za
www.singoconsulting.co.za

Singo Consulting (Pty) Ltd
09 Langa Crescent, Office No.16
Corridor Hill Crossing
First Floor (South Block)
eMalaheni

LinkedIn Facebook WhatsApp Instagram

From: Sainessa Dookhilal <svdookhilal@abaqulusi.gov.za>

Sent: Wednesday, 04 November 2020 12:01

To: 'Nokuthula' <nokuthula@singoconsulting.co.za>; municipalmanager@abaqulusi.gov.za

Cc: 'Kenneth, Singo' <kenneth@singoconsulting.co.za>; rudzani@singoconsulting.co.za; speaker@abaqulusi.gov.za; edlamini@abaqulusi.gov.za

Subject: RE: PROSPECTING RIGHT APPLICATION BY ATOK MINING HOUSE (PTY) LTD DMR REFERENCE NUMBER: KZN 30/5/1/1/2/10926 PR

Dear Nokuthula,

Our physical address for Town Planning is 112 Mason Street, Vryheid.

Please also courier a copy to our records office located at the cnr. of Mark and High Street.

Our telephone lines are currently down and will need to contact them via email:

Speakers office speaker@abaqulusi.gov.za

Environmental edlamini@abaqulusi.gov.za



Kind Regards,

Sainessa Vandayar-Dookhilal | Manager: Town Planning (Pr.PlN A/1627/2012)

AbaQulusi Municipality | 112 Mason Street | Vryheid | 3100 |

Mobile: +27 84 501 6883 | Fax: + 27 34 980 1409 | Tel: +27 34 982 2133 Ext. 2017

svdookhilal@abaqulusi.gov.za | www.abaqulusi.gov.za

From: Nokuthula [<mailto:nokuthula@singoconsulting.co.za>]

Sent: 04 November 2020 10:36 AM

To: 'Sainessa Dookhilal' <svdookhilal@abaqulusi.gov.za>; municipalmanager@abaqulusi.gov.za

Cc: 'Kenneth, Singo' <kenneth@singoconsulting.co.za>; rudzani@singoconsulting.co.za

Subject: RE: PROSPECTING RIGHT APPLICATION BY ATOK MINING HOUSE (PTY) LTD DMR REFERENCE NUMBER: KZN 30/5/1/1/2/10926 PR

Good Day Sainessa

We trust this email finds you well,

May you kindly note that the Draft Review period is approaching and we would appreciate if we could send the draft report to you as well as the Environmental Department be reviewed. May you kindly share the delivery address for courier purposes.

In addition to the above, may you kindly share the contact details of the Environmental Management Department as well as the Office of the Speaker/Councillors as the municipal number (034 982 2133) does not go through.

Lastly, your comments have been recorded in our report. From investigation it was noted that the land use for the applied for area, according to the latest municipal SDF Review report, is recorded as mining but we will further research the SPLUMA By-Laws and continue with the necessary application.

Kind regards,



The image shows two business cards. The left card is for Nokuthula, Nkosi, Junior Consultant in Environmental Management (Cand.). It lists three phone numbers: +27 81 386 8589, +27 13 692 0041, and +27 86 514 4103. It also provides the email address nokuthula@singoconsulting.co.za and the website www.singoconsulting.co.za. The right card is for Singo Consulting (Pty) Ltd. It lists the address: 09 Langa Crescent, Office No.16, Corridor Hill Crossing, First Floor (South Block), eMalaheni. It also features social media icons for LinkedIn, Facebook, WhatsApp, and Instagram.

From: Sainessa Dookhilal <svdookhilal@abaqulusi.gov.za>

Sent: Friday, 09 October 2020 11:31

To: 'Nokuthula' <nokuthula@singoconsulting.co.za>

Subject: RE: PROSPECTING RIGHT APPLICATION BY ATOK MINING HOUSE (PTY) LTD DMR REFERENCE NUMBER: KZN 30/5/1/1/2/10926 PR

Good day,

Please find attached form to register as an I & AP.



Kind Regards,

Sainessa Vandayar-Dookhilal | Manager: Town Planning (Pr.PlN A/1627/2012)

AbaQulusi Municipality | 112 Mason Street | Vryheid | 3100 |

Mobile: +27 00 000 0000 | Fax: + 27 34 980 1409 | Tel: +27 34 982 2133 Ext. 2017

svdookhilal@abaqulusi.gov.za | www.abaqulusi.gov.za

PLEASE TAKE NOTE OF THE CHANGE IN EMAIL ADDRESS

From: Nokuthula [<mailto:nokuthula@singoconsulting.co.za>]

Sent: 09 October 2020 10:07 AM

To: municipalmanager@abaqulusi.gov.za; svdookhilal@abaqulusi.gov.za

Cc: 'Kenneth, Singo' <kenneth@singoconsulting.co.za>; 'Rudzani Shonisani' <rudzani@singoconsulting.co.za>

Subject: PROSPECTING RIGHT APPLICATION BY ATOK MINING HOUSE (PTY) LTD DMR REFERENCE NUMBER: KZN 30/5/1/1/2/10926 PR

Good Day,

We hope this email finds you well.

Singo Consulting (Pty) Ltd on behalf of **Atok Mining House (Pty) Ltd** hereby wish to inform you that it has submitted an application for a Prospecting Right together with an Environmental Authorization to the Mpumalanga Department of Mineral Resources (DMR) for the proposed project of prospecting for **Coal**, on **portion 1, 2, 3, 6, 7, 8, 9, 13-25, 27-31, 32, 35, 36, 40, 42** and **remainder** of the farm **Hlobane No. 506 HT, Erven 2-21, 23-26, 28-63, 66 & 67** of the **Hlobane Township HT (Town code: N0ht0683)**, **portions 5, 9, 12-15, remainder** of **16, 18 & 20-22** of the farm **Vaalbank No. 38 HU** and **Erven 0-16** of the **Vaalbank Township HU (Town Code: N0hu0684)**, situated under the Magisterial District of Vryheid, Kwa-Zulu Natal Province.

This Notification is being given in compliance with the terms of: Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002) (MPRDA), National Environmental Management Act, 1998 (Act No. 107 of 1998), and EIA Regulations (as amended, 07 April 2017) which requires that stakeholders must be notified of **Atok Ming House (Pty) Ltd's** intention to obtain Prospecting Right for the above mentioned minerals.

This invitation is being extended to you because the department that you represent might be somehow enforcing any of the Republic of South Africa's laws of which ensures; prevention of pollution & environmental degradation, promotes sustainable development & socio-economic development, or instead might be affected by mining activities. Hence you are being offered an opportunity to:

- Register as an I&AP and to respond to the environmental compliance process;
- Raise issues of concern and provide suggestions for enhanced benefits;
- Contribute to local knowledge;
- Comment on the Draft Basic Assessment Report (DBAR) & Environmental Management Program (EMP)

Singo Consulting (Pty) Ltd has been appointed as an independent Environmental Assessment Practitioner (EAP) to manage the environmental authorization process, by conducting Environmental Impact Assessment, Public Participation for the proposed project and compile an Environmental Management Plan. A Basic Assessment process has commenced, for your participation kindly fill the comment form in the page below and register your comments, issues, questions that you have about the proposed project. Should you need any clarity on the attached documents or have any queries with regards to the project, please do not hesitate to contact me on the details below.

Please find the attached Background Information Document (BID) for detailed description of the proposed project and timelines and Registration Form. To provide security, the document is password encrypted. When prompted for a password, kindly use the following password: SC2012

If you know anyone who might be interested in this project, kindly forward this email to that person.

Kind regards,



From: Nokuthula <nokuthula@singoconsulting.co.za>
Sent: Friday, 09 October 2020 10:13
To: govenders2@dws.gov.za
Cc: 'Kenneth, Singo' <kenneth@singoconsulting.co.za>; 'Rudzani Shonisani' <rudzani@singoconsulting.co.za>
Subject: PROSPECTING RIGHT APPLICATION BY ATOK MINING HOUSE (PTY) LTD DMR REFERENCE NUMBER: KZN 30/5/1/1/2/10926 PR

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Kind regards,

Nokuthula, Nkosi
Junior Consultant
Environmental Management (Cand.)

+27 81 386 8589
+27 13 692 0041
nokuthula@singoconsulting.co.za
www.singoconsulting.co.za

Singo Consulting (Pty) Ltd

09 Langa Crescent, Office No.16
Corridor Hill Crossing
First Floor (South Block)
eMalaheni

LinkedIn Facebook WhatsApp Instagram

From: PMB ResourceCentre <PMBResourceCentre@Dalrrd.gov.za>

Sent: Friday, 09 October 2020 11:42

To: Nokuthula <nokuthula@singoconsulting.co.za>

Cc: Thembalakhe Sibozana <ThembalakheS@daff.gov.za>; Amkela A.S. Chiya <AmkelaC@Dalrrd.gov.za>

Subject: Acknowledgement correspondence_ PROSPECTING RIGHT APPLICATION BY ATOK MINING HOUSE (PTY) LTD DMR REFERENCE NUMBER: KZN 30/5/1/1/2/10926 PR

Good day,

This correspondence serves as a notice of receipt for the above document received on the 9th October 2020.

Should you require any further information, please do not hesitate to contact Thembalakhe on:

Cell: 060 974 2008

Telephone: 033 392 7721

Email: ThembalakheS@daff.gov.za

Regards,

PMB Resource Centre

Sub Directorate: Forestry Regulations & Support



agriculture,
forestry & fisheries

Department:
Agriculture, Forestry and Fisheries
REPUBLIC OF SOUTH AFRICA

Tel: 033 392 7700

Fax: 033 342 8783

Web: www.daff.gov.za

E-mail: PMBResourceCentre@daff.gov.za

Notice

The information contained in this e-mail may be confidential, legally privileged and protected by law. Access by the intended recipient only is authorised. If you are not the intended recipient, kindly notify the sender immediately. Unauthorised use, copying or dissemination hereof is strictly prohibited.

Save for *bona fide* departmental purposes, the Department of Agriculture, Forestry and Fisheries does not accept responsibility for the contents or opinions expressed in this e-mail, nor does it warrant this communication to be free from errors, contamination, interference or interception.

From: Nokuthula <nokuthula@singoconsulting.co.za>

Sent: Friday, October 9, 2020 11:38 AM

To: PMB ResourceCentre <PMBResourceCentre@Dalrrd.gov.za>; Thembalakhe Sibozana <ThembalakheS@daff.gov.za>

Subject: RE: PROSPECTING RIGHT APPLICATION BY ATOK MINING HOUSE (PTY) LTD DMR REFERENCE NUMBER: KZN 30/5/1/1/2/10926 PR

**EXTERNAL EMAIL: This email originated outside of "DALRRD/DAFF Environment".
CAUTION: Do not click on links or open attachments unless you recognize the sender and know the content is safe.**

Good Day

Kindly receive document as per request.

Kind Regards,

Nokuthula, Nkosi
Junior Consultant
Environmental Management (Cand.)

+27 81 386 8589
+27 13 692 0041
nokuthula@singoconsulting.co.za
www.singoconsulting.co.za

Singo Consulting (Pty) Ltd
09 Langa Crescent, Office No.16
Corridor Hill Crossing
First Floor (South Block)
eMalahleni

LinkedIn Facebook WhatsApp Instagram

From: Nokuthula <nokuthula@singoconsulting.co.za>

Sent: Friday, 09 October 2020 10:16

To: 'PMB ResourceCentre' <PMBResourceCentre@Dalrrd.gov.za>; 'ThembalakheS@daff.gov.za' <ThembalakheS@daff.gov.za>

Cc: 'Kenneth, Singo' <kenneth@singoconsulting.co.za>; 'Rudzani Shonisani' <rudzani@singoconsulting.co.za>

Subject: PROSPECTING RIGHT APPLICATION BY ATOK MINING HOUSE (PTY) LTD DMR REFERENCE NUMBER: KZN 30/5/1/1/2/10926 PR

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Please find the attached Background Information Document (BID) for detailed description of the proposed project and timelines and Registration Form. To provide security, the document is password encrypted. When prompted for a password, kindly use the following password: SC2012

If you know anyone who might be interested in this project, kindly forward this email to that person.

Kind regards,




From: LYNN BOUCHER <lynn.boucher@drdlr.gov.za>
Sent: Monday, 02 November 2020 14:32
To: Nokuthula <nokuthula@singoconsulting.co.za>
Cc: 'Kenneth, Singo' <kenneth@singoconsulting.co.za>; 'Rudzani Shonisani' <rudzani@singoconsulting.co.za>
Subject: RE: LAND CLAIM ENQUIRY

Good day

Please find attached letter in response to your enquiry.

Regards 

 <p>COMMISSION ON RESTITUTION OF LAND RIGHTS</p>	<p>Mrs Lynn Boucher</p> <p>Senior Admin Officer: Information Management & Lodgement</p> <p>139 Langalibalele Street Pietermaritzburg 3201</p> <p>Private Bag X9120 Pietermaritzburg 3200</p> <p>+27 33 341 2600</p> <p>lynn.boucher@drdlr.gov.za</p> <p><i>For I know the plans I have for you," declares the LORD, "plans to prosper you and not to harm you, plans to give you hope and a future. Jeremiah 29:11</i></p>
--	---

From: Nokuthula <nokuthula@singoconsulting.co.za>
Sent: Friday, October 09, 2020 9:14 AM
To: LYNN BOUCHER <lynn.boucher@drdlr.gov.za>
Cc: 'Kenneth, Singo' <kenneth@singoconsulting.co.za>; 'Rudzani Shonisani' <rudzani@singoconsulting.co.za>
Subject: LAND CLAIM ENQUIRY

EXTERNAL EMAIL: This email originated outside of "DRDLR Environment".
CAUTION: Do not click on links or open attachments unless you recognize the sender and know the content is safe.

Good Day

We hope this email finds you well.

You are receiving this email as an enquiry for any possible land claim on portion 1, 2, 3, 6, 7, 8, 9, 13-25, 27-31, 32, 35, 36, 40, 42 and remainder of the farm Hlobane No. 506 HT, Erven 2-21, 23-26, 28-63, 66 & 67 of the Hlobane Township HT (Town code: N0ht0683), portions 5, 9, 12-15, remainder of 16, 18 & 20-22 of the farm Vaalbank No. 38 HU and Erven 0-16 of the Vaalbank Township HU (Town Code: N0hu0684) situated within the Magisterial District of Vryheid, within Abaqulusi Local Municipality under Zululand District Municipality, KwaZulu-Natal Province. DMR Ref: KZN 30/5/1/1/2/10926 PR.

Kindly review attached BID for detailed description of proposed project. This is to ensure that all claimants are properly consulted and are given opportunity to:

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

To the provide security, the documents are password encrypted. When prompted for a password, kindly use the following password to open the documents: SC2012.

Your comments will be highly appreciated as they will assist us in developing a well-informed BAR and EMPr.

Kind Regards,

Nokuthula, Nkosi
Junior Consultant
Environmental Management (Cand.)

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+27 13 692 0041
nokuthula@singoconsulting.co.za
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09 Langa Crescent, Office No.16
Corridor Hill Crossing
First Floor (South Block)
eMalahleni

LinkedIn Facebook WhatsApp Instagram



OFFICE OF THE REGIONAL LAND CLAIMS COMMISSIONER: KWAZULU-NATAL
139 Langalibalele Street, PIETERMARITZBURG, 3200, Private Bag X 9120, PIETERMARITZBURG, 3200
Tel: (033) 341 2600 | Fax: (033) 342 2881

Your Ref:

Enquiries: Lynn Boucher

Singo Consulting
09 Langa Crescent
Corridor Hill Crossing
First Floor (South Block) Office No 14
EMALAHLENI
1035

Dear Sir/Madam

REQUEST INFORMATION ON PROPERTY: LAND CLAIM

We acknowledge receipt of your enquiry received on 9 October 2020 and advise that our records indicate that no claims for restitution in terms of the provisions of the Restitution of Land Rights Act, 22 of 1994 (as amended) have been lodged in respect of the properties described as:

1. **Portions 28-31, 35, 36, 40, 42 and Remainder of the farm Hlobane No. 506;**
2. **Erven 2-21, 23-26, 28-63, 66 & 67 of Hlobane Township;**
3. **Portions 5, 9, 12-15, Remainder of 16, 18 & 20-22 of the farm Vaalbank No. 38; and**
4. **Erven 0-16 of Vaalbank Township.**

Whilst great care is taken to verify the accuracy of the information regarding all claims, the Regional Land Claims Commission will not be held responsible for any damage or loss suffered as a result of information furnished in this regard as there are claims lodged with the Commission which are not yet captured in our database as they are not yet published in the relevant government gazette.

However, our records indicate that claims have been lodged on the properties described as **Portions 1, 2, 3, 6, 7, 8, 9, 13-25, 27, 32 of the farm Hlobane No. 506.**

These properties fall under the Hlobane Community claim. The notice of the claim has not been gazetted as yet.

Regards

pp LMJ Boucher

MR N. P. MDLULI
MANAGER: INFORMATION AND RECORDS MANAGEMENT
DATE: 2 November 2020

From: Sbusiso Ndwandwe <sbusisozz57@gmail.com>
Sent: Thursday, 05 November 2020 14:16
To: nokuthula@singoconsulting.co.za; kenneth@singoconsulting.co.za
Subject: Physical Address of our Office

Nokuthula

Our physical address and contact details will be stated hereunder. Thank you.

--

Mr. B. S. Ndwandwe

Assistant Director: Environmental Impact Assessment

Environmental Services

KZN Department of Economic Development; Tourism and Environmental Affairs

King Dinizulu Highway

Legislative Assembly Building / Offices

Second Floor; Suite 229

Ulundi 3838

Tel: 035 - 870 9383

Fax: 035 - 870 9390

Cell: 082 719 9883

E Mail Address: sbusisozz57@gmail.com

From: Nokuthula <nokuthula@singoconsulting.co.za>

Sent: Thursday, 05 November 2020 11:34

To: 'sbusiso.ndwandwe@kznedtea.gov.za' <sbusiso.ndwandwe@kznedtea.gov.za>

Cc: 'Kenneth, Singo' <kenneth@singoconsulting.co.za>; 'rudzani@singoconsulting.co.za' <rudzani@singoconsulting.co.za>

Subject: FW: PROSPECTING RIGHT APPLICATION BY ATOK MINING HOUSE (PTY) LTD DMR REFERENCE NUMBER: KZN 30/5/1/1/2/10926 PR

Dear Sbusiso

We trust this email finds you well,

May you kindly share your address for courier purposes.

Kind Regards,

Nokuthula, Nkosi
Junior Consultant
Environmental Management (Cand.)

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Singo Consulting (Pty) Ltd

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First Floor (South Block)
eMalahleni

LinkedIn Facebook WhatsApp Instagram

From: Nokuthula <nokuthula@singoconsulting.co.za>

Sent: Friday, 09 October 2020 10:12

To: sbusiso.ndwandwe@kznedtea.gov.za

Cc: 'Kenneth, Singo' <kenneth@singoconsulting.co.za>; 'Rudzani Shonisani'

<rudzani@singoconsulting.co.za>

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Environmental Management (Cand.)

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nokuthula@singoconsulting.co.za
www.singoconsulting.co.za

Singo Consulting (Pty) Ltd

09 Langa Crescent, Office No.16
Corridor Hill Crossing
First Floor (South Block)
eMalaheni

LinkedIn Facebook WhatsApp Instagram

From: Nokuthula <nokuthula@singoconsulting.co.za>

Sent: Friday, 09 October 2020 10:31

To: Kacy.Rengasamy@kznedtea.gov.za; siza.sibande@kznedtea.gov.za

Cc: 'Kenneth, Singo' <kenneth@singoconsulting.co.za>; 'Rudzani Shonisani' <rudzani@singoconsulting.co.za>

Subject: PROSPECTING RIGHT APPLICATION BY ATOK MINING HOUSE (PTY) LTD DMR REFERENCE NUMBER: KZN 30/5/1/1/2/10926 PR

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Please find the attached Background Information Document (BID) for detailed description of the proposed project and timelines and Registration Form. To provide security, the document is password encrypted. When prompted for a password, kindly use the following password: SC2012

If you know anyone who might be interested in this project, kindly forward this email to that person.

Kind regards,

From: Nokuthula <nokuthula@singoconsulting.co.za>

Sent: Friday, 09 October 2020 10:21

To: bernadetp@amafapmb.co.za

Cc: 'Kenneth, Singo' <kenneth@singoconsulting.co.za>; 'Rudzani Shonisani' <rudzani@singoconsulting.co.za>

Subject: PROSPECTING RIGHT APPLICATION BY ATOK MINING HOUSE (PTY) LTD DMR REFERENCE NUMBER: KZN 30/5/1/1/2/10926 PR

Good Day,

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From: Nokuthula <nokuthula@singoconsulting.co.za>
Sent: Friday, 09 October 2020 10:17
To: Akani.shivambu@sanparks.org
Cc: 'Kenneth, Singo' <kenneth@singoconsulting.co.za>; 'Rudzani Shonisani' <rudzani@singoconsulting.co.za>
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The image shows two business cards. The left card is for Nokuthula, Nkosi, Junior Consultant in Environmental Management (Cand.). It lists contact details: mobile +27 81 386 8589, office +27 13 692 0041, email nokuthula@singoconsulting.co.za, and website www.singoconsulting.co.za. The right card is for Singo Consulting (Pty) Ltd, located at 09 Langa Crescent, Office No.16, Corridor Hill Crossing, First Floor (South Block), eMalahleni. It includes social media icons for LinkedIn, Facebook, WhatsApp, and Instagram.

From: Nokuthula <nokuthula@singoconsulting.co.za>

Sent: Friday, 09 October 2020 10:27

To: advocacy@birdlife.org.za

Cc: 'Kenneth, Singo' <kenneth@singoconsulting.co.za>; 'Rudzani Shonisani' <rudzani@singoconsulting.co.za>

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Environmental Management (Cand.)

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Singo Consulting (Pty) Ltd

09 Langa Crescent, Office No.16
Corridor Hill Crossing
First Floor (South Block)
eMalaheni

LinkedIn Facebook WhatsApp Instagram

From: Nokuthula <nokuthula@singoconsulting.co.za>

Sent: Friday, 09 October 2020 10:24

To: irene.hatton@kznwklidlfe.com; 'Ashantia Nerissa Pillay' <Nerissa.Pillay@kznwildlife.com>

Cc: 'Kenneth, Singo' <kenneth@singoconsulting.co.za>; 'Rudzani Shonisani' <rudzani@singoconsulting.co.za>

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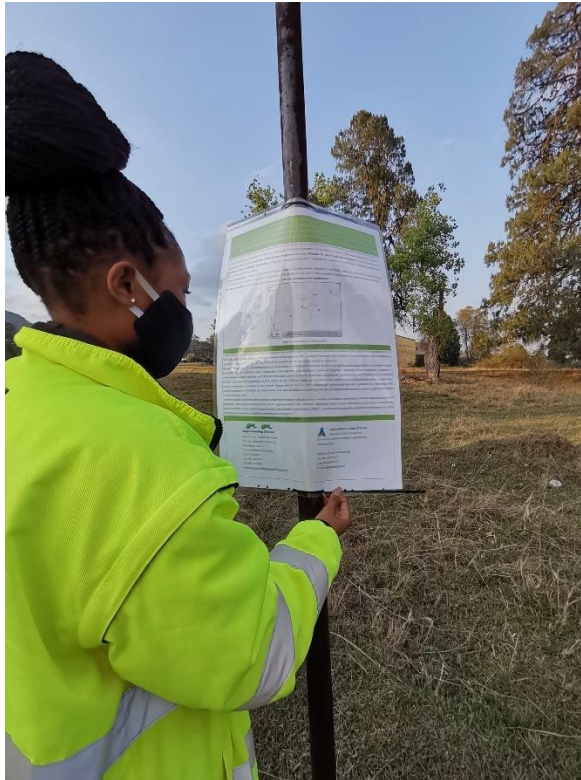
Singo Consulting (Pty) Ltd

09 Langa Crescent, Office No.16
Corridor Hill Crossing
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LinkedIn Facebook WhatsApp Instagram

Appendix I: SITE ASSESSMENT PICTURES







Appendix J: PROOF OF SUBMISSION (DRAFT BAR)

Appendix K: QUANTUM CALCULATION

CALCULATION OF THE QUANTUM

Applicant:
Evaluator:

Atok Mining House (Pty) Ltd
Kenneth Singo

Ref No.:
Date:

KZN 30/5/1/1/2/ (10926) PR
Oct-20

No.	Description	Unit	A	B	C	D	E=A*B*C*D
			Quantity	Master Rate	Multiplication factor	Weighting factor 1	Amount (Rands)
1	Dismantling of processing plant and related structures (including overland conveyors and powerlines)	m3	0	16	0,8	0,08	0
2 (A)	Demolition of steel buildings and structures	m2	0	228	0,08	1	0
2(B)	Demolition of reinforced concrete buildings and structures	m2	0	336	0,07	1	0
3	Rehabilitation of access roads	m2	0,01	41	1	1	0,41
4 (A)	Demolition and rehabilitation of electrified railway lines	m	0	395	1	1	0
4 (A)	Demolition and rehabilitation of non-electrified railway lines	m	0	216	1	1	0
5	Demolition of housing and/or administration facilities	m2	0	455	1	1	0
6	Opencast rehabilitation including final voids and ramps	ha	0	238697	1	1	0
7	Sealing of shafts adits and inclines	m3	0	122	1	1	0
8 (A)	Rehabilitation of overburden and spoils	ha	0	159131	1	1	0
8 (B)	Rehabilitation of processing waste deposits and evaporation ponds (non-polluting potential)	ha	0	198195	1	1	0
8 (C)	Rehabilitation of processing waste deposits and evaporation ponds (polluting potential)	ha	0	575653	1	1	0
9	Rehabilitation of subsided areas	ha	0	133249	1	1	0
10	General surface rehabilitation	ha	0,9	126059	0,33	1	37439,523
11	River diversions	ha	0	126059	1	1	0
12	Fencing	m	0	144	1	1	0
13	Water management	ha	0	47931	0,08	1	0
14	2 to 3 years of maintenance and aftercare	ha	0	16776	1	1	0
15 (A)	Specialist study	Sum	0	0	1	1	0
15 (B)	Specialist study	Sum	0	0	1	1	0
Sub Total 1							37439,933
1	Preliminary and General		4492,79196		weighting factor 2 1		4492,79196
2	Contingencies			3743,9933			3743,9933
Subtotal 2							45676,72
VAT (15%)							2773,05
Grand Total							48450

SIGN
DATE

Ndinannyi Kenneth Singo
2020/10/19

Appendix L: IMPACT MANAEMENT OUTCOMES

Activity	Potential impact	Aspects affected	Phase	Mitigation type	Standard to be achieved
Whether listed or not, e.g. excavations, blasting stockpiles, discard dumps/dams, loading, hauling, transport, water supply dams/boreholes, accommodation, offices, ablution, stores, workshops, processing plant, storm water control berms, roads, pipelines, power lines, conveyors, etc.	Including the potential impacts for cumulative impacts, e.g. dust, noise, drainage surface disturbance, fly rock, surface water contamination, groundwater contamination, air pollution etc.		In which impact is anticipated e.g. construction, commissioning, operational, decommissioning, closure, post-closure.	Modify, remedy, control or stop through e.g. noise control measures, storm-water control, dust control, rehabilitation, design measures, blasting controls, avoidance, relocation, alternative activity etc. E.g. modify through alternative method. Control through noise control. Control through management and monitoring through rehabilitation.	Impact avoided, noise levels, dust levels, rehabilitation standards, end use objectives) etc.
Planning and Project Management	EMP	Project Management	Planning	A finalized EMP must address all authorization conditions stipulated by the DEA (and other commenting authorities). The EMP should also encompass all environmental impact mitigation measures as identified in the final BAR.	MPRDA & NEMA
	Appointment of Environmental Officer	Project Management	Planning	The Atok Mining House (Pty) Ltd environmental geologist will serve as the Environmental Officer (EO) during construction, given the short duration of construction and the low significance impacts which are envisaged. The PCMT environmental geologist will be responsible for monitoring the compliance of the construction workers and employees on site with the EMP and ensure their co-operation.	MPRDA & NEMA

Activity	Potential impact	Aspects affected	Phase	Mitigation type	Standard to be achieved
	Permits and Permissions		Planning	AbaQulusi Local Municipality must ensure that all licensing, permits or certificates required for the project are obtained and in place prior to the commencing of any construction activities on site.	MPRDA & NEMA
	Emergency Response Planning	Safety and health personnel on site	Planning	Plan all emergency responses including: Response procedures to fires, explosions, or any accidents that will require rapid medical responses; and Responses to community and stakeholder concerns and communication procedures with potentially affected parties (I&AP).	MPRDA & NEMA
	Project Schedule	Undertaking the project in a timeous manner	Planning	Plan and develop a construction sequence to alleviate noise generation during the construction phase.	N/A
	Method statement	Project Management	Planning	Ensure that a method statement has been compiled and submitted to the Site/Construction manager.	N/A
	Grievances	Project Management	Planning	Develop grievance mechanisms for the recording and management of complaints and grievances specifically including (but not limited to) grievances from those living in the area.	N/A
	Records and Administration	Project Management	Planning	Ensure the following are up to date and available on site: A complaints register. •An approved method statement. Copies of the EMP.	

Activity	Potential impact	Aspects affected	Phase	Mitigation type	Standard to be achieved
				Environmental Permits and authorizations. Copies of weekly checklists, compliance reports, incidence reports and corrective action reports. <ul style="list-style-type: none"> •Photographs of areas of concern (photos of non-compliance areas as well corrective action). Attendance registers of environmental awareness training.	
	Recruitment of Labor	Project Management	Planning	Where possible, the contractor must make use of local labour in support of the local economy. Advertise employment opportunities adequately, so as not to limit application opportunities. Implement a transparent process of recruiting construction staff, following pre-established and accepted criteria.	Basic Conditions of Employment Act, No. 75 of 1997 (as amended)
PRE-DRILLING/EXPLORATION					
	Site establishment	Project Management	Planning	The Contractor must, in agreement with the Construction Manager, decide upon an area for the location of a construction camp. The construction camp should be properly demarcated and fenced, and be adequately sized, with sufficient space for site offices, construction vehicles, equipment, material and waste storage areas The construction camp must be located in	

Activity	Potential impact	Aspects affected	Phase	Mitigation type	Standard to be achieved
				<p>an area with minimal damage or disturbance to the environment.</p> <p>Establish 'NO-GO' areas- where no construction personnel, equipment/machinery or vehicles are permitted. Any identified Environmental Sensitive or important areas should be designated as 'NO-GO' areas.</p>	
	Site Housekeeping	Project Management	Planning	The construction camp should be kept clean and orderly at all times.	
	Ablution Facilities	Project Management	Planning	<p>Enough toilet facilities should be provided near construction camp. The toilets should be properly covered and ventilated, and should contain hand washing facilities.</p> <p>Portable toilets should be properly secured to the grounds to avoid toppling in the case of a wind/storm event.</p> <p>Ensure that all toilets function properly and are in a hygienic state. The toilets should be cleaned and emptied regularly.</p> <p>Ensure that there are no spillages when toilets get cleaned and emptied.</p> <p>Urination on site should be strictly prohibited.</p>	
<p>Site establishment activities (-ve):</p> <p>Vegetation clearance</p> <p>Topsoil stripping & stockpiling</p>	Cultural and heritage	Destruction or loss of Cultural and Heritage Resources: No	Construction/ set-up	<p>Environmental Permits and authorizations.</p> <p>Copies of weekly checklists, compliance reports, incidence reports and corrective action reports.</p>	Heritage Act

Activity	Potential impact	Aspects affected	Phase	Mitigation type	Standard to be achieved
Drill pad compaction Erection of office, toilets, fuel storage (if not by road tanker), water tanker, core storage Vehicle movements Waste management		cultural/heritage artefacts have been identified on site			
	Noise	Noise Generation	Construction/ set-up	Photographs of areas of concern (photos of non-compliance areas as well corrective action).	SANS 10103
	Visual	Visual intrusion	Construction/ set-up	Attendance registers of environmental awareness training.	N/A
	Traffic	Increase in traffic volumes in the vicinity of the drilling site	Construction/ set-up	Traffic signs to be put around the site to notify motorist of the activities Construction vehicles to make trips on/off site only when necessary Construction vehicles to adhere to local speed limits as far as possible when driving in around site	National Traffic Act Regulations
	Signage	Traffic volumes, safety	Construction/ set-up	The construction management needs to communicate the commencement and duration of construction activities to the community. Clear signage needs to be put up to make and keep the community awareness of construction activities so as to prevent any hazardous occurrences. Provide adequate safety warning signage on	National Traffic Act Regulations

Activity	Potential impact	Aspects affected	Phase	Mitigation type	Standard to be achieved
				the roads.	
	Dust fall	Dust fall & nuisance from activities	Construction/ set-up	Wet suppression should be applied to ensure that no visible dust is raised by any of the prospecting operations; Separation of distance of minimum 500m, but preferably 1000m to be maintained between drill sites and dwellings; and Low vehicle speeds will be enforced on unpaved surfaces.	GN R. 827 (NEMAQA)
	Soil and vegetation	The potential impact of the proposed prospecting on the vegetation would occur at proposed drilling sites and the access routes used to get to these sites.	Construction/ set-up	The soil disturbance and clearance of vegetation at drill pad areas will be limited to the absolute minimum required; No clear scraping (dozing) be carried out unless absolutely necessary to establish a level drill pad. Rather that surface vegetation is cleared to make way for the drilling rig leaving the roots intact so that vegetation can coppice and regrow; and Disturbed areas will be re-vegetated with locally indigenous species as soon as possible.	NEMBA
	Animal life	Animal life will be affected in the immediate vicinity of the drilling rig. It is anticipated that the noise and	Construction/ set-up	Environmental awareness training sessions should be part of the workers' induction and site workshops; and If any animals are encountered they must not be killed or injured, but should rather be removed or chased away from the site	NEMBA

Activity	Potential impact	Aspects affected	Phase	Mitigation type	Standard to be achieved
		general activity will keep the animal life away from the site while the prospecting is ongoing.		with the assistance of an animal specialist	
	Social	Friction between local residents/land owners and construction personnel	Construction/ set-up	All operations will be carried out under the guidance of a strong, experienced manager with proven skills in public consultation and conflict resolution; All prospecting personnel will be made aware of the local conditions and sensitivities in the prospecting area and the fact that some of the local residents may not welcome the prospecting activities in the area; There will be a strict requirement to treat local residents with respect and courtesy at all times.	NEMA
	Job creation	Employment will be created for the clearing of the land and establishing the drilling site.	Construction/ set-up	No mitigation measures required.	NEMA
	Storage and Disposal of	Safety and aesthetic/ visual aspects of the	Construction/ set-up	Litter generated by construction workers must be collected in containers that are clearly labeled, and disposed of weekly	National Waste Act

Activity	Potential impact	Aspects affected	Phase	Mitigation type	Standard to be achieved
	Waste	property, as well as waste disposal practices		<p>at registered waste disposal sites.</p> <p>Sufficient weather- and vermin- proof bins should be placed on site for the disposal of solid waste. Littering on site should be strictly prohibited. The burning of waste on site should also be prohibited.</p> <p>All waste generated from construction activities (building rubble, solid and liquid waste etc.), should be disposed of as frequently at an appropriately licensed refuse facility.</p> <p>Minimize waste generation, e.g. by providing re-usable items and refillable containers (e.g. for drinking water) and adopt a 'cradle to grave' responsibility for wastes.</p> <p>Comply with legal requirements for waste management and pollution control and employ "good housekeeping" and monitoring practices.</p>	
	Hazardous Waste	Safety and aesthetic/ visual aspects of the property, as well as waste disposal practices.	Construction/ set-up	<p>Any hazardous waste that may be generated should be separated from general waste and stored in clearly marked and properly sealed secondary containers.</p> <p>Any hazardous waste generated should be disposed of accordance with the Hazardous Chemical Substances Regulations, 1995 (Regulation 15).</p>	National Waste Act
	Spills and Leaks	Safety and	Construction/ set-	Any equipment that is leaking should be	National

Activity	Potential impact	Aspects affected	Phase	Mitigation type	Standard to be achieved
		aesthetic/ visual aspects of the property, as well as waste disposal practices.	up & Operation	temporarily decommissioned and removed from the construction site, to a surface with an impermeable surface and waste water collection system. Spill response kits must be readily available and accessible to all personnel on site.	Waste Act
	PPE			Ensure that all persons on site use Personal Protective Equipment (PPE) at all times, this including safety boots, safety vests, protective masks etc.	Employment Act
	Illegal Fires			Ensure that no fires are ignited on site unless required for construction purposes, in which case the EC should designate areas for the fires. The designated areas should be as far as possible from vegetation.	NEMA

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Whether listed or not, e.g. excavations, blasting stockpiles, discard dumps/dams, loading, hauling, transport, water	Including the potential impacts for cumulative impacts, e.g. dust, noise,		In which impact is anticipated e.g. construction, commissioning, operational,	Modify, remedy, control or stop through e.g. noise control measures, storm-water control, dust control, rehabilitation, design measures, blasting controls, avoidance, relocation, alternative activity etc. E.g. modify through	Impact avoided, noise levels, dust levels, rehabilitation

Activity	Potential impact	Aspects affected	Phase	Mitigation type	Standard to be achieved
supply dams/boreholes, accommodation, offices, ablution, stores, workshops, processing plant, storm water control berms, roads, pipelines, power lines, conveyors, etc.	drainage surface disturbance, fly rock, surface water contamination, groundwater contamination, air pollution etc.		decommissioning, closure, post-closure.	alternative method. Control through noise control. Control through management and monitoring through rehabilitation.	standards, end use objectives) etc.
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Activity	Potential impact	Aspects affected	Phase	Mitigation type	Standard to be achieved
				with the EMP and ensure their co-operation.	
	Permits and Permissions		Planning	AbaQulusi Local Municipality must ensure that all licensing, permits or certificates required for the project are obtained and in place prior to the commencing of any construction activities on site.	MPRDA & NEMA
	Emergency Response Planning	Safety and health personnel on site	Planning	Plan all emergency responses including: Response procedures to fires, explosions, or any accidents that will require rapid medical responses; and Responses to community and stakeholder concerns and communication procedures with potentially affected parties (I&AP).	MPRDA & NEMA
	Project Schedule	Undertaking the project in a timeous manner	Planning	Plan and develop a construction sequence to alleviate noise generation during the construction phase.	N/A
	Method statement	Project Management	Planning	Ensure that a method statement has been compiled and submitted to the Site/Construction manager.	N/A

Activity	Potential impact	Aspects affected	Phase	Mitigation type	Standard to be achieved
	Grievances	Project Management	Planning	Develop grievance mechanisms for the recording and management of complaints and grievances specifically including (but not limited to) grievances from those living in the area.	N/A
	Records and Administration	Project Management	Planning	<p>Ensure the following are up to date and available on site:</p> <p>A complaints register.</p> <ul style="list-style-type: none"> •An approved method statement. <p>Copies of the EMP.</p> <p>Environmental Permits and authorizations.</p> <p>Copies of weekly checklists, compliance reports, incidence reports and corrective action reports.</p> <ul style="list-style-type: none"> •Photographs of areas of concern (photos of non-compliance areas as well corrective action). <p>Attendance registers of environmental awareness training.</p>	

Activity	Potential impact	Aspects affected	Phase	Mitigation type	Standard to be achieved
	Recruitment of Labor	Project Management	Planning	<p>Where possible, the contractor must make use of local labour in support of the local economy.</p> <p>Advertise employment opportunities adequately, so as not to limit application opportunities.</p> <p>Implement a transparent process of recruiting construction staff, following pre-established and accepted criteria.</p>	<p>Basic Conditions of Employment Act, No. 75 of 1997 (as amended)</p>
PRE-DRILLING/EXPLORATION					
	Site establishment	Project Management	Planning	<p>The Contractor must, in agreement with the Construction Manager, decide upon an area for the location of a construction camp. The construction camp should be properly demarcated and fenced, and be adequately sized, with sufficient space for site offices, construction vehicles, equipment, material and waste storage areas</p> <p>The construction camp must be located in an area with minimal damage or disturbance to the environment.</p> <p>Establish 'NO-GO' areas- where no</p>	

Activity	Potential impact	Aspects affected	Phase	Mitigation type	Standard to be achieved
				construction personnel, equipment/machinery or vehicles are permitted. Any identified Environmental Sensitive or important areas should be designated as 'NO-GO' areas.	
	Site Housekeeping	Project Management	Planning	The construction camp should be kept clean and orderly at all times.	
	Ablution Facilities	Project Management	Planning	<p>Enough toilet facilities should be provided near construction camp. The toilets should be properly covered and ventilated, and should contain hand washing facilities.</p> <p>Portable toilets should be properly secured to the grounds to avoid toppling in the case of a wind/storm event.</p> <p>Ensure that all toilets function properly and are in a hygienic state. The toilets should be cleaned and emptied regularly.</p> <p>Ensure that there are no spillages when toilets get cleaned and emptied.</p> <p>Urination on site should be strictly prohibited.</p>	
Site establishment activities (-	Cultural and heritage	Destruction or	Construction/ set-	Environmental Permits and authorizations.	Heritage Act

Activity	Potential impact	Aspects affected	Phase	Mitigation type	Standard to be achieved
ve): Vegetation clearance Topsoil stripping & stockpiling Drill pad compaction Erection of office, toilets, fuel storage (if not by road tanker), water tanker, core storage Vehicle movements Waste management		loss of Cultural and Heritage Resources: No cultural/heritage artefacts have been identified on site	up	Copies of weekly checklists, compliance reports, incidence reports and corrective action reports.	
	Noise	Noise Generation	Construction/ set-up	Photographs of areas of concern (photos of non-compliance areas as well corrective action).	SANS 10103
	Visual	Visual intrusion	Construction/ set-up	Attendance registers of environmental awareness training.	N/A
	Traffic	Increase in traffic volumes in the vicinity of the drilling site	Construction/ set-up	Traffic signs to be put around the site to notify motorist of the activities Construction vehicles to make trips on/off site only when necessary	National Traffic Act Regulations

Activity	Potential impact	Aspects affected	Phase	Mitigation type	Standard to be achieved
				Construction vehicles to adhere to local speed limits as far as possible when driving in around site	
	Signage	Traffic volumes, safety	Construction/ set-up	<p>The construction management needs to communicate the commencement and duration of construction activities to the community.</p> <p>Clear signage needs to be put up to make and keep the community awareness of construction activities so as to prevent any hazardous occurrences.</p> <p>Provide adequate safety warning signage on the roads.</p>	National Traffic Act Regulations
	Dust fall	Dust fall & nuisance from activities	Construction/ set-up	<p>Wet suppression should be applied to ensure that no visible dust is raised by any of the prospecting operations;</p> <p>Separation of distance of minimum 500m, but preferably 1000m to be maintained between drill sites and dwellings; and</p> <p>Low vehicle speeds will be enforced on unpaved surfaces.</p>	GN R. 827 (NEMAQA)

Activity	Potential impact	Aspects affected	Phase	Mitigation type	Standard to be achieved
	Soil and vegetation	The potential impact of the proposed prospecting on the vegetation would occur at proposed drilling sites and the access routes used to get to these sites.	Construction/ set-up	<p>The soil disturbance and clearance of vegetation at drill pad areas will be limited to the absolute minimum required; No clear scraping (dozing) be carried out unless absolutely necessary to establish a level drill pad.</p> <p>Rather that surface vegetation is cleared to make way for the drilling rig leaving the roots intact so that vegetation can coppice and regrow; and</p> <p>Disturbed areas will be re-vegetated with locally indigenous species as soon as possible.</p>	NEMBA
	Animal life	Animal life will be affected in the immediate vicinity of the drilling rig. It is anticipated that the noise and general activity will keep the animal life away from the site while the prospecting is	Construction/ set-up	<p>Environmental awareness training sessions should be part of the workers' induction and site workshops; and</p> <p>If any animals are encountered they must not be killed or injured, but should rather be removed or chased away from the site with the assistance of an animal specialist</p>	NEMBA

Activity	Potential impact	Aspects affected	Phase	Mitigation type	Standard to be achieved
		ongoing.			
	Social	Friction between local residents/land owners and construction personnel	Construction/ set-up	<p>All operations will be carried out under the guidance of a strong, experienced manager with proven skills in public consultation and conflict resolution;</p> <p>All prospecting personnel will be made aware of the local conditions and sensitivities in the prospecting area and the fact that some of the local residents may not welcome the prospecting activities in the area;</p> <p>There will be a strict requirement to treat local residents with respect and courtesy at all times.</p>	NEMA
	Job creation	Employment will be created for the clearing of the land and establishing the drilling site.	Construction/ set-up	No mitigation measures required.	NEMA
	Storage and Disposal of	Safety and aesthetic/ visual aspects of the	Construction/ set-up	Litter generated by construction workers must be collected in containers that are clearly labeled, and disposed of weekly at registered	National Waste Act

Activity	Potential impact	Aspects affected	Phase	Mitigation type	Standard to be achieved
	Waste	property, as well as waste disposal practices		<p>waste disposal sites.</p> <p>Sufficient weather- and vermin- proof bins should be placed on site for the disposal of solid waste. Littering on site should be strictly prohibited. The burning of waste on site should also be prohibited.</p> <p>All waste generated from construction activities (building rubble, solid and liquid waste etc.), should be disposed of as frequently at an appropriately licensed refuse facility.</p> <p>Minimize waste generation, e.g. by providing re-usable items and refillable containers (e.g. for drinking water) and adopt a 'cradle to grave' responsibility for wastes.</p> <p>Comply with legal requirements for waste management and pollution control and employ "good housekeeping" and monitoring practices.</p>	
	Hazardous Waste	Safety and aesthetic/ visual aspects of the property, as well as waste	Construction/ set-up	<p>Any hazardous waste that may be generated should be separated from general waste and stored in clearly marked and properly sealed secondary containers.</p> <p>Any hazardous waste generated should be</p>	National Waste Act

Activity	Potential impact	Aspects affected	Phase	Mitigation type	Standard to be achieved
		disposal practices.		disposed of accordance with the Hazardous Chemical Substances Regulations, 1995 (Regulation 15).	
	Spills and Leaks	Safety and aesthetic/ visual aspects of the property, as well as waste disposal practices.	Construction/ set-up & Operation	Any equipment that is leaking should be temporarily decommissioned and removed from the construction site, to a surface with an impermeable surface and waste water collection system. Spill response kits must be readily available and accessible to all personnel on site.	National Waste Act
	PPE			Ensure that all persons on site use Personal Protective Equipment (PPE) at all times, this including safety boots, safety vests, protective masks etc.	Employment Act
	Illegal Fires			Ensure that no fires are ignited on site unless required for construction purposes, in which case the EC should designate areas for the fires. The designated areas should be as far as possible from vegetation.	NEMA

Appendix M: COMPANY'S PROFILE

NDINANNYI KENNETH SINGO



Singo Consulting (Pty) Ltd

Private Bag X 7214, Postnet Suite 125, Witbank 1035
Office No. 16, First Floor (South Block), Corridor Hill Crossing,
09 Langa Crescent, Corridor Hill, eMalahleni, Witbank, 1040.
Tel No.: 072-081-6682/078-2727-839
Fax No.: 086-514-4103
E-mail address: kenneth@singoconsulting.co.za

TERTIARY EDUCATION

Qualification	:	Ph.D. (Geology, Applied Environmental Mineralogy & Geochemistry)
Institution	:	University of Johannesburg
Year Obtained	:	Results issued, graduation date to be confirmed.
PhD Project Title	:	In Search of the Possible Economic Potential, through Conceptual Study, on Reclamation of Defunct Mine Residue areas for Development Purposes: Case study of Musina Copper Mine, Giyani Louis Moore Gold Mine and Zwigodini Nyala Magnesite Mine, South Africa
Qualification	:	M.Sc. (Environmental Management)
Institution	:	University of South Africa
Year Obtained	:	2013
Masters Project Title	:	An Assessment of Heavy Metal Pollution in the Vicinity of the Defunct Copper Mine Dumps in Musina, South Africa
Qualification	:	B.Sc. (Hons) Mining & Environmental Geology
Institution	:	University of Venda
Year Obtained	:	2008
Honours Project Title	:	Structural Control on Kimberlite Pipes: A Case Study of Venetia Kimberlite Pipe-K19, Venetia Open Cast Diamond Mine, South Africa

WORK EXPERIENCE

Company	:	Singo Consulting
Position	:	Director/Principal Consultant
Duration	:	9 August 2012—TODATE
Key Focus Area	:	Environmental Projects

Technical work:

- Environmental Impact Assessment
- Environmental Management Plans
- Social and Community Development Plans
- Geological (Exploration, Resource Estimation and Competency Report)
- Hydrological and Hydrology (Surface and Groundwater Studies)
- Soil Science (Soil profiling, Modelling and Soil Chemistry)
- Environmental Control Office
- Geotechnical (Soil and Rock)
- Mining Feasibility Studies

TRAINING COURSES

- > 17- 19 April 2012: GSSA Drilling Methods & Techniques in Resource Exploration

- > 13-14 September 2012: GSSA Exploration Drill Site Safety
- > 3 May 2013: SHE Representative Training
- > 6-10 May 2013: Witwatersrand University, A3 SHE Risk Assessment Management
- > 22 July 2013: AATCGS Geophysics 101: Basics of Geophysics and Its Application in Coal
- > 31 July 2013: Mentorship Training
- > 14 April 2014: A2 Safety for Managers
- > 13 May - 26 June: Lump Ore Beneficiation (Basic Coal Preparation): Metallurgy G101-105, Colliery Training College, Witbank
- > 14-17 July 2014: Safety Leadership Programme
- > 6-8 Oct 2014: Understanding Coal Quality, ALS Witbank Training
- > 3-7 Nov 2014: Foundation for Leadership Programme
- > 3 Feb 2015: 4X4 Defensive Driving Training
- > 1 May 2015: Assertiveness Awareness and Training
- > 21-22 July 2016: Time Management Training

SYMPOSIUMS

- > 29 July 2013: **Presenter:** 4th Prof Humphrey Memorial Post-Graduate Symposium, University of South Africa
- > 11 November 2015: **Presenter:** Wits GSSA REI Colloquium: Economic Potential and Viability of reclaiming mine dumps in the Limpopo Province.

CONFERENCES

LIST OF CONFERENCE PROCEEDINGS AND SYMPOSIUMS:

- > 26-28 November 2012: Aminergy Acid Mine Drainage South Africa Conference
- > 10-12 March 2014: **Presenter:** SAICE 5th International Mining and Industrial Waste Management Conference
- > 29 Sept-3 Oct 2014: 9th International Mine Closure Conference, Sandton
- > 16-17 March 2015: Workshop: South Africa Mining-Related Landscape* Rehabilitation Status Quo: Identifying Work Required to Close Current Knowledge gaps, WRC, Pretoria.
- > 8-11 Sept 2015: Land Rehabilitation Society of Southern Africa (**LaRSSA**): Mine rehab and biodiversity.
- > N.K. Singo*, 2015. Wits GSSA REI Colloquium: Economic Potential and Viability of reclaiming mine dumps in the Limpopo Province. 11th November 2015, Witwatersrand University, Johannesburg, South Africa.
- > N.K. Singo* and J.D. Kramers, 2016. Uranium as a potential health hazard as well as (even) an economic asset in the Louis Moore tailings dump, near Giyani, Limpopo Province. In symposium Proceedings: 6th Mintek Analytical Symposium "The Environment", Mintek G4, Randburg, Johannesburg, South Africa, Friday 21st October 2016.
- > N.K. Singo* and J.D. Kramers, 2017. Chrysotile (white asbestos) occurrence in the Nyala Magnesite Mine dumps and the soils around them, and its health implications to the community of Zwigodini Village, Limpopo Province. 5th Annual Conference. 1-4 August 2017. Resilient Landscapes in a Changing Climate.
- > N.K. Singo* and J.D. Kramers, 2017. Unlocking the potential economic benefit of a tailings dump through resource modelling and estimation: SHE (safety, health, and environmental) issues and solutions. MineSafe 2017 Conference, Striving for zero harm (driving excellence through compliance), Emperors Palace, Hotel Casino Convention Resort, Johannesburg, 30-31 August 2017, The Southern African Institute of Mining and Metallurgy (SAIMM).

List of publications:

- > N.K. Singo, and J.D., Kramers, 2017. Geochemical and Mineralogical Characterization of two low grade stockpiles (mine residue deposits): acid mine drainage vs neutral-alkaline mine drainage perspectives. A case study of the Musina (Copper) and Nyala (Magnesium) mines, South Africa.
- > N.K. Singo, and J.D., Kramers, 2017. Preferred tailings retreatment approach to unlock value and create environmental sustainability of the Louis Moore tailings dump, near Giyani, South Africa.
- > N.K. Singo, and J.D., Kramers, 2017. Copper tailings retreatment to deliver economic value with concurrent rehabilitation at the Musina mine, South Africa.

List of Projects:

List of Projects conducted and successfully completed by your company in mining Permits and Right.

Client Name	Contract Start date (dd/mm/yyyy)	Contract End date (dd/mm/yyyy)	*Contact Person	Contact Person's phone number(s) and Email Address
Mashavane Quarry	03-02-2015	12-06-2018	Mr P Ngwenya	Pat.ngwenya@gmail.com 072 914 3508
CoalX-Carolina	02-04-2018	Ongoing	Rian Telma	H Mduza bramduza@icloud.com Riaan CoalX riaan@coalx.co.za
CoalX-Balmoral	28-02-2018	Ongoing	Rian Telma	H Mduza bramduza@icloud.com Riaan CoalX < riaan@coalx.co.za >
Malahleni Mining	6-6-2018	Ongoing	Roelf Depreez	roelf_dupreez@yahoo.com 081 273 7785
New Venture Mining	23-4-2017	Ongoing	Mr. GB Simelane	076 246 3677 simelanegb@gmail.com , simelane@jaments.co.za
Veralli Mineral	1-8-2017	Ongoing	Mr. Rambauli TJ	jrambauli@yahoo.com 073 501 2819
Benicon Mining	1-10-2018	Ongoing	Mr Gavin Katzen	ak@karoup.co.za 083 626 4555 017 647 1047



IAIAsa Secretariat
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Fax 086 662 9849
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43 Birchwood Court, Montrose
Street, Vorna Valley, Midrand, 1618
Postal address:
PO Box 11666, Vorna Valley, 1686
Email: operations@iaiasa.co.za
Website: www.iaiasa.co.za

IAIAsa Confirmation of Membership: 2018/2020
Kenneth Singo Membership Number: 6091

27 November 2018

TO WHOM IT MAY CONCERN

Mr Kenneth Singo, Singo Consulting (Pty) Ltd (IAIAsa membership Number 6091) is a paid-up full member in good standing of the South African Affiliate of the International Association for Impact Assessment and has been a member of IAIAsa since 1 March 2018.

This membership is valid from 1 March 2018 to 28 February 2020.

IAIAsa is a voluntary organisation and is not a statutory body regulating the profession. Its members are however expected to abide by the organisation's code of ethics which is available on our website.

Any enquiries regarding this membership may be directed to the Secretariat at the above contact details.

Yours Sincerely

Robyn Luyt
IAIAsa President 2018/2019

President: R Luyt, Past President: J Tooley, President Elect & Treasurer: S Nkosi, Secretary: T Breetzke. Members: A Adams, N.Baloyi, N Lushozi, S O'Beirne, J Richardson, Branch Chairs: M de Villiers, L Kruger, Y Martin, N Nkoe, P Radford, D Sanderson.



CERTIFICATE

This Certifies that

Kenneth Singo

attended the

SAICE Geotechnical Division:

**6th International Mining and Industrial Waste Management
Conference**

on 29, 30 & 31 October 2018

Legend Golf and Safari Resort, Limpopo

ECSA - SAICEgeo18/02443/18 (3 credits)



**herewith certifies that
Ndinanyi Kenneth Singo**

Registration Number: 400069/16

**is registered as a
Professional Natural Scientist**

in terms of section 20(3) of the Natural Scientific Professions Act, 2003
(Act 27 of 2003)
in the following field(s) of practice (Schedule 1 of the Act)
Earth Science

Effective 9 March 2016

Expires 31 March 2020



A handwritten signature in black ink, appearing to read 'Botha'.

Chairperson

A handwritten signature in black ink, appearing to read 'M. Prinsloo'.

Chief Executive Officer



Scan this code to view online version of this certificate



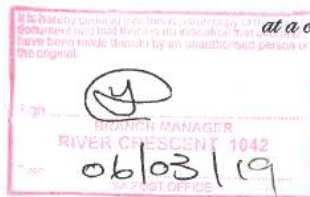
We certify that

NDINANNYI KENNETH SINGO

*having complied with the requirements of the Higher Education Act
and the Institutional Statute, was admitted to the degree of*

MASTER OF SCIENCE
in Environmental Management

*at a congregation of the University
on 14 October 2013*



M. Khabanga

Vice-Chancellor

[Signature]
University Registrar



M. Lit

Executive Dean



University of Venda



This is to Certify that the Degree of
**Bachelor of Earth Sciences in
Mining and Environmental Geology**

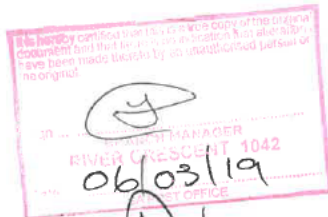
was Awarded to

SINGO NDINANNYI KENNETH

at a Ceremony held on the

07-MAY-2009

in Accordance with the Provisions of the
Act and Statute




Vice Chancellor




University Registrar


Dean

28 March 2011

Mr N Singo
P O Box 1034
Makhado
0920

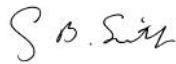
Dear Mr Singo

APPLICATION FOR MEMBERSHIP - MEMBER NO 967334

I have pleasure in advising you that your application for membership of the Geological Society of South Africa was ratified by the Council of the Society.

Trusting that your association with the Society will be pleasant and stimulating.

Kind regards



CRAIG SMITH
EXECUTIVE MANAGER





LAND REHABILITATION SOCIETY OF SOUTHERN AFRICA

hereby certifies that

Mr Ndinanyi Kenneth Singo

is a fully paid-up member of the Society having all the
rights and privileges of a

Associate Member

Membership ID:

On behalf of the Executive Council

President of the Society
Date Joined: 10 June 2015

Vice President of the Society
Expiry date: 26 February 2020