

BASIC ASSESSMENT AND ENVIRONMENTAL MANAGEMENT PROGRAMME REPORT

RECTIFICATION OF UNLAWFUL (SECTION 24G) COMMENCEMENT OF A COAL PROCESSING PLANT ON PORTION OF PORTION 2, OF THE FARM LEEUWPOORT 283 JS, SITUATED IN THE MAGISTERIAL DISTRICT OF NKANGALA, eMALAHLANI LOCAL MUNICIPALITY, MPUMALANGA PROVINCE.

S24G Ref No. TBA

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agriculture, rural development,
land & environmental affairs

MPUMALANGA PROVINCE
REPUBLIC OF SOUTH AFRICA

BASIC ASSESSMENT REPORT

AND

ENVIRONMENTAL MANAGEMENT PROGRAMME REPORT

APPLICATION FORM FOR THE REGULARISATION OF UNLAWFUL COMMENCEMENT OR CONTINUATION OF A LISTED ACTIVITY OR WASTE MANAGEMENT ACTIVITY IN TERMS OF SECTION 24G OF THE NATIONAL ENVIRONMENTAL MANAGEMENT ACT, 1998 (ACT NO. 107 OF 1998), AS AMENDED.

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FILE REFERENCE NUMBER : **S24G Ref No. TBA**

IMPORTANT NOTICE

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

Section 24G(1) of the National Environmental Management Act, 1998 (Act 107 of 1998) ("NEMA") provides that on application by a person who has commenced with a listed or specified activity without an environmental authorisation in contravention of section 24F(1); or a person who has commenced, undertaken or conducted a waste management activity without a waste management licence in terms of section 20(b) of the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008) ("NEM:WA ") the Minister, the Minister responsible for mineral resources or the MEC concerned (or the official to which this power has been delegated), as the case may be, may direct the applicant to

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 Processing Plant and 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

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1.1 Expertise of the EAP

Please refer to Annexure B for the EAP's qualifications and Curriculum Vitae.

Singo Consulting (Pty) Ltd is a growing organization in the field of geological sciences, environmental sciences, and environmental management. This organization has provided sound practicable solutions to unavoidable environmental problems, particularly those triggered by human activities. This is achieved by tackling environmental problems using various fields of applied science, such as chemistry, hydrology, environmental geology, geochemistry, geophysics, and soil sciences. This leads to proper and sound environmental impact assessments and the production of enforceable environmental management plans. This organization has conducted successful Environmental Impact Assessments (EIAs) in various provinces of South Africa, basic assessment reports and environmental management plans (EMPs) which protect and promote the sustainable utilization of environment.

2 Location of the overall activity

Farm Name	Portion of Portion 2, Leeuwpoot 238 JS
Application Area (ha)	4.7 Ha
Magisterial District	Magisterial District of Nkangala
Distance and Direction from nearest town	About 10 km Northwest of eMalahleni town
21-Digit Surveyor General code for each farm portion	T0JS00000000023800002

2.1 Locality map (show nearest town, scale not smaller than 1: 250,000)

The rectified S24G for Sakakama Coal (Pty) Ltd processing plant is located Approximately 10km northwest from eMalahleni CBD, along the national road R544 which goes across an unamend tar road which connects with portion of Portion 2 of the farm Leeuwpoot 283 JS in Mpumalanga Province. The project site covers an area of about 4.7 hectares (ha) in extent and lies at geographical coordinates -25.779827, 29227402. The processing plant area is situated approximately 500m km west of Inyanda Coal mine. The project area falls under Emalahleni Municipality. See figures 1 & 2.

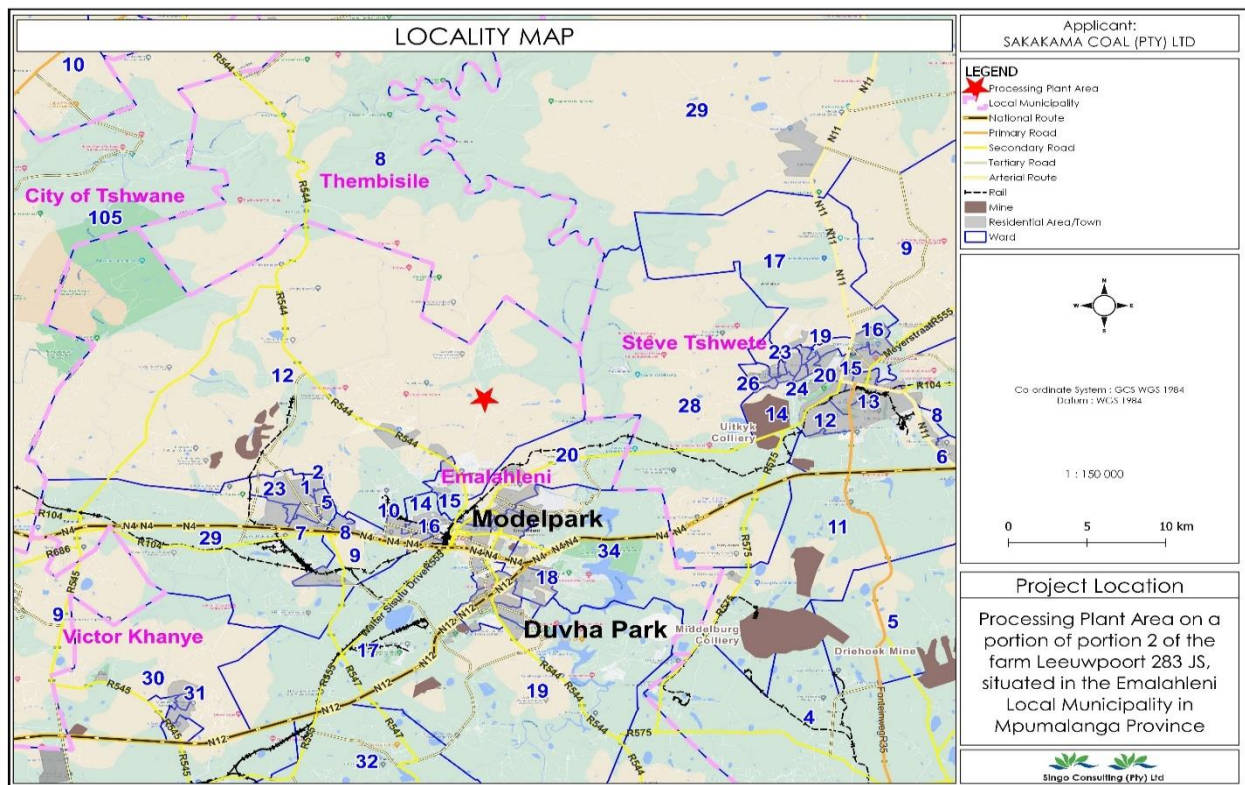


Figure 1: Locality map showing the nearest Town and Road Network



Figure 2: Satellite Image showing Coal Processing Plant location (red polygon)

2.2 Description 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 (ha)) of all aforesaid main and listed activities, and infrastructure to be placed on site.

The area to be authorised is about 4.7 ha, the main activity is coal processing where coal is crushed, screened and transported to the target market. Overview of the Proposed Coal Processing Plant Activity

The proposed coal processing plant activity is aimed at converting raw coal into usable products such as coke, coal gas, and coal tar. The activity is located in an area with abundant coal reserves and accessible transportation infrastructure. The plant is expected to operate on a continuous basis, with different stages of processing taking place in different units. The overall objective of the plant is to maximize the value of the coal resources while minimizing the environmental impact. The first stage of the coal processing plant is coal preparation. This stage involves cleaning and sorting the raw coal to remove impurities such as rocks, shale, and other minerals. The coal is then

crushed and sized to meet the requirements of the downstream processing units. The coal preparation stage is critical to the success of the plant as it determines the quality and quantity of the final products.

Therefore, the proposed coal processing plant activity is an important project that aims to maximize the value of coal resources while minimizing the environmental impact. The plant will operate on a continuous basis and involve different stages of processing, including coal preparation, coking, and gasification. The success of the plant will depend on the quality and quantity of the raw coal, as well as the efficiency of the processing units.

Environmental Impacts of the Proposed Coal Processing Plant Activity

The proposed coal processing plant activity is expected to have significant environmental impacts, particularly in the areas of air pollution, water pollution, and greenhouse gas emissions. The coal processing plant is a major source of air pollution due to the release of particulate matter, nitrogen oxides, sulfur dioxide, and other pollutants. These pollutants can cause respiratory problems and other health issues, as well as contribute to acid rain and smog. The water pollution is another major environmental impact of the coal processing plant. The plant requires large amounts of water for cooling and other processes, and the discharge of wastewater can contain high levels of pollutants such as heavy metals, salts, and organic compounds. These pollutants can contaminate local water sources and harm aquatic life. The greenhouse gas emissions associated with the coal processing plant activity are a significant concern. The process of converting coal into usable products releases large amounts of carbon dioxide and other greenhouse gases into the atmosphere. These emissions contribute to climate change and other environmental problems.

To mitigate these environmental impacts, the proposed coal processing plant activity must comply with all relevant environmental regulations and standards. The plant should also incorporate best management practices to reduce the amount of pollution and waste generated. For example, the plant should use advanced pollution control methods (dust monitoring) to minimize air and water pollution and should also implement water conservation measures to reduce the amount of water used. The proposed coal processing plant activity has significant environmental impacts that must be addressed through proper planning, design, and management. The plant must comply with all relevant environmental regulations and standards and should

incorporate best management practices to minimize pollution and waste. By doing so, the plant can maximize the value of coal resources while minimizing the environmental impact.

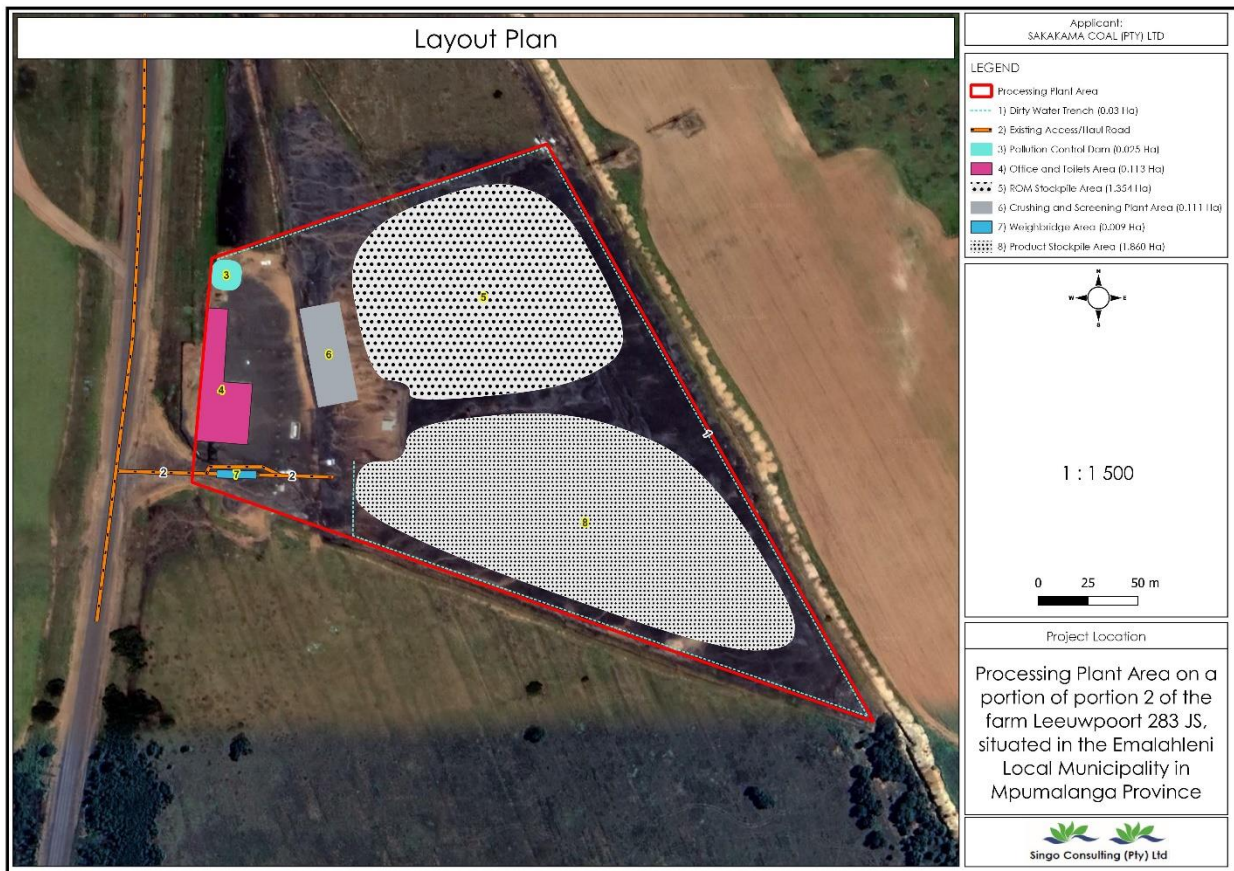


Figure 3: Coal Processing layout (Singo Consulting 2023)

Listed and specified activities

Government Notice R983 (as amended) Activity No.	Describe the relevant Basic Assessment Activity in writing as per Listing Notice 1 (GNR 517, as amended)	Describe the portion of the development as per the project description that relates to the applicable listed activity
LN 1 Activity 27:	The clearance of an area of 1 hectare or more, but less than 20 hectares of indigenous vegetation, except where such clearance of indigenous vegetation is required for - (i) the undertaking of a linear activity; or (ii) maintenance purposes undertaken in accordance with a maintenance management plan.	Approximately 4.7 Hectares has been cleared.

<p>Please note: Only those activities listed above shall be considered for authorisation. The onus is on the applicant to ensure that all applicable listed activities are included in the application. Environmental Authorisation must be obtained prior to commencement with each applicable listed activity. If a specific listed activity is not included in an Environmental Authorisation, a new/separate application for Environmental Authorisation for such activity will have to be submitted.</p>		

2.3 Description of the Activities to be undertaken

LN 1 Activity 27 is about clearing of vegetation and this application seek to be authorised for this activity. The primary processing of coal mineral resource including screening and crushing is developed on the proposed area.

2.3.1 LN 1 Activity 27 & LN 1 Activity 56- Development

Vegetation clearing is a necessary part of most construction activities. Disturbance to vegetation can lead to environmental impacts such as soil degradation, erosion, disturbance and removal of native flora species and loss or fragmentation of habitat for native fauna or weed invasion. Other likely environmental impacts from vegetation clearing may include air emissions, dust, noise and waste. However, it is possible to mitigate and manage many of these impacts though disciplined site management and appropriate protections. The location of the project area is highly modified by industrial sector and the portion to be authorised is almost industrialized, less vegetation was spotted on the project area.

The evaluation of road infrastructure development projects is an important stage in the development process, as it makes it possible to check upon completion whether the designed infrastructure meets the objectives originally set for it. The grading of a soil (gravel, sand) is determined by passing the material through a number of sieves and is an indication of the percentage of coarse and fine material (particles) in the soil (gravel). The physical volume of the different sizes of material making up the sample can be established if a sample of soil, gravel or sand is screened through a standard set of sieves. The percentage of whatever is retained on the various sieves is calculated by weight, for each size, making up 100% of the sample. These percentages can be graphically plotted against the sieve sizes and a graph plotted. The shape of the graph will describe the material e.g. coarse material, fine material or different combinations of fine and coarse material. Normally the higher the percentage of coarse material in the gravel, the more suitable it is for the construction of the pavement layers in road. Materials containing high percentages (over 50%) of fine material (<0,075 mm) are

suspect and could cause problems.

Compaction in road construction terminology is essentially the densification or systematic packing closer together of the different sizes and shapes of the gravel or soil particles. This process is assisted/advanced by using optimum water to lubricate the particles to slip/ rearrange themselves into more stable positions, increasing the density and strength of the material. Under controlled conditions of compactive force and moisture content, a specific soil can be densified to a state in which it has increased structural strength and stability and therefore the ability to withstand the forces imposed on it by the vehicles using the road.

2.3.1.1 Mineral Processing

Mineral processing plays a crucial role in the coal processing industry. It involves the separation and concentration of valuable minerals from the raw coal, which is then used to produce energy. Without mineral processing, coal processing plants would not be able to efficiently and effectively produce the high-quality coal that is in demand. One of the primary goals of mineral processing in coal processing plants is to remove impurities from the raw coal. These impurities can include rocks, stones, and other materials that are not coal. By removing these impurities, the quality of the coal is improved, making it more valuable and desirable. Additionally, mineral processing can also remove sulfur and other contaminants from the coal, which can make it more environmentally friendly.

Another important aspect of mineral processing in coal processing plants is the separation of minerals. Different minerals have different properties, such as density and magnetic susceptibility. By using techniques such as gravity separation and magnetic separation, it is possible to separate the valuable minerals from the coal. This allows for the production of high-quality coal that is more valuable and in demand. Overall, mineral processing is an essential component of coal processing plants. It allows for the production of high-quality coal that is valuable and in demand. Without mineral processing, coal processing plants would not be able to efficiently and effectively produce the coal that is necessary to meet the energy needs of society.

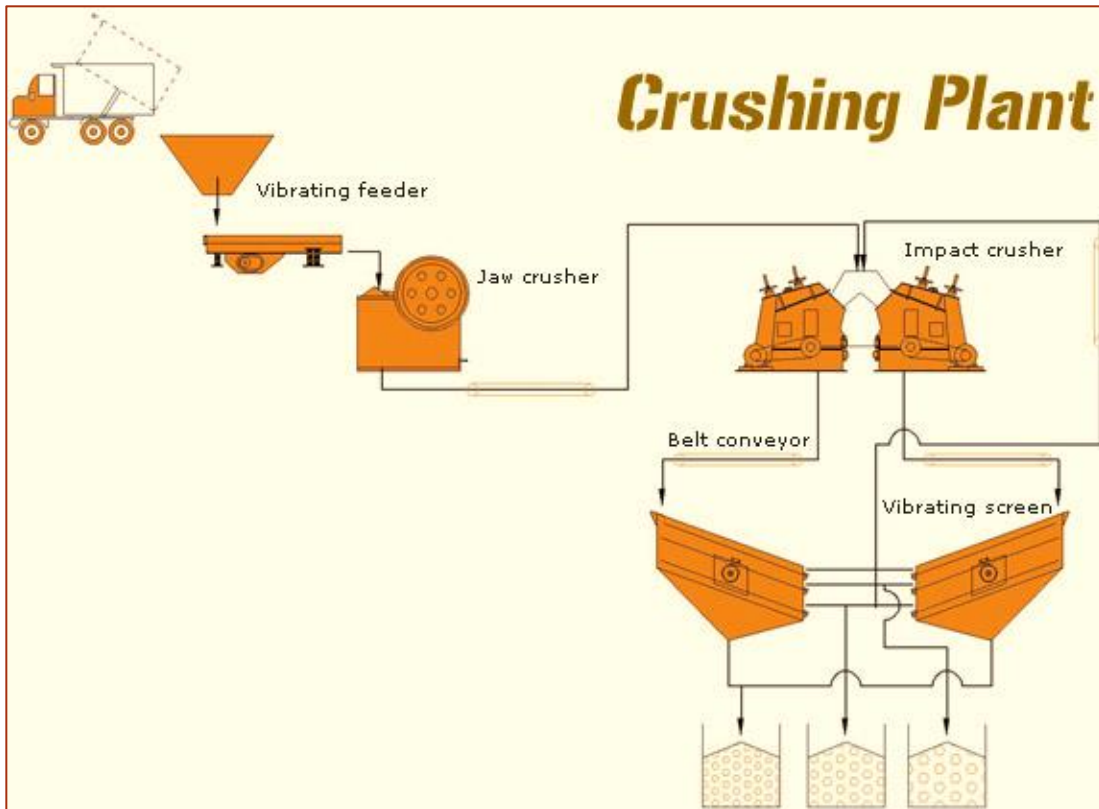


Figure 4: Flow diagram representing typical Processing Plant operations, crushing processes and finally supply to the target market.

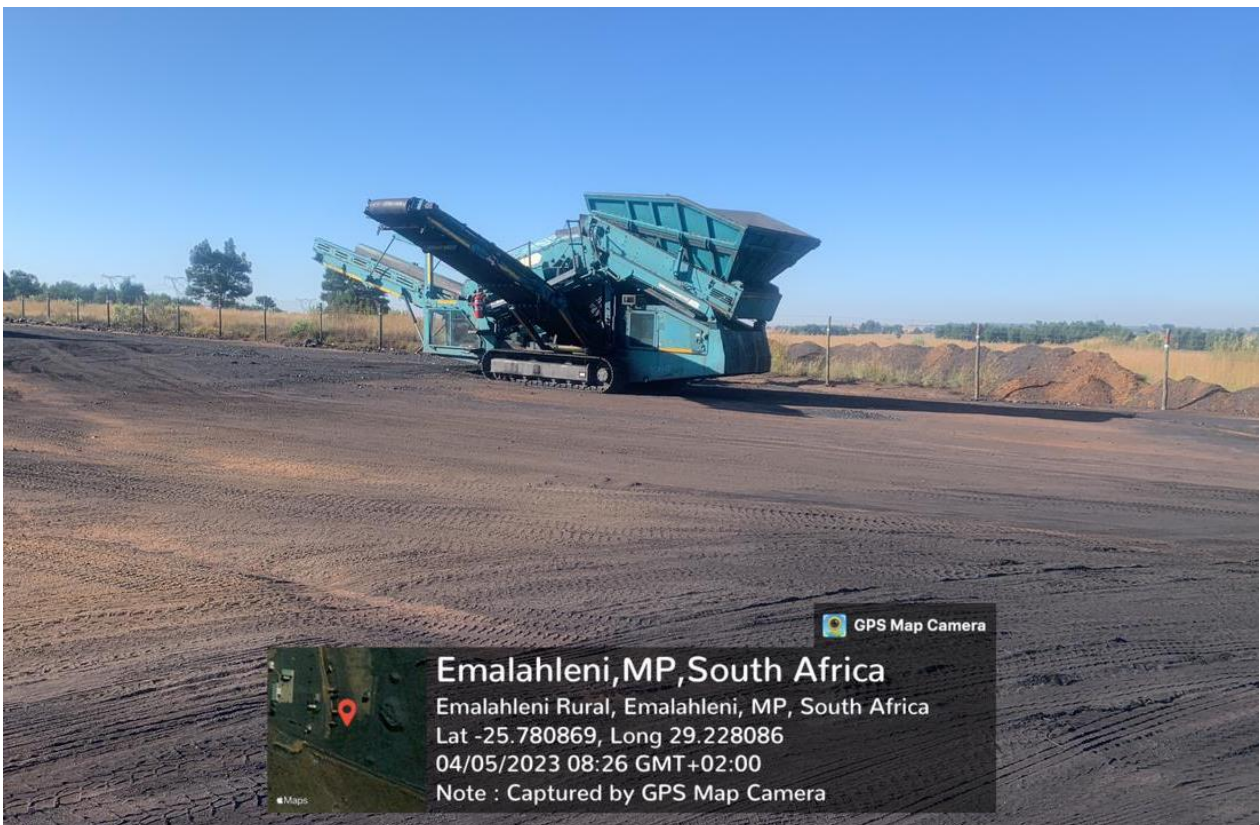


Figure 5: Typical example of a Mobile Crusher (Site Assessment 2023)

Table 1: Processing Plant phases from Construction (Already commenced to Operational)

Phase	Activity no	Activity
Construction (Already conducted)	1	Site clearing: vegetation and topsoil grading
	2	Construction of any surface infrastructure, e.g., Haul roads, pipes, storm water diversion berms (incl. transportation of materials and stockpiling)
	3	Temporary storage of hazardous products (fuel) and waste
Operation	4	Crushing and Screening of coal
	5	Water & Dust monitoring

2.4 Policy and Legislative context

Applicable legislation and guidelines used to compile the report	Reference where applied	How does this development comply with and respond to the policy and legislative context
<p>A description of the policy and legislative context within which the development is proposed, including an identification of all legislation, policies, plans, guidelines, spatial tools, municipal development planning frameworks and instruments that are applicable to this activity and are to be considered in the assessment process.</p>		<p>E.g. In terms of the National Water Act a Water Use License has/ has not been applied for.</p>
Legislation		
<p>NEMA, Act 107 of 1998 (as amended) Listing Activity 20 of Listing Notice 1 in terms of Regulation 983 of 2014 (as amended, April 2017)</p>	<p>Environmental Assessment</p>	<p>In terms of the NEMA, Act 107 of 1998 (as amended), an application for Environmental Authorization will follow the process of the Department of Agriculture, Rural Development, Land and Environmental Affairs (DARDLEA).</p>
<p>The constitution of the Republic of South Africa (Act No. 108 of 1996)</p> <p>As per the Constitution of South Africa, specifically, everyone has a right to:</p> <ul style="list-style-type: none"> • an environment that is not harmful to their health or wellbeing; and • have the environment protected, for the benefit of present and future generations, through reasonable legislative and other measures that: <ul style="list-style-type: none"> ○ prevent pollution and ecological degradation. ○ promote conservation. ○ secure ecologically sustainable development and use of natural resources while promoting 	<p>Section 24 of Environmental Right considered in impact assessment</p>	<p>The BAR and EMPr for the established Coal Processing Plant has been drafted to ensure that the activity will be conducted in such a manner that significant environmental impacts are avoided.</p>

Applicable legislation and guidelines used to compile the report	Reference where applied	How does this development comply with and respond to the policy and legislative context
justifiable economic and social development		
MPRDA, Act 28 of 2002 Section 16 (as amended)	N/A	Department of Mineral resources & energy was consulted to confirm if there are any existing rights on the proposed area.
NEMA Biodiversity Act, 2004	Environmental Management Measures of CBA on site	The area of interest falls under areas that are not identified as CBAs or ESAs but which provide a range of ecosystems services from their ecological infrastructure
National Water Act (NWA), Act 36 of 1998	Triggered sections are; Section 21 (a), Section 21 (g) & Section 21 (f)	DWS has been consulted, while waiting for directive from them, it was advisable to the client that they should also apply for Water use license as the operation will use water for dust suppression. Water use licensing is an essential tool for regulating the use of water resources in South Africa. Its purpose is to ensure that water is used sustainably and that the rights of other water users are protected. The license application process and monitoring requirements help to achieve this goal
National Environmental Management: Waste Act, Act 59 of 2008 (NEMWA) (as amended)	Management measures environmental awareness plan	All waste generated during the operation phase will be disposed of in a responsible legal manner. Proof of legal disposal will be maintained on site.
National Heritage Resources Act (NHRA), 25 of 1999	Management measures	There are no buildings or structures which are older than 60 years, therefore the proposed development does not trigger Section 34 of the NHRA which protects buildings and structures older than 60 years. The field study did not identify any burial site within the proposed development site. In terms of the archaeology and heritage in respect of the proposed development, there are no obvious 'Fatal Flaws' or 'No-Go' areas. However, the potential for chance finds, remains and the developer and contractors are advised to be diligent and observant during construction of the land site. The procedure for reporting chance finds has clearly been laid out and if this report is adopted by SAHRA, then there are no archaeological reasons why the proposed development cannot proceed.
Municipality by-Laws		
Solid waste Management by-laws No.2632 January 2016 Noise Control by-laws No.2632 January 2016	Management measures environmental awareness plan	Air quality data will be recorded on a continual basis, with the results published in monthly internal reports. All data collected for the Dust Monitoring Programme will be collated and summarized in the Annual Environmental Performance Assessment report, which

Applicable legislation and guidelines used to compile the report	Reference where applied	How does this development comply with and respond to the policy and legislative context
Air Quality Management By-laws No. 2760 21 September 2016		will be submitted to the Department of Environmental Affairs.
Local Municipality 2022-2027 Integrated Development Plan (IDP)	Needs, Desirability, Socio-economic benefits	As per the eMalahleni Local Economic Development report (LED, 2022-2027) As per vision of the IDP which states: A municipality with an attractive environment for job creation, investment, and sustainable local economic growth. While its mission states: We shall create this vision of LED through the creation of an environment that attracts business investments and contributing to sustainable opportunities for job creation and economic upliftment. The applicant acknowledges the need to maximize economic benefit from coal processing plant, industrial, business, agricultural and tourism development in the area and promote a climate for economic development in line with the municipal development frameworks.
Standards, guidance, and spatial tools		
South African National Biodiversity Institute (SANBI) Biodiversity GIS (bgis.sanbi.org)	Baseline environmental description	Used during desktop research to identify sensitive environments applied area.
QGIS Desktop: version 2.18.28 and Redlands, CA: Environmental Systems Research Institute	Baseline environmental description and mapping	Used during desktop research to map the locality and sensitive environments in the applied area.

2.5 Need and desirability of the proposed activities.

As per eMalahleni municipality Integrated Development Plan 2022-2027 (IDP). The Vision of the directorate is: A municipality with an attractive environment for job creation, investment, and sustainable local economic growth. Mission Statement: We shall create this vision of LED through the creation of an environment that attracts business investments and contributing to sustainable opportunities for job creation and economic upliftment.

The Importance of a Coal Processing Plant for Energy Production

Coal is one of the most abundant and widely used sources of energy in the world. However, the process of extracting and utilizing coal can have significant

environmental impacts, including air and water pollution and greenhouse gas emissions. A coal processing plant can help to mitigate these impacts by reducing the amount of waste generated during coal production and improving the efficiency of energy generation. One of the primary benefits of the proposed established project is the ability to separate coal from rock and other impurities. This process, known as beneficiation, can increase the quality and purity of coal, making it more efficient and cost-effective to use as a fuel source. Additionally, it can help to reduce the amount of waste generated during coal production, which can have significant environmental benefits. Another key benefit of a coal processing plant is the ability to capture and utilize by-products and waste materials. For example, a coal processing plant may generate coal ash, which can be used as a construction material or as a component in cement production. Additionally, carbon capture and storage technologies can be implemented at coal processing plants to capture and store carbon dioxide emissions, reducing the environmental impact of coal-fired power generation.

Despite these benefits, there are some concerns about the desirability of coal processing plants. Some critics argue that the environmental impacts of coal production and utilization cannot be fully mitigated, and that renewable energy sources should be prioritized over coal. However, it is important to recognize that coal will likely continue to play an important role in global energy production for the foreseeable future. A coal processing plant can help to ensure that this energy source is used as efficiently and responsibly as possible. Overall, the desirability of a coal processing plant depends on a variety of factors, including the specific environmental impacts of coal production and the availability of alternative energy sources. However, when designed and operated responsibly, a coal processing plant can provide significant benefits for energy production and the environment.

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

The selection of an appropriate site for a coal processing plant is crucial in ensuring the success of the operation.

- The proposed site is strategically located to minimize transportation costs and maximize the availability of resources.
- The preferred site has access to a reliable source of coal, water, and power. And

it is, located away from residential areas and environmentally sensitive areas.

- The activities involved in coal processing are complex and require a high level of expertise. The preferred technology alternative for a coal processing plant is efficient, cost-effective, and environmentally friendly. The technology will be able to handle the entire coal processing cycle, from the initial extraction of coal to the final disposal of waste products. The technology will also be able to reduce the environmental impact of coal processing by minimizing emissions and waste.
- The motivation for the overall preferred site, activities and technology alternative for a coal processing plant was driven by the need to meet the growing demand for energy in a sustainable manner. Coal is one of the most abundant and widely used sources of energy, but it also has significant environmental impacts. The preferred site, activities, and technology alternative for the proposed project is designed to minimize these impacts while still meeting the energy needs of society.
- Overall, the selection of the preferred site, activities, and technology alternative for a coal processing plant is based on a careful consideration of the environmental, economic, and social factors involved. The site is strategically located to maximize resource availability and minimize environmental impact. The activities involved in coal processing will be efficient, cost-effective, and environmentally friendly.

2.7 Full 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 taken into consideration the issues raised by interested and affected parties (I&APs), and the consideration of alternatives to the initially proposed site layout.

2.7.1 Preferred site

The area is already industrialised, and the available land does not serve any ecological role as development highly affected the area. Based on the literature review it was stated that no significant long term ecological impacts are expected to occur as a result of the proposed development activities. The processing plant has already disturbed the area. There is evidence of coal sludge, and the soil is contaminated (refer to figure below for coal sludge evidence).



Figure 6: Evidence of a coal sludge at the processing plant area.

2.7.2 Preferred activities

The processing plant will have a simple operation, development will be done by trenching, placement of site offices and erecting of coal processing unit within 4.7 hectares. The coal delivered from the Mine that reports to the coal processing plant is called run-of-Mine, or ROM, coal. This is the raw material for the CPP and consists of coal and rocks. ROM will be delivered from different Mines in close proximity to the CPP where large pieces will be crushed or pulverized to a useful size. First the coal is crushed in a feeder breaker, which breaks the biggest lumps, and then through a roll crusher, which breaks it down to a smaller size. Screens in screening plant are used to group processed particles into range of sizes using mechanical vibration.

2.7.3 Technology alternatives

A jig plant will be used as an initial entry to the establishment of a processing plant. The wet processing plant will be used to minimise the expected dust from the operation, the activity will employ a roof directly on top of the crusher so that dust can be filtered. In this way more dust will be trapped within the area, thereby minimising air pollution to the surrounding areas.

2.8 Details of the development footprint alternatives considered.

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

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

Sakakama Coal (Pty) Ltd identified the need for coal processing plant in the area due to an increase in coal usage locally and the surrounding coal mines in the area. In this light, the applicant identified the proposed areas as the preferred and only viable site alternative. From extensive work conducted previously in this area, it is known that this area available for development. Various project alternatives were considered during the planning phase of this project.

The Environmental Impact of Coal Processing Plant Development Footprint Alternatives

Coal processing plants are essential for the energy needs of many countries, but they can have significant environmental impacts. The development footprint of coal processing plants can affect land use, biodiversity, and water quality. Therefore, it is important to consider the alternatives to minimize these impacts. One alternative to reduce the development footprint of coal processing plants is to retrofit the existing plants. Retrofitting involves upgrading the equipment and technology in the plant to improve efficiency and reduce emissions. This alternative is more cost-effective than building a new plant and can reduce the land use needed for the plant. However, retrofitting may not be possible in all cases due to the age and condition of the existing

plant. Another alternative is to locate the plant in areas with less ecological sensitivity. This alternative can reduce the impact on biodiversity and water quality. However, it can also increase the transportation costs of coal and may not be feasible in areas with limited access to infrastructure. A third alternative is to use renewable energy sources instead of coal. This alternative can eliminate the environmental impacts of coal processing plants completely. However, it may not be economically feasible in all cases due to the high initial investment and limited availability of renewable energy sources. The location of the plant is also an important factor to consider reducing the impact on biodiversity and water quality.

The Economic Feasibility of Coal Processing Plant Development Footprint Alternatives

The development footprint of coal processing plants can have a significant impact on the cost of the project. Therefore, it is important to consider the economic feasibility of the alternatives to minimize the cost while achieving the necessary energy production. The retrofitting of existing coal processing plants is a cost-effective alternative to reduce the development footprint. Retrofitting can improve the efficiency of the plant and reduce emissions without the need for a complete overhaul. This alternative can save up to 50% of the cost of building a new plant. However, it may not be feasible in all cases due to the age and condition of the existing plant. The location of the plant is also an important factor to consider in terms of economic feasibility. Locating the plant in areas with less ecological sensitivity can reduce the impact on biodiversity and water quality, but it may increase the transportation costs of coal. Therefore, it is important to weigh the transportation costs against the cost of building the plant in a more sensitive area.

Using renewable energy sources instead of coal can eliminate the environmental impacts of coal processing plants completely. However, the initial investment in renewable energy sources can be high, and the availability of renewable energy sources may be limited. Therefore, this alternative may not be economically feasible in all cases. The economic feasibility of the alternatives to reduce the development footprint of coal processing plants is an important factor to consider. The retrofitting of existing plants is the most cost-effective alternative, while using renewable energy sources is the most environmentally friendly alternative. The location of the plant is also important to consider minimizing the transportation costs and impact on biodiversity and water quality.

2.8.1 No-go alternative

Should this project not proceed ("no-go"), the status quo shall remain. Although the staff compliment will not be large, the surrounding communities would keep benefit from the potential employment opportunities, and potential community projects. The no-go alternative also means that all potential negative impacts associated with the proposed project and its associated infrastructure would not occur. Hence, this process will determine if the project would result in any environmental or social fatal flaws that may result in the project. The no-go alternative being the preferred alternative. The processed coal from the site will be used for energy and power industries. If the no-go alternative is implemented, the applicant will not be able to process required commodity for different markets. This could have major impacts on aspects such as transporting of material to power stations from far off Processing Plant areas, cost-effectiveness of material, impact on roads and road users due to long distance hauling of coal and loss of income to the eMalahleni business area.

The no-go alternative was not considered the preferred alternative, as:

- The applicant will not be able to supply in the demand of power station.
- The application, if approved, would allow the applicant to utilise the available coal, as well as provide employment opportunities to local employees. Should the no-go alternative be followed, these opportunities will be lost to the applicant, potential employees and clients.
- The applicant will not be able to diversify the income of the property.

2.9 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.

Public Participation remains a cornerstone of the Environmental Impact Assessment process. It ensures provision of relevant and enough information with openness and transparency. Public Participation Process presents to IAPs, an opportunity to understand what the project is about, and affords them an opportunity to make

valuable contributions towards the BAR & EMPR process.

The PPP requires the EAP/PPP to consult I&APs, including public meetings and one-on-one consultation.

In terms of the EIA regulations, under sub-regulation 41 (1) and sub-section 41 (4), published in the Government Gazette No 38282 of December 2014, of the National Environmental Management Act, 1998 (Act No 107 of 1998) and under Government Gazette No 37083 of 29 November 2013 of the National Environmental Management: Waste Management Act, (Act no 50 of 2008), NWA , that Sakakama Coal (Pty) Ltd proposes the establishment on the aforesaid property. As part of the EIA process, especially the PPP for the proposed project, Interested and Affected Parties (I&APs) are invited to register and submit any comments or concerns to the Public Participation Process (PPP) Officer and the EAP. The draft report will be available for review for 30 days calendar period from **16 May 2023 – 14 June 2023**. This report will be at the **Klarinet Public Library (Blesboklaagte 296-Js, Emalahleni, South Africa)** and also shared via emails; Dropbox link; Google drive; WeTransfer, etc and a soft copy upon request from Singo Consulting (Pty) Ltd using the detailed EAP/PPP's contact's below, via emails, Dropbox link; Google drive; WeTransfer, etc.

A pre site assessment was undertaken on the 04th of April 2023, the main aim for this assessment was to assess the non-compliance stipulated on the notice of intent issued with compliance notice in terms of section 311 of the national environmental management act, 1998 (act 107 of 1998) ("nema") for commencing with the listed activity portion 2 plot 12 leeuwpoort 283, emalahleni local municipality, mpumalanga province from DFFE. It should be noted that Sakakama Coal upon receipt of the issuance, Sakakama appointed Singo Consulting as their EAP to assist with the S24G applications. The observations made by Singo Consulting do align with those made by DFFE inspector, Singo Consulting then compiled a rehabilitation study which was sent to the DFFE as correspondence to the intent letter. An S24G application form was filled and sent to DARDLEA on the 21st of April 2023 with a newspaper advertisement that was published on the 21st of April 2023. On April 25, 2023, an official consultation was held in which all interested and impacted parties were consulted. Coal mine in the project region (Inyanda colliery) was consulted, and Ninette Barnard noted that their sole worry with the project is the amount of dust generated, and they receive complaints about it; however, they would like to be included in all project correspondence. Mr Jambo Van Der Merwe of Portion 9 of the farm Leeuwpoort was consulted as the planned

project's neighbouring landowner, and he stated unequivocally that he does not support the project since it contaminates his farm's water and soil. Mr Jambo is a farmer who plants and also has livestock. He remarked that because the soil is contaminated, his cattle no longer eat on healthy vegetables. He committed to provide his official comments using the contact information we provided him on BID.

The following Government Departments /Local Municipality officials and others were engaged via emails and registered letters:

- eMalahleni Local Municipality
- Department of Water and Sanitation (DWS)
- Department of Agriculture, Forestry and Fisheries
- Mpumalanga Tourism and Parks Agency
- Department of Land Restitution Commission
- South African Heritage Resources Agency (SAHRA- Online)
- South African National Roads Agency Limited (SANRAL)
- Transnet
- Eskom

2.9.1 Newspaper Advertisement

Reinhardt Reynders (9).

Archery at Cambridge hit the bull's-eye

It has been an exciting day for archers in the district. Cambridge Academy hosted primary, tertiary schools and adults for a fun day of archery in the sun. On Saturday, April 15, the school had many archers with bows and arrows in hand ready for competing. Participants took part in three

different categories. See results in the result column elsewhere. Organiser Richard Abel invites everyone interested in partaking in archery to contact him at 082 756 3662. Bows and arrows are available at a fee for those who don't have their own.

need to have four leagues to stand a chance of qualifying to represent Mpumalanga in the South African Cross-Country Championship that will take place in Qheberha (Port Elizabeth) in September this year. The reason behind hosting the league in the township is to make athletics accessible to the township community and to highlight the



Some of the athletes who attended the cross-country league held at OR Tambo Park in Mhluzi on Saturday, April 1. Supplied.

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013 692 8425

NOTICE OF PUBLIC PARTICIPATION FOR THE RECTIFICATION OF UNAUTHORISED ACTIVITIES ASSOCIATED WITH THE PREPARATION OF A COAL PROCESSING PLANT (S24G).

ISAZISO SOKUBAMBQA IQHAZA KOMPHEKATHI EKULUNGISWA KWEMISEBENZI ENGAGUNYAZWE EHLANGANISE NOKULUNGISWA KOMHLABA WOKUQUBUZA AMALAHLE (S24G).

Singo Consulting (Pty) Ltd has been appointed as an independent Environmental Consultant by Sakakama Coal (Pty) Ltd to conduct an Environmental Impact Assessment (EIA), compile an Environmental Management Programme Report (EMPR) and undertake a Public Participation Process (PPP). The primary objective is to acquire an Environmental Authorisation (Ref No. TBA) for the establishment of a coal processing plant on plot 12, portion of portion 2 (RE) of the Farm Leeuwoort 283 JS, situated in the Magisterial District of Nkangala, eMalahleni local Municipality in Mpumalanga Province.

Notice is given, in terms of Section 24(G) read together with Section 24(F) of the National Environmental Management Act 107 of 1998 that **Sakakama Coal (Pty) Ltd** is considering to submit/intends an application for the unlawful commencement of activities associated with the preparation of a coal processing plant where by 4.7 hectares of natural land has already been cleared. Applicable legislative provision contravened in terms of the 2014 EIA regulations (as amended in 2017) - GN983, LN1-27: The clearance of an area of 1 hectare or more, but less than 20 hectares of indigenous vegetation, except where such clearance is required for -

- (i) The undertaking of a linear activity, or
- (ii) Maintenance purposes undertaken in accordance with a maintenance management plan.

Registration as an Interested & Affected Party: As part of the EIA process, especially the PPP for the proposed project, Interested and Affected Parties (I&APs) are invited to register and submit any comments or concerns to the EAP and PPP Officer, Dr Kenneth Singo and Miss Rofhiwa Nemutandani, by no later than 12 May 2023 (20 days from this notice). I&APs will further be given 30 days to review and comment on the Draft Basic Assessment Report and Environmental Management Programme Report (DBAR & EMPr) (date to be announced). Once the Draft BAR & EMPr are available, they will be made available at Klarinet Library in eMalahleni.

Furthermore, electronic copies will be made available upon request from Singo Consulting (Pty) Ltd, using the detailed EAP'S contacts below, via email; Dropbox link; Google Drive; WeTransfer, etc.

Isaziso syanikezwa, ngokweSigaba 24(G) esifundazwe kanye neSigaba 24(F) solithetho Wokuphathwa Kwemvelo Kazwelonke 107 ka-1998 sokuthi (Sakakama Coal (Pty) Ltd) icabanga ukubambisa/ihlose ukufaka isicelo sokuthi kugawwe umsebenzi ngokungelothi emthethweni. Okubambisana nokulungiswa kwendawo yokusaya amalale lapho umhlaba wemvelo ongamahektha angu-4.7 ususulwe. Ukunikezwa komthetho okusebenzayo okuphawula ngokwemithetho ye-EIA ka-2014 (njengoba ichitshiyelwe ngo-2017) - GN983, LN1-27: Ukusulwa kwendawo eyhektha ehlukile noma ngaphezulu, kodwa ngaphansi kwamahetha angama-20 ezimila zendabuko, ngaphandle kwelapho kudingeka khona lapho kunyweleka. okwe-

- i. Ukwenzwa komsebenzi womgasa, noma
- ii. Izinjongo zokulondolaza ezenziwe ngo ngokubambisana nohlelo lokuphathwa kwesondlo.

Ukubhalisa Njengabantu Abanentshisekeli Nabathintekayo: Njengengwenye yenqubo ye-EIA, iikhalukazi i-PPP yepheleleli ehlonqozwayo, Abanentshisekeli Nabathintekayo (I&APs) bayamekwa ukuba babalise futhi balithe noma yikuphi ukuphawula noma ukukhathazeka ku-EAP kanye neSikhulu se-PPP, ukt Kenneth Singo kanye Miss Rofhiwa Nemutandani unqandluli umhla zyi-12 kuMhlaba wazi-2023 (izinsuku ezingama-20 kusukela ku-12 May 2023). I-I&APs izophinde inikezwe izinsuku ezingama-30 ukuthi ibuyenze futhi iphawule mayelana nobhala Lombiko Wokuhlala Okuyisisekeli kanye Nombiko Wokuhlala Lokuphathwa Kwemvelo (DBAR&EMPr) (usuku okuzomenyenzelwa). Uma i-Draft BAR & EMPr isitholakala, izitholakala e-Klarinet Library eMalahleni.

Ngaphezu kwalokho, amakhophi e-elektronhiki azotholakala uma ecelwa kwa-Singo Consulting (Pty) Ltd, kusetheshiswa imiminyane yokuzimhana ye-EAP'S engazansi, ngama-imeyili; isahumantisi se-Dropbox; i-Google Drive; i-WeTransfer, njl.

ENVIRONMENTAL ASSESSMENT PRACTITIONER/PPP OFFICER AND APPLICANT DETAILS:

Singo Consulting (Pty) Ltd

Contact Person(s):
PPP Officer: Miss Rofhiwa Nemutandani
EAP: Dr Kenneth Singo
Office 870, 5 Balalaka Street, Tasbet Park Ext 2, Witbank, 1040
Tel: +27 13 692 0041
Fax: +27 86 514 4103
Cell: +27 73 020 7361
Email: rofhiwa@singoconsulting.co.za
Cc: kenneth@singoconsulting.co.za

SAKAKAMA COAL

Contact Person: Mr Given Mashaba
Address: Plot 12, Portion 2 JS 283
Witbank, Mpumalanga,
1039
Cell: 082 807 8777
Email: Mashaba.given@gmail.com

Figure 7: Proof of Notifying the public (Witbank News 21 April 2023)

MANALA MGIBE COMMUNAL PROPERTY
ASSOCIATION

REG.NO. CPA/05/0802/A

Email: victor.tlou@vtlou.co.za

P. O Box 17925 Witbank 1035

To Eskom

To whom it may concern

Date 2019/05/15

Re: Electricity Application- Cieli Blu (Pty) Ltd

The above matter refers,

The Manala Mgibe Communal Property Association Committee hereby confirms the following;

- That **Cieli Blu (Pty) Ltd** with company registration no. **2018/076380/07** has concluded a lease agreement with Manala Mgibe Communal Property Association and
- Is conducting a coal processing business at **Portion 2** of the **Leeuwpoot Farm 283 JS**, which is owned by the Manala Mgibe Property Association for,
- An indefinite period

We kindly recommend that you assist them on their application

Hoping the above will be in order.

Yours faithfully,

Mr. Victor Tlou

CHIEF PERSON
Secretary





CPA Committee: Mr. Victor Tlou(chair) Mr. Oupa Mashiane (vice chair) Mr. Adam Mtsweni (sec) Mr. Tsepo Thlapi (vice sec) Mr.SizweMabena (treasure) Mr. George Mtsweni, Miss Danisile Mnyakeni, Mr. Marcus Thlapi (committee members) (2019)





Figure 8: Landowner Proof of consent


2.10 Summary of issues raised by I&APs

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

Interested and Affected Parties List the names of persons consulted in this column, and mark with an X where those who must be consulted were in fact consulted	Date comments received	Issue(s) raised	EAPs response to issues as mandated by the applicant	Section and paragraph in this report where the issues and/or response were incorporated	
Affected parties					
Landowners					
	X	No issues raised.	<ul style="list-style-type: none"> BID,KML and Regulation Map were sent as part of the consultation process on the 09/05/2023. 	Refer to Appendix E for full consultation.	
Lawful occupiers of the land					
N/A					
Landowners or lawful occupiers on adjacent properties					
	X	25 April 2023	<ul style="list-style-type: none"> Concerns on dust emissions, water contamination, soil pollution and noise pollution. 	<ul style="list-style-type: none"> Consultation was done during site visit on the 25th April 2023. The landowner was provided with a BID of which he promised to send his official response concerning the proposed project. 	Refer to Appendix E for full consultation

Interested and Affected Parties List the names of persons consulted in this column, and mark with an X where those who must be consulted were in fact consulted	Date comments received	Issue(s) raised	EAPs response to issues as mandated by the applicant	Section and paragraph in this report where the issues and/or response were incorporated
Municipality				
 Emalahleni Local Municipality	X	No issues raised	<ul style="list-style-type: none"> BID,KML and Regulation Map were sent as part of the consultation process on the 05/05/2023. 	Refer to Appendix E for full consultation
Organs of state (Responsible for infrastructure that may be affected Roads Department, Eskom, Telkom, DWA				
 environmental affair Department: Environmental Affairs REPUBLIC OF SOUTH AFRICA	X	No issues raised	<ul style="list-style-type: none"> BID,KML and Regulation Map were sent as part of the consultation process on the 05/05/2023. 	Refer to Appendix E for full consultation

Interested and Affected Parties List the names of persons consulted in this column, and mark with an X where those who must be consulted were in fact consulted	Date comments received	Issue(s) raised	EAPs response to issues as mandated by the applicant	Section and paragraph in this report where the issues and/or response were incorporated
	X	No issues raised	<ul style="list-style-type: none"> BID,KML and Regulation Map were sent as part of the consultation process on the 05/05/2023. 	Refer to Appendix E for full consultation
	X	No issues raised	<ul style="list-style-type: none"> BID,KML and Regulation Map were sent as part of the consultation process on the 05/05/2023. 	Refer to Appendix E for full consultation
	X	No issues raised	<ul style="list-style-type: none"> BID,KML and Regulation Map were sent as part of the consultation process on the 05/05/2023. 	Refer to Appendix E for full consultation
	X	No issues raised	<ul style="list-style-type: none"> BID,KML and Regulation Map were sent as part of the consultation process on the 05/05/2023. 	Refer to Appendix E for full consultation

Interested and Affected Parties List the names of persons consulted in this column, and mark with an X where those who must be consulted were in fact consulted	Date comments received	Issue(s) raised	EAPs response to issues as mandated by the applicant	Section and paragraph in this report where the issues and/or response were incorporated
	X	No issues raised	<ul style="list-style-type: none"> BID,KML and Regulation Map were sent as part of the consultation process on the 05/05/2023. 	Refer to Appendix E for full consultation
Traditional leaders				
N/A				
Other affected parties				
	X	25 April 2023 <ul style="list-style-type: none"> Amount of dust generated by the processing plant. We would like to be informed of project progress. 	<ul style="list-style-type: none"> The mine was visited during consultation on 25th April 2023. A BID was distributed to the mine environmental officer. 	Refer to Appendix E for full consultation

2.11 The environmental attributes associated with the alternatives.

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

3 Baseline environment

3.1 Type of environment affected by the proposed activity

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

3.1.1 Regional geology

All of the known coal deposits in South Africa are hosted in sedimentary rocks of the Karoo Basin, a large retro-foreland basin that developed on the Kaapvaal Craton and filled between the Late Carboniferous and Middle Jurassic periods (Catuneanu et al., 1998). The Karoo Supergroup is lithostratigraphically subdivided into the Dwyka, Eccca, Beaufort and Stormberg groups, succeeded by the Drakensburg Formation (SACS, 1980). The coals range in age from Early Permian (Eccca Group) through to Late Triassic (Molteno Formation, Stormberg Group) and are predominantly bituminous to anthracite in rank, which is a classification in terms of metamorphism under the influence of temperature and pressure.

Within the main Karoo Basin, the coalfields have been defined based on variations in sedimentation, origin, formation, distribution and quality of the coals. These variations are in turn related to specific conditions of deposition and the local tectonic history of each area (Catuneanu et al., 2002). The coal deposits of the Middelburg Coalfield are restricted to rocks of the Vryheid Formation, which ranges in thickness from 70m to over 500m, being thickest in the northeast and east of the preserved outcrop area, to the south-southwest of the town of Vryheid, where the basin was the deepest.

In general, the coal deposits in South Africa are 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.

This is overlain by the Eccca Group which is an early to late Permian (~260 Ma) sequence comprising sandstone, siltstone, mudstone and significant coal seams deposited in a

terrestrial basin on a gently subsiding shelf platform. In the surrounding Middelburg 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.

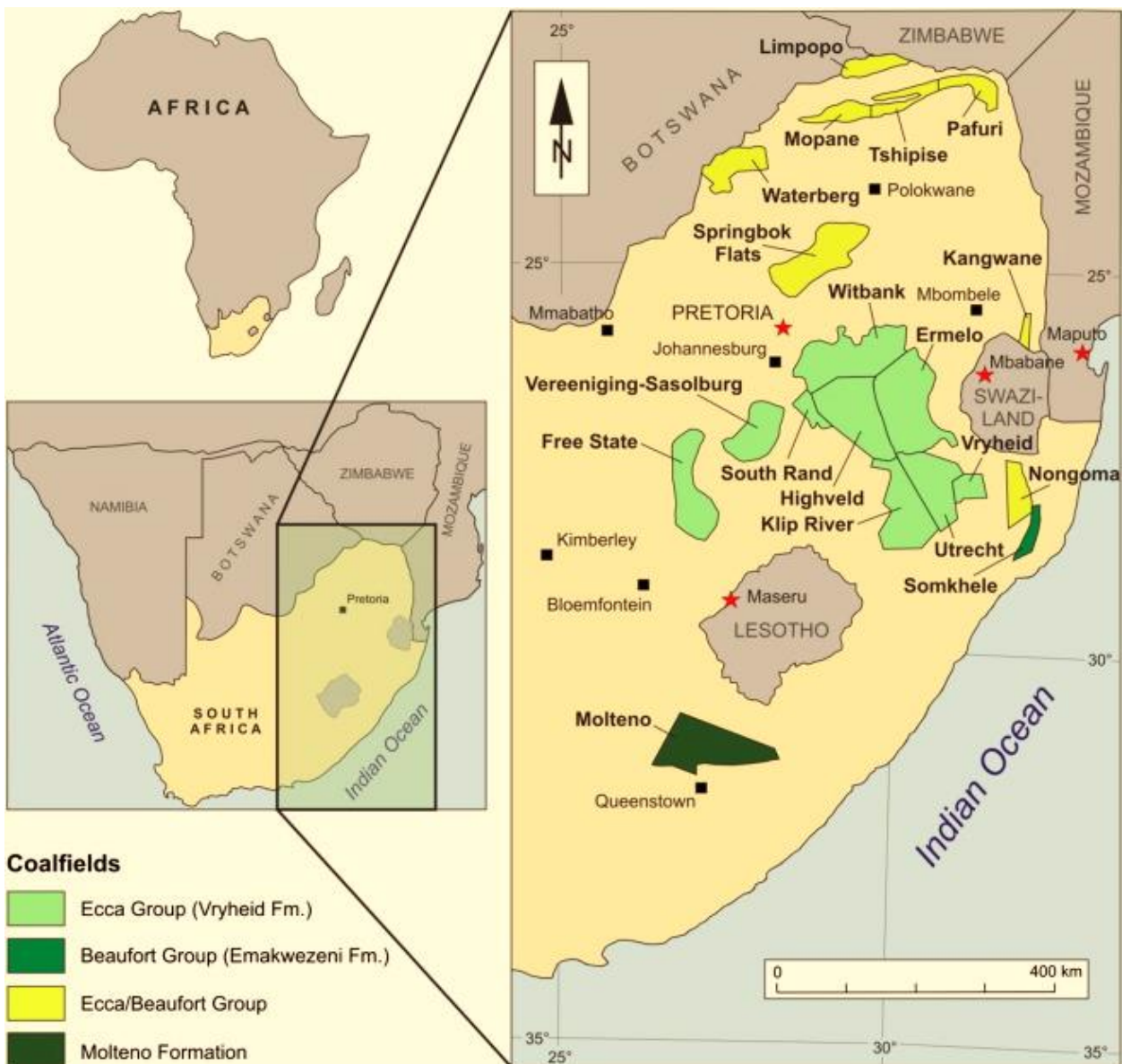


Figure 9; Regional Geology

3.1.1.1 Project Geology

The Dwyka Group is one of four geological groups that compose the Karoo Supergroup. It is the lowermost geological group and heralds the commencement of sedimentation of the Karoo Supergroup. Based on stratigraphic position, lithostratigraphic correlation and palynological analyses, these lowermost Karoo strata range between the Late Carboniferous (Pennsylvanian) to Early Permian in age.

The geological formations of the Dwyka Group are restricted to the edges of the Karoo Basin and achieve their greatest thickness in its southern deposits at approximately 800m, progressively thinning out towards the north. In the south outcrops and exposures are known from Prince Albert, Matjiesfontein, Laingsburg, Sutherland, and as far south as Worcester. Western to northern exposures are known from Calvinia, Carnarvon, Kimberley, and then from Vryheid and Durban in the east.

Dwyka Group deposits are also found outside of and north of the Karoo Basin. These deposits found north of the Karoo Basin are found as the lowermost geological formation of the Springbok Flats, Tshipise, northern Lebombo, Tuli, and Ellisras (Lephalale) Basins of north-northeastern South Africa.

In its southern, western, and eastern deposits, the Dwyka Group conformably overlies rocks of the Cape Supergroup, which includes the Cape Fold Belt, and the Natal Supergroup. It also unconformably overlies the Namaqua-Natal Metamorphic Province in some localities in the west-northwest of South Africa. Its north and northeastern Karoo Basin deposits and all deposits found north of the Karoo Basin unconformably overlie the Transvaal Supergroup, Ventersdorp Group, or Archean and Proterozoic basement rocks. In all South African localities, the Dwyka Group underlies rocks of the Ecca Group.

The geographical range of the Dwyka Group is large with its deposits also being found in other localities in southern Africa. Dwyka-aged deposits that are considered to correlate in age to those found in South Africa have been located in the southern Karasburg and Kalahari Basins of southern Namibia – in and around the Fish River Canyon – in the Huab Basin of northern-western Namibia, the Waterberg and Owambo Basins of northern Namibia, the Dukwi Formation of the Kalahari Basin of Botswana, and the Save Basin of southeastern Zimbabwe. The Dwyka Group deposits have been categorized by those found as part of the Karoo Basin and smaller formations found in different basins north of

the Karoo Basin. In the Karoo Basin, the Dwyka Group is known by two distinctive lithological facies. These two facies are represented in its northern and southern deposits respectively and are recognized as the two geological formations namely Elandsvlei formation and Mbizane formation.

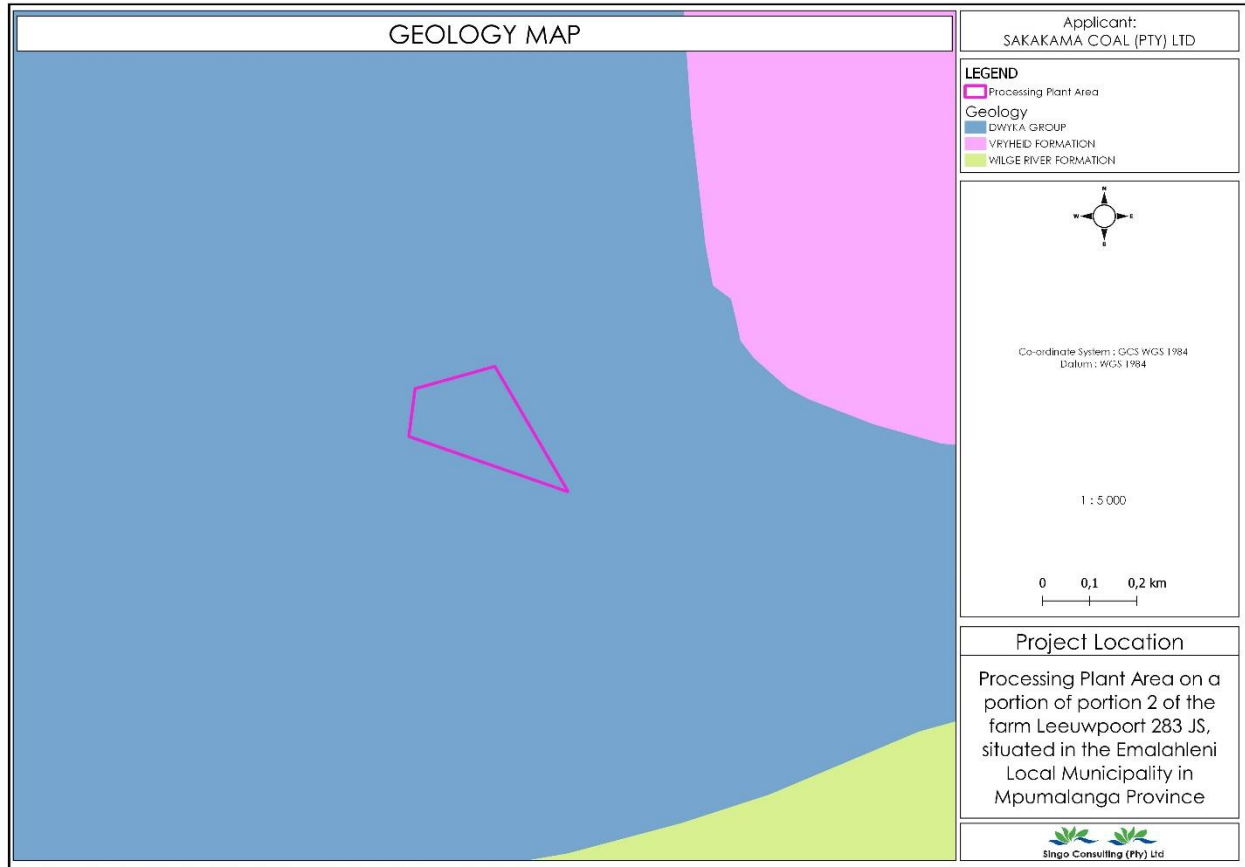


Figure 10: Geology of the project area

3.1.1.2 Vegetation type

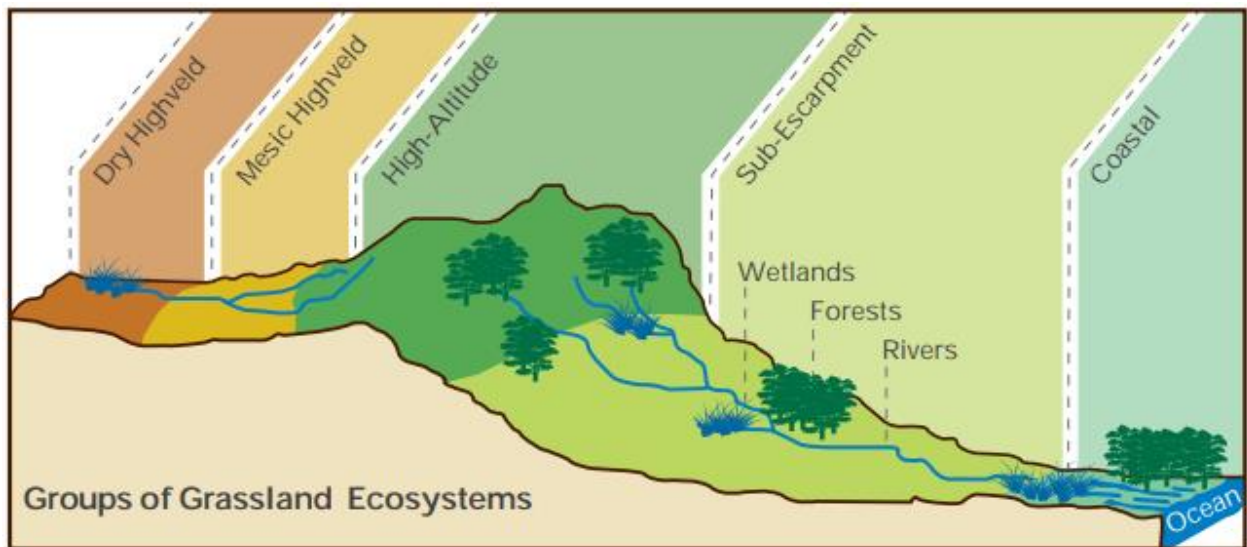


Figure 11: Groups of Grassland Ecosystem

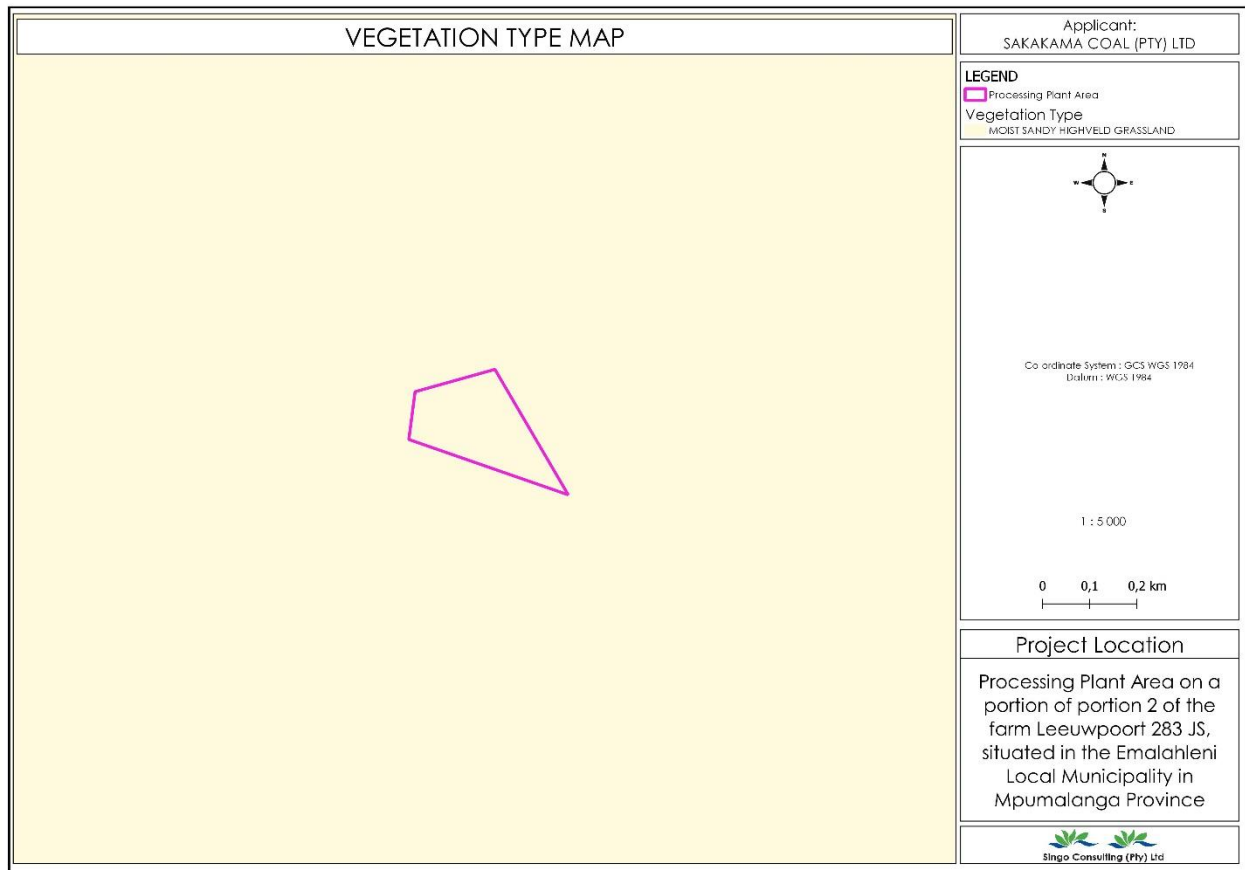


Figure 12: Vegetation type

The study area falls within the Moist Sandy Highveld Grassland. Moist sandy highveld grassland is a vital ecosystem in South Africa, characterized by a mix of grasses, shrubs, and trees. It is found in the high-altitude regions of the country, particularly in the provinces of Gauteng, Mpumalanga, and Free State. The grassland supports a diverse range of flora and fauna and plays a critical role in the overall health of the environment. One of the most important functions of moist sandy highveld grassland is its ability to store and conserve water. The grasses and other vegetation help to prevent soil erosion and in the ecosystem. The grassland also acts as a natural filter, helping to purify the water that flows through it. In addition to its environmental benefits, moist sandy highveld grassland is also important for human communities. The grassland provides grazing land for livestock and supports traditional agricultural practices. It is also an important source of medicinal plants, which are used by local communities for healing purposes. Despite its importance, the moist sandy highveld grassland is under threat from various human activities, such as mining, urbanization, and agriculture. These activities often result in habitat destruction, soil degradation, and water pollution, which can have severe impacts on the ecosystem and the communities that depend on it. To ensure the conservation of this vital ecosystem, it is essential that proper management strategies are

put in place. This includes the implementation of sustainable agricultural practices, the protection of natural habitats, and the promotion of eco-tourism and other forms of sustainable development. By working together to protect and preserve the moist sandy highveld grassland, we can ensure that it continues to provide important ecological, social, and economic benefits for generations to come.



Figure 13: Type of vegetation observed on site.

3.1.1.3 Fauna

The results of the animal desktop studies have been summarised below. Mpumalanga is faunally diverse, with 163 mammal species, 567 bird species, 154 reptile species, 51 amphibian species and 62 indigenous fish species (Emery et al, 2002). As with the provincial flora, the highest diversity of fauna is located within the central and eastern parts of the province.

- Mammals

Fifteen of the 34 mammals (44%) endemic to South Africa can be found in the Grassland Biome and 4 of these (27%) are endemic to the biome (Smithers, 1983) and of the 92 threatened land mammals in South Africa 18 (20%) can be found in the Grassland Biome.

- Birds

Of the 40 species endemic to South Africa 21, or 53%, are found in the Grassland Biome. Twelve (57%) of these are endemic to the biome. The southern highland grasslands of Mpumalanga, together with the adjacent areas of KwaZulu-Natal and the Free State have been declared an Endemic Bird Area (EBA) in urgent need of conservation by

BirdLife International, advisors to the IUCN on matters affecting birds. An EBA supports at least two endemic species of birds with a distribution range of less than 50 000 km². The South African Grassland EBA supports three - Rudd's Lark, Botha's Lark and Yellowbreasted PiProcessing Plant-all considered threatened on a global scale (Stattersfield et al, 1998);

Of the 16 species occurring in South Africa and considered to be threatened on a global scale by BirdLife International, 11 (69%) are either entirely restricted to the Grassland Biome or have a substantial proportion of their local population reliant on this biome. This is also true for 9 of the 30 near-threatened species (Collar et al, 1994); and

Of the 79 species considered to be threatened or near threatened on a southern African scale by the Avian Demography Unit (Barnes, 1996), 31 (39%) are restricted to or substantially dependent on these grasslands

- Reptiles

Approximately 13 (14%) of the 93 species of threatened reptiles and amphibians in South Africa occur in the Grassland Biome (Branch, 1988a) and 11 (85%) of these are endemic to the biome. Approximately 42 (22%) of the 195 reptiles endemic to South Africa are found in the Grassland Biome (Branch, 1988b).

Of these 20 (48%) species and a further 7 subspecies are endemic to the biome. The Southern African Python (*Python natalensis*) is designated as Vulnerable and the Aurora House Snake (*Lamprophis aurora*) as rare.

- Amphibians

Approximately 16 (30%) of the 54 amphibians endemic to South Africa are found in the Grassland Biome (Passmore & Carruthers, 1995). Of these 8 species (50%) are endemic to the biome. Of these the Giant Bullfrog (*Pyxicephalus adspersus*) is designated as endangered.

The Importance of the Grassland Biome

Grasslands are an important biome that covers around 20% of the earth's surface, located mostly in the mid-latitudes. They are also known as prairies, savannas, and steppes, and are characterized by their grassy vegetation, few trees, and varying precipitation levels. The grassland biome plays an essential role in the earth's ecosystem due to its biodiversity and its contribution to the carbon cycle. It is home to a diverse

range of plant and animal species. Grasses, wildflowers, and shrubs are the primary vegetation in this biome, providing food and shelter for various animal species. Large herbivores such as bison, zebras, and antelopes graze on grass, while predators such as lions, wolves, and hyenas hunt them. This biome is also an important habitat for insects, birds, and reptiles, which play a significant role in the food chain. However, the grassland biome is under threat due to human activities such as deforestation, overgrazing, and agricultural practices. These activities result in the loss of vegetation, soil degradation, and a reduction in biodiversity. Deforestation and overgrazing also lead to an increase in carbon dioxide emissions, contributing to climate change. Therefore, it is essential to protect the grassland biome through sustainable land use practices, conservation efforts, and the creation of protected areas. The grassland biome is an important part of the earth's ecosystem due to its biodiversity and its contribution to the carbon cycle. It provides habitat for a range of plant and animal species, plays a significant role in the food chain, and helps to reduce the amount of carbon dioxide in the atmosphere. However, human activities pose a significant threat to the grassland biome, and it is crucial to protect it through sustainable land use practices and conservation efforts.

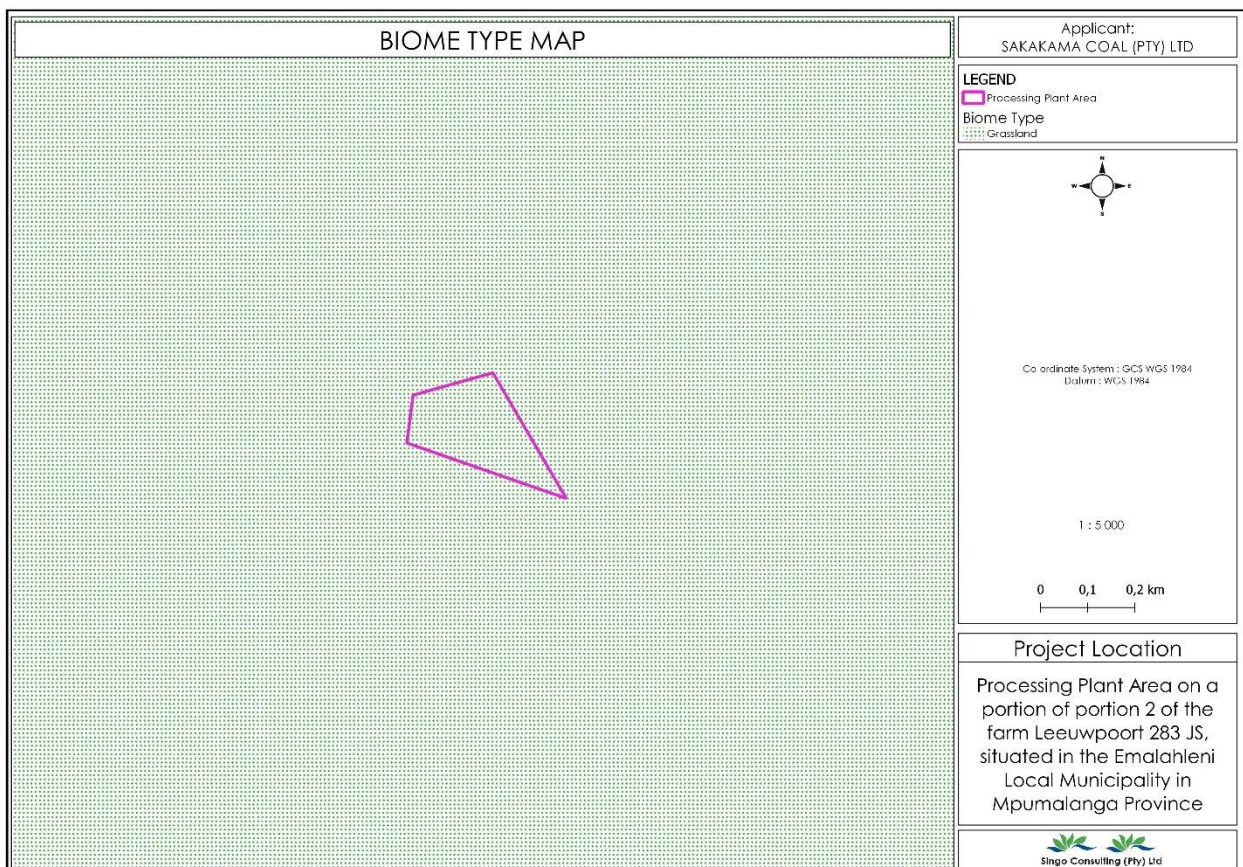


Figure 14: Biome Type Map (Singo Consulting 2023)

Family	Scientific Name	Common Name	Regional status
Erinaceidae	<i>Atelerix frontalis</i>	Southern African Hedgehog	Near Threatened (2016)
Felidae	<i>Leptailurus serval</i>	Serval	Near Threatened (2016)
Herpestidae	<i>Cynictis penicillata</i>	Yellow Mongoose	Least Concern (2016)
Mustelidae	<i>Ictonyx striatus</i>	Striped Polecat	Least Concern (2016)
Mustelidae	<i>Poecilogale albinucha</i>	African Striped Weasel	Near Threatened (2016)
Bovidae	<i>Ourebia ourebi</i>	Oribi	Endangered
Bovidae	<i>Redunca arundinum</i>	Southern Reedbuck	Least Concern (2016)
Bovidae	<i>Taurotragus oryx</i>	Common Eland	Least Concern (2016)
Canidae	<i>Canis mesomelas</i>	Black-backed Jackal	Least Concern (2016)
Canidae	<i>Otocyon megalotis</i>	Bat-eared Fox	Least Concern (2016)
Felidae	<i>Caracal caracal</i>	Caracal	Least Concern (2016)
Felidae	<i>Leptailurus serval</i>	Serval	Near Threatened (2016)
Hyaenidae	<i>Hyaena brunnea</i>	Brown Hyena	Near Threatened (2015)
Hyaenidae	<i>Proteles cristata</i>	Aardwolf	Least Concern (2016)
Orycteropodidae	<i>Orycteropus afer</i>	Aardvark	Least Concern (2016)

Figure 15: Potentially Occurring Mammal Species

The Mpumalanga Province has developed a conservation plan (C-Plan) that details areas of conservational significance throughout the province. This includes habitat types that are considered ecologically sensitive as well as the potential for those habitat types to support orange listed (where conservation status is considered rare, declining or near threatened) and red listed (critically endangered, endangered and vulnerable) species listed for the province. Habitat types typically include rocky ridges, riverine or wetland units, which have also been designated conservation buffers through the same mechanisms. Areas that support confirmed biodiversity populations of conservation significance or offer habitat types confirmed to have retained good ecological integrity (amongst other criteria) are regarded as Critical Biodiversity Areas (CBAs), important or irreplaceable areas.

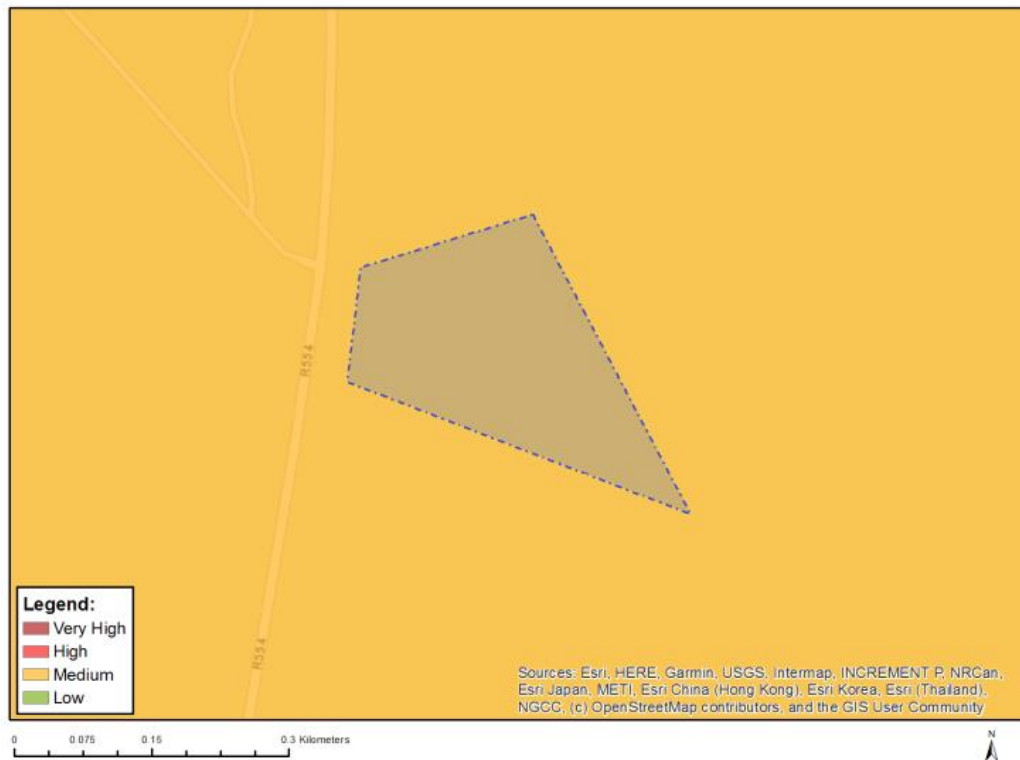
Centres of plant endemism (CoPE) are areas that, due to topographical, climatological or geological characteristics, show a particularly high level of plant endemism (supporting plant species that are characteristic of that particular demarcated area. The survey site does not, however, have any association with any centres of plant endemism.

Expected mammalian species that would utilise the proposed development site would be limited to opportunistic, highly mobile and commonly occurring species that would utilise the site as well as the habitat for any opportunism afforded to them.

A similar scenario is applicable to the avifaunal species and communities. Birds are mobile and therefore a relatively higher species diversity is expected to occur. Poor habitat quality, lack of connectivity to habitat of higher ecological integrity and a highly industrialised landscape means that only highly adaptable and generalist species are expected to occur. Only commonly occurring species were noted within the site during the survey. The proposed development activities are regarded as having an insignificant impact on avifaunal communities within the region.

Screening results

MAP OF RELATIVE ANIMAL SPECIES THEME SENSITIVITY



Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
		x	

Sensitivity Features:

Sensitivity	Feature(s)
Medium	Mammalia-Crocodyra maquassiensis
Medium	Mammalia-Dasymys robertsii
Medium	Reptilia-Kinixys lobatsiana

Figure 16: sensitivity map from Screening tool

No animal species were noted on the site during the site visits. It is highly unlikely that large animal species would permanently inhabit the site since the site and surrounding area are impacted by human activity (e.g. roads, industrial, business and residential activities, etc.) as indicated in preceding sections. Although it is unlikely that large animal species would permanently inhabit the site, it is possible that a number of smaller species (e.g. rodents, scrub hare), birds, reptiles and amphibians could be found on site and in the surrounding area. The grassland could provide habitat for small mammals (e.g. mongoose), reptiles and birds.

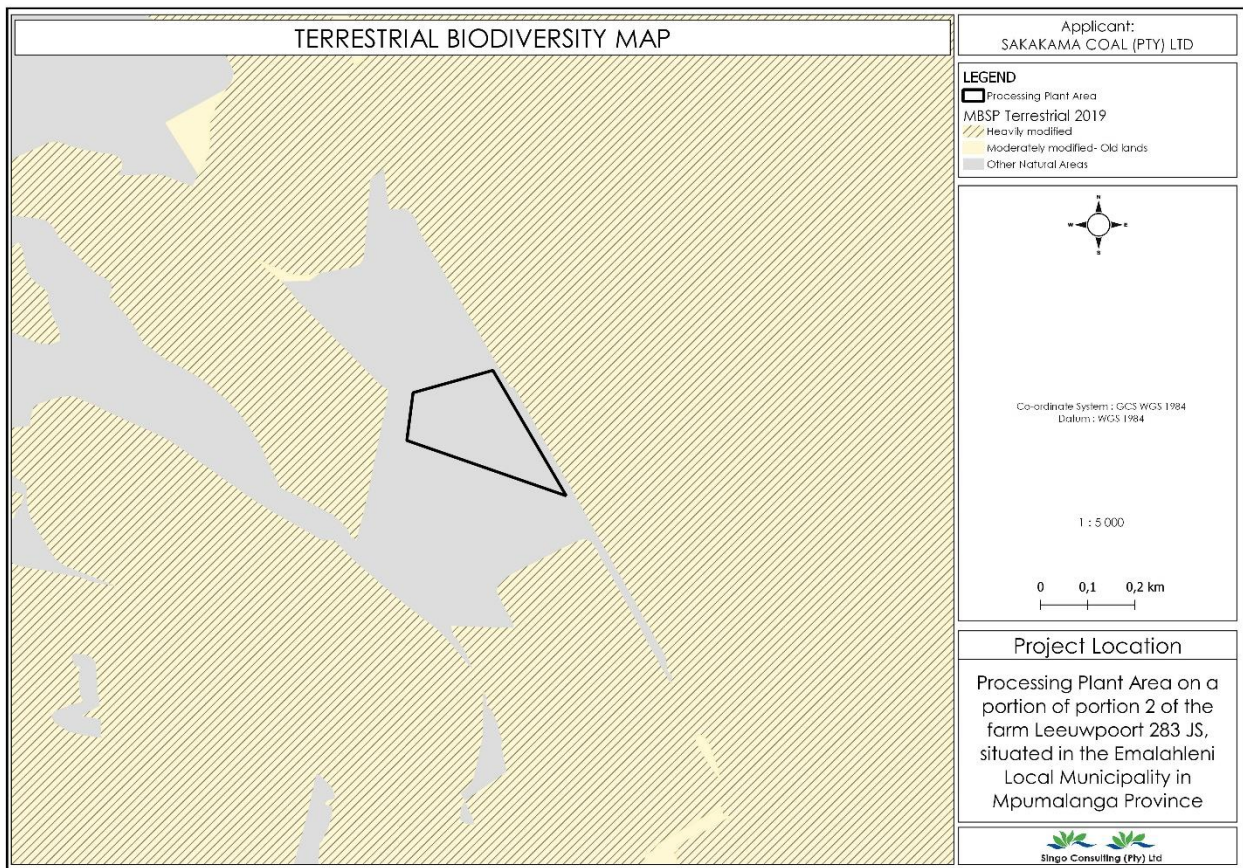


Figure 17: Terrestrial Biodiversity Map

The Importance of Other Natural Areas in Terrestrial Biodiversity Conservation

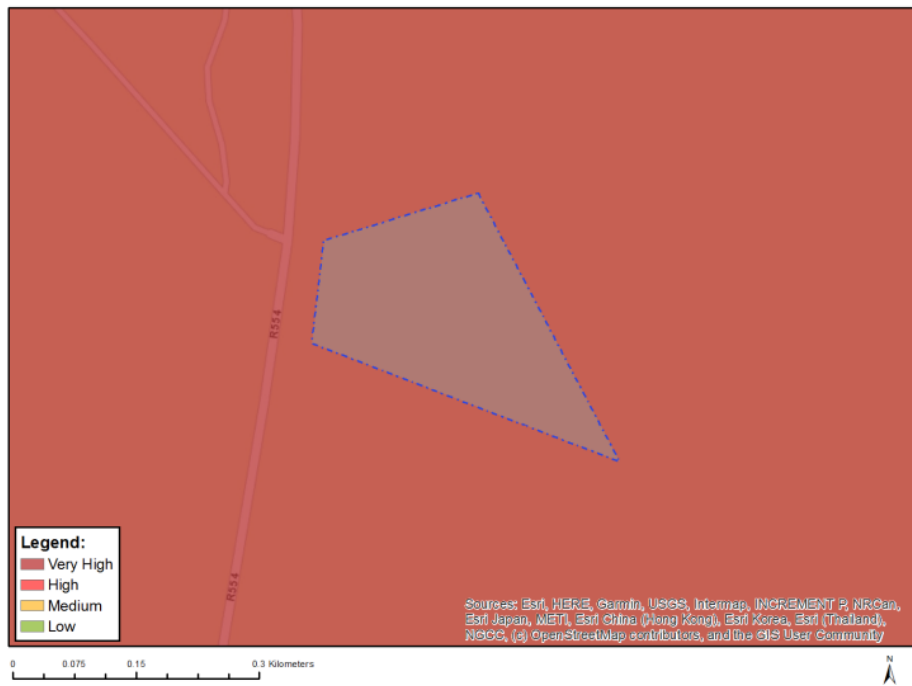
Terrestrial biodiversity is an essential part of the natural world, providing us with numerous benefits such as food, medicine, and ecological services. However, most of our attention is focused on the conservation of protected areas such as national parks and wildlife reserves. While these areas are vital for the conservation of biodiversity, other natural areas such as private lands, community forests, and agricultural lands are equally important and must not be overlooked.

Other natural areas play a significant role in the conservation of terrestrial biodiversity, with several benefits that protected areas do not provide. For instance, private lands and agricultural lands provide habitat for species that are not found in national parks or reserves. These areas also connect protected areas, providing essential corridors for the movement of species, which is necessary for their survival and genetic diversity. Additionally, community forests and private lands help improve soil and water quality, which in turn benefits the surrounding ecosystems.

Despite their importance, other natural areas face numerous threats such as habitat fragmentation, land-use change, and overexploitation. To conserve terrestrial biodiversity, it is essential to recognize the value of these areas and implement measures to protect them. Conservation efforts must involve collaboration between governments, NGOs, private landowners, and local communities to ensure the sustainable use of these areas and the protection of the species that inhabit them.

In conclusion, the conservation of terrestrial biodiversity requires more than just protected areas. Other natural areas such as private lands, community forests, and agricultural lands play a crucial role in the conservation of biodiversity and must be given equal attention. Conservation efforts must aim to protect these areas and promote sustainable land-use practices to ensure their long-term conservation and the survival of the species that inhabit them. The area of interest falls under a very high terrestrial biodiversity according to the screening report generated (refer to the figure below).

MAP OF RELATIVE TERRESTRIAL BIODIVERSITY THEME SENSITIVITY



Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
X			

Sensitivity Features:

Sensitivity	Feature(s)
Very High	Vulnerable ecosystem

Figure 18: Terrestrial Biodiversity Relative Sensitivity Map (Screening Report)

3.1.1.4 Soil

Texture class is one of the first things determined when a soil is examined. It is related to weathering and parent material. The differences in horizons may be due to the differences in texture of their respective parent materials. Texture class can be determined fairly well in the field by feeling the sand particles and estimating silt and clay content by flexibility and stickiness. There is no field mechanical-analysis procedure that is as accurate as the fingers of an experienced scientist, especially if standard samples are available. A person must be familiar with the composition of the local soils. This is because certain characteristics of soils can create incorrect results if the person does not take these characteristics into account.

In some environments clay aggregates form that are so strongly cemented together that they feel like fine sand or silt. In humid climates iron oxide is the cement. In desert climates silica is the cement and in arid regions lime can be the cement. It takes prolonged rubbing to show that they are clays and not silt loams. Some soils derived from granite contain grains that resemble mica but are softer. Rubbing breaks down these grains and reveals that they are clay. These grains resist dispersion and field, and laboratory determinations may disagree. Many soil conditions and components mention earlier cause inconsistencies between field texture estimates and standard laboratory data.

Soil erosion emanating from disturbed areas and soil stockpiles could smother surrounding habitat and silts could reach aquatic and wetland systems. This will displace faunal biota from those areas that are transformed through this impact. This feature can be easily mitigated.

Soil conservation is key to environmental sustainability: It helps protect natural resources and watersheds, restores habitats for plants and wildlife, improves water quality, and makes soil healthier. Soil conservation also creates economic opportunity. Productive and healthy soil helps farmers meet increased demand for agricultural commodities from a growing global population, driving economic growth.

Soil organisms ensure sustainable food systems and mitigate climate change. Plants and animals rely on soils for food, shelter, and more. Soil is also home to fungi, algae, and unicellular and multicellular organisms that are invisible to the naked eye, such as bacteria and protozoa. As they move through the soil, microorganisms help improve drainage and soil structure, making soil more fertile and productive.



Figure 19: Soil type observed on site.

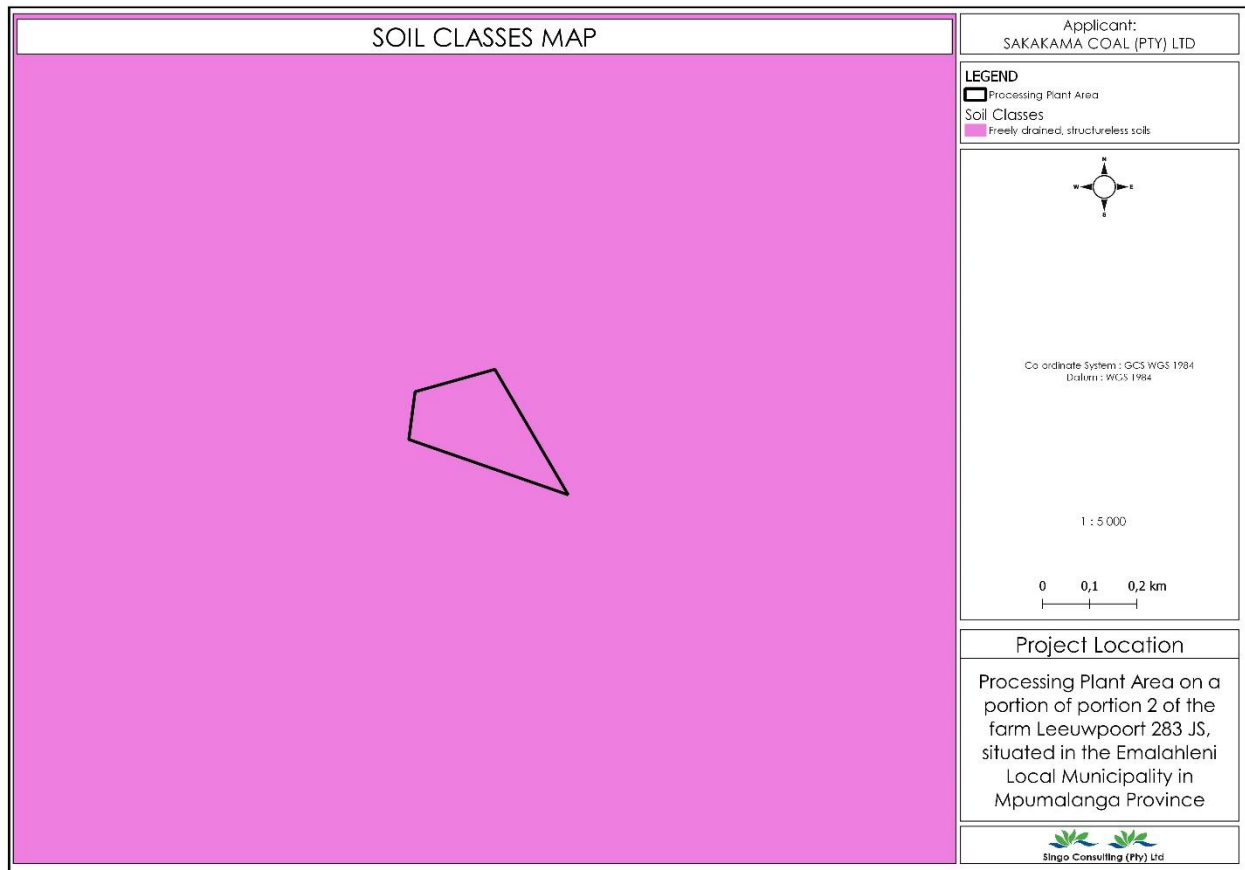


Figure 20:Project soil type map

Freely drained structureless soils are a type of soil that is characterized by its lack of structure and relatively high porosity. These soils are typically found in areas that have a high-water table or in regions that receive a high amount of rainfall. The lack of structure in these soils is due to the fact that they are made up of uniformly sized particles that are not arranged in any particular order. One of the main properties of freely drained structureless soils is their ability to drain water quickly. Because these soils have a high porosity and lack structure, water can flow through them easily. This can be beneficial in areas that receive a lot of rainfall, as it helps prevent water from pooling on the surface and causing flooding. Another property of freely drained structureless soils is their relatively low fertility. Because these soils lack structure, they do not contain the same amount of organic matter or nutrients as soils with a more developed structure. This can make it difficult for plants to grow in these soils without the addition of fertilizers or other soil amendments. Freely drained structureless soils are often prone to erosion. Because they lack structure, these soils are more susceptible to being washed away by water or blown away by wind. This can be a concern in areas where the soil is exposed to these elements, such as on hillsides or in areas with a high amount of wind. Overall, freely drained structureless soils are a unique type of soil with their own set of properties and

characteristics. While they can be beneficial in certain situations, they can also pose challenges when it comes to agriculture and land management.

3.1.1.5 Surface and Ground water

Surface water

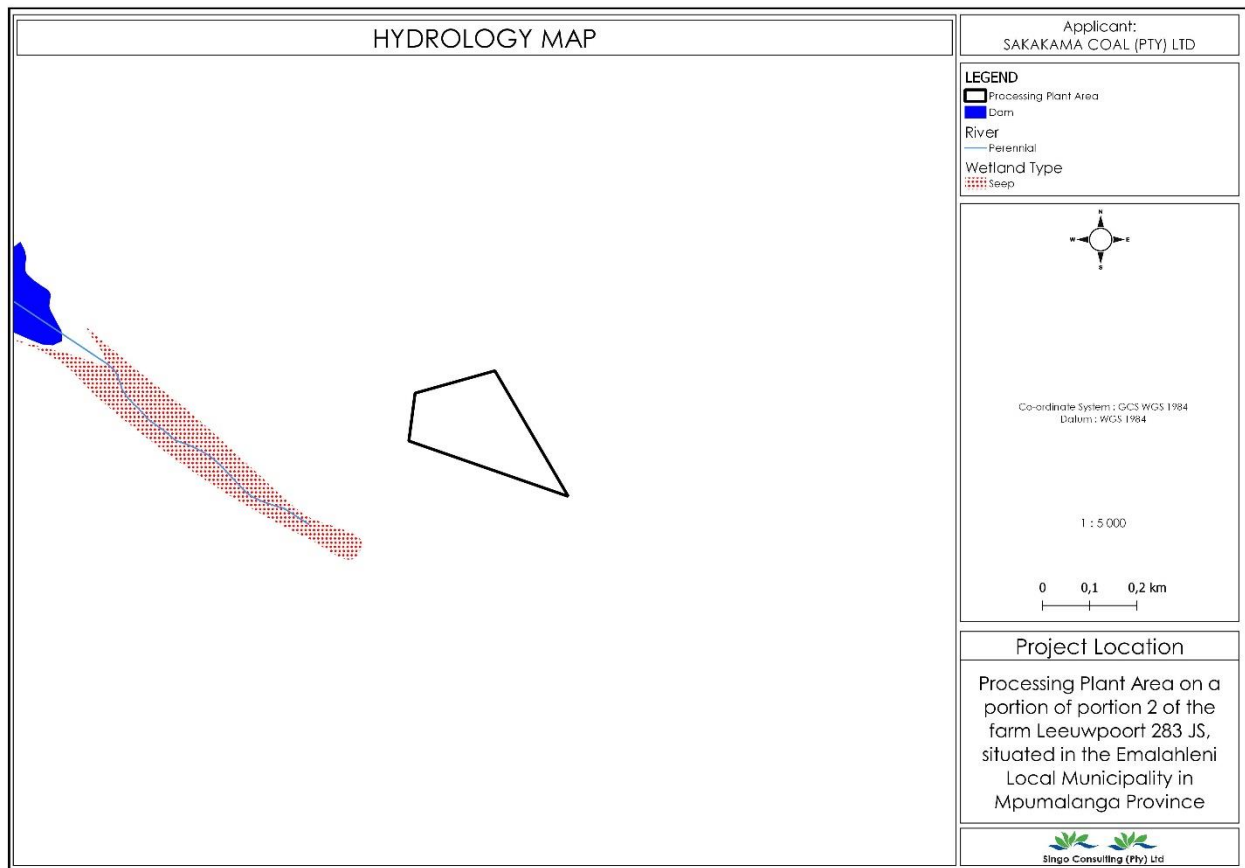
The conceptual hydrogeological model of the area is based on the generally accepted model for the Mpumalanga coal fields. In this model three principal aquifers are identified: the weathered aquifer; the fractured Karoo aquifer; and the fractured pre-Karoo aquifer (Hodgson & Krantz, 1998). The Karoo rocks are not known for large scale development of aquifers, but occasional high yield boreholes can be present. The aquifers that occur in the area can therefore be classified as minor aquifers (low yielding), but of high importance (Parsons, 1995) and are understood to have a low to medium development potential, mostly used for small-scale domestic purposes or occasionally for large-scale irrigation. Three distinct superimposed groundwater systems are present within the area (Hodgson and Krantz, 1998, Woodford and Chevallier, 2002) and can be classified as:

- The upper weathered Eccca aquifer (shallow, intergranular type aquifer formed in the weathered zone of the Karoo sediments; can locally form a perched aquifer on top of fresh bedrock);
- The fractured aquifers within the unweathered, fractured Eccca sediments; and
- The aquifer below the Eccca sediments (deeper aquifer formed by fracturing of older Karoo sediments and dolerite intrusions).

These types of groundwater systems are common to the groundwater regime in the Karoo environment. The systems do not necessarily occur in isolation and often form a composite groundwater regime that is comprised of one, some, or all of the systems. Good hydraulic connectivity often exists between the two top aquifers and these have consequently been treated as a single unit in the modelling of groundwater flow-related systems. In general, the shallow aquifer depth ranges between five to 20 m overlying the fractured rock formations throughout the region. The shallow primary aquifer is understood to be highly susceptible to pollution due to coal Processing Plant in the area as the pollutants travel shorter distance to reach the aquifer system (Hodgson and

Krantz, 1998).

The water resources of South Africa are divided into quaternary catchments, which are regarded as the principal water management units in the country (DWAF, 2011). A quaternary catchment is a fourth order catchment in a hierarchical classification system in which the primary catchments are the major units. The primary drainages are further grouped into or fall under Water Management Areas (WMA) and Catchment Management Agencies (CMA). The Department of Water and Sanitation (DWS) has established nine WMAs and nine CMAs as contained in the National Water Resource Strategy 2 (2013) in terms of Section 5 subsection 5(1) of the National Water Act, 1998 (Act No. 36 of 1998). The establishment of these WMAs and CMAs is to improve water governance in different regions of the country, to ensure a fair and equal distribution of the Nation's water resources, while making sure that the resource quality is sustained. The project area has a seep and a dam which is adjacent more than 500m away. The project area falls under B11K of Olifants quaternary catchment and water management.



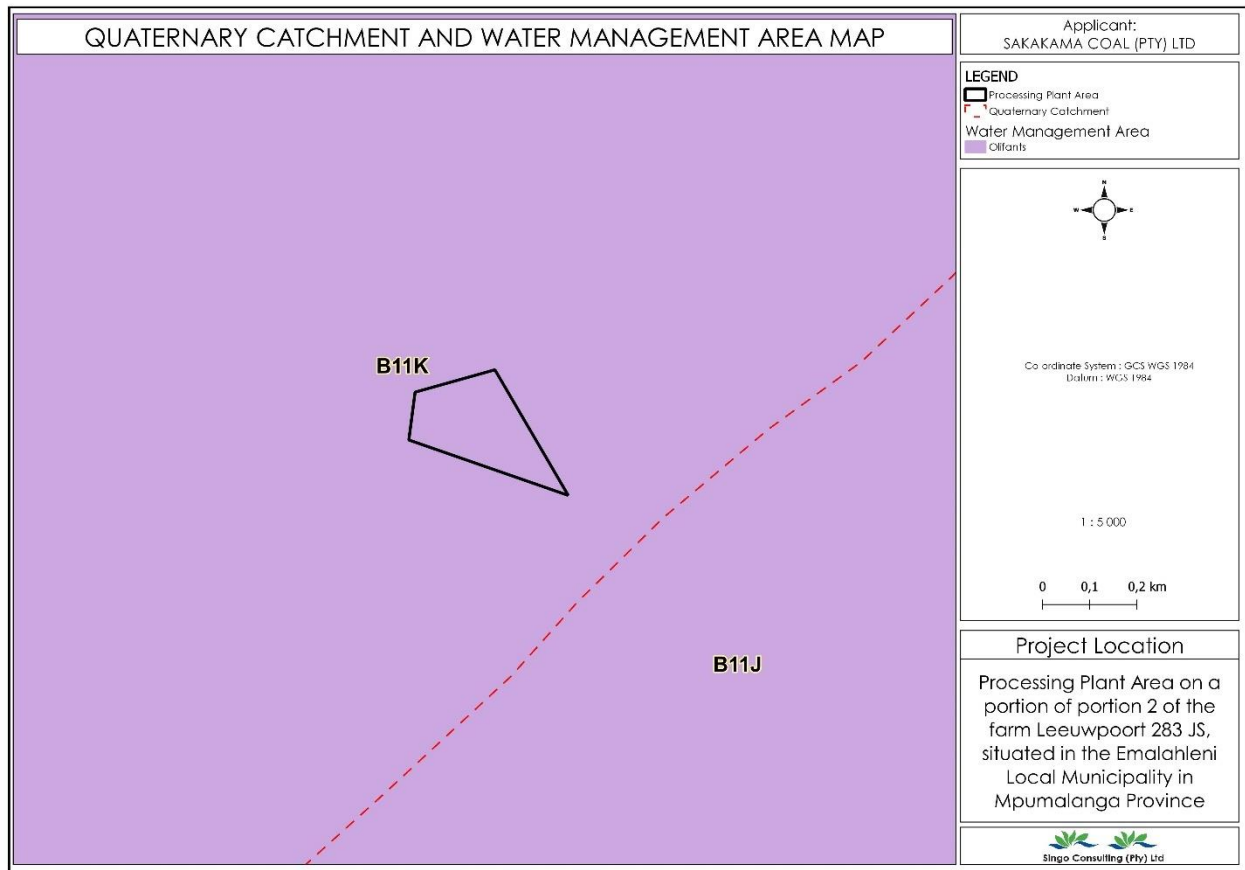


Figure 21: Hydrological & Quaternary Catchment Map of the project map

3.1.1.6 Climate

The climatic conditions at the proposed area are generally temperate, with cold winter temperatures. Emalahleni's climate is classified as warm and temperate. In winter, there is much less rainfall in Emalahleni than in summer. The climate is classified as Cwb according to Köppen and Geiger. In Emalahleni, the average annual temperature is 16.3 °C | 61.4 °F. About 760 mm | 29.9 inch of precipitation falls annually.

Emalahleni is located in the southern hemisphere. Summer begins in December and ends at the end of January. The months of summer are December, January, February, March. The winter months are droughty with the combined rainfall in June, July and August making up only 3,9% of the annual total (734mm). The average daily maximum temperature in January (the hottest month) is 25,2°C and in July (the coldest month) is 16,7°C. Due to its position near the escarpment, the area is somewhat windier than is typical for the Southeastern Mpumalanga Highveld, although the majority of winds are still light and their direction is controlled by topography.

Due to its position near the escarpment, the area is somewhat windier than is typical

for the South-Eastern Mpumalanga Highveld, although the majority of winds are still light and their direction is controlled by topography.

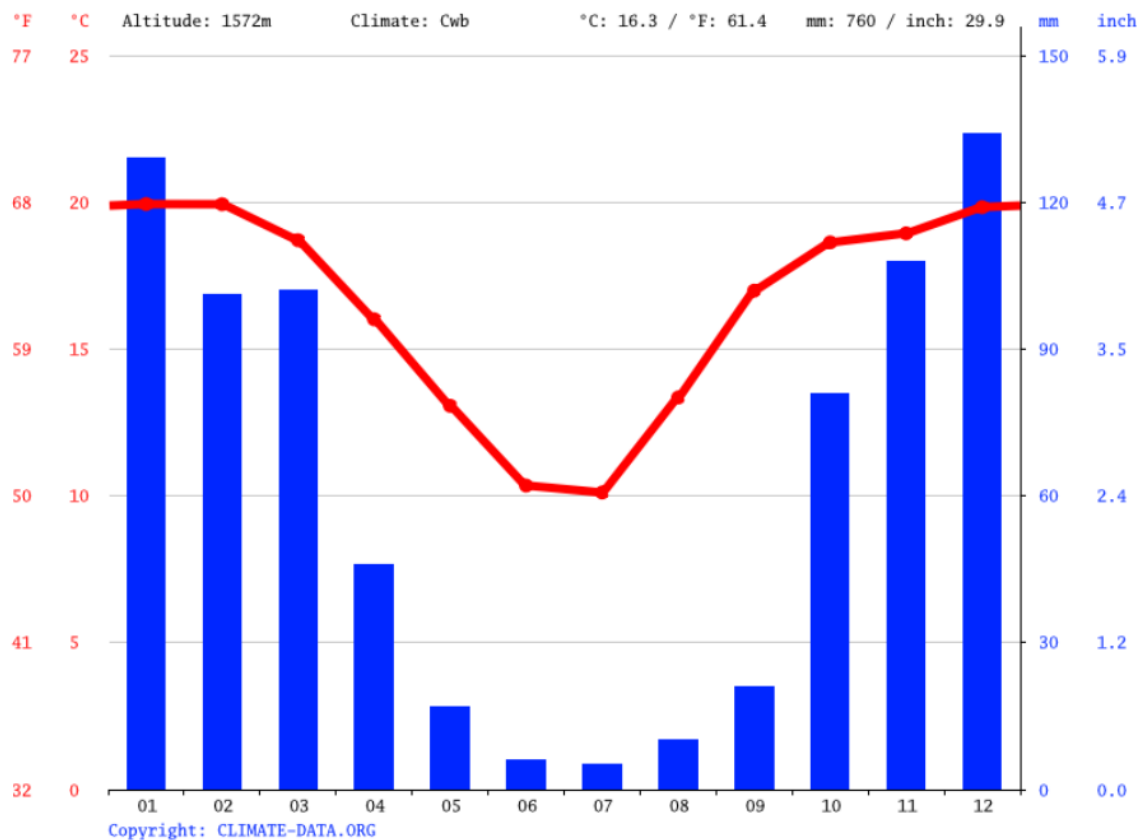


Figure 22: Average temperatures around proposed Project (<https://en.climate-data.org/africa/south-africa/mpumalanga/emalahleni-641/>)

3.1.1.7 Topography

The topography is that of slight to moderately undulating plains, with some low hills and pan depressions scattered throughout the landscape. Altitude typically varies from 1510 m to 1515 m as depicted in Figure below. Drainage occurs in the North easterly direction. Nonperennial drainage lines are located to the East and West. The majority of the mine has steep slopes with the higher-lying areas have steeper slopes of between 10° and 45°, whereas low lying areas have gentle slopes that range from 0° and 10°.

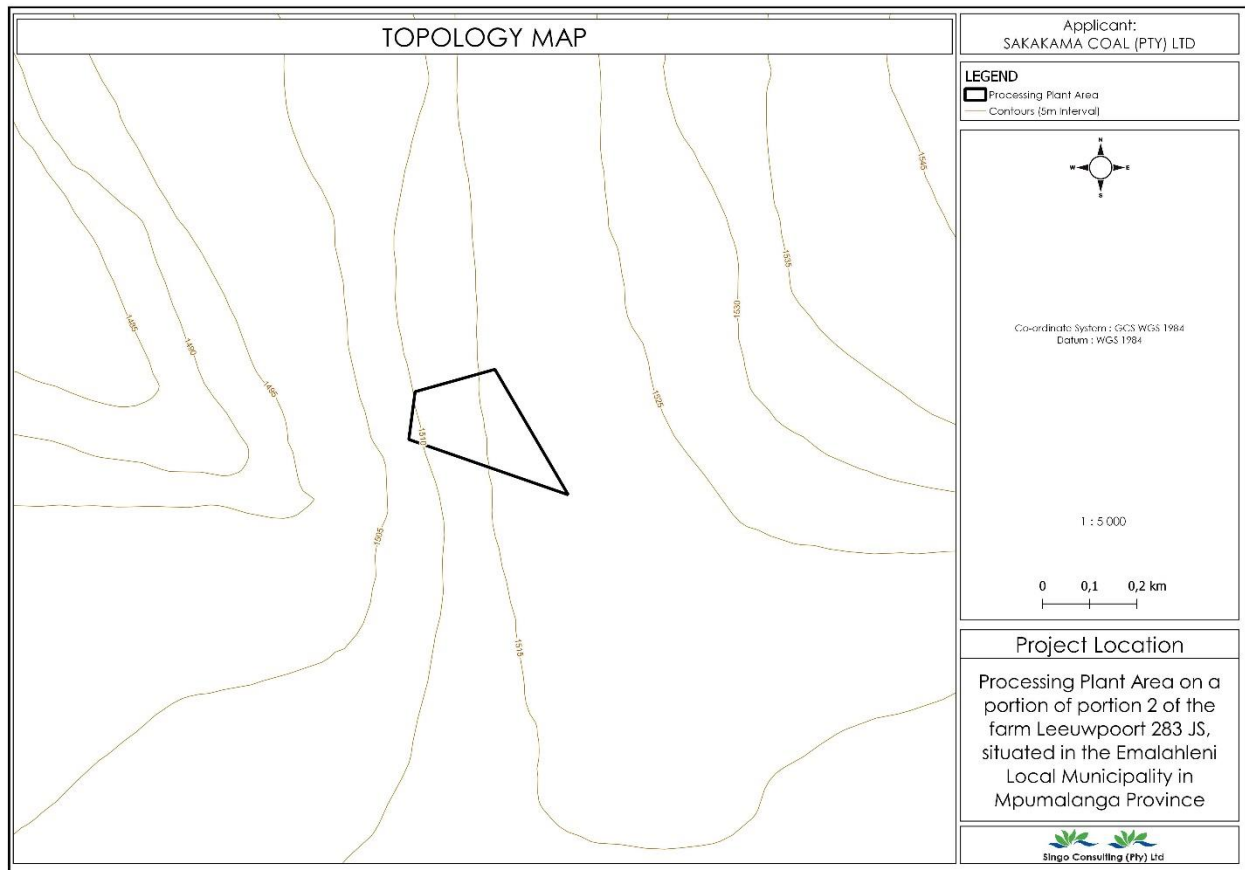


Figure 23: Topography of the mine and surface hydrological setting.

3.1.1.8 Public roads

The proposed site is located next to the R544, a very busy provincial major arterial route connecting Emalaheni in the south to Klarinet. The R544 route passing the site provides mobility as well as access to numerous industrial businesses, coal Mines and farms to the north and south of the site. The project will increase traffic as many trucks will be using R544 to access the proposed site. For access road , refer to the figure below.

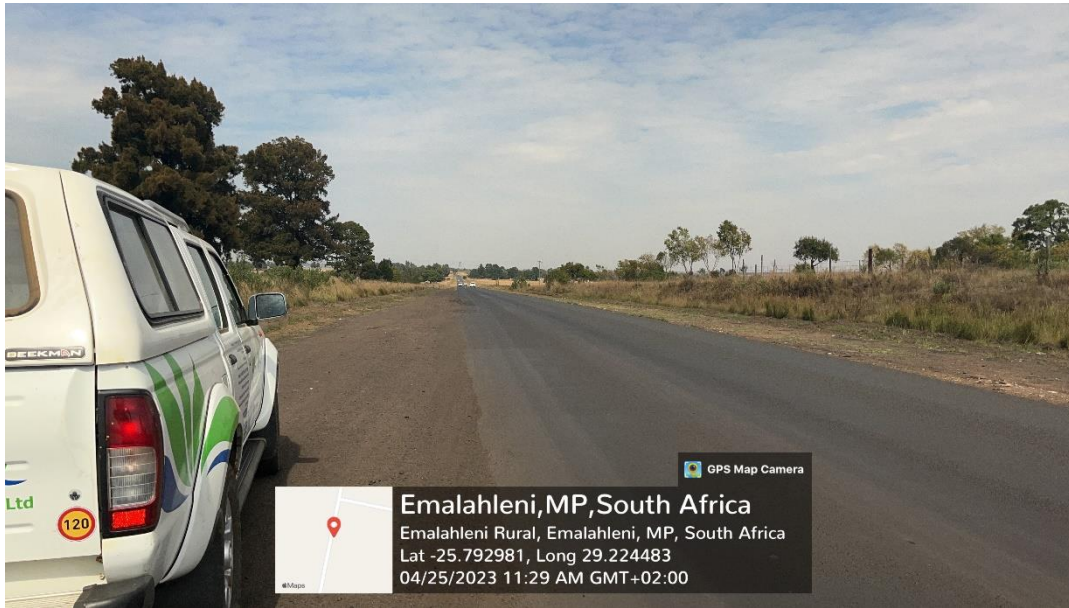


Figure 24: Access tar road to the project area (site assessment 2023)

3.1.1.9 Graves, heritage, archaeological and cultural resources.

The proposed coal processing plant is located within the industrialised area and there are no archaeological or heritage resources identified at the surface on site. SAHRA was consulted through online, and the status of the land is not yet confirmed. Site visit did not reveal any critical feature which can be declared as heritage. Consultation with stakeholders more especially landowner and SAHRA will allude to the presence of any heritage feature.

The literature survey suggests that prior to the 20th century modern residential and on-going infrastructure developments; the general area where the proposed development is located would have been a rewarding region to locate heritage resources related to Stone Age and particularly Iron Age and historical sites (Bergh 1999: 4). However, the situation today is completely different. The study area now lies on a clearly modified landscape that is dominated by mining infrastructure and developments.

Human remains and burials are commonly found close to archaeological sites and abandoned settlements; they may be found in abandoned and neglected burial sites or occur sporadically anywhere because of prehistoric activity, victims of conflict or crime. It is often difficult to detect the presence of archaeological human burials on the landscape as these burials, in most cases, are not marked at the surface and concealed by thick vegetation cover. Human remains are usually identified when they are exposed through erosion, earth moving activities and construction. In some instances, packed stones or bricks may indicate the presence of informal burials. If any

human bones are found during the course of construction work, then they should be reported to an archaeologist and work in the immediate vicinity should cease until the appropriate actions have been carried out by the archaeologist.

Where human remains are part of a burial, they would need to be exhumed under a permit from either SAHRA (for pre-colonial burials as well as burials later than about AD 1500) or Department of Health for graves younger than 60 years. The field survey did not identify any burial grounds or individual graves within the project area. It should be noted that burial grounds and gravesites are accorded the highest social significance threshold. They have both historical and social significance and are considered sacred. In addition, graves are important in providing evidence for communities seeking land restitution.

Wherever they exist or not, they may not be tampered with or interfered with during any development without a permit from SAHRA. It is also borne in mind that the possibility of encountering human remains during subsurface earth moving works anywhere on the landscape is ever present. Although the possibility of encountering previously unidentified burial sites is low within the proposed development site, should such sites be identified during subsurface construction work, they are still protected by applicable legislations, and they should be protected.

There are no buildings or structures which are older than 60 years, therefore the proposed development does not trigger Section 34 of the NHRA which protects buildings and structures older than 60 years. The field study did not identify any burial site within the proposed development site. In terms of the archaeology and heritage in respect of the proposed development, there are no obvious 'Fatal Flaws' or 'No-Go' areas. However, the potential for chance finds, remains and the developer and contractors are advised to be diligent and observant during construction of the land site. The procedure for reporting chance finds has clearly been laid out and if this report is adopted by SAHRA, then there are no archaeological reasons why the proposed development cannot proceed.

Section 24 G on farm Leeuwpoot 283 JS, Plot 12 , Portion of Portion 2

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CaseHeader	LocationInfo	Admin						
<p>Status: SUBMITTED</p> <p>HeritageAuthority(s): SAHRA MPHRA</p> <p>Case Type: Section 38 (8) - Statutory Comment Required</p> <p>Development Type: Industrial - Light</p> <p>ProposalDescription: Environmental Impact Assessment (EIA), and Environmental Management Programme Report (EMPr) Public Participation Section 24G application for Sakakama Coal (Pty) Ltd on plot 12, portion of Portion 2 of the Farm Leeuwpoot 283 JS, situated in the Magisterial District of Nkangala, eMalahleni Local Municipality, Mpumalanga Province.</p> <p>ApplicationDate: Tuesday, May 9, 2023 - 11:35</p> <p>CaseID: 21265</p> <p>Applicants: Sakakama Coal (Pty) Ltd</p> <p>OtherReferences:</p> <table border="1"> <thead> <tr> <th>CaseReferenceDepartment</th> <th>ApplicationType</th> <th>DeadlineDate</th> </tr> </thead> <tbody> <tr> <td>N/A Mpumalanga - Department of Agriculture, Rural Development, Land and Environmental Affairs</td> <td>EIA</td> <td>20/05/2023</td> </tr> </tbody> </table> <p>ReferenceList:</p>			CaseReferenceDepartment	ApplicationType	DeadlineDate	N/A Mpumalanga - Department of Agriculture, Rural Development, Land and Environmental Affairs	EIA	20/05/2023
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N/A Mpumalanga - Department of Agriculture, Rural Development, Land and Environmental Affairs	EIA	20/05/2023						
<p>AdditionalDocuments</p> <p>1. BID.pdf</p>								

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Figure 25: SAHRA online consultation.

3.1.1.10 Socio-economic

The development of the Strategic Plan of the Mpumalanga Department of Economic Development and Tourism (MDEDT) for the period 2015 to 2020 is based on new priorities for the Mpumalanga administration and aims to fast track growth, support priority sectors, create jobs and promote economic participation by all its people. The Department's vision is for a "an inclusive, global competitive economy" and its mission is "to drive economic growth that creates decent employment and promote sustainable development through partnership" The implementation of the plan is founded on Outcome 4 of national government's Medium Term Strategic Framework (MTSF) for 2015 to 2010, which is,

"Decent employment through inclusive growth". According to the strategy, the province has at least 80% of the coal reserves in South Africa. There is also a large forestry sector and a strong agricultural sector with the potential to absorb lower skilled labour. The active Processing Plant, agricultural and forestry sectors also provide possibilities for beneficiation. The province is strategically located with access to inland provinces and proximity to Swaziland and Mozambique, including the Maputo port. Although infrastructure, that is, roads, transport and logistics, electricity, water, telecommunications, and medical care, is regarded as generally good there is also an acknowledgement that rural infrastructure is poor. The natural landscape in the province is ideal to stimulate tourism. The Department has developed good working

relations with its stakeholders. It however recognises the need for improving alignment amongst stakeholders in the province.

Mpumalanga Premier Mtshweni in her State of the Province Address on 22 February 2019 (Mpumalanga Provincial Government, 2019) stated that the provincial economy grew at 3% in 2014 but last year recorded a rate of less than 1%. The Mpumalanga Strategy identifies five prioritised economic sectors in the province, namely, agriculture for the promotion of agro-processing, mining for value addition through beneficiation and energy generation, manufacturing, Information Communication Technology, and tourism and cultural industries for job creation and growth of Small, Medium and Micro Enterprises (SMMEs). She further stated in her 05 November 2022 briefs legislature about job creation measures for the youth that, Youth unemployment, in the 15-35 age category, was at 48.7 percent in the second quarter of the financial year, according to Stats SA. Mtshweni-Tsipane says the Mpumalanga Youth Development Fund (MYDF), Fortune 40 Youth Farmers' Incubation programme and the Enterprise Youth Development, are among the job creation measures designed by the Mpumalanga Government to flatten the unemployment curve. "So far sixty-four (64) youth enterprises have benefited from the more than R80 million expenditure. More than nine hundred and eighty (980) young people have benefited through the Fortune 40 Young Farmer's Incubation Programme," she explained.

The youth enterprises focus on a range of businesses, such as farming, mining, transportation, Information Technology, and provide much-needed employment opportunities for the local youth. Mtshweni-Tsipane says the number of beneficiaries will increase by the end of the third quarter. The department is promoting collaboration amongst departments in all spheres of government and with the private sector, to put together a comprehensive support package for SMMEs and cooperatives.

3.1.1.11 Population demographics

Population at the provincial, municipal and ward levels. This represents decreasing population densities of 56.6, 35.4, 27.3 and 7.3 persons per km² as one goes from provincial to ward levels.

Profile	Population
Mpumalanga Province	4 039 939
District municipality	1 135 409
Local municipality	164 608
Ward	5 924

Figure 26: Population and Density

In terms of gender distribution, females dominate with 52.2% (65 042) while males account for 47.8% (59 490). The study area has predominantly a youthful population in terms of age distribution. The youthful population (0-19years) in the municipality amounts to approximately 86%. The working-class population (20-64years) accounts for 52.5%. The percentage of the population above 65+ years accounts for 7.4%. The dependency rate within the municipality accounts for 90.5% (youth population 0-15years and population above 65+ years). About 14.2% of working-class population is employed and 85.8% of economic active population is unemployment and rely on the government subsidies. Although, the number of households that received no income decreased from 34.18% in 2001 to 15.15% in 2011, the majority of the households fall under very low-income category. The bulk of the households, 71.8%, earn R3 200 and below. About 35% of the entire population has no schooling whilst only 5% of the population has matric (Grade 12) qualification and above. The level of educational attainment is relatively very low. There are 306 child headed households in Emalahleni

3.1.1.12 Education

At ward level, about 18% of people 20 years and older (503 people) had completed matric and 1% had completed undergraduate studies. Thirty two percent (32%) had some secondary education and 7% had completed primary school. Twenty five percent of the population had had no schooling. Formal education levels were therefore low at ward level. At the local municipal level, about 38% of individuals 20 years and older (33 290 people) had completed matric. This was greater than the percentage in the district municipality (36%) and the same as in the province. Sixty-three-point four percent of individuals in this age group had completed Grade 9 or higher in the local municipality, which was higher than in the GSDM and the same as the province. Twelve percent (12%) of this age group had no schooling at local municipal level.

3.1.1.13 Community and Facilities.

There are approximately 173 schools servicing Emalahleni LM. Emalahleni Local Municipality has a total of six (6) libraries which face challenges in terms of maintenance as there is insufficient budget for maintaining them. There are currently 35 medical & primary health care facilities in the Emalahleni Local Municipality. Of these 32 are clinics and 3 are hospitals located in Cacadu and Dordrecht. There are also challenges which faced by health facilities in the district. They are as follows: Poor infrastructure i.e. shortage of water supply, poor road network to access the facilities, lack of telecommunication network due mountainous topography. Shortage of nurses and doctors There are currently 5 Police Stations in the Emalahleni Local Municipality. Emalahleni Municipality has 19 community halls, 5 community halls need major renovations, 4 are under construction. The Municipality has nine (9) cemeteries; there are two in operation in Indwe, one in Dordrecht and two in Cacadu.

The Socioeconomic Impact of a Coal Processing Plant: An Overview

The establishment of a coal processing plant in any community can have significant socioeconomic impacts. While the proposed project provides employment opportunities and contribute to the local economy, they also have negative effects on the environment and public health.

One of the most significant socioeconomic impacts of a coal processing plant is job creation. Coal processing plants require a skilled workforce, which can provide employment opportunities for local residents. These jobs can range from construction and maintenance to administrative and managerial positions. In addition, the proposed project can also create indirect job opportunities in related industries such as transportation and logistics. However, the establishment of a coal processing plant can also have negative impacts on the environment and public health. Coal processing plants emit greenhouse gases and other pollutants that can contribute to climate change and air pollution. These pollutants have been linked to respiratory diseases, heart disease, and other health problems. It can also have negative effects on water quality and wildlife habitats. Another socioeconomic impact is its contribution to the local economy. Coal processing plants can generate revenue for the community through taxes and other fees. In addition, the products and services provided by the processing plant can also benefit local businesses. Overall, the socioeconomic impact of a coal

processing plant is complex and multifaceted. While the establishment of a processing plant can provide employment opportunities and contribute to the local economy, it also has negative effects on the environment and public health. Therefore, it is important for policymakers and stakeholders to carefully consider the potential socioeconomic impacts before approving the establishment of a coal processing plant.

Mitigating the Socioeconomic Impact of a Coal Processing Plant

The establishment of a coal processing plant can have significant socioeconomic impacts on the surrounding community. However, there are ways to mitigate these impacts and ensure that the benefits of the processing plant outweigh the negative effects. One strategy for mitigating the socioeconomic impact of a coal processing plant is to prioritize the hiring of local residents. By hiring local residents, the coal processing plant can provide employment opportunities and contribute to the local economy. In addition, hiring local residents can also help to minimize the negative impact of the plant on the environment and public health, as local residents are likely to be more invested in the well-being of their community. Another strategy for mitigating the socioeconomic impact is to invest in environmental and public health initiatives. Coal processing plants can contribute to air and water pollution, which can have negative effects on public health and the environment. Therefore, it is important for the plant to invest in initiatives that can mitigate these negative effects. For example, the coal processing plant can invest in technologies that reduce emissions or support public health programs in the community. It is important for coal processing plants to engage with the community and listen to their concerns. By engaging with the community, the plant can build trust and establish a positive relationship with local residents. This can help to mitigate the negative effects of the plant and ensure that the benefits of the plant are shared with the community. The establishment of a coal processing plant can have significant socioeconomic impacts on the surrounding community. However, there are strategies for mitigating these impacts and ensuring that the benefits of the plant outweigh the negative effects. By prioritizing the hiring of local residents, investing in environmental and public health initiatives, and engaging with the community, coal processing plants can contribute to the local economy while minimizing their negative impact on the environment and public health.

3.2 Description of current land uses

The current land uses in the region include coal Processing Plant, mines and small residential communities. The proposed Processing Plant area is located in an industrialised area where there are a lot of coal mines, farms and residents around. The area of interest falls under cultivated lands.

The Environmental Impacts of Coal Processing Plants in Cultivated Lands

Coal processing plants have been known to cause significant environmental impacts, especially when they are located in cultivated lands. These impacts range from the destruction of fertile soil to the contamination of water resources.

The first major environmental impact of coal processing plants in cultivated lands is the destruction of fertile soil. Coal processing plants require large areas of land to operate, and this land is often taken from farmland. This land is cleared of vegetation and topsoil, which is then replaced with gravel and other materials to create a stable base for the plant. This process is highly disruptive to the soil, which can take years to recover. This soil damage can have long-lasting effects on the productivity of the land, reducing crop yields and causing economic damage to local farmers.

The second major environmental impact of coal processing plants in cultivated lands is the contamination of water resources. Coal processing plants require large amounts of water to operate, and this water is often taken from nearby rivers, lakes, or groundwater reserves. The water is then used in various stages of the coal processing, including the washing and cooling of the coal but on this proposed project there will not be washing of coal however, crushing and screening only. This water can become contaminated with harmful chemicals and pollutants, which can then be released into the surrounding environment. This contamination can have significant impacts on the health of local ecosystems, including fish, wildlife, and human populations.

In conclusion, coal processing plants in cultivated lands have significant environmental impacts that must be taken into account when considering their sustainability. These impacts include the destruction of fertile soil and the contamination of water resources, both of which can have long-lasting effects on the productivity and health of local ecosystems. As such, it is essential that careful consideration is given to the location and operation of coal processing plants to minimize their environmental impact on cultivated lands.

Strategies for Mitigating the Environmental Impacts of Coal Processing Plants in Cultivated Lands

Coal processing plants in cultivated lands have significant environmental impacts, including the destruction of fertile soil and the contamination of water resources. There are several strategies that can be used to mitigate the environmental impacts of coal processing plants in cultivated lands. These strategies include the use of alternative sources of energy, the promotion of clean coal technologies, and the promotion of sustainable land use practices. By taking a comprehensive approach to energy production and land use, we can ensure that our communities are sustainable and resilient for generations to come.

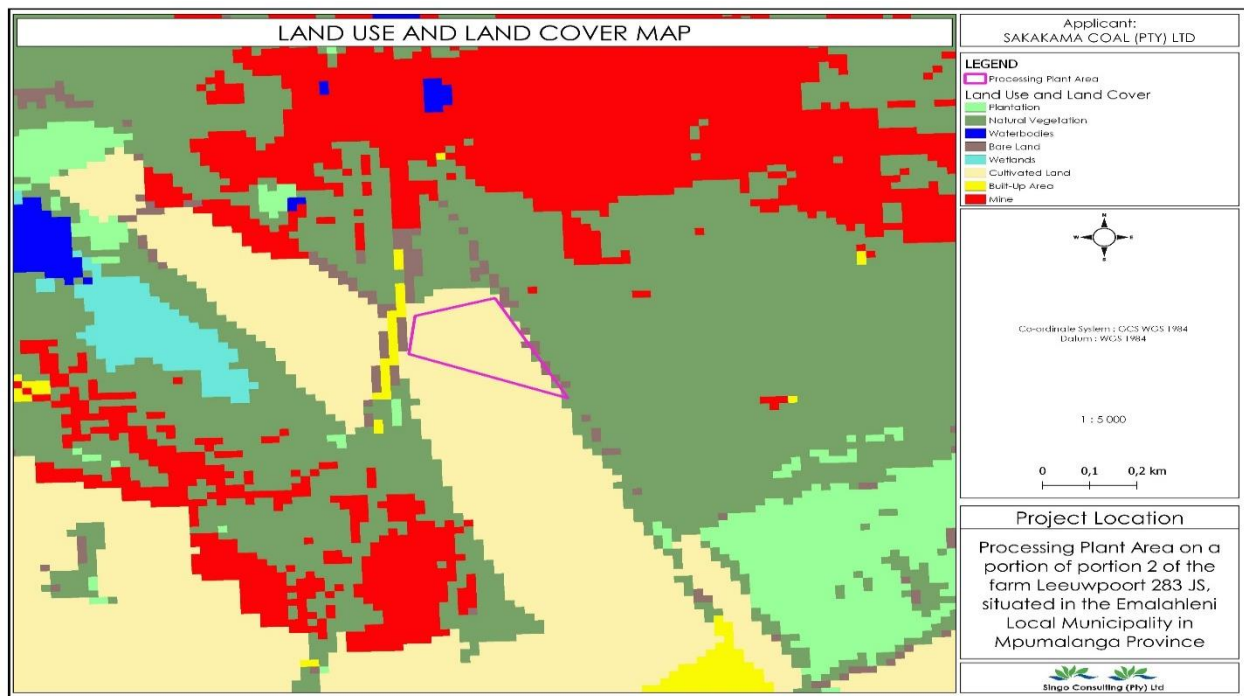


Figure 27: Land use map

3.3 Description of site-specific environmental features and infrastructure

The following table provides a description of the land uses and/or features that currently occur within a 500 m radius of the site:

Land use character	Yes	No	Description
Natural area		No	
Low-density residential		No	

Land use character	Yes	No	Description
Medium-density residential		No	
High-density residential		No	
Informal residential		No	Informal settlement around the applied area are 2km away.
Retail commercial and warehousing		No	
Light industrial		No	
Medium industrial	Yes		There is a mine called Inyanda Colliery, which within 500m, which also has its own processing plant.
Heavy industrial		No	
Power station		No	
Office/consulting room		No	
Military or police base/ station/compound		No	
Soil heap or slimes dam		No	
Quarry, sand, Mine or borrow Processing Plant		No	
Dam or reservoir	Yes		A dam adjacent to the farm which is less than 1km away.
Hospital/medical Centre		No	
School or crèche		No	
School		No	
Tertiary education facility		No	
Church		No	
Old age home		No	
Sewage treatment plant		No	
Train station or shunting yard		No	
Railway line		No	
Major (road 4 lines or more)		No	
River, stream or wetland		No	
Agriculture		No	
Nature conservation area		No	
Mountain, hill or ridge		No	
Museum		No	
Historical building		No	
Plantation		No	
Landfill/waste treatment site		No	
Archaeological sites		No	
Other land uses		No	

The impact of the proposed Processing Plant on the infrastructural features of the surrounding area is considered of low significance.

In order to mitigate the potential impact on the watercourse, storm water management will have to be implemented on-site. Storm water will have to be channelled around the Processing Plant area to prevent possible contamination of clean water flowing over dirty areas. If this is implemented, the proposed activity is not expected to have a negative effect on the surface water. The management of the coal sludge can be mitigated by constructing a slurry dam, so as to avoid soil contamination which in turn contaminate groundwater.

Effective management of coal sludge requires careful attention to storage, transportation, and disposal practices. Processing plants should prioritize reuse and recycling whenever possible and follow regulatory guidelines for disposal. Continuous monitoring and assessment can help identify potential issues and prevent environmental damage. By implementing these best practices, processing plants can protect public health and the environment while improving overall sustainability.

3.4 Environmental and current land use map

Show all environmental, and current land use features. 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.

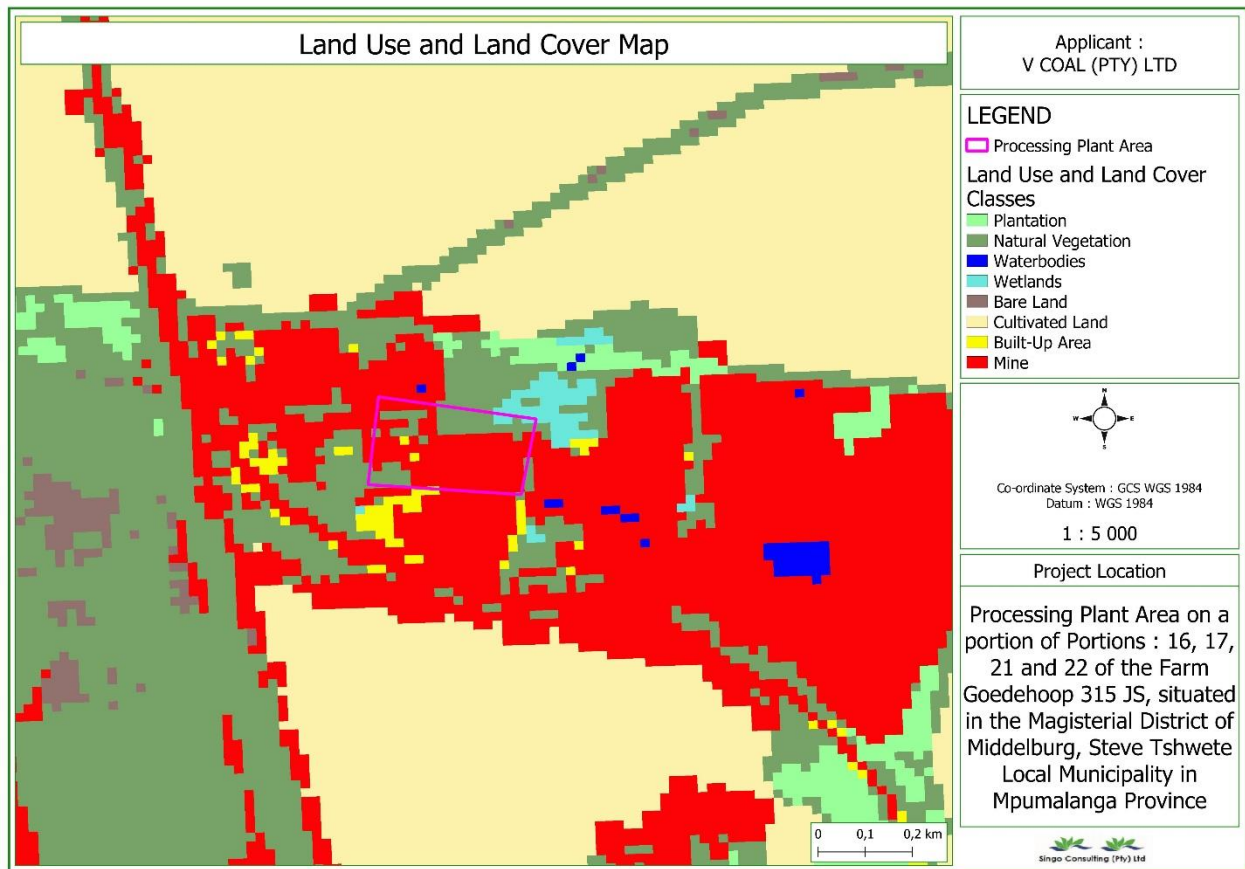


Figure 28: The environmental and current land use map, mine highlighted in red.

3.5 Impacts and risks identified, including the nature, significance, consequence, extent, duration and probability of the impacts.

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

The following potential impacts were identified of each main activity in each phase. The significance rating was determined using the methodology as explained under vi) Methodology Used in Determining and Ranking the Significance. The impact rating listed below was determined for each impact prior to bringing the proposed mitigation measures into consideration. The degree of mitigation indicates the possibility of partial, full or no mitigation of the identified impact.

3.5.1 In-Processing Plant crushing

Dust nuisance due to the crushing activities.

Rating: Medium

Degree of mitigation: Full

			Consequence			Likelihood	Significance
Severity	Duration	Extent		Probability	Frequency		
3	3	2	2.6	5	5	5	13

Noise nuisance generated by the crushing activities.

Rating: Medium

Degree of mitigation: Partial

			Consequence			Likelihood	Significance
Severity	Duration	Extent		Probability	Frequency		
3	4	1	2.6	4	5	4.5	11.7

Contamination of area with hydrocarbons or hazardous waste materials.

Rating: Medium

Degree of mitigation: Full

			Consequence			Likelihood	Significance
Severity	Duration	Extent		Probability	Frequency		
4	4	2	3.3	4	5	4.5	14.9

3.5.2 Stockpiling and transporting

Visual intrusion associated with the stockpiled material and vehicles transporting material.

Rating: Medium

			Consequence			Likelihood	Significance
Severity	Duration	Extent		Probability	Frequency		
2	4	2	2.6	4	5	4.5	11.7

Loss of material due to ineffective storm water handling

Rating: Low-Medium

Degree of mitigation: Partial

			Consequence			Likelihood	Significance
Severity	Duration	Extent		Probability	Frequency		
2	4	1	2.3	4	3	3.5	8

Weed and invader plant infestation of the area due to the disturbance of the soil

Rating: Low-Medium

Degree of mitigation: Full

			Consequence			Likelihood	Significance
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Severity	Duration	Extent		Probability	Frequency		
2	4	2	2.6	4	2	3	7.8

Dust nuisance from stockpiled material and vehicles transporting the material

Rating: Medium

Degree of mitigation: Full

			Consequence			Likelihood	Significance
Severity	Duration	Extent		Probability	Frequency		
2	4	2	2.6	4	5	4.5	11.7

Degradation of access roads

Rating: Medium

Degree of mitigation: Full

			Consequence			Likelihood	Significance
Severity	Duration	Extent		Probability	Frequency		
3	4	2	3	4	5	4.5	13.5

Noise nuisance caused by vehicles

Rating: Medium

Degree of mitigation: Partial

			Consequence			Likelihood	Significance
Severity	Duration	Extent		Probability	Frequency		
2	4	2	2.6	4	5	4.5	11.7

Contamination of area with hydrocarbons or hazardous waste materials

Rating: Medium

Degree of mitigation: Full

			Consequence			Likelihood	Significance
Severity	Duration	Extent		Probability	Frequency		
4	4	2	3.3	4	5	4.5	14.9

Noise nuisance caused by machinery

Rating: Low-Medium

Degree of mitigation: Partial

			Consequence			Likelihood	Significance
Severity	Duration	Extent		Probability	Frequency		
2	1	2	1.6	3	5	4	6.4

Contamination of area with hydrocarbons or hazardous waste materials

Rating: Low-Medium

Degree of mitigation: Full

			Consequence			Likelihood	Significance

Severity	Duration	Extent		Probability	Frequency		
4	4	1	3	3	1	2	6

3.6 Methodology for the assessment of the potential environmental, social and cultural impacts

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 Definitions and concepts

3.6.1.1 Environmental significance

The concept of significance is at the core of impact identification, evaluation and decision making. The concept remains largely undefined and there is no international consensus on a single definition. The following common elements are recognised from the various interpretations:

- Environmental significance is a value judgement.
- The degree of environmental significance depends on the nature of the impact.
- The importance is rated in terms of both biophysical and socio-economic values.
- Determine significance involves the amount of change to the environment perceived to be acceptable to affected communities.

Significance can be differentiated into impact magnitude and impact significance. Impact magnitude is the measurable change (i.e. intensity, duration and likelihood). Impact significance is the value placed on the change by different affected parties (i.e. level of acceptability) (DEAT (2002) Impact Significance, Integrated Environmental Management, Information Series 5).

The concept of risk has two dimensions, namely the consequence of an event or set of circumstances, and the likelihood of particular consequences being realised (Environment Australia (1999) Environmental Risk Management).

3.6.1.2 Impact

The positive or negative effects on human well-being and/or the environment.

3.6.1.3 Consequence

The intermediate or final outcome of an event or situation, or the result on the

environment of an event.

3.6.1.4 Likelihood

A qualitative term covering both probability and frequency.

3.6.1.5 Frequency

The number of occurrences of a defined event in a given time or rate.

3.6.1.6 Probability

The likelihood of a specific outcome measured by the ratio of a specific outcome to the total number of possible outcomes.

3.6.1.7 Environment

Surroundings in which an organisation operates, including air, water, land, natural resources, flora, fauna, humans and their interrelation (ISO 14004, 1996).

3.6.1.8 Methodology that will be used

The environmental significance assessment methodology is based on the following determination:

ENVIRONMENTAL SIGNIFICANCE = OVERALL CONSEQUENCE X OVERALL LIKELIHOOD

Determination of overall consequence

Consequence analysis is a mixture of quantitative and qualitative information; the outcome can be positive or negative. Several factors determine consequence. For the purpose of determine Plant the environmental significance in terms of consequence, the following factors were chosen: **Severity/Intensity, Duration and Extent/Spatial Scale**. Each factor is assigned a rating of 1 to 5, as described in the following tables.

Determination of severity/intensity

Severity relates to the nature of the event, aspect or impact on the environment and describes how severe the aspects impact the biophysical and socio-economic environment. The following section indicates the overall rating for severity, taking into consideration the various criteria.

3.6.1.9 Severity rating

Type of criteria	Rating				
	1	2	3	4	5
Quantitative	0-20%	21-40%	41-60%	61-80%	81-100%

Qualitative	Insignificant/ No harmful	Small / Potentially harmful	Significant/ harmful	Great/very harmful	Disastrous, extremely harmful
Social/ community response	Acceptable/ I&AP satisfied	Slightly tolerable / Possible objections	Intolerable/ sporadic complaints	Unacceptable/ widespread complaints	Totally unacceptable/ possible legal action
Irreversibility	Very low cost to mitigate/ High potential to mitigate impacts to level of insignificance/ easily reversible	Low cost to mitigate	Substantial cost to mitigate/ potential to mitigate impacts/ potential to reverse impact	High cost to mitigate	Prohibitive cost to mitigate/ Little or no mechanism to mitigate impact Irreversible
Biophysical (air quality, water quantity and quality, waste production, fauna and flora)	Insignificant change/ deterioration or disturbance	Moderate change/ deterioration or disturbance	Significant change/ deterioration or disturbance	Very significant change/ deterioration or disturbance	Disastrous change/ deterioration or disturbance

Determination of duration

Duration refers to the amount of time that the environment will be affected by the event, risk or impact, if no intervention e.g. remedial action takes place.

Rating of duration

Rating	Description
1	Up to 1 month
2	1-3 months (quarter)
3	3-12 months
4	1-10 years
5	Beyond 10 years

Determination of extent/spatial scale

Extent or spatial scale is the area affected by the event, aspect or impact.

Rating of extent/spatial scale

Rating	Description
1	Immediate, fully contained area
2	Surrounding area
3	Within business unit area of responsibility
4	Within the farm/neighboring farm area
5	Regional, national, international

Determination of overall consequence

Overall consequence is determined by adding the factors determined above and summarised below and dividing the sum by 3.

Example of calculating overall consequence

Consequence	Rating
Severity	Example 4
Duration	Example 2
Extent	Example 4
Subtotal	10
Total consequence (subtotal divided by 3)	3.3

DETERMINATION OF LIKELIHOOD

The determination of likelihood is a combination of Frequency and Probability. Each factor is assigned a rating of 1 to 5, as described in the following.

Determination of frequency

Frequency refers to how often the specific activity, related to the event, aspect, or impact, is undertaken.

Rating of frequency

Rating	Description
1	Once a year or once/more during operation
2	Once/more in 6 months
3	Once/more a month
4	Once/more a week
5	Daily

Determination of probability

Probability refers to how often the activity or aspect has an impact on the environment.

Rating of probability

Rating	Description
1	Almost never/almost impossible
2	Very seldom/highly unlikely
3	Infrequent/unlikely/seldom
4	Often/regularly/likely/possible
5	Daily/highly likely/definitely

Overall likelihood

Overall likelihood is calculated by adding the factors determined above and summarised below, and dividing the sum by 2.

Example of calculating overall Likelihood

Consequence	Rating
Frequency	Example 4
Probability	Example 2
Subtotal	6
Total likelihood (subtotal divided by 2)	3

3.6.2 Determination of overall environmental significance

The multiplication of overall consequence with overall likelihood will provide the environmental significance, which is a number that will fall into a range of low, low-medium, medium, medium-high or high, as shown in the table below.

3.6.2.1 Determination of overall environmental significance

Significance or risk	Low	Low-medium	Medium	Medium-high	High
Overall consequence X overall likelihood	1-4.9	5-9.9	10-14.9	15-19.9	20-25

3.6.2.2 Qualitative description or magnitude of environmental significance

Significance or risk	Low	Low-medium	Medium	Medium-high	High
Impact magnitude	Impact is of very low order	Impact is of low order and	Impact is real, and potentially	Impact is real and substantial	Impact is of the highest order

	and therefore likely to have very little real effect. Acceptable.	therefore likely to have little real effect. Acceptable.	substantial in relation to other impacts. Can pose a risk to company.	in relation to other impacts. Pose a risk to the company. Unacceptable.	possible. Unacceptable. Fatal flaw.
Action required	Maintain current management measures. Where possible improve.	Maintain current management measures. Implement monitoring and evaluate to determine potential increase in risk. Where possible improve.	Implement monitoring. Investigate mitigation measures and improve management measures to reduce risk, where possible.	Improve management measures to reduce risk.	Implement significant mitigation measures or implement alternatives.

This description is qualitative and an indication of the nature or magnitude environmental significance. It guides the prioritisations and decision-making process associated with this event, aspect or impact.

3.6.3 Description of environmental significance and related action required.

Based on the above, the significance rating scale has been determined as follows:

High	Of the highest order possible within the bounds of impacts which could occur. In the case of negative impacts, there would be no possible mitigation and/or remedial activity to offset the impact at the spatial or time scale for which it was predicted. In the case of positive impacts, there is no real alternative to achieving the benefit.
Medium-high	Impacts of a substantial order. In the case of negative impacts, mitigation and/or remedial activity would be feasible but difficult, expensive, time consuming or some combination of these. In the case of positive impacts, other means of achieving this benefit would be feasible, but these would be more difficult, expensive, time-consuming or some combination of these.
Medium	Impact would be real but not substantial within the bounds of those, which could occur. In the case of negative impacts, mitigation and/or remedial activity would be both feasible and fairly easily possible. In case of positive impacts, other means of achieving these benefits would be about equal in time, cost and effort.
Low-medium	Impact would be of a low order and with little real effect. In the case of negative impacts, mitigation and/or remedial activity would be either easily achieved or little would be required, or both. In case of positive impacts alternative means for achieving this benefit would likely be easier, cheaper, more effective, less time-consuming, or some combination of these.
Low impact would be negligible	In the case of negative impacts, almost no mitigation and or remedial activity would be needed, and any minor steps, which might be needed, would be easy, cheap and simple. In the case of positive impacts, alternative means would almost all likely be better, in one or a number of ways, than this means of achieving the benefit.

Insignificant	There would be a no impact at all – not even a very low impact on the system or any of its parts.
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3.7 The positive and negative impacts that the proposed activity (in terms of the initial site layout) and alternatives will have on the environment and the community that may be affected.

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

There are possible impacts that are expected, and they are also raised by the affected party of which it was the adjacent landowner (Mr Jambo Van Der Merwe of Portion 9 Leeuwpoort 283 JS). An environmental officer at Inyanda Colliery also stated that they receive complaints about dust in the region as a result of mining activities, which include the processing plant mentioned. It should be emphasized that this application is focused on rectification and has already been established, which is why some of the affected parties have provided feedback on how it is already affecting them.

The Positive Impacts of a Coal Processing Plant on the Environment and Community

A coal processing plant has the potential to bring numerous positive impacts to the environment and the community. From an environmental perspective, coal processing plants can significantly reduce the amount of coal waste that would otherwise be left unprocessed and released into the environment. By processing coal, the plant can separate coal from other minerals and extract valuable resources that would otherwise be lost. Moreover, coal processing plants can also help reduce greenhouse gas emissions. While coal is often seen as a dirty energy source, it is still widely used for energy production. By processing coal, the plant can reduce the amount of greenhouse gases released into the atmosphere. Additionally, the plant can reduce the amount of coal dust released into the air, which can have a significant impact on the local air quality. From a community perspective, a coal processing plant can provide much-needed jobs and economic benefits. The plant can employ local workers and provide them with good wages and benefits. The plant can also generate revenue for the local economy by purchasing goods and services from local businesses. Additionally, the plant can provide a stable source of energy that can help reduce energy costs for local residents.

Overall, a coal processing plant has the potential to bring numerous positive impacts to the environment and the community. By reducing waste, greenhouse gas emissions, and providing economic benefits, the plant can be a valuable asset to the community.

The Negative Impacts of a Coal Processing Plant on the Environment and Community

While a coal processing plant can bring many positive impacts to the environment and community, it can also have negative impacts that need to be considered. From an environmental perspective, coal processing plants can release harmful pollutants into the air and water. The plant can produce large amounts of coal dust, which can be harmful to human health and the environment. Additionally, the plant can release toxic chemicals into the water, which can have a significant impact on the local water quality. From a community perspective, a coal processing plant can also have negative impacts. The plant can generate noise pollution that can be disruptive to local residents. Additionally, the plant can contribute to traffic congestion and increase the risk of accidents on local roads. Moreover, the plant can have a negative impact on property values, which can affect the local economy and the value of people's homes. Furthermore, a coal processing plant can be a source of conflict within the community. Some people may be concerned about the negative impacts of the plant and may oppose its construction. This can lead to tension and division within the community and may result in legal challenges and delays. While a coal processing plant can bring many positive impacts to the environment and community, it is important to consider the potential negative impacts as well. By carefully weighing the pros and cons, it is possible to make an informed decision about whether a coal processing plant is the right choice for a particular community.

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 mitigation 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.

3.8.1 Visual mitigation

The risk of the proposed Processing Plant activities having a negative impact on the aesthetic quality of the surrounding environment can be reduced to medium risk through the implementation of the following mitigation measures:

- The site must be kept neat and in good condition at all times.
- Upon closure, the site must be rehabilitated and sloped to ensure that the visual impact on the aesthetic value of the area is minimal.

3.8.2 Dust handling

The risk of dust generated from the proposed Processing Plant activities having a negative impact on the surrounding environment can be reduced to low medium through the implementation of the following mitigation measures:

- Dust liberation into the surrounding environment must be effectively controlled using *inter alia*, water spraying and/or other dust-allaying agents.
- The site manager must ensure continuous assessment of all dust suppression equipment to confirm its effectiveness in addressing dust suppression.
- Access road speeds must be limited to 40km/h to prevent excessive dust generation.
- Roads must be sprayed with water or an environmentally friendly dust allaying agent, that contains no Polychlorinated Biphenyl (PCBs) (e.g. DAS products), if dust is generated above acceptable limits.
- The plant must have operational water sprayers to alleviate dust generation from the conveyor belts. .
- Monitoring of dust using dust monitoring buckets which is shown on figure 28, this is aimed at ensuring that the CPP complies with National Environmental Management: Air Quality Act (Act No. 39 of 2004) (NEM: AQA).

3.8.3 Noise handling

The risk of noise, generated from the proposed Processing Plant activities, having a negative impact on the surrounding environment can be reduced to low-medium through the implementation of the following mitigation measures:

- The applicant must ensure that employees and staff conduct themselves in an acceptable manner while on site, both during work hours and after hours.
- No loud music may be permitted at the Processing Plant area.
- All Processing Plant vehicles must be equipped with silencers and kept roadworthy in terms of the Road Transport Act.

3.8.4 Management of weed or invader plants.

The risk of weeds or invader plants invading the disturbed area can be reduced to low through the implementation of the following mitigation measures:

- A weed and invader plant control management plan must be implemented at the site to ensure eradication of all listed invader plants in terms of Conservation of Agricultural Act (Act No 43 1983).
- Management must take responsibility to control declared invader or exotic species on the rehabilitated areas. The following control methods can be used:
 - The plants can be uprooted, felled or cut off and destroyed completely.
 - The plants can be treated with an herbicide that is registered for use in connection therewith and in accordance with the directions for the use of such an herbicide.
- The temporary topsoil stockpiles must be kept free of weeds.

3.8.5 Storm water handling

The risk of contamination through dirty storm water escaping from work areas, or erosion or loss of material caused by uncontrolled storm water flowing through the Processing Plant area, can be reduced to low by implementing the following mitigation measures:

- Storm water must be diverted around the topsoil heaps, stockpile areas and access roads to prevent erosion and loss of material.
- Runoff water must also be diverted around the stockpile areas with trenches and contour structures to prevent erosion of the work areas.

- Processing Plant must be conducted in accordance with the Best Practice Guideline for small scale Processing Plant that relates to storm water management, erosion and sediment control and waste management, developed by the Department of Water and Sanitation (DWS), and any other conditions the DWS may impose:
 - Clean water (e.g. rainwater) must be kept clean and routed to a natural watercourse by a system separate from the dirty water system. Clean water must be prevented from running or spilling into dirty water systems.
 - Dirty water must be collected and contained in a system separate from the clean water system.
 - Dirty water must be prevented from spilling/seeping into clean water systems.
 - The storm water management plan must apply for the entire life cycle of the Mine and over different hydrological cycles (rainfall patterns).
 - The statutory requirements of various regulatory agencies and the interests of stakeholders must be considered and incorporated into the storm water management plan.

3.8.6 Management of health and safety risks

The health and safety risk posed by the proposed Processing Plant activities can be reduced to low through the implementation of the following mitigation measures:

- Workers must have access to the correct PPE, as required by law.
- All operations must comply with the Occupational Health and Safety Act (OHSA).

3.8.7 Waste management

The risk of waste generation having a negative impact on the surrounding environment can be reduced to low through by implementing the following mitigation measures:

- No processing area or waste pile may be established within 100 m of the edge of any river channel or other water bodies.
- Regular vehicle maintenance may only take place within the service bay area of the off-site workshop. If emergency repairs are needed on equipment unable to move to the workshop, drip trays must be present. All waste products must be disposed of in a 200 L closed container/bin to be removed from the emergency service area to the workshop to ensure proper disposal.

- Any effluents containing oil, grease or other industrial substances must be collected in a suitable receptacle and removed from the site, either for resale or for appropriate disposal at a recognised facility.
- Spills must be cleaned up immediately to the satisfaction of the Regional Manager by removing the spillage and the polluted soil and disposing of it at a recognised facility. Proof hereof should be filed.
- Suitable covered receptacles should be available always and conveniently placed for waste disposal.
- Non-biodegradable refuse, such as glass bottles, plastic bags, metal scrap, etc., should be stored in a container with a closable lid at a collecting point, collected on a regular basis and disposed of at a recognised landfill site. Specific precautions should be taken to prevent refuse from being dumped on or near the Mine area.
- Biodegradable refuse generated should be handled as indicated above.

3.8.8 Management of access roads

The risk on the condition of the roads, as a result of the proposed Processing Plant activities, can be reduced to low medium by implementing the following mitigation measures:

- Storm water must be diverted around the access roads to prevent erosion.
- Erosion of access road: Vehicular movement must be restricted to existing access routes to prevent criss-crossing of tracks through undisturbed areas. Rutting and erosion of the access road as a result of the Processing Plant activities should be repaired by the applicant.

3.8.9 Protection of fauna and flora

The risk on the fauna and flora of the footprint area, as well as the surrounding environment, as a result of the proposed Processing Plant activities, can be reduced to low by implementing the following mitigation measures:

- The site manager must ensure that no fauna is caught, killed, harmed, sold or played with.
- Workers must be instructed to report any animals that may be trapped in the working area.

- No snares may be set or nests raided for eggs or young.
- No plants or trees may be removed without the approval of the Environmental Control Officer (ECO).

3.9 Motivation where no alternative sites were considered.

Sakakama Coal (Pty) identified the growing need for coal resources due to an increase in power demand. In this light, the applicant identified the proposed area as the preferred. With note that the proposed area is situated in close proximity to mines that are already operating the same mining activities. Provide a statement motivating the final site layout that is proposed.

3.10 Process undertaken to identify, assess and rank impacts and risk of site activities.

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.

Coal processing plants are complex industrial sites that require careful planning and management to minimize their impact on the environment and surrounding communities. The process of identifying, assessing, and ranking impacts and risks associated with these plants is crucial to ensuring their long-term sustainability and minimizing negative outcomes. The first step in this process is to identify all potential impacts associated with the plant's operations. This includes impacts on air quality, water quality, soil quality, noise levels, and biodiversity. Once these impacts have been identified, they must be assessed to determine their magnitude, duration, and frequency. This assessment should be based on scientific data and take into account the unique characteristics of the site and the surrounding environment. After the impacts have been assessed, they must be ranked according to their significance. This ranking should take into account the severity of the impact, the likelihood of it occurring, and the duration of its effects. The results of this ranking can then be used to prioritize

mitigation efforts and allocate resources accordingly. Overall, the process of identifying, assessing, and ranking impacts and risks associated with coal processing plants is critical to ensuring their long-term sustainability and minimizing negative outcomes. By carefully managing the environmental and social impacts of these plants, we can ensure that they continue to provide the energy needed to power our economy while also protecting the health and well-being of our communities and the natural environment.

3.11 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 I&APs).

NAME OF ACTIVITY	POTENTIAL IMPACT	ASPECTS AFFECTED	PHASE	SIGNIFICANCE	MITIGATION TYPE	SIGNIFICANCE
E.g. for prospecting - drill site, site camp, ablution facility, accommodation, equipment storage, sample storage, site office and access route. E.g. for Processing Plant - excavations, stockpiles, discard dumps or dams, loading, hauling and transport, water supply dams, boreholes, accommodation, offices, ablution, stores workshops, processing plant, storm water control, berms, roads, pipelines, power lines, conveyors, etc.	Including the potential impacts for cumulative impacts, e.g. dust, noise, drainage, surface disturbance and surface water contamination, groundwater contamination, and air pollution.		In which impact is anticipated, e.g. construction, commissioning, operational decommissioning, closure, post-closure.	if not mitigated	Modify, remedy, control, or stop through, e.g. noise control measures, storm water control, dust control, rehabilitation, design measures, controls, avoidance, relocation and alternative activity. Modify through alternative method. Control through noise control. Control through management and monitoring through rehabilitation.	if mitigated
Crushing and Screening	Dust nuisance due to the crushing activities	Dust will be contained in property boundaries and therefore affect only the landowner.	Operational phase	Medium	Control: Dust suppression	Low-medium
	Noise nuisance generated by the crushing activities	The noise impact should be contained within the boundaries of the property, but might have a periodic impact on the closest residents		Medium	Control: Noise control measures	Low-medium

NAME OF ACTIVITY	POTENTIAL IMPACT	ASPECTS AFFECTED	PHASE	SIGNIFICANCE	MITIGATION TYPE	SIGNIFICANCE
		of the Klarinet				
	Contamination of area with hydrocarbons or hazardous waste materials	Contamination may cause surface or ground water contamination if not addressed		Medium	Control: Implementation of waste management	Low
Stockpiling and transporting	Visual intrusion associated with the stockpiled material and vehicles transporting the material	The visual impact may affect the residents of the immediate area.	Operational phase	Medium	Control: Implementation of proper housekeeping	Low-medium
	Loss of material due to ineffective storm water handling	Impact will affect income of applicant.		Low-medium	Control: Storm water control measures	Low
	Weed and invader plant infestation of the area due to soil disturbance	Biodiversity		Low-medium	Control and remedy: Implementation of weed control	Low
	Dust nuisance from stockpiled material and vehicles transporting the material	Dust will be contained within the property boundaries and will therefore affect only the landowner.		Medium	Control: Dust suppression	Low
	Degradation of access roads	All road users will be affected.		Medium	Control and remedy: Road management	Low-medium
	Noise nuisance	The noise impact		Medium	Control: Noise	Low

NAME OF ACTIVITY	POTENTIAL IMPACT	ASPECTS AFFECTED	PHASE	SIGNIFICANCE	MITIGATION TYPE	SIGNIFICANCE
	caused by vehicles	should be contained within the boundaries of the property but might have a periodic impact on the closest residents.			management monitoring and management	
	Contamination of area with hydrocarbons or hazardous waste	Contamination may cause surface or ground water contamination if not addressed		Medium	Control: Implementation of waste management	Low

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

3.12 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 included in the EIA report Mark with an X where applicable	Reference to applicable report section Where specialist recommendations have been included
Soil Study	<ul style="list-style-type: none"> ➤ The stripped soil during construction should be piled in an area where it won't undergo erosion by either run or wind erosion is minimized. ➤ Areas where product will be stockpiled, should be a hard standing surface, this is also to prevent soil contamination ➤ There should be stormwater measures on site ➤ Hydrocarbon absorbent spill kits should be on site ➤ Regular maintenance of ablution should be ensured, to prevent soils contamination by chemicals used. ➤ Areas where there is stockpiles, it should be ensured that immediately after coal is displaced the residual scattered coal should be gathered back to the original stockpile, to prevent it from possibly going offsite by means of wind or water. 	X	Refer to Appendix D
Rehabilitation Study	Surface water monitoring of the pans and associated wetlands surrounding the project area is to be undertaken to determine the impacts associated with operations. Regular audits should be undertaken by a soil scientist, this will guarantee that soil is stockpiled correctly. It is recommended that Sakakama coal (Pty) Ltd propose a PCD which will store dirty water and be part of stormwater	X	Refer to Appendix D

List of studies undertaken	Recommendations of specialist reports	Specialist recommendations included in the EIA report Mark with an X where applicable	Reference to applicable report section Where specialist recommendations have been included
	<p>management. Propose construction of lined Slurry Dam where coal sludge will be stored. Exposed areas must be rehabilitated immediately to prevent soil erosion. Regular audits should be undertaken to monitor the progress of areas that have been rehabilitated. Long term management of the rehabilitated areas will be required via contractual agreements with landowners in the area and rehabilitation should also be undertaken to best practice. An independent Environmental Assessment Practitioner shall be appointed to ensure compliance with requirements of the Final Rehabilitation</p>		
Geohydrology Study	<ul style="list-style-type: none"> ➤ All waste generated at the site (this is temporary solid and domestic waste) must be stored in designated areas that are isolated from surface drains and drainage servitudes. Waste storage facilities should be covered to prevent dust and litter from leaving the containment area and rainwater accumulation. ➤ Ensure a stormwater management plan is implemented, and that all stormwater systems are kept clean of any debris to reduce flooding risks. ➤ Ensure that eroded areas are re-vegetated, to ensure reduced sedimentation risk and reduced runoff volumes to the streams. ➤ To prevent erosion and deposition use: <ul style="list-style-type: none"> ○ Straw bales at kerb inlets. ○ Geotextiles, mulching etc. ➤ Visual inspections of the stormwater systems should be adequate to determine if there are flow obstructions, which could lead to ponding and flooding. 	X	Refer to Appendix D
Hydrology Study	<ul style="list-style-type: none"> ➤ During the existence of the plant, regular monitoring of the infrastructures and machines to be used during treatment is recommended, to avoid leakage of chemicals which could potentially infiltrate the ground. 	X	Refer to Appendix D

List of studies undertaken	Recommendations of specialist reports	Specialist recommendations included in the EIA report Mark with an X where applicable	Reference to applicable report section Where specialist recommendations have been included
	<ul style="list-style-type: none"> ➤ Waste management bins will be available, this is to ensure that waste around the plant is properly managed and none of it ends up in the surface water bodies or covered up with soil which could influence soil contamination. ➤ Drainage channels will be made available around the plant. ➤ Parking bays will have stormwater harvesting measures in place, this is to reduce the amount of stormwater in contact with any liquid matter from the plant which will enhance contamination. ➤ Hydrocarbon spill absorbent kit will be made available, to quickly remove any spillage from vehicles which will be within the plant. ➤ The waste generated will be dumped in a designated area, to prevent it from getting into contact with the natural environment. ➤ Machinery no longer in good condition. 		

Attach copy of specialist reports as appendices.

3.13 Environmental impact statement

3.13.1 Summary of the key findings of the EIA

The key findings of the EIA are as follows:

- The area is moderately industrialised
- There are different coal mines around the proposed area
- Dust, soil and water pollution are of high concern
- The area does not serve any ecological role
- There are no environmental sensitive features.

3.13.2 Final site map

Provide a map at an appropriate scale which superimposes the proposed overall activity and its associated structure and infrastructure on the environmental sensitivities of the preferred site indicating areas that must be avoided, including buffers. Attach as an Appendix.

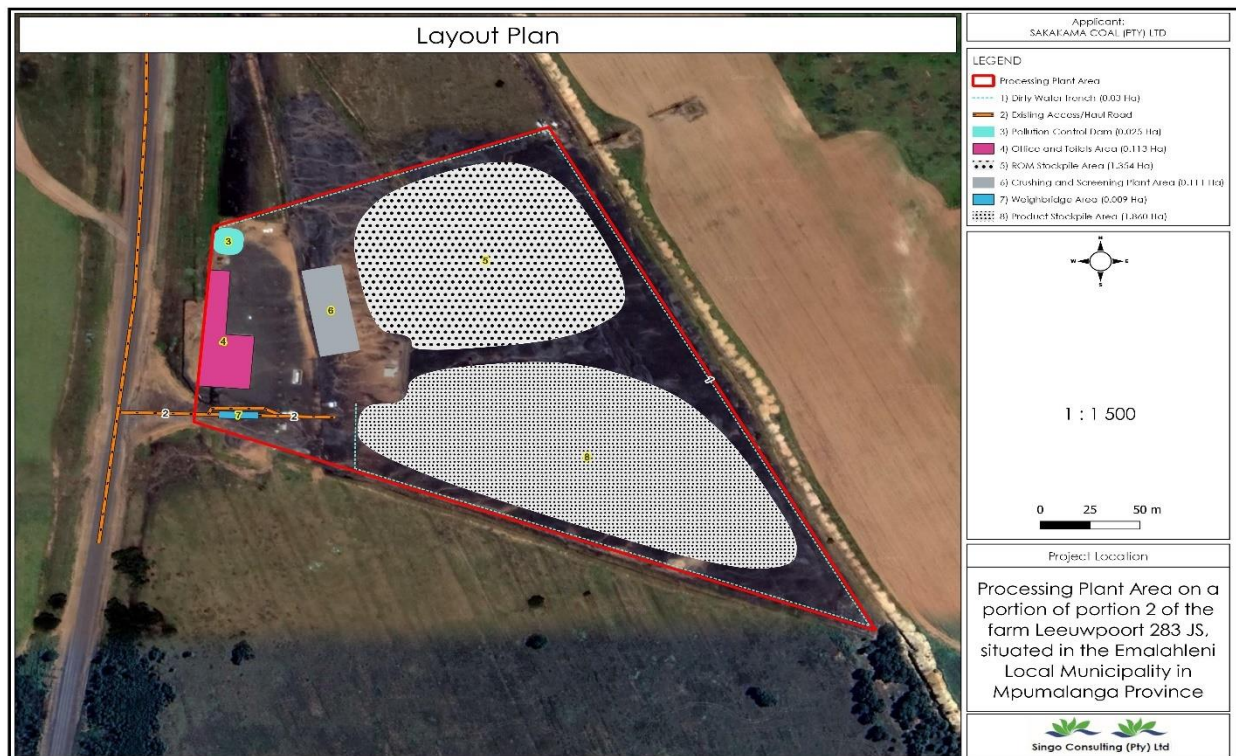


Figure 29: The map indicating site activities (Singo Consulting 2023)

3.13.3 Positive and negative impacts of the proposed activity and alternatives

The positive impacts associated with the project include:

- Job creation, although a fixed number of jobs to be created cannot be stated at this stage, will include multiple job opportunities for skilled, semi-skilled and unskilled personnel will be created by this project. This will contribute to the socio-economic status of the eMalahleni area.
- The coal to be processed will be supplied to Eskom, hence it will enhance Eskom's coal resources security to generate electricity without re-occurrence of load shedding.

The negative impacts associated with the project and that was considered to be of Low-Medium or Medium significance includes:

Visual intrusion associated with the establishment of the Processing Plant area	Medium
Visual intrusion associated with the excavation activities	Medium
Visual intrusion associated with the stockpiled material and vehicles transporting the material	Low-medium
Dust nuisance due to the crushing activities	Low-medium
Noise nuisance generated by excavation equipment	Low-medium
Noise nuisance generated by the crushing activities	Low-medium
Degradation of access roads	Low-medium

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

Management objectives	Role	Management outcomes
Dust handling	Site Manager to ensure compliance with BAR & BAR & EMPr guidelines. Compliance to be monitored by the Environmental Control Officer.	<ul style="list-style-type: none"> • Control dust liberation into the surrounding environment by using water spraying and/or other dust allaying agents. • Limit speed on the access roads to 40km/h to prevent the generation of excess dust. • Spray roads with water or an environmentally friendly dust-allaying agent that contains no PCB's (e.g. DAS products) if dust is generated above acceptable limits. • Assess effectiveness of dust suppression equipment. • Ensure the crusher plant has operational water sprayer to alleviate dust generation from the conveyor belts.
Noise handling	Site Manager to ensure	<ul style="list-style-type: none"> • Ensure that employees and staff conduct themselves in an

Management objectives	Role	Management outcomes
	<p>compliance with BAR & EMPr guidelines. Compliance to be monitored by the Environmental Control Officer.</p>	<p>acceptable manner while on site.</p> <ul style="list-style-type: none"> • No loud music may be permitted at the Processing Plant area. • Ensure that all Processing Plant vehicles are equipped with silencers and maintained in a road worthy condition in terms of the Road Transport Act. • procedures with due cognizance of other land users and structures in the vicinity.
<p>Management of weed/ invader plants</p>	<p>Site Manager to ensure compliance with BAR & EMPr guidelines. Compliance to be monitored by the Environmental Control Officer.</p>	<ul style="list-style-type: none"> • Implement a weed and invader plant control management plan. • Control declared invader or exotic species on the rehabilitated areas. • Keep the temporary topsoil stockpiles free of weeds.
<p>Surface and storm water handling</p>	<p>Site Manager to ensure compliance with BAR & EMPr guidelines. Compliance to be monitored by the Environmental Control Officer.</p>	<ul style="list-style-type: none"> • Divert storm water around topsoil heaps, stockpile areas and access roads to prevent erosion and material loss. • Divert runoff water around stockpile areas with trenches and contour structures to prevent erosion of work areas. • Conduct Processing Plant in accordance with the Best Practice Guideline for small scale Processing Plant that relates to storm water management, erosion and sediment control and waste management, developed by the Department of Water and Sanitation (DWS), and any other conditions which that Department may impose.
<p>Waste management</p>	<p>Site Manager to ensure compliance with BAR & EMPr guidelines. Compliance to be monitored by the Environmental Control Officer.</p>	<ul style="list-style-type: none"> • Ensure no waste pile is established within 100 m of the edge of any river channel or other water bodies. • Ensure regular vehicle maintenance take place within the service bay area of the off-site workshop. If emergency repairs are needed on site, ensure drip trays is present. Ensure all waste products are disposed of in a 200 l closed container/bin inside the emergency service area. • Collect effluents containing oil, grease or other industrial substances in a suitable receptacle and remove from site, for resale or appropriate disposal at a recognised facility. • Clean spills immediately to the satisfaction of the Regional Manager by removing the spillage and polluted soil and disposing thereof at a recognised facility. File proof. • Ensure availability of suitable covered, conveniently placed receptacles at all times for waste disposal. • Store non-biodegradable refuse such as glass bottles,

Management objectives	Role	Management outcomes
		<p>plastic bags, metal scrap, etc., in a container with a closable lid at a collecting point. Collection should take place on a regular basis and disposed of at the recognised landfill site at Middelburg. Prevent refuse from being dumped on or in the vicinity of the Mine area.</p> <ul style="list-style-type: none"> • Biodegradable refuse to be handled as indicated above.
Management of access roads	<p>Site Manager to ensure compliance with BAR & EMPr guidelines.</p> <p>Compliance to be monitored by the Environmental Control Officer.</p>	<ul style="list-style-type: none"> • Divert storm water around access roads to prevent erosion. • Erosion of access road: Restrict vehicular movement to existing access routes to prevent crisscrossing of tracks through undisturbed areas.
Fauna and flora	<p>Site Manager to ensure compliance with BAR & EMPr guidelines.</p> <p>Compliance to be monitored by the Environmental Control Officer.</p>	<ul style="list-style-type: none"> • Ensure no fauna is caught, killed, harmed, sold or played with. • Instruct workers to report any animals that may be trapped in the working area. Ensure no snares are set or nests raided for eggs or young. • Do not remove plants/trees without ECO approval.

3.15 Aspects for inclusion as conditions of authorisation

Any aspects which must be made conditions of the Environmental Authorisation.

The management objectives listed in this report should be considered for inclusion in the environmental authorisation.

3.16 Description of any assumptions, uncertainties and gaps in knowledge

Which relate to the assessment and mitigation measures proposed.

The assumptions made in this document, which relate to the assessment and mitigation measures proposed, stem from site-specific information gathered from the property owner, as well as site inspections and background information gathering.

3.17 Reasoned opinion as to whether the proposed activity should be authorised.

No fatal flaws could be identified that were deemed severe enough to prevent the activity from continuing, should the mitigation measures and monitoring programmes proposed in this document be implemented on site. The management objectives listed

in this report should be considered for inclusion in the Environmental Authorisation.

3.18 Period for which the Environmental Authorisation is required

The applicant requests the Environmental Authorisation to be valid for a three-year period.

3.19 Undertaking

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

The undertaking required to meet the requirements of this section is provided at the end of the Draft BAR & EMPr and is applicable to the Draft Basic Assessment Report and the Environmental Management Programme report.

3.19.1 Confirm that this amount can be provided from operating expenditure

Confirm that the amount is anticipated to be an operating cost and is provided for as such in the Processing Plant Work Programme, Financial and Technical Competence Report or PWP.

3.20 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 (107 of 1998). The EIA report must include the:

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

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

The proposed coal Processing Plant is established on virgin ground with no activity and minimal vegetation cover. The coal Processing Plant will, therefore, not have to compete with other land uses.

The dust and noise impacts that will emanate from the Processing Plant area during the operational phase could have a negative impact on the surrounding community if the mitigation measures proposed in this document are not implemented and managed on-site. However, due to the distance of the community from the Processing Plant area

(±600 m) these impacts are considered to be of low-medium significance.

The operation of the Mine will have a number of positive impacts, such as job creation for skilled, semi-skilled and unskilled permanent workers. The proposed coal Mine Processing Plant will therefore contribute locally by aiding in the development of the area and boosting the local economy through increased municipal revenue. On a national scale, this will aid by boosting the slowly growing SA economy.

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

Provide the results of investigation, assessment and evaluation of the impact of the Processing Plant, 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 the Act, attach the investigation report and confirm that the applicable mitigation is reflected herein.

There are no graves or any indication of heritage resources.

3.21 Other matters required in terms of section 24(4)(a) and (b) of the Act

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

The site and project alternatives investigated during the impact assessment process were done at the hand of information obtained during the site investigation, public participation process and desktop studies conducted of the study area.

PART B

ENVIRONMENTAL MANAGEMENT PROGRAMME REPORT

4 Environmental management programme

4.1 Details of the EAP

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

Details of the EAP are included in Part A of this report.

4.2 Description of the aspects of the activity

Confirm that the requirements to describe the aspects of the activity that are covered by the draft environmental management programme is already included in Part A, 2.2, herein, as required.

The aspects of the activity that are covered by the environmental management programme has been described and included in Part A, 2.2.

4.3 Composite map

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

As mentioned in Part A, 0 this map has been compiled.

4.4 Volume and rate of water use required for the operation.

Water will only be used for dust suppression purposes as the Processing Plant method does not require any washing or related process water. Water sprayers will be fixed to the crusher plant and a water truck will be used to spray access roads and stockpile areas to alleviate dust generation.

4.5 Has a water use licence has been applied for?

Water use Licence has not been applied for however the applicant has intentions to apply for it.

4.6 Impacts to be mitigated in their respective phases

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

Activities	Phase	Size and scale of disturbance	Mitigation measures	Compliance with standards	Time period for implementation
<p>E.g. for prospecting – drill site, site camp, ablution, facilities, accommodation, equipment storage, sample storage, site office, access route, etc.</p> <p>E.g. for Processing Plant – excavations stockpiles, discard dumps/dams, loading, hauling and transport.</p> <p>Water supply dams and boreholes, accommodation, offices, ablution, stores, workshops, processing plant, storm water control, berms, roads, pipelines, power lines, conveyors, etc.</p>	<p>Of operation in which activity will take place.</p> <p>State: Planning and design, pre-construction, construction operational, rehabilitation, closure, post-closure</p>	Volumes, tonnages and hectares or m ²	Describe how recommendations herein will remedy the cause of pollution or degradation	Description of how each recommendation herein will comply with any prescribed environmental management standards or practices that have been identified by Competent Authorities	Describe the time period when the measures in the environmental management programme must be implemented. Measures must be implemented when required. With regard to rehabilitation specifically this must take place at the earliest opportunity. With regard to rehabilitation, therefore state either: Upon cessation of the individual activity or, upon cessation of Processing Plant, bulk sampling or alluvial diamond prospecting as the case may be.
Topsoil Grading	Site establishment/ construction phase	4.7 ha	<p>Visual mitigation</p> <ul style="list-style-type: none"> The site must be neat and kept in good condition at all times. Upon closure, the site must be rehabilitated and sloped to ensure that 	<ul style="list-style-type: none"> Dust and Noise: NEMAQA, 2004 Regulation 6(1) Weeds: CARA, 1983 	Throughout the site establishment phase.

Activities	Phase	Size and scale of disturbance	Mitigation measures	Compliance with standards	Time period for implementation
			<p>visual impact on the aesthetic value of the area is minimal.</p> <p>Dust handling</p> <ul style="list-style-type: none"> • Dust liberation into the surrounding environment must be effectively controlled by the use of, inter alia, water spraying and/or other dust-allaying agents. • The site manager must ensure continuous assessment of all dust suppression equipment to confirm its effectiveness. • Speed on the access roads must be limited to 40km/h to prevent excess dust generation. • Roads must be sprayed with water or an environmentally-friendly dust-allaying agent that contains no PCBs (e.g. DAS products) if dust is generated above acceptable limits. <p>Noise handling</p> <ul style="list-style-type: none"> • The applicant must ensure that staff conduct themselves in an acceptable manner while on site, both during work hours and after hours. • No loud music permitted at the 	<ul style="list-style-type: none"> • Storm Water: NWA, 1998 • Waste: NEM:WA, 2008 	

Activities	Phase	Size and scale of disturbance	Mitigation measures	Compliance with standards	Time period for implementation
			<p>Processing Plant area.</p> <ul style="list-style-type: none"> • All Processing Plant vehicles must be equipped with silencers and kept roadworthy in terms of the Road Transport Act. <p>Weed and invader plant management</p> <ul style="list-style-type: none"> • A weed and invader plant control management plan must be implemented at the site to ensure eradication of all listed invader plants in terms of CORA (Act No 43 1983). • Management must take responsibility to control declared invader or exotic species on the rehabilitated areas. The following control methods can be used: <ul style="list-style-type: none"> ○ The plants can be uprooted, felled or cut off and can be destroyed completely. ○ The plants can be treated with an herbicide that is registered for use in connection therewith and in accordance with the directions for the use of such an herbicide. ○ The temporary topsoil stockpiles must be kept free of weeds. <p>Storm water handling</p>		

Activities	Phase	Size and scale of disturbance	Mitigation measures	Compliance with standards	Time period for implementation
			<ul style="list-style-type: none"> • Storm water must be diverted around the topsoil heaps, stockpile areas and access roads to prevent erosion and material loss. • Runoff water must be diverted around the stockpile areas with trenches and contour structures to prevent erosion of the work areas. <p>Waste management</p> <ul style="list-style-type: none"> • No processing area or waste pile may be established within 100 m of the edge of any river channel or other water bodies. • Regular vehicle maintenance may only take place in the service bay area of the off-site workshop. If emergency repairs are needed on equipment not able to move to the workshop, drip trays must be present. All waste products must be disposed of in a 200 l closed container/bin to be removed from the emergency service area to the workshop to ensure proper disposal. • Any effluents containing oil, grease or other industrial substances must be collected in a suitable receptacle and 		

Activities	Phase	Size and scale of disturbance	Mitigation measures	Compliance with standards	Time period for implementation
			<p>removed from the site, for resale or appropriate disposal at a recognised facility.</p> <ul style="list-style-type: none"> • Spills must be cleaned immediately to the satisfaction of the Regional Manager by removing the spillage and the polluted soil and disposing it at a recognised facility. Proof must be filed. • Suitable covered receptacles must be available at all times and conveniently placed for waste disposal. • Non-biodegradable refuse, such as glass bottles, plastic bags, metal scrap, etc., must be stored in a container with a closable lid at a collecting point and collected on a regular basis and disposed of at a recognised landfill site. Specific precautions must be taken to prevent refuse from being dumped on or in the vicinity of the Mine area. • Biodegradable refuse generated must be handled as indicated above. 		
Excavation	Operational phase	4.7 ha	<p>Visual mitigation</p> <ul style="list-style-type: none"> • The site needs to have a neat appearance and be kept in good condition at all times. 	<p>Dust and noise NEM:AQA, 2004 Regulation 6(1)</p> <p>Health and safety</p>	Throughout the operational phase

Activities	Phase	Size and scale of disturbance	Mitigation measures	Compliance with standards	Time period for implementation
			<ul style="list-style-type: none"> • Upon closure the site needs to be rehabilitated and sloped to ensure that the visual impact on the aesthetic value of the area is kept to a minimum. <p>Dust handling</p> <ul style="list-style-type: none"> • Dust liberation into the surrounding environment must be effectively controlled by the use of, inter alia, water spraying and/or other dust-allaying agents. • The site manager must ensure continuous assessment of all dust suppression equipment to confirm its effectiveness. • Speed on the access roads must be limited to 40km/h to prevent the generation of excess dust. • Roads must be sprayed with water or an environmentally friendly dust-allaying agent that contains no PCBs (e.g. DAS products) if dust is generated above acceptable limits. <p>Noise handling</p> <ul style="list-style-type: none"> • The applicant must ensure that staff conduct themselves in an acceptable manner while on site, both during work 	<p>MHSA, 1996 OHSAS 18001 Fauna and flora NEM:BA, 2004 Waste NEMWA, 2008 Weeds CARA, 1983</p>	

Activities	Phase	Size and scale of disturbance	Mitigation measures	Compliance with standards	Time period for implementation
			<p>hours and after hours.</p> <ul style="list-style-type: none"> • No loud music permitted at the Processing Plant area. • All Processing Plant vehicles must be equipped with silencers and maintained in a road worthy condition in terms of the Road Transport Act. <p>Management of health and safety risks</p> <ul style="list-style-type: none"> • Workers must have access to the correct PPE as required by law. • All operations must comply with the OHS&A. <p>Protection of fauna and flora</p> <ul style="list-style-type: none"> • The site manager should ensure that no fauna is caught, killed, harmed, sold or played with. • Workers should be instructed to report any animals that may be trapped in the working area. • No snares may be set, or nests raided for eggs or young. • No plants or trees may be removed without the approval of the ECO. <p>Waste management</p> <ul style="list-style-type: none"> • No processing area or waste pile may be established within 100 m of the 		

Activities	Phase	Size and scale of disturbance	Mitigation measures	Compliance with standards	Time period for implementation
			<p>edge of any river channel or other water bodies.</p> <ul style="list-style-type: none"> • Regular vehicle maintenance may only take place within the service bay area of the off-site workshop. If emergency repairs are needed on equipment not able to move to the workshop, drip trays must be present. All waste products must be disposed of in a 200 L closed container/bin to be removed from the emergency service area to the workshop in order to ensure proper disposal. • Any effluents containing oil, grease or other industrial substances must be collected in a suitable receptacle and removed from site, for resale/ appropriate disposal at a recognised facility. • Spills must be cleaned up immediately to the satisfaction of the Regional Manager by removing the spillage and polluted soil and disposing it at a recognised facility. Proof must be filed. • Suitable covered receptacles must be available at all times and conveniently 		

Activities	Phase	Size and scale of disturbance	Mitigation measures	Compliance with standards	Time period for implementation
			<p>placed for waste disposal.</p> <ul style="list-style-type: none"> • Non-biodegradable refuse such as glass bottles, plastic bags, metal scrap, etc., should be stored in a container with a closable lid at a collecting point and collected on a regular basis and disposed of at a recognised landfill site. Specific precautions should be taken to prevent refuse from being dumped on or in the vicinity of the Mine area. • Biodegradable refuse generated must be handled as indicated above. <p>Management of weed/invader plants</p> <ul style="list-style-type: none"> • A weed and invader plant control management plan must be implemented at the site to ensure eradication of all listed invader plants in terms of CORA (Act No 43 1983). • Management must take responsibility to control declared invader or exotic species on the rehabilitated areas. The following control methods can be used: <ul style="list-style-type: none"> ○ The plants can be uprooted, felled or cut off and can be destroyed completely. 		

Activities	Phase	Size and scale of disturbance	Mitigation measures	Compliance with standards	Time period for implementation
			<ul style="list-style-type: none"> ○ The plants can be treated with an herbicide that is registered for use in connection therewith and in accordance with the directions for the use of such an herbicide. ○ The temporary topsoil stockpiles need to be kept free of weeds. 		
Crushing	Operational phase	0.111 ha	<p>Dust handling</p> <ul style="list-style-type: none"> • Dust liberation into the surrounding environment must be effectively controlled by using, inter alia, water spraying and/or other dust-allaying agents. • The site manager must ensure continuous assessment of all dust suppression equipment to confirm its effectiveness. • Speed on the access roads must be limited to 40km/h to prevent excess dust generation. • The crusher plant must have operational water sprayers to alleviate dust generation from conveyor belts. <p>Noise handling</p> <ul style="list-style-type: none"> • The applicant must ensure that staff conduct themselves in an acceptable 	<p>Dust and noise NEMAQA 2004</p> <p>Waste NEMWA 2008</p>	Throughout the operational phase

Activities	Phase	Size and scale of disturbance	Mitigation measures	Compliance with standards	Time period for implementation
			<p>manner while on site, during work hours and after hours.</p> <ul style="list-style-type: none"> • No loud music permitted at the Processing Plant area. • All Processing Plant vehicles must be equipped with silencers and kept roadworthy in terms of the Road Transport Act. <p>Waste management</p> <ul style="list-style-type: none"> • No processing area or waste pile may be established within 100 m of the edge of any river channel or other water bodies. • Regular vehicle maintenance may only take place in the service bay of the off-site workshop. If emergency repairs are needed on equipment not able to move to the workshop, drip trays must be present. All waste products must be disposed of in a 200 l closed container/bin to be removed from the emergency service area to the workshop for proper disposal. • Any effluents containing oil, grease or other industrial substances must be collected in a suitable receptacle and 		

Activities	Phase	Size and scale of disturbance	Mitigation measures	Compliance with standards	Time period for implementation
			<p>removed from site, either for resale or appropriate disposal at a recognised facility.</p> <ul style="list-style-type: none"> • Spills must be cleaned up immediately to the satisfaction of the Regional Manager by removing spillage and polluted soil and by disposing it at a recognised facility. Proof must be filed. • Suitable covered receptacles must be available at all times and conveniently placed for the disposal of waste. • Non-biodegradable refuse such as glass bottles, plastic bags, metal scrap, etc., should be stored in a container with a closable lid at a collecting point and collected on a regular basis and disposed of at a recognised landfill site. Specific precautions must be taken to prevent refuse from being dumped on or in the vicinity of the Mine area. • Biodegradable refuse generated must be handled as indicated above. 		
Stockpiling and transporting	Operational phase	3.214 ha	<p>Visual mitigation</p> <ul style="list-style-type: none"> • The site must be neat and be kept in good condition at all times. • Upon closure, the site must be 	<p>Storm water NWA, 1998</p> <p>Weeds CARA, 1983</p>	Throughout operational phase

Activities	Phase	Size and scale of disturbance	Mitigation measures	Compliance with standards	Time period for implementation
			<p>rehabilitated and sloped to ensure that the visual impact on the aesthetic value of the area is minimal.</p> <p>Storm water handling</p> <ul style="list-style-type: none"> • Storm water must be diverted around the stockpile areas and access roads to prevent erosion and material loss. • Runoff water must be diverted around the stockpile areas with trenches and contour structures to prevent erosion of work areas. • Processing Plant must be conducted in accordance with the Best Practice Guideline for small scale Processing Plant that relates to storm water management, erosion and sediment control and waste management, developed by the DWS, and any other conditions that the DWS may impose: • Clean water (e.g. rainwater) must be kept clean and be routed to a natural watercourse by a system separate from the dirty water system. Prevent clean water from running or spilling into dirty water systems. • Dirty water must be collected and 	<p>Dust and noise NEMAQA, 2004 Regulation 6(1)</p> <p>Waste NEMWA, 2008</p>	

Activities	Phase	Size and scale of disturbance	Mitigation measures	Compliance with standards	Time period for implementation
			<p>contained in a system separate from the clean water system.</p> <ul style="list-style-type: none"> • Dirty water must be prevented from spilling/seeping into clean water systems. • The storm water management plan must apply for the entire life cycle of the Mine and over different hydrological cycles (rainfall patterns). • The statutory requirements of various regulatory agencies and the interests of stakeholders must be considered and incorporated into the storm water management plan. <p>Management of weed/invader plants</p> <ul style="list-style-type: none"> • A weed and invader plant control management plan must be implemented at the site to ensure eradication of all listed invader plants in terms of CORA (Act No 43 1983). • Management must take responsibility to control declared invader or exotic species on the rehabilitated areas. The following control methods can be used: <ul style="list-style-type: none"> ○ The plants can be uprooted, felled or cut off and can be 		

Activities	Phase	Size and scale of disturbance	Mitigation measures	Compliance with standards	Time period for implementation
			<p>destroyed completely.</p> <ul style="list-style-type: none"> ○ The plants can be treated with an herbicide that is registered for use in connection therewith and in accordance with the directions for the use of such an herbicide. ● The temporary stockpile area must be kept free of weeds. <p>Dust handling</p> <ul style="list-style-type: none"> ● Dust liberation into the surrounding environment must be effectively controlled by the use of, inter alia, water spraying and/or other dust-allaying agents. ● The site manager must ensure continuous assessment of all dust suppression equipment to confirm its effectiveness. ● Speed on the access roads must be limited to 40km/h to prevent excess dust generation. ● Roads must be sprayed with water or an environmentally-friendly dust-allaying agent that contains no PCBs (e.g. DAS products) if dust is generated above acceptable limits. 		

Activities	Phase	Size and scale of disturbance	Mitigation measures	Compliance with standards	Time period for implementation
			<p>Management of access roads</p> <ul style="list-style-type: none"> • Storm water should be diverted around the access roads to prevent erosion. • Vehicular movement must be restricted to existing access routes to prevent crisscrossing of tracks through undisturbed areas. • Rutting and erosion of the access road caused as a result of the Processing Plant activities must be repaired by the applicant. <p>Noise handling</p> <ul style="list-style-type: none"> • The applicant must ensure that staff conduct themselves in an acceptable manner while on site, both during work hours and after hours. • No loud music permitted at the Processing Plant area. • All Processing Plant vehicles must be equipped with silencers and kept roadworthy in terms of the Road Transport Act. <p>Waste management</p> <ul style="list-style-type: none"> • No processing area or waste pile may be established within 100 m of the edge of any river channel or other 		

Activities	Phase	Size and scale of disturbance	Mitigation measures	Compliance with standards	Time period for implementation
			<p>water bodies.</p> <ul style="list-style-type: none"> • Regular vehicle maintenance may only take place in the service bay area of the off-site workshop. If emergency repairs are needed on equipment not able to move to the workshop, drip trays must be present. All waste products must be disposed of in a 200 l closed container/bin to be removed from the emergency service area to the workshop for proper disposal. • Any effluents containing oil, grease or other industrial substances must be collected in a suitable receptacle and removed from site, for resale or appropriate disposal at a recognised facility. • Spills must be cleaned up immediately to the satisfaction of the Regional Manager by removing the spillage and polluted soil and disposing of it at a recognised facility. Proof must be filed. • Suitable covered receptacles must be available at all times and conveniently placed for waste disposal. • Non-biodegradable refuse such as 		

Activities	Phase	Size and scale of disturbance	Mitigation measures	Compliance with standards	Time period for implementation
			<p>glass bottles, plastic bags, metal scrap, etc., should be stored in a container with a closable lid at a collecting point and collected on a regular basis and disposed of at a recognised landfill site. Specific precautions should be taken to prevent refuse from being dumped on or in the vicinity of the Mine area.</p> <ul style="list-style-type: none"> • Biodegradable refuse generated must be handled as indicated above. 		
Sloping and landscaping during rehabilitation	Decommissioning phase	4.7 ha	<p>Storm water handling</p> <ul style="list-style-type: none"> • Storm water must be diverted around the rehabilitated area to prevent erosion and loss of reinstated material. <p>Management of health and safety risks</p> <ul style="list-style-type: none"> • Excavations have to be rehabilitated as stipulated in the closure plan to ensure the site is safe upon closure. • Workers must have access to the correct PPE as required by law. • All operations must comply with the OHSA. <p>Dust handling</p> <ul style="list-style-type: none"> • Dust liberation into the surrounding environment must be effectively controlled by the use of, inter alia, 	<p>Storm water NWA, 1998</p> <p>Health and safety MHSA, 1996 OHSA, 1993 OHSAS 18001</p> <p>Dust and noise NEMAQA 2004, Regulation 6(1)</p> <p>Waste NEMWA 2008</p>	Upon cessation of Processing Plant

Activities	Phase	Size and scale of disturbance	Mitigation measures	Compliance with standards	Time period for implementation
			<p>water spraying and/or other dust-allaying agents.</p> <ul style="list-style-type: none"> • The site manager must ensure continuous assessment of all dust suppression equipment to confirm its effectiveness. • Speed on the access roads must be limited to 40km/h to prevent excess dust generation. • Roads must be sprayed with water or an environmentally friendly dust-allaying agent that contains no PCBs (e.g. DAS products) if dust is generated above acceptable limits. <p>Noise handling</p> <ul style="list-style-type: none"> • The applicant must ensure that staff conduct themselves in an acceptable manner while on site, both during work hours and after hours. • No loud music permitted at the Processing Plant area. • All Processing Plant vehicles must be equipped with silencers and kept roadworthy in terms of the Road Transport Act. <p>Waste management</p>		

Activities	Phase	Size and scale of disturbance	Mitigation measures	Compliance with standards	Time period for implementation
			<ul style="list-style-type: none"> • Waste material of any description, including receptacles, scrap, rubble and tyres, will be removed entirely from the Processing Plant area and disposed of at a recognised landfill facility. It will not be permitted to be buried/burned on site • Any effluents containing oil, grease or other industrial substances must be collected in a suitable receptacle and removed from site, for resale/ appropriate disposal at a recognised facility. • Spills must be cleaned up immediately to the satisfaction of the Regional Manager by removing the spillage together with the polluted soil and disposing of it at a recognised facility. Proof should be filed. • Suitable covered receptacles must be available at all times and conveniently placed for waste disposal. • Non-biodegradable refuse, like glass bottles, plastic bags, metal scrap, etc., should be stored in a container with a closable lid at a collecting point and 		

Activities	Phase	Size and scale of disturbance	Mitigation measures	Compliance with standards	Time period for implementation
			<p>collected on a regular basis and disposed of at a recognised landfill site. Specific precautions should be taken to prevent refuse from being dumped on or in the vicinity of the Mine area.</p> <ul style="list-style-type: none"> • Biodegradable refuse generated must be handled as indicated above. 		
Replacing of topsoil and rehabilitation of disturbed area	Decommissioning phase	4.7 ha	<p>Rehabilitation of excavated area</p> <ul style="list-style-type: none"> • Rocks and coarse material removed from the excavation must be dumped into the excavation. • No waste will be permitted to be deposited in the excavations. • Once overburden, rocks and coarse natural materials have been added to the excavation and were profiled with acceptable contours and erosion control measures, the topsoil previously stored will be returned to its original depth over the area. • The area will be fertilised if necessary to allow vegetation to establish rapidly. The site will be seeded with a local or adapted indigenous seed mix in order to propagate the locally or regionally occurring flora, should natural 	<p>Rehabilitation MPRDA, 2008</p> <p>Health and safety MHSA, 1996 OHSA, 1993 OHSAS 18001</p> <p>Dust and noise NEMAQA, 2004 Regulation 6(1)</p> <p>Weeds CARA, 1983</p> <p>Waste NEMWA, 2008</p>	Upon cessation of Processing Plant

Activities	Phase	Size and scale of disturbance	Mitigation measures	Compliance with standards	Time period for implementation
			<p>vegetation not re-establish within 6 months from site closure.</p> <ul style="list-style-type: none"> • If a reasonable assessment indicates that the re-establishment of vegetation is unacceptably slow, the Regional Manager may require that the soil be analysed and any deleterious effects on the soil arising from the Processing Plant operation be corrected and the area seeded with a vegetation seed mix to his or her specification. <p>Rehabilitation of plant area</p> <ul style="list-style-type: none"> • The compacted areas will be ripped and the topsoil returned over the area. • Coarse natural material used for the construction of ramps will be removed and dumped into the excavations. • Stockpiles will be removed during the decommissioning phase, the area ripped and topsoil returned to original depth to provide a growth medium. • On completion of operations, all structures or objects will be dealt with in accordance with Section 44 of the MPRDA 2002 (Act 28 of 2002): <ul style="list-style-type: none"> ○ Where sites have been rendered 		

Activities	Phase	Size and scale of disturbance	Mitigation measures	Compliance with standards	Time period for implementation
			<p>devoid of vegetation/grass or soils have been compacted by traffic, the surface will be scarified or ripped.</p> <ul style="list-style-type: none"> o The site will be seeded with a vegetation seed mix adapted to reflect the local indigenous flora if natural vegetation does not re-establish within 6 months of site closure. o Photographs of the Processing Plant area and office sites, before and during the Processing Plant operation and after rehabilitation, will be taken at selected fixed points and kept on record for the information of the Regional Manager. o On completion of Processing Plant operations, the surface of these areas, if compacted due to hauling and dumping operations, will be scarified to a depth of at least 300 mm and graded to an even surface condition. The previously stored topsoil will be 		

Activities	Phase	Size and scale of disturbance	Mitigation measures	Compliance with standards	Time period for implementation
			<p>returned to its original depth over the area.</p> <ul style="list-style-type: none"> ○ Prior to replacing the topsoil, the overburden material that was removed from these areas will be replaced in the same order as it originally occurred. ○ The area will then be fertilized if necessary to allow vegetation to establish rapidly. The site will be seeded with a local, adapted indigenous seed mix if natural vegetation does not re-establish within 6 months after site closure. ○ If a reasonable assessment indicates that the re-establishment of vegetation is unacceptably slow, the Regional Manager may require that the soil be analysed and any deleterious effects on the soil arising from the Processing Plant operation be corrected and the area be seeded with a seed mix to their specification. <p>Final rehabilitation</p>		

Activities	Phase	Size and scale of disturbance	Mitigation measures	Compliance with standards	Time period for implementation
			<ul style="list-style-type: none"> • Rehabilitation of the surface area will entail landscaping, levelling, top dressing, land preparation, seeding (if required) and maintenance, and weed/alien clearing. • All infrastructure, equipment, plant, temporary housing and other items used during the Processing Plant period will be removed from the site (section 44 of the MPRDA). • Waste material of any description, including receptacles, scrap, rubble and tyres, will be removed entirely from the Processing Plant area and disposed of at a recognized landfill facility. It will not be permitted to be buried/burned on site. • Weed/alien clearing will be done in a sporadic manner during the life of the Processing Plant activities. Species regarded as Category 1 weeds according to CORA, 1983 – Act 43; Regulations 15 & 16 (as amended in March 2001) must be eradicated from the site. • Final rehabilitation will be completed 		

Activities	Phase	Size and scale of disturbance	Mitigation measures	Compliance with standards	Time period for implementation
			within a period specified by the Regional Manager.		

4.7 Impact management outcomes

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

Activity	Potential impact	Aspects affected	Phase	Mitigation type	Standard to be achieved
Whether listed or not. E.g. excavations, stockpiles, discard dumps/ dams, loading, hauling, transport, water supply dams and boreholes, accommodation, offices, ablution, stores, workshops, processing plant, storm water control, berms, roads, pipelines, power lines, conveyors, etc.	E.g. dust, noise, drainage, surface disturbance, surface water contamination, groundwater contamination, air pollution, etc.		In which impact is anticipated. E.g. construction, commissioning, operational decommissioning, closure and post-closure.	Modify, remedy, control or stop through, e.g. noise control measures, storm water control, dust control, rehabilitation, design measures, controls, avoidance, relocation, alternative activity, etc.	Impact avoided, noise levels, dust levels, rehabilitation standards, end-use objectives, etc.
Topsoil stripping and stockpiling	Visual intrusion associated with the establishment of the Processing Plant area.	The visual impact may affect the residents of the immediate area.	Site establishment/ construction phase	Control: Implementation of proper housekeeping	<ul style="list-style-type: none"> Impact on the surrounding environment mitigated until rehabilitation standards can be implemented.
	Dust nuisance caused by soil disturbance.	Dust will be contained within property boundaries		Control: Dust suppression	<ul style="list-style-type: none"> Fallout dust levels has to comply with the acceptable dust fall rate published for non-residential areas in the National Dust

Activity	Potential impact	Aspects affected	Phase	Mitigation type	Standard to be achieved
		and therefore affect only the landowner.			Control Regulations 2013 – 600 < Dust Fall < 1 200 mg/m ² /day. <ul style="list-style-type: none"> Gravimetric dust levels have to comply with the standard published in the NIOSH guidelines – particulates >1/10th of the occupational exposure limit. NEMAQA 2004, Regulation 6(1)
	Noise nuisance caused by machinery stripping and stockpiling the topsoil.	The noise impact should be contained within property boundaries, but might have a periodic impact on the closest residents.		Control: Noise control measures	<ul style="list-style-type: none"> Noise levels on the site must be managed and needs to comply with the standards stipulated in NEMAQA, 2004 Regulation 6(1) as well as the noise standards of SANS 10103:2008 Employees working in areas with noise levels of more than 82dBA need to be issue with hearing protection.
	Infestation of the topsoil heaps by weeds and invader plants	Biodiversity		Control and remedy: Implementation of weed control	<ul style="list-style-type: none"> The impact must be avoided through the eradication of Category 1 weeds/ invader plants in terms of CARA, 1993 as well as the implementation of the mitigation measures in this document.
	Loss of topsoil due to incorrect storm water management.	Loss of topsoil will affect the rehabilitation of the Processing Plant area.		Control: Storm water management	<ul style="list-style-type: none"> The impact must be avoided through the implementation of storm water management.

Activity	Potential impact	Aspects affected	Phase	Mitigation type	Standard to be achieved
	Contamination of area with hydrocarbons or hazardous waste materials.	Contamination may cause surface or ground water contamination if not addressed		Control and remedy: Implementation of waste management	<ul style="list-style-type: none"> The impact must be avoided through the implementation of the mitigation measures stipulated in this document. Should spillage occur, the area needs to be cleaned in accordance with the standards of the NEMWA, 2008.
Excavation	Visual intrusion associated with the excavation activities	The visual impact may affect the residents of the immediate area.	Operational phase	Control: Implementation of proper housekeeping	<ul style="list-style-type: none"> Impact on the surrounding environment mitigated until rehabilitation standards can be implemented.
	Dust nuisance due to excavation activities.	Dust will be contained within the property boundaries and will therefore affect only the landowner.		Control: Dust suppression	<ul style="list-style-type: none"> Fallout dust levels must comply with the acceptable dust fall rate published for non-residential areas, as per National Dust Control Regulations 2013 – 600 < Dust Fall < 1 200 mg/m²/day. Gravimetric dust levels must comply with the standard published in the NIOSH guidelines –Particulates >1/10th of the occupational exposure limit. NEMAQA, 2004 Regulation 6(1).
Noise nuisance generated by excavation equipment	The noise impact must be contained within the boundaries of the property but might have a periodic impact on	Control: Noise control measures		<ul style="list-style-type: none"> Noise levels on the site has to be managed and need to comply with the standards stipulated in NEMAQA, 2004 Regulation 6(1) as well as the noise standards of SANS 10103:2008. Employees working in areas with noise 	

Activity	Potential impact	Aspects affected	Phase	Mitigation type	Standard to be achieved
		the closest residents of the Middelburg community.			levels of more than 82dBA need to be issue with hearing protection.
	Unsafe working conditions for employees.	Impact might affect employees		Control: Health and safety monitoring and management	<ul style="list-style-type: none"> Impact must be avoided through compliance with the MSHA, 1996, OSHA, 1993 and OHSAS 18001
Excavation	Negative impact on the fauna and flora of the area.	Biodiversity	Operational phase	Control: Protection of fauna and flora through operational phase	<ul style="list-style-type: none"> The impact must be avoided through implementation of the mitigation measures stipulated in this document. NEMBA, 2004.
	Contamination of area with hydrocarbons or hazardous waste materials.	Contamination may cause surface or ground water contamination if not addressed.		Control: Implementation of waste management	<ul style="list-style-type: none"> The impact should be avoided through the implementation the mitigation measures stipulated in this document. Should spillage however occur the area needs to be cleaned in accordance with the standards of the NEMWA, 2008.
	Weed and invader plant infestation of the area.	Biodiversity		Control: Implementation of weed control	<ul style="list-style-type: none"> The impact should be avoided through the eradication of Category 1 weeds/invader plants in terms of CARA, 1993 as well as the implementation of the mitigation measures in this document.
Crushing	Dust nuisance due to the crushing activities	Dust will be contained within the property boundaries and will therefore affect only the landowner.	Operational phase	Control: Dust suppression	<ul style="list-style-type: none"> Fallout dust levels has to comply with the acceptable dust fall rate published for non-residential areas in the National Dust Control Regulations 2013 – 600 < Dust Fall < 1 200 mg/m²/day. Gravimetric dust levels have to comply

Activity	Potential impact	Aspects affected	Phase	Mitigation type	Standard to be achieved
					<p>with the standard published in the NIOSH guidelines – Particulates >1/10th of the occupational exposure limit.</p> <ul style="list-style-type: none"> • NEMAQA, 2004 Regulation 6(1).
	Noise nuisance generated by the crushing activities	The noise impact should be contained within the boundaries of the property but might have a periodic impact on the closest residents of the Klarinet community.		Control: Noise control measures	<ul style="list-style-type: none"> • Noise levels on the site has to be managed and need to comply with the standards stipulated in NEMAQA, 2004 Regulation 6(1) as well as the noise standards of SANS 10103:2008. • Employees working in areas with noise levels of more than 82dBA need to be issue with hearing protection.
	Contamination of area with hydrocarbons or hazardous waste materials.	Contamination may cause surface or ground water contamination if not addressed.		Control: Implementation of waste management	<ul style="list-style-type: none"> • The impact should be avoided through the implementation the mitigation measures stipulated in this document. • Should spillage however occur the area needs to be cleaned in accordance with the standards of the NEMWA, 2008.
	Loss of material due to ineffective storm water handling.	Impact will affect income of applicant.		Control: Storm water control measures	<ul style="list-style-type: none"> • The impact should be avoided through the implementation of storm water management.
	Weed and invader plant infestation of the area due to the disturbance of the soil	Biodiversity		Control and remedy: Implementation of weed control	<ul style="list-style-type: none"> • The impact should be avoided through the eradication of Category 1 weeds/invader plants in terms of CARA, 1993 as well as the implementation of the mitigation measures in this document.

Activity	Potential impact	Aspects affected	Phase	Mitigation type	Standard to be achieved
Stockpiling and transporting	Dust nuisance from stockpiled material and vehicles transporting the material.	Dust will be contained within the property boundaries and will therefore affect only the landowner.	Operational phase	Control: Dust suppression	<ul style="list-style-type: none"> Fallout dust levels has to comply with the acceptable dust fall rate published for non-residential areas in the National Dust Control Regulations 2013 – $600 < \text{Dust Fall} < 1\,200 \text{ mg/m}^2/\text{day}$. Gravimetric dust levels have to comply with the standard published in the NIOSH guidelines – Particulates $>1/10^{\text{th}}$ of the occupational exposure limit. NEMAQA, 2004 Regulation 6(1).
	Degradation of access roads.	All road users will be affected.		Control and remedy: Road management	<ul style="list-style-type: none"> The impact should be avoided through the implementation of the mitigation measures proposed in this document.
	Noise nuisance caused by vehicles.	The noise impact should be contained within the boundaries of the property, but might have a periodic impact on the closest residents.		Control: Noise management monitoring and management	<ul style="list-style-type: none"> Noise levels on the site has to be managed and need to comply with the standards stipulated in NEMAQA, 2004 Regulation 6(1) as well as the noise standards of SANS 10103:2008. Employees working in areas with noise levels of more than 82dBA need to be issue with hearing protection.
Sloping and landscaping during rehabilitation	Contamination of area with hydrocarbons or hazardous waste materials	Contamination may cause surface or ground water contamination if not addressed.	Decommissioning phase	Control: Implementation of waste management	<ul style="list-style-type: none"> The impact should be avoided through the implementation the mitigation measures stipulated in this document. Should spillage however occur the area needs to be cleaned in accordance

Activity	Potential impact	Aspects affected	Phase	Mitigation type	Standard to be achieved
					with the standards of the NEM: WA, 2008.
	Soil erosion	Biodiversity		Control: Soil management	<ul style="list-style-type: none"> The impact should be avoided through the implementation the mitigation measures stipulated in this document. CARA, 1993
	Health and safety risk posed by un-sloped areas	Impact will affect employees and residents of the property		Control: Health and safety monitoring and management.	<ul style="list-style-type: none"> The impact should be avoided through compliance with the standards of the MHSA, 1996, OHSA, 1993 and OHSAS 18001
	Dust nuisance caused during sloping and landscaping activities.	Dust will be contained within the property boundaries and will therefore affect only the landowner.		Control: Dust suppression	<ul style="list-style-type: none"> Fallout dust levels has to comply with the acceptable dust fall rate published for non-residential areas in the National Dust Control Regulations 2013 – $600 < \text{Dust Fall} < 1\ 200 \text{ mg/m}^2/\text{day}$. Gravimetric dust levels have to comply with the standard published in the NIOSH guidelines – Particulates $>1/10$ of the occupational exposure limit. NEM:AQA, 2004 Regulation 6(1).
	Noise nuisance caused by machinery.	The noise impact should be contained within the boundaries of the property, but might have a periodic impact on the closest residents of the Klarinet		Control: Noise monitoring	<ul style="list-style-type: none"> Noise levels on the site has to be managed and need to comply with the standards stipulated in NEM:AQA, 2004 Regulation 6(1) as well as the noise standards of SANS 10103:2008. Employees working in areas with noise levels of more than 82dBA need to be issue with hearing protection.

Activity	Potential impact	Aspects affected	Phase	Mitigation type	Standard to be achieved
		community.			
	Contamination of area with hydrocarbons or hazardous waste materials.	Contamination may cause surface or ground water contamination if not addressed.		Control: Waste management	<ul style="list-style-type: none"> • The impact should be avoided through the implementation the mitigation measures stipulated in this document. • Should spillage however occur the area needs to be cleaned in accordance with the standards of the NEM: WA, 2008.
Replacing of topsoil and rehabilitation of disturbed area	Loss of reinstated topsoil due to the absence of vegetation	Biodiversity and soil management	Decommissioning phase	Control: Soil management	<ul style="list-style-type: none"> • The impact should be avoided through the implementation the mitigation measures stipulated in this document. • CARA, 1993
	Infestation of the area by weed and invader plants.	Biodiversity and soil management		Control and remedy: Implementation of weed control	<ul style="list-style-type: none"> • The impact should be avoided through the eradication of Category 1 weeds/invader plants in terms of CARA, 1993 as well as the implementation of the mitigation measures in this document.

4.8 Impact management actions

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

Activity	Potential impact	Mitigation type	Time period for implementation	Compliance with standards
Whether listed or not, e.g. excavations, , 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.	E.g. dust, noise, drainage, surface disturbance, surface water contamination, groundwater contamination, air pollution, etc.	Modify, remedy, control or stop through, e.g. noise control measures, storm water control, dust control, rehabilitation, design measures, controls, avoidance, relocation, alternative activity, etc. E.g. Modify through alternative method, control through noise control, control through management and monitoring, and remedy through rehabilitation.	Describe the time period when the measures in the environmental management programme must be implemented. Measures must be implemented when required. With regard to Rehabilitation specifically this must take place at the earliest opportunity. With regard to Rehabilitation therefore state either – Upon cessation of the individual activity or upon the cessation of Processing Plant, bulk sampling or alluvial diamond prospecting as the case may be.	A description of how each of the recommendations in 2.11.6 read with 2.12 and 2.15.2 herein will comply with any prescribed environmental management standards or practices that have been identified by Competent Authorities
Topsoil stripping and stockpiling	Visual intrusion associated with the establishment of the Processing Plant area.	Control: Implementation of proper housekeeping	To be implemented daily throughout the site establishment / construction phase: <ul style="list-style-type: none"> • Daily compliance monitoring by site management. • Quarterly compliance monitoring of site by an 	Impact on the surrounding environment must be mitigated until rehabilitation standards can be implemented in terms of the MRDA.

Activity	Potential impact	Mitigation type	Time period for implementation	Compliance with standards
			<ul style="list-style-type: none"> • Environmental Control Officer. 	
	Dust nuisance caused by the disturbance of soil.	Control: Dust suppression	<p>To be implemented daily throughout the site establishment / construction phase:</p> <ul style="list-style-type: none"> • Daily compliance monitoring by site management. • Quarterly compliance monitoring of site by an • Environmental Control Officer. 	<ul style="list-style-type: none"> • Fallout dust levels has to comply with the acceptable dust fall rate published for non-residential areas in the National Dust Control Regulations 2013 – $600 < \text{Dust Fall} < 1200 \text{ mg/m}^2/\text{day}$. • Gravimetric dust levels have to comply with the standard published in the NIOSH guidelines – Particulates $>1/10^{\text{th}}$ of the occupational exposure limit NEMAQA, 2004 Regulation 6(1)
	Noise nuisance caused by machinery stripping and stockpiling the topsoil.	Control: Noise control measures	<p>To be implemented daily throughout the site establishment / construction phase:</p> <ul style="list-style-type: none"> • Daily compliance monitoring by site management. • Quarterly compliance monitoring of site by an • Environmental Control Officer. 	<ul style="list-style-type: none"> • Noise levels on the site has to be managed and need to comply with the standards stipulated in NEM: AQA, 2004 Regulation 6(1) as well as the noise standards of SANS 10103:2008. • Employees working in areas with noise levels of more than 82dBA need to be issue with hearing protection.
	Infestation of the topsoil heaps by weeds and invader plants	Control and remedy: Implementation of weed control	To be implemented when necessary throughout the site establishment / construction phase:	<ul style="list-style-type: none"> • The impact should be avoided through the eradication of Category 1 weeds/invader plants in terms of CARA, 1993 as well as the

Activity	Potential impact	Mitigation type	Time period for implementation	Compliance with standards
			<ul style="list-style-type: none"> • Daily compliance monitoring by site management. • Quarterly compliance monitoring of site by an • Environmental Control Officer. 	implementation of the mitigation measures in this document.
	Loss of topsoil due to incorrect storm water management.	Control: Storm water management	<p>To be implemented daily throughout the site establishment / construction phase:</p> <ul style="list-style-type: none"> • Daily compliance monitoring by site management. • Quarterly compliance monitoring of site by an Environmental Control officer 	<ul style="list-style-type: none"> • The impact should be avoided through the implementation of storm water management.
	Contamination of area with hydrocarbons or hazardous waste materials	Control and remedy: Implementation of waste management	<p>To be implemented daily throughout the site establishment / construction phase:</p> <ul style="list-style-type: none"> • Daily compliance monitoring by site management. • Quarterly compliance monitoring of site by an • Environmental Control Officer. 	<ul style="list-style-type: none"> • The impact should be avoided through the implementation of the mitigation measures stipulated in this document. • Should spillage however occur the area needs to be cleaned in accordance with the standards of the NEM: WA, 2008.
Excavation	Visual intrusion associated with the excavation activities	Control: Implementation of proper housekeeping	<p>To be implemented daily throughout the operational phase:</p> <ul style="list-style-type: none"> • Daily compliance monitoring by site management. 	<ul style="list-style-type: none"> • Impact on the surrounding environment mitigated until rehabilitation standards can be implemented.

Activity	Potential impact	Mitigation type	Time period for implementation	Compliance with standards
			<ul style="list-style-type: none"> • Quarterly compliance monitoring of site by an • Environmental Control Officer. 	
	Dust nuisance due to excavation activities.	Control: Dust suppression	<p>To be implemented daily throughout the operational phase:</p> <ul style="list-style-type: none"> • Daily compliance monitoring by site management. • Quarterly compliance monitoring of site by an • Environmental Control Officer. 	<ul style="list-style-type: none"> • Fallout dust levels has to comply with the acceptable dust fall rate published for non-residential areas in the National Dust Control Regulations 2013 – $600 < \text{Dust Fall} < 1200 \text{ mg/m}^2/\text{day}$ • Gravimetric dust levels have to comply with the standard published in the NIOSH guidelines – Particulates $>1/10^{\text{th}}$ of the occupational exposure limit. • NEM: AQA, 2004 Regulation 6(1).
	Noise nuisance generated by excavation equipment.	Control: Noise control measures	<p>To be implemented daily throughout the operational phase:</p> <ul style="list-style-type: none"> • Daily compliance monitoring by site management. • Quarterly compliance monitoring of site by an • Environmental Control Officer. 	<ul style="list-style-type: none"> • Noise levels on the site has to be managed and need to comply with the standards stipulated in NEM: AQA, 2004 Regulation 6(1) as well as the noise standards of SANS 10103:2008. • Employees working in areas with noise levels of more than 82dBA need to be issue with hearing protection.

Activity	Potential impact	Mitigation type	Time period for implementation	Compliance with standards
	Unsafe working conditions for employees.	Control: Health and safety monitoring and management	To be daily throughout the operational phase: <ul style="list-style-type: none"> • Daily compliance monitoring by site management. • Quarterly compliance monitoring of site by an • Environmental Control Officer. 	<ul style="list-style-type: none"> • The impact should be avoided through compliance with the standards of the MHSA, 1996, OHSA, 1993 and OHSAS 18001
	Negative impact on the fauna and flora of the area.	Control: Protection of fauna and flora through operational phase	To be daily throughout the operational phase: <ul style="list-style-type: none"> • Daily compliance monitoring by site management. • Quarterly compliance monitoring of site by an • Environmental Control Officer. 	<ul style="list-style-type: none"> • The impact should be avoided through the implementation of the mitigation measures stipulated in this document. • NEM:BA, 2004.
	Contamination of area with hydrocarbons or hazardous waste materials.	Control: Implementation of waste management	To be implemented daily throughout the operational phase: <ul style="list-style-type: none"> • Daily compliance monitoring by site management. • Quarterly compliance monitoring of site by an • Environmental Control Officer. 	<ul style="list-style-type: none"> • The impact should be avoided through the implementation the mitigation measures stipulated in this document. • Should spillage however occur the area needs to be cleaned in accordance with the standards of the NEM: WA, 2008.
	Weed and invader plant infestation of the area.	Control: implementation of weed control	To be implemented when necessary throughout the operational phase: <ul style="list-style-type: none"> • Daily compliance monitoring by site management. 	<ul style="list-style-type: none"> • The impact should be avoided through the eradication of Category 1 weeds/invader plants in terms of CARA, 1993 as well as the implementation of the mitigation

Activity	Potential impact	Mitigation type	Time period for implementation	Compliance with standards
			<ul style="list-style-type: none"> • Quarterly compliance monitoring of site by an • Environmental Control Officer. 	measures in this document.
Crushing	Dust nuisance due to the crushing activities	Control: Dust suppression	<p>To be implemented daily throughout the operational phase:</p> <ul style="list-style-type: none"> • Daily compliance monitoring by site management. • Quarterly compliance monitoring of site by an • Environmental Control Officer. 	<ul style="list-style-type: none"> • Fallout dust levels has to comply with the acceptable dust fall rate published for non-residential areas in the National Dust Control Regulations 2013 – $600 < \text{Dust Fall} < 1200 \text{ mg/m}^2/\text{day}$. • Gravimetric dust levels have to comply with the standard published in the NIOSH guidelines – Particulates $>1/10^{\text{th}}$ of the occupational exposure limit. • NEM: AQA, 2004 Regulation 6(1).
	Noise nuisance generated by the crushing activities.	Control: Noise control measures	<p>To be implemented daily throughout the operational phase:</p> <ul style="list-style-type: none"> • Daily compliance monitoring by site management. • Quarterly compliance monitoring of site by an • Environmental Control Officer. 	<ul style="list-style-type: none"> • Noise levels on the site has to be managed and need to comply with the standards stipulated in NEM: AQA, 2004 Regulation 6(1) as well as the noise standards of SANS 10103:2008. • Employees working in areas with noise levels of more than 82dBA need to be issue with hearing protection.

Activity	Potential impact	Mitigation type	Time period for implementation	Compliance with standards
	Contamination of area with hydrocarbons or hazardous waste materials.	Control: Implementation of waste management	To be implemented daily throughout the operational phase: <ul style="list-style-type: none"> • Daily compliance monitoring by site management. • Quarterly compliance monitoring of site by an • Environmental Control Officer. 	<ul style="list-style-type: none"> • The impact should be avoided through the implementation the mitigation measures stipulated in this document. • Should spillage however occur the area needs to be cleaned in accordance with the standards of the NEM: WA, 2008.
Stockpiling and transporting	Visual intrusion associated with the stockpiled material and vehicles transporting the material.	Control: Implementation of proper housekeeping	To be implemented daily throughout the operational phase: <ul style="list-style-type: none"> • Daily compliance monitoring by site management. • Quarterly compliance monitoring of site by an • Environmental Control Officer. 	<ul style="list-style-type: none"> • Impact on the surrounding environment mitigated until rehabilitation standards can be implemented.
	Loss of material due to ineffective storm water handling.	Control: Storm water control measures	<ul style="list-style-type: none"> • To be implemented daily throughout the operational phase: • Daily compliance monitoring by site management. • Quarterly compliance monitoring of site by an Environmental Control Officer. 	<ul style="list-style-type: none"> • The impact should be avoided through the implementation of storm water management
	Weed and invader plant infestation of the	Control and remedy: Implementation of weed control	To be implemented when necessary throughout the operational phase:	<ul style="list-style-type: none"> • The impact should be avoided through the eradication of Category 1 weeds/invader plants in

Activity	Potential impact	Mitigation type	Time period for implementation	Compliance with standards
	area due to the disturbance of the soil		<ul style="list-style-type: none"> • Daily compliance monitoring by site management. • Quarterly compliance monitoring of site by an • Environmental Control Officer. 	terms of CARA, 1993 as well as the implementation of the mitigation measures in this document.
	Dust nuisance from stockpiled material and vehicles transporting the material.	Control: Dust suppression	<p>To be implemented daily throughout the operational phase:</p> <ul style="list-style-type: none"> • Daily compliance monitoring by site management. • Quarterly compliance monitoring of site by an • Environmental Control Officer. 	<ul style="list-style-type: none"> • Fallout dust levels has to comply with the acceptable dust fall rate published for non-residential areas in the National Dust Control Regulations 2013 – $600 < \text{Dust Fall} < 1200 \text{ mg/m}^2/\text{day}$. • Gravimetric dust levels have to comply with the standard published in the NIOSH guidelines – Particulates $>1/10^{\text{th}}$ of the occupational exposure limit. • NEM: AQA, 2004 Regulation 6(1).
	Degradation of access roads	Control and remedy: Road management	<p>To be implemented when necessary throughout the operational phase:</p> <ul style="list-style-type: none"> • Daily compliance monitoring by site management. • Quarterly compliance monitoring of site by an • Environmental Control Officer. 	<ul style="list-style-type: none"> • The impact should be avoided through the implementation of the mitigation measures proposed in this document.

Activity	Potential impact	Mitigation type	Time period for implementation	Compliance with standards
	Noise nuisance caused by vehicles.	Control: Noise management monitoring and management	To be implemented daily throughout the operational phase: <ul style="list-style-type: none"> • Daily compliance monitoring by site management. • Quarterly compliance monitoring of site by an • Environmental Control Officer. 	<ul style="list-style-type: none"> • Noise levels on the site has to be managed and need to comply with the standards stipulated in NEM: AQA, 2004 Regulation 6(1) as well as the noise standards of SANS 10103:2008. • Employees working in areas with noise levels of more than 82dBA need to be issue with hearing protection.
	Contamination of area with hydrocarbons or hazardous waste materials.	Control: Implementation of waste management	To be implemented daily throughout the operational phase: <ul style="list-style-type: none"> • Daily compliance monitoring by site management. • Quarterly compliance monitoring of site by an • Environmental Control Officer. 	<ul style="list-style-type: none"> • The impact should be avoided through the implementation the mitigation measures stipulated in this document. • Should spillage however occur the area needs to be cleaned in accordance with the standards of the NEMWA, 2008.
Sloping and landscaping during rehabilitation	Soil erosion	Control: Soil management	To be implemented throughout the rehabilitation / closure phase: <ul style="list-style-type: none"> • Daily compliance monitoring by site management. • Compliance monitoring of site by an Environmental Control Officer. 	<ul style="list-style-type: none"> • The impact should be avoided through the implementation the mitigation measures stipulated in this document. • CARA, 1993

Activity	Potential impact	Mitigation type	Time period for implementation	Compliance with standards
	Health and safety risk posed by un-sloped areas	Control: Health and safety monitoring and management.	To be implemented throughout the rehabilitation / closure phase: <ul style="list-style-type: none"> • Daily compliance monitoring by site management. • Compliance monitoring of site by an Environmental Control Officer. 	<ul style="list-style-type: none"> • The impact should be avoided through compliance with the standards of the MHSA, 1996, OHSA, 1993 and OHSAS 18001
	Dust nuisance caused during sloping and landscaping activities.	Control: Dust suppression	To be implemented throughout the rehabilitation / closure phase: <ul style="list-style-type: none"> • Daily compliance monitoring by site management. • Compliance monitoring of site by an Environmental Control Officer. 	<ul style="list-style-type: none"> • Fallout dust levels has to comply with the acceptable dust fall rate published for non-residential areas in the National Dust Control Regulations 2013 – 600 < Dust Fall < 1 200 mg/m²/day. • Gravimetric dust levels have to comply with the standard published in the NIOSH guidelines – Particulates >1/10th of the occupational exposure limit. • NEM: AQA, 2004 Regulation 6(1).
	Noise nuisance caused by machinery.	Control: Noise monitoring	To be implemented throughout the rehabilitation / closure phase: <ul style="list-style-type: none"> • Daily compliance monitoring by site management. • Compliance monitoring of site by an Environmental Control Officer. 	<ul style="list-style-type: none"> • Noise levels on the site has to be managed and need to comply with the standards stipulated in NEM: AQA, 2004 Regulation 6(1) as well as the noise standards of SANS 10103:2008. • Employees working in areas with noise levels of more than 82dBA

Activity	Potential impact	Mitigation type	Time period for implementation	Compliance with standards
	Contamination of area with hydrocarbons or hazardous waste materials.	Controls: Waste management	To be implemented throughout the rehabilitation / closure phase: <ul style="list-style-type: none"> • Daily compliance monitoring by site management. • Compliance monitoring of site by an Environmental Control Officer. 	<p>need to be issue with hearing protection.</p> <ul style="list-style-type: none"> • The impact must be avoided through implementation of mitigation measures stipulated in this document. • Should spillage however occur the area needs to be cleaned in accordance with the standards of the NEMWA, 2008.
Replacing of topsoil and rehabilitation of disturbed area	Loss of reinstated topsoil due to the absence of vegetation	Control: Soil management	To be implemented throughout the rehabilitation / closure phase: <ul style="list-style-type: none"> • Daily compliance monitoring by site management. • Compliance monitoring of site by an Environmental Control Officer. 	<ul style="list-style-type: none"> • The impact should be avoided through the implementation the mitigation measures stipulated in this document. • CARA, 1993
	Infestation of the area by weed and invader plants.	Control and remedy: Implementation of weed control	To be implemented throughout the rehabilitation / closure phase: <ul style="list-style-type: none"> • Daily compliance monitoring by site management. • Compliance monitoring of site by an Environmental Control Officer. 	<ul style="list-style-type: none"> • The impact should be avoided through the eradication of Category 1 weeds/invader plants in terms of CARA, 1993 as well as the implementation of the mitigation measures in this document.

4.8.1 Mine type and saleable Mineral by-product

Mine type	Coal
Saleable Mineral by-product	None

4.8.2 Risk ranking

Primary risk ranking (either Table B.12 or B.13)	C (Low risk)
Revised risk ranking (B.14)	N/A

4.8.3 Environmental sensitivity of the Mine area

Environmental sensitivity of the Mine area	Low
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4.8.4 Level of information

Level of information available	Limited
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4.8.5 Identify closure components

Component nr	Main description	Applicability of closure components	
1	Dismantling of processing plant and related structures (including overland conveyors and power lines)		No
2 (A)	Demolition of steel buildings and structures		No
2 (B)	Demolition of reinforced concrete buildings and structures		No
3	Rehabilitation of access roads		No
4 (A)	Demolition and rehabilitation of electrified railway lines		No
4 (B)	Demolition and rehabilitation of non-electrified railway lines		No
5	Demolition of housing and facilities		No
6	Opencast rehabilitation including final voids and ramps	Yes	
7	Sealing of shafts, adits and inclines		No
8 (A)	Rehabilitation of overburden and spoils	Yes	
8 (B)	Rehabilitation of processing waste deposits and evaporation ponds (basic, salt-producing)		No
8 (C)	Rehabilitation of processing waste deposits and evaporation ponds (acidic, metal-rich)		No
9	Rehabilitation of subsided areas		No
10	General surface rehabilitation, including grassing of all denuded areas	Yes	
11	River diversions		No
12	Fencing		No

13	Water management (Separating clean and dirty water, managing polluted water and managing the impact on groundwater)		No
14	2 to 3 years of maintenance and aftercare		No

4.9 Mechanisms for compliance monitoring against EMP

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

- a) Monitoring of Impact Management Actions
- b) Monitoring and reporting frequency
- c) Responsible persons
- d) Time period for implementing impact management actions
- e) Mechanisms for monitoring compliance

Source activity	Impacts required monitoring programme	Functional requirements for monitoring	Roles and responsibilities for the execution of monitoring programmes	Monitoring and reporting frequency and time periods for implementing impact management actions
<ul style="list-style-type: none"> • Crushing • Stockpiling and transporting • Sloping and landscaping during rehabilitation 	<p>Dust monitoring</p> <ul style="list-style-type: none"> • The dust generated by the Processing Plant activities should be continuously monitored and addressed by the implementation of dust suppression methods. 	<p>Dust handling and monitoring</p> <ul style="list-style-type: none"> • Dust suppression equipment, like a water car and water dispenser. The applicant already has this equipment available. 	<p>Role</p> <ul style="list-style-type: none"> • Site Manager to ensure compliance with BAR & EMPr guidelines. • Compliance to be monitored by the Environmental Control Officer. <p>Responsibility</p> <ul style="list-style-type: none"> • Control dust liberation into surrounding environment by using, e.g., water spraying and/or other dust-allaying agents. • Limit speed on access roads to 40km/h to prevent excess dust generation. • Spray roads with water/environmentally friendly dust allaying agent that contains no PCBs (e.g. DAS products) if 	<p>Throughout construction, operational and decommissioning phase</p> <ul style="list-style-type: none"> • Daily compliance monitoring by site management. • Quarterly compliance monitoring of site by an Environmental Control Officer.

Source activity	Impacts required monitoring programme	Functional requirements for monitoring	Roles and responsibilities for the execution of monitoring programmes	Monitoring and reporting frequency and time periods for implementing impact management actions
			<p>dust is generated above acceptable limits.</p> <ul style="list-style-type: none"> • Assess effectiveness of dust suppression equipment. • Re-vegetate all disturbed/exposed areas as soon as possible to prevent any dust source from being created. • Ensure the crusher is equipped with water sprayers. 	
<ul style="list-style-type: none"> • Crushing • Sloping and landscaping during rehabilitation 	<p>Noise monitoring</p> <ul style="list-style-type: none"> • The noise generated by the Processing Plant activities should be continuously monitored, and any excessive noise should be addressed. 	<p>Noise handling and monitoring</p> <ul style="list-style-type: none"> • Site manager to ensure that the vehicles are equipped with silencers and kept roadworthy. • Compliance with the appropriate legislation with respect to noise will be mandatory. 	<p>Role</p> <ul style="list-style-type: none"> • Site Manager to ensure compliance with BAR & EMPr guidelines. • Compliance to be monitored by the Environmental Control Officer. <p>Responsibility</p> <ul style="list-style-type: none"> • Ensure that staff conduct themselves in an acceptable manner while on site. • No loud music permitted at the Processing Plant area. • Ensure that all Processing Plant vehicles are equipped with silencers and kept roadworthy in terms of the Road Transport Act. 	<p>Throughout construction, operational and decommissioning phase</p> <ul style="list-style-type: none"> • Daily compliance monitoring by site management. • Quarterly compliance monitoring of site by an Environmental Control Officer.
<ul style="list-style-type: none"> • Stockpiling and transporting 	<p>Management of weed or invader plants</p> <ul style="list-style-type: none"> • The presence of weed and/or invader plants should be continuously 	<p>Management of weed or invader plants</p> <ul style="list-style-type: none"> • Removal of weeds should be manually or by the use of an 	<p>Role</p> <ul style="list-style-type: none"> • Site Manager to ensure compliance with BAR & EMPr guidelines. • Compliance to be monitored by the Environmental Control Officer. <p>Responsibility</p>	<p>Throughout operational and decommissioning phase</p> <ul style="list-style-type: none"> • Daily compliance monitoring by site management. • Quarterly compliance

Source activity	Impacts required monitoring programme	Functional requirements for monitoring	Roles and responsibilities for the execution of monitoring programmes	Monitoring and reporting frequency and time periods for implementing impact management actions
	monitored, and any unwanted plants should be removed.	approved herbicide	<ul style="list-style-type: none"> • Implement a weed and invader plant control management plan. • Control declared invader or exotic species on the rehabilitated areas. • Keep the temporary topsoil stockpiles free of weeds. 	monitoring of site by an Environmental Control Officer.
<ul style="list-style-type: none"> • Stockpiling and transporting • Sloping and Landscaping during rehabilitation 	<p>Surface and storm water monitoring</p> <ul style="list-style-type: none"> • The effectiveness of the storm water infrastructure needs to be continuously monitored. 	<p>Surface and storm water handling</p> <ul style="list-style-type: none"> • Trenches and contours to be made to direct storm- and runoff water around the stockpile areas. 	<p>Role</p> <ul style="list-style-type: none"> • Site Manager to ensure compliance with BAR & EMPr guidelines. <p>Compliance to be monitored by the Environmental Control Officer.</p> <p>Responsibility</p> <ul style="list-style-type: none"> • Divert storm water around topsoil heaps, stockpile areas and access roads to prevent erosion and material loss. • Divert runoff water around the stockpile areas with trenches and contour structures to prevent erosion of the work areas. • Conduct Processing Plant in accordance with the Best Practice Guideline for small scale Processing Plant that relates to storm water management, erosion and sediment control and waste management, developed by the DWS, and any other conditions the DWS may impose. 	
<ul style="list-style-type: none"> • Sloping and Landscaping 	<p>Management of health and safety</p>	<p>Management of health and safety</p>	<p>Role</p> <ul style="list-style-type: none"> • Site Manager to ensure compliance with BAR & EMPr 	Throughout construction, operational and

Source activity	Impacts required monitoring programme	Functional requirements for monitoring	Roles and responsibilities for the execution of monitoring programmes	Monitoring and reporting frequency and time periods for implementing impact management actions
during rehabilitation	<ul style="list-style-type: none"> All health and safety aspects need to be monitored on a daily basis. 	<p>risks</p> <ul style="list-style-type: none"> Site manager to ensure that workers are equipped with required PPE while operating on site. The necessary warning signs must be present at the site to inform the public and workers of Processing Plant activities. 	<p>guidelines.</p> <ul style="list-style-type: none"> Compliance to be monitored by the Environmental Control Officer. <p>Responsibility</p> <ul style="list-style-type: none"> Submit an application for approval of access onto the R544 to the Department of Roads and Public Works prior to the commencement of work. 	<p>decommissioning phase</p> <ul style="list-style-type: none"> Daily compliance monitoring by site management. Quarterly compliance monitoring of site by an Environmental Control Officer

Source activity	Impacts required monitoring programme	Functional requirements for monitoring	Roles and responsibilities for the execution of monitoring programmes	Monitoring and reporting frequency and time periods for implementing impact management actions
<ul style="list-style-type: none"> Crushing stockpiling and transporting Sloping and landscaping during rehabilitation 	<p>Waste management</p> <ul style="list-style-type: none"> Management of waste should be a daily monitoring activity. Hydrocarbon spills need to be cleaned immediately and the site manager should check compliance daily. 	<p>Waste management</p> <ul style="list-style-type: none"> Closed containers for the storage of general/hazardous waste until waste is removed to the appropriate landfill site. Hydrocarbon spill kits to enable sufficient clean-up of contaminated areas. Drip trays should be available to place underneath haul vehicles while the vehicles are parked at night. Should a vehicle have a break down, it should be serviced immediately. 	<p>Role</p> <ul style="list-style-type: none"> Site Manager to ensure compliance with BAR & EMPrguidelines. Compliance to be monitored by the Environmental Control Officer. <p>Responsibility</p> <ul style="list-style-type: none"> Ensure that vehicle repairs only take place in the service bay area and all waste products are disposed of in a 200 l closed container/bin inside the emergency service area. Collect any effluents containing oil, grease or other industrial substances in a suitable receptacle and remove from site, for resale or appropriate disposal at a recognised facility. Clean spills immediately to the satisfaction of the Regional Manager by removing the spillage and polluted soil and by disposing of them at a recognised facility. Ensure availability of suitable covered, conveniently placed receptacles at all times for waste disposal. Place all used oils, grease or hydraulic fluids therein and remove receptacles from site regularly for disposal at a registered/licensed hazardous disposal facility. Store non-biodegradable refuse such as glass bottles, plastic bags, metal scrap, etc., in a container with a closable lid at a collecting point. Collection should take 	<p>Throughout construction, operational and decommissioning phase</p> <ul style="list-style-type: none"> Daily compliance monitoring by site management. Quarterly compliance monitoring of site by an Environmental Control Officer.

Source activity	Impacts required monitoring programme	Functional requirements for monitoring	Roles and responsibilities for the execution of monitoring programmes	Monitoring and reporting frequency and time periods for implementing impact management actions
			<p>place regularly and disposed of at the recognised landfill site at Emalahleni. Prevent refuse from being dumped on or in the vicinity of the Mine area.</p> <ul style="list-style-type: none"> • Biodegradable refuse to be handled as indicated above. 	

Source activity	Impacts required monitoring programme	Functional requirements for monitoring	Roles and responsibilities for the execution of monitoring programmes	Monitoring and reporting frequency and time periods for implementing impact management actions
Stockpiling and transporting	<p>Management of access roads</p> <ul style="list-style-type: none"> • Access road conditions must be continuously monitored. • Vehicles carrying materials has to be equipped with adequate tarpaulin type covers to ensure that material being transported will not leave the vehicle during transportation. 	<p>Management of access roads</p> <ul style="list-style-type: none"> • Dust suppression equipment such as a water car and dispenser. • Trenches and contours to be made to direct storm- and runoff water around the access roads. 	<p>Role</p> <ul style="list-style-type: none"> • Site Manager to ensure compliance with BAR & EMPr guidelines. • Compliance to be monitored by the Environmental Control Officer. <p>Responsibility</p> <ul style="list-style-type: none"> • Maintain newly constructed access roads (if applicable) to minimise dust, erosion or undue surface damage. • Divert storm water around access roads to prevent erosion. • Erosion of access road: Restrict vehicular movement to existing access routes to prevent crisscrossing of tracks through undisturbed areas. • Cover vehicles carrying materials with adequate tarpaulin type covers to ensure that material being transported does leave the vehicle during transportation. • Ensure vehicles entering and using the public road system from the site does not exceed the permissible legal limits on gross vehicle mass and individual axle loads as prescribed in terms of the National Road Traffic Act (Act No 93 of 1996). 	<p>Throughout construction, operational and decommissioning phase</p> <ul style="list-style-type: none"> • Daily compliance monitoring by site management. • Quarterly compliance monitoring of site by an • Environmental Control Officer.
Topsoil stripping and stockpiling	<p>Topsoil handling</p> <ul style="list-style-type: none"> • When topsoil has been removed from 	<p>Topsoil handling</p> <ul style="list-style-type: none"> • Excavating equipment to 	<p>Role</p> <ul style="list-style-type: none"> • Site Manager to ensure compliance with BAR & EMPr guidelines. 	<p>Throughout construction, operational and decommissioning phase</p>

Source activity	Impacts required monitoring programme	Functional requirements for monitoring	Roles and responsibilities for the execution of monitoring programmes	Monitoring and reporting frequency and time periods for implementing impact management actions
	<p>any area the topsoil heaps need to be continuously protected against loss of soil due to wind and water erosion.</p>	<p>remove the first 300mm of topsoil from the proposed work areas. The applicant already has this equipment available.</p> <ul style="list-style-type: none"> • Trenches and contours to be made to direct storm and runoff water around stockpiled topsoil area. 	<ul style="list-style-type: none"> • Compliance to be monitored by the Environmental Control Officer. <p>Responsibility</p> <ul style="list-style-type: none"> • Remove the first 300mm of topsoil in strips and store at the stockpile area. • Keep the temporary topsoil stockpiles free of weeds. • Place topsoil stockpiles on a levelled area and implement measures to safeguard the piles from being washed away in the event of heavy rains/storm water. • Topsoil heaps should not exceed 2 m in order to preserve micro-organisms within the topsoil, which can be lost due to compaction and lack of oxygen. • Divert storm- and runoff water around the stockpile area and access roads to prevent erosion. 	<ul style="list-style-type: none"> • Daily compliance monitoring by site management. • Quarterly compliance monitoring of site by an • Environmental Control Officer.

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

The committed time frames for monitoring and reporting are stipulated in the following:

Monitoring aspect	Time frames	Reporting
Dust handling	Throughout construction, operational and decommissioning phase	<ul style="list-style-type: none"> • Daily compliance monitoring by site management • Quarterly compliance monitoring of site by an Environmental Control Officer
Noise handling		
Management of weed/invaser plants	Throughout operational and decommissioning phase	
Surface and storm water handling		
Management of health and safety risks	Throughout construction, operational and decommissioning phase	
Waste management		
Management of access roads		
Topsoil handling		

4.11 Environmental Awareness Plan

4.11.1 Manner in which the applicant intends to inform employees of any environmental risk which may result from their work

Training, as detailed below, will address the specific measures and actions required for specific emergency events. In this way, each employee will be provided the knowledge required for their job to, firstly, prevent impact and secondly identify if an impact is likely to occur and then to report the possibility of risk or impact immediately so as to ensure immediate response. The most likely potential environmental emergencies in this proposed Processing Plant operation are fires and explosions, chemical spills/leaks, and flooding. In the case of environmental emergencies, the remedial measures and actions as listed in the Emergency Response Plan should be followed, in addition the following relevant authorities should be contacted:

Dept. of Water Affairs

Mr Masala Mulaudzi (Acting Chief Director: Mpumalanga)

Private Bag X11259

NELSPRUIT

1200

Tel: (013) 759 7300

Fax: (013) 759 7525

Cell: 082 327 5886
Prorom Building
c/o Brown & Paul Kruger Streets
NELSPRUIT
1200
MulaudziM@dws.gov.za

Dept. of Mineral Resources

Mpumalanga
Saveways Crescent Centre, Mandela Drive, Emalahleni, 1035
Private Bag X7279, EMALAHLENI, 1035(013) 653 0500 (013) 690 3288
Secretary
Ms L Maphopha
Lydia.Maphopha@dmr.gov.za

Delmas Fire Department

Van Der Walt St & Samuel Rd, Delmas, 2210
P.O. Box 6, Delmas, Mpumalanga, 2210
Contact number (s) (013) 665 3333 / (013) 665 2939
Fax (013) 665 2913

4.11.1.1 Fire and explosion control measures

Hazardous waste and dangerous substances can, by the verify definition, be flammable and reactive. As such, special precautionary measures must be taken when handling these substances. On the other hand, veld fires and fires resulting from other sources must be handled with extreme caution. In the event of a fire:

- Fire extinguishers must be placed around the Mine at accessible locations and needs to be frequently inspected and maintained in working condition.
- An alarm must be activated to alert all employees and contractors.
- Identify the type of fire and the appropriate extinguishing material. E.g., water for a grass fire and mono ammonium phosphate-based fire extinguisher for chemical and electrical fires
- In the event of a small fire, the fire extinguishers placed around the Mine should be used to contain and extinguish the fire.
- In the event of a large fire, the fire department will be notified.

- All staff will receive training in response to a fire emergency on site, including evacuation procedures.
- If possible, surrounding drains, such as storm water drains must be covered and/or protected to prevent any contaminated water from entering the drains.
- In case of a chemical or petroleum fire, run-off from the area must be contained as far as possible using the most appropriate measures, e.g. spill absorbent cushions, sand or a physical barrier.
- Contaminated run-off must be diverted into an oil sump, or cleaned up.

Control measures include:

- Minimising the storage of flammable liquids on site (e.g. fuel, flammable wastes)
- Using a nitrogen atmosphere for organic waste liquid with a low flashpoint stored in tanks
- Not allowing smoking anywhere on site
- Providing an emergency tipping area for waste loads identified to be on fire or otherwise deemed an immediate risk
- Preparing and annually reviewing a fire risk assessment
- Ensuring all staff are appropriately trained for fire and explosion hazards

Other than explosion incidents related to Processing Plant, explosions can occur in the workshop areas when working with gas cylinders and chemicals. These could result in large numbers of employees being injured and requiring medical assistance.

The procedure to be followed includes:

- Devising safe evacuation routes in the event of an uncontrolled explosion and all staff trained on relevant evacuation routes and assembly points.
- Providing first aid to injured parties, once safe to do so for first responders.

4.11.1.2 Chemical spills

Hydrocarbons such as diesel, petrol, and oil used as fuel for Mine machinery will be kept on site, meaning that spillage may occur. As this is a coal Mine there is also the possibility of a coal spillage occurring. Any chemicals contained on site, such as those associated with explosives, may also be detrimental to the environment if spills occur. In the event of a spillage, procedures must be put into place to ensure that there are minimal impacts to the surrounding environment.

The following procedure applies to a chemical spill:

- The incident must be reported to the SHE officer immediately.
- The SHE officer will assess the situation from the information provided, and set up an investigation team. Included in this team could be the General Mine Manager, SHE Officer, the employee who reported the incident and an individual responsible for the incident.
- When investigating the incident, priority must be given to safety.
- Once the situation has been assessed, the Environmental Coordinator must report back to the Mine Manager.
- The General Mine Manager and the investigation team must make a decision on what measures can be taken to limit the damage caused by the incident, and if possible, any remediation measures that can be taken.
- In the event of a small spillage, the soil must be treated in situ, using Hazmat clean up kits and bioremediation.
- Every precaution must be taken to prevent the spill from entering the surface water environment.
- In the event of a large spillage, adequate emergency equipment for spill containment or collection, such as additional supplies of booms and absorbent materials, will be made available and if required, a specialised clean-up crew will be called in to decontaminate the area. The soil must be removed and treated at a special soil rehabilitation facility.
- Reasonable measures must be taken to stop the spread of spills and secure the area to limit access.

4.11.1.3 Flooding

There is always potential for flooding during the rainy season. This could result in a large volume of water accumulating in a water containment facility, which could cause major damage to equipment and endanger the lives of employees on site. Procedures must be put in place to ensure a quick response to flood events and minimal damage.

The procedure for flooding is as follows:

- During operations, DWS's flood warning system must be reviewed annually.
- The use of emergency pumps must occur if the water floods the Processing Plant

- Mine management must be made aware of any such event so they can take appropriate action to ensure minimal production losses.
- All contaminated water must be contained on site, as far as possible and discharges to the environment must only occur if absolutely necessary in an extreme flood event.

5 Manner in which risk will be dealt with to avoid pollution or environmental degradation

5.1 Training (educational needs)

The Safety, Health and Environment (SHE) Officer must ensure that:

- New employees attend environmental awareness programmes through inductions
- Mine management conducts bi-annual workshops
- Documented training and competency
- Training records be maintained
- Training includes proper management of waste streams, labelling, containers and emergency procedures outlined
- Hazardous waste handlers and their supervisors/managers must complete training or on-the-job instruction relevant to their duties to include hazardous waste management procedures and contingency plan implementation
- Training of all personnel must be completed before duties are assigned and training in terms of handling of hazardous waste must be repeated annually and as and when required

5.2 Outsourced specialist skills

A training department will be established on site during operations. All inductions and workshops will be hosted by this department. This department, in conjunction with the SHE Officer, is responsible for ensuring job-specific training for personnel performing tasks, which can cause significant environmental (e.g. receipt of bulk hazardous chemicals/fuel, hazardous materials handling, responding to emergency situations etc.). The General Mine Manager (GM) with the assistance of the SHE Officer must identify relevant personnel and training courses. Short courses such as First aid training, Level 1 and 2; Fire Fighting Level; safety representative training; etc. should be mandatory and sourced from the training providers,

5.3 Review and updating of training manual and course layout

Before implementing the emergency and response plans and other environmental standard operating procedure, the SHE Coordinator and GM/Supervisors will designate and train a sufficient number of persons to assist in the safe and orderly emergency evacuation of employees.

All training manual and courses must be reviewed with all employees at the following times:

- Initially when the plan is developed,
- Whenever the employee's responsibilities or designated action under the plan change, and whenever the plan or Processing Plant processes has changed.
- At least annually employee meetings are to be held to train employees of the contents of the EP&RP and revise the plan as appropriate.
- Drills will be conducted, and full participation encouraged.
- All training must be documented in writing and copies sent to GM.

Effectiveness of the environmental management training will be done by management through task observations and during internal and external audits. All training material for presentation to personnel and contractors will be reviewed annually to ensure consistency with organisational requirements and best practice guidelines. In addition to this, annual monitoring reports, audit results and all incident reports will be reviewed; any shortcomings and non-compliance will be highlighted, and management measures incorporated or improved upon within the training material.

5.4 Records

The Mine will keep records such as waste, water, electricity usage etc. Record of incoming and outgoing waste must be kept, and these must include:

- Types and categories of incoming and outgoing waste
- Quantities of each waste type and category
- Transporter details
- Safe disposal certificate must always be returned and filed at waste disposal site
- Training records for all employees working on the hazardous waste facility

- All records must be computerised or legible paper trails and cross-referenced, waste tracking easily accessed
- Records must be kept in a database on site for 3 years or more

Records from the implementation of this EAP will be kept and controlled in accordance with the SHE Management System Control of Records Procedure of the Mine, which is required to be implemented so as to provide evidence of conformity and effective operation of the relevant requirements of the SHE management system.

5.5 Environmental awareness notice boards

The following basic environmental education material will be posted on a monthly basis on accessible notice boards on Mine premises, one topic will be selected each month:

<p>WHAT IS THE ENVIRONMENT?</p> <ul style="list-style-type: none"> • Soil • Water • Plants • People • Animals • Air we breathe • Buildings, cars and houses 	<p>WHY MUST WE LOOK AFTER THE ENVIRONMENT?</p> <ul style="list-style-type: none"> • It affects us all as well as future generations • We have a right to a healthy environment • A contract has been signed • Disciplinary action (e.g. construction could stop or fines issued)
<p>ANIMALS</p> <ul style="list-style-type: none"> - Do not injure or kill any animals on the site - Ask your supervisor or Contract's Manager to remove animals found on site 	<p>TREES AND FLOWERS</p> <ul style="list-style-type: none"> - Do not damage or cut down any trees or plants without permission - Do not pick flowers 
<p>SMOKING AND FIRE</p> <ul style="list-style-type: none"> - Put cigarette butts in a rubbish bin - Do not smoke near gas, paints or petrol - Do not light any fires without permission - Know the positions of fire fighting equipment - Report all fires - Do not burn rubbish or vegetation without permission 	<p>PETROL, OIL AND DIESEL</p> <ul style="list-style-type: none"> - Work with petrol, oil & diesel in marked areas - Report any petrol, oil & diesel leaks or spills to your supervisor - Use a drip tray under vehicles & machinery - Empty drip trays after rain & throw away where instructed 
<p>DUST</p> <p>Try to avoid producing dust - Use water to make ground & soil wet</p> 	<p>NOISE</p> <ul style="list-style-type: none"> - Do not make loud noises around the site, especially near schools and homes - Report or repair noisy vehicles 

TRUCKS AND DRIVING

- Always keep to the speed limit
- Drivers - check & report leaks and vehicles that belch smoke
- Ensure loads are secure & do not spill



RUBBISH

- Do not litter - put all rubbish (especially cement bags) into the bins provided
- Report full bins to your supervisor
- The responsible person should empty bins regularly



EATING

- Only eat in demarcated eating areas
- Never eat near a river or stream
- Put packaging & leftover food into rubbish bins



TOILETS

- Use the toilets provided
- Report full or leaking toilets



HOW DO WE LOOK AFTER THE ENVIRONMENT?

- Report problems to your supervisor/ foreman
- Team work
- Follow the rules in the EMP



WORKING AREAS

- Workers & equipment must stay inside the site boundaries at all times



The operations manager must ensure that they understand the BAR & EMPr document, its requirements and commitments before any Processing Plant takes place. An Environmental Control Officer must ensure compliance of Processing Plant activities to the management programmes described in the EMPr. The following list represents the basic steps towards environmental awareness, which all participants in this project must consider whilst carrying out their tasks.

5.5.1 Site management

- Stay within site boundaries – do not enter adjacent properties
- Keep tools and material properly stored
- Smoke only in designated areas
- Use toilets provided – report full or leaking toilets

5.5.2 Water management and erosion

- Check that rainwater flows around work areas and is not contaminated
- Report any erosion
- Check that dirty water is kept from clean water
- Do not swim in or drink from streams

5.5.3 Waste management

- Take care of your own waste
- Keep waste separate into labelled containers – report full bins
- Place waste in containers and always close lid
- Don't burn waste
- Pick-up any litter laying around

5.5.4 Hazardous waste management (petrol, oil, diesel, grease)

- Never mix general waste with hazardous waste
- Use only sealed, non-leaking containers
- Keep all containers closed and store only in approved areas
- Always put drip trays under vehicles and machinery
- Empty drip trays after rain
- Stop leaks and spills, if safe
- Keep spilled liquids moving away
- Immediately report the spill to the site manager/supervision
- Locate spill kit/supplies and use to clean-up, if safe
- Place spill clean-up wastes in proper containers
- Label containers and move to approved storage area

5.5.5 Discoveries

- Stop work immediately
- Notify site manager/supervisor
- Includes archaeological finds, cultural artefacts, contaminated water, pipes, containers, tanks and drums, any buried structures

5.5.6 Air quality

- Wear protection when working in dusty areas
- Implement dust control measures:
 - Sweep paved roads

- Water all roads and work areas
- Minimise handling of material
- Obey speed limit and cover trucks

5.5.7 Driving and noise

- Use only approved access roads
- Respect speed limits
- Only use turn-around areas – no crisscrossing through undisturbed areas
- Avoid unnecessary loud noises
- Report or repair noisy vehicles

5.5.8 Vegetation and animal life

- Do not remove any plants or trees without approval of the site manager
- Do not collect fire wood
- Do not catch, kill, harm, sell or play with any animal, reptile, bird or amphibian on site
- Report any animal trapped in the work area
- Do not set snares or raid nests for eggs or young

5.5.9 Fire management

- Do not light any fires on site, unless contained in a drum at demarcated area
- Put cigarette butts in a rubbish bin
- Do not smoke near gas, paints or petrol
- Know the position of firefighting equipment
- Report all fires
- Don't burn waste or vegetation

5.6 Specific information required by the Competent Authority

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

Department of Agriculture, Rural Development, Land & Environmental Affairs

6 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 I&APs and any response of the EAP to comments or inputs made by I&APs are correctly reflected herein

Signature of the Environmental Assessment Practitioner

Singo Consulting (Pty) Limited

Name of company

Date

-END-

Appendix A: Competent Authority Letters

DFFE



**forestry, fisheries
& the environment**

Department:
Forestry, Fisheries and the Environment
REPUBLIC OF SOUTH AFRICA

Private Bag X447, Pretoria, 0001, Environment House, 473 Steve Biko Road, Pretoria, 0002 Tel: +27 12 399 9000, Fax: +27 86 625 1042

Ref: EDMS227602 / Cieli Blu, Plot 12 Leeuwpoot 283 Mpumalanga Province

Enquiries: D. Prinsloo / G. Walters Tel: (012) 399 9486 / 9476

Email: DPrinsloo@dfpe.gov.za / GWalters@dfpe.gov.za
www.dfpe.gov.za

Mr Given Mashaba
CIELI BLU
Portion 2 Plot 12 Leeuwpoot 283
Mpumalanga

Cell: 082 807 8777

Email: Mashaba.given@gmail.com

Dear Sirs

NOTICE OF INTENTION TO ISSUE A COMPLIANCE NOTICE IN TERMS OF SECTION 31L OF THE NATIONAL ENVIRONMENTAL MANAGEMENT ACT, 1998 (ACT 107 OF 1998) ("NEMA"): PORTION 2 PLOT 12 LEEUWPOORT 283, MPUMALANGA PROVINCE

INTRODUCTION:

1. I, Frances Craigie, in my capacity as a Grade 1 Environmental Management Inspector ("EMI"), after having considered the matter, am of the view that Cieli Blu has failed to adhere to the provisions of environmental law with respect to maintenance activities taking place on Portion 2 Plot 12 Leeuwpoot 283, Mpumalanga Province.
2. Accordingly, I hereby give you written notice of the Department's intention to issue you with a Compliance Notice in terms of Section 31L of the National Environmental Management Act, 1998 (Act No. 107 of 1998) ("NEMA").

RATIONALE FOR THE INTENDED COMPLIANCE NOTICE:

3. I refer to the site inspection conducted on the 17th of February 2023 by EMI's from this Department as well as members of the South African Police Service (SAPS).



Batho pele- putting people first

The processing of personal information by the Department of Forestry, Fisheries and the Environment is done lawfully and not excessive to the purpose of processing in compliance with the POPI Act, any codes of conduct issued by the Information Regulator in terms of the POPI Act and / or relevant legislation providing appropriate security safeguards for the processing of personal information of others.

4. The Compliance Notice I intend to issue relates to your non-compliance with:
 - 4.1. the provisions of the National Environmental Management: Air Quality Act, 2004 (Act 39 of 2004) (NEM:AQA) read with the Listed Activities and associated minimum emission standards identified in terms of section 21 of the NEM:AQA (GN893 of 22 November 2013); and
 - 4.2. The provisions of NEMA read with the Environmental Impact Assessment Regulations Listing Notice 1 of 2014 (GNR983 of 4 December 2014).
5. The details of the specific non-compliances are provided below in Tables 1 and 2, read with Annexure A attached hereto.

Table 1: Observations and findings in relation to alleged non-compliances with the provisions of NEM:AQA:

finding	Application to the facts	Legislative Provision
Conducting a listed activity without an Atmospheric Emissions License (AEL)	<p>a) On the 17th of February 2023 an investigation of activities taking place at Cielu Blu on Portion 2 Plot 12 Leeuport was conducted by EMIs from this Department and members of the SAPS</p> <p>b) The following observations were made:</p> <ul style="list-style-type: none"> • Approximately 16 large coal stockpiles were observed on site, together with numerous trucks either already loaded and waiting to leave, or that still needed to be loaded; • According to Mr Mashaba he is the landowner and is responsible for having the vegetation on the site cleared during approximately 2019, for which no Environmental Authorisation was obtained; • Mr Mashaba also advised that the owner of Cielu Blu passed away during the Covid-19 pandemic, after which Mr Mashaba took over the day to day running and decision making of the company; • The site is approximately 4.2 hectares in size; • Signs of erosion were observed across the site. Of particular concern are the channels / gullies which have been dug around the perimeter of the site which appear to channel coal sludge / contaminated water to an area off to the side of the site. • A Compliance Notice was issued to Cielu Blue for the attention of Given Mashaba in April 2021. Mr Mashaba said he appointed various specialists after receiving the notice but they did not help him. <p>c) Section 22 of NEM:AQA states that no person may, without a provisional atmospheric emission licence or an atmospheric emission licence, conduct an activity listed on a national or provincial list.</p> <p>d) Based on the observations made during the site inspection the following activity is applicable: Category 5: Mineral Processing and Handling Subcategory 5.1: Storage and Handling of Ore and Coal <i>1) Storage and handling of ore and coal not situated on the premises of a mine or works as defined in the Mines Health and Safety Act 29/1996.</i> <i>Applicable to locations designed to hold more than 100 000 tons.</i></p>	NEM:AQA S22

e) No AEL for the above-mentioned activity was provided. Conducting such activity without AEL has the potential to cause significant pollution and / or degradation of the environment.	
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Table 2: Observations and findings in relation to alleged non-compliances with the provisions of NEMA:

finding	Application to the facts	Legislative Provision
Commencement of listed activity without Environmental Authorisation	<p>a) The observations made during the site inspection conducted on the 17th of February 2023 are referred to in Table 1 above.</p> <p>b) Section 24F(1) of NEMA states that no person may commence an activity listed or specified unless the competent authority has granted Environmental Authorisation for the activity. In order for the coal storage and processing activities to be conducted on site a large area of vegetation was cleared. In this regard the following listed activity (GNR983 of 4 December 2014) is applicable:</p> <p>Activity 27 <i>The clearance of an area of 1 hectares or more, but less than 20 hectares, of indigenous vegetation, except where such clearance is required for –</i> <i>(i) The undertaking of a linear activity, or</i> <i>(ii) Maintenance purposes undertaken in accordance with a maintenance management plan.</i></p> <p>c) No Environmental Authorisation was provided. As such, the Department is of the view that the clearing of vegetation without Environmental Authorisation and subsequent coal storage activities, is not only in contravention of the provisions of environmental law, but also has the potential to cause significant pollution and / or degradation of the environment.</p>	NEMA S24F(1)(a)

INTENDED INSTRUCTIONS:


6. You are therefore afforded a period of fourteen (14) calendar days from the date of receipt of this notice to make representations as to why this Department should not use its discretion and issue you with a Compliance Notice in terms of section 31L of the NEMA, which will instruct you to do the following:
 - 6.1. Immediately (within 24 hours) upon receipt of the final Compliance Notice, cease with all activities on the site until such time that the relevant licenses / authorisations have been received from the relevant Competent Authorities.
 - 6.2. Within ten (10) calendar days upon receipt of the final Compliance Notice, appoint a suitably qualified specialist / professional to conduct a contamination assessment and prepare a site rehabilitation plan for the site. Proof of appointment of the specialist must be submitted to the Department within the 10 day timeframe;
 - 6.3. The specialist / professional contracted in terms of intended instruction 6.2 above, is required to compile a detailed assessment report for approval by this Department. The report must, as a minimum, include the following:
 - 6.3.1. An investigation into the impacts which the storage of coal has had / is having on the soil, surface and groundwater quality of the site and surrounding areas;
 - 6.3.2. provide recommendations on appropriate mitigation and rehabilitation measures to be implemented; and
 - 6.3.3. provide timeframes for the implementation of the mitigation and rehabilitation measures identified in terms of intended instruction 6.3.2 above.
 - 6.4. The report mentioned in 6.3 above, must be submitted to the Department, for approval, within sixty (60) calendar days upon receipt of the final Compliance Notice.
 - 6.5. Implement the approved mitigation and rehabilitation measures within the timeframes approved by the Department.

CONCLUSION:

7. Depending on the outcome of the representations made in this regard, the Department will decide upon a way forward regarding this matter. The submission of the requested information above does not imply that no further action would be taken against you.
8. Please refer to Annexure A contained at the end of this notice, for further details on the offences and penalties which may be applicable.

9. If you should be unclear about any aspect of this notice, kindly contact the person indicated for enquiries as soon as possible.

Yours sincerely



MS FRANCES CRAIGIE
CHIEF DIRECTOR: SECTOR ENFORCEMENT
GRADE 1 ENVIRONMENTAL MANAGEMENT INSPECTOR
DATE: 28/2/2023

Acknowledgement of Receipt:

NOTICE OF INTENTION TO ISSUE A COMPLIANCE NOTICE IN TERMS OF SECTION 31L OF THE NATIONAL ENVIRONMENTAL MANAGEMENT ACT, 1998 (ACT 107 OF 1998) ("NEMA"): PORTION 2 PLOT 12 LEEUWPOORT 283, MPUMALANGA PROVINCE

Received by Mr/Mrs/Ms: _____

On behalf of: _____

On this _____ day of _____ 2023,

Signature

Annexure A
Offences and Penalties

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

OFFENCE	
Section	Provision
S24F(1)(a)	<i>Notwithstanding any other Act, no person may commence an activity listed or specified in terms of section 24(2)(a) or (b) unless the competent authority or the Minister responsible for mineral resources, as the case may be, has granted authorisation for the activity</i>
S49A(1)(a)	<i>A person is guilty of an offence if that person commences with an activity in contravention of section 24F(1)</i>
S49A(1)(e)	<i>A person is guilty of an offence if that person unlawfully and intentionally or negligently commits any act or omission which caused significant pollution or degradation of the environment or is likely to cause significant pollution or degradation of the environment.</i>
S49A(1)(f)	<i>A person is guilty of an offence if that person unlawfully and intentionally or negligently commits any act or omission detrimentally affects or is likely to detrimentally affect the environment.</i>
PENALTY	
S49B(1)	<i>A person convicted of an offence in terms of section 49A(1)(a) (e) and (f) is liable to a fine not exceeding R10 million or to imprisonment for a period not exceeding 10 years, or to both such fine or such imprisonment.</i>

National Management: Air Quality Act, 2004 (Act 39 of 2004) ("NEM:AQA")

OFFENCES	
Section	Provision
S22	<i>No person may without a provisional atmospheric emission licence or an atmospheric emission licence conduct an activity – (a) Listed on the national list anywhere in the Republic; or (b) Listed on the list applicable in a province anywhere in that province</i>
S51(1)(a)	<i>A person is guilty of an offence if that person contravenes a provision of 22(a).</i>
PENALTIES	
Section	Provision
S52(1)	<i>A person convicted of an offence referred to in section 51 is liable to a fine not exceeding five million rand, or to imprisonment for a period not exceeding five years and in the case of a second or subsequent conviction, to a fine not exceeding R10 million or imprisonment for a period not exceeding 10 years or in both instances to both a fine and such imprisonment.</i>

Annexure B - Photographs



Photograph 1: overview of the site



Photograph 2 – coal sludge / contaminated water area

Batho pele- putting people first



Photograph 3: Channels dug around the site leading to the "sludge area"

DARDLEA



agriculture, rural development,
land & environmental affairs
MPUMALANGA PROVINCE
REPUBLIC OF SOUTH AFRICA

Samora Machel Building, No. 7 Government Boulevard, Riverside Park, Extension 2, Mbombela, 1200.
Mpumalanga Province, Private Bag X 11219, 1200
Tel: +27 (013) 766 6067/8, Fax: +27 (013) 766 8295, Int. Tel: +27 (13) 766 6067/8, Int. Fax: +27 (13) 766 8295

Liiko Letekulima, Kufufukilewa
Kwelindzawo Tsesemakhaya, Tembaba
Natesimondzawo

Departement van Landbou,
Landelike Ontwikkeling
Grond en Ongeewing Saak

umNyango weZelimo
UkuThuthukiswa kweNidawo
zemaKhaya.

ENVIRONMENTAL
MANAGEMENT
INSPECTORATE



Enf Ref : 17/2/ENF 09/2021/22
Enquiries : MAANDA ALIDZULWI
Contact : 082 421 8454

Ceili Blu Mining (Pty) LTD
Eagle Heigh Number 3
Ryno Ridge
WITBANK
1035

Attention: Mr. Given Mashaba

Cell : 082 884 3854

Email: Mashaba.given@gmail.com

received

19/05/2021 16:11

By Miss HP Nkumande.

COMPLIANCE NOTICE IN TERMS OF SECTION 31L OF THE NATIONAL ENVIRONMENTAL MANAGEMENT ACT 107 OF 1998 (HEREINAFTER REFERRED TO AS NEMA) FOR COMMENCING WITH THE LISTED ACTIVITY AT PORTION 2, PLOT 12 OF FARM LEEUWPOORT 283 JS. EMALAHLENI LOCAL MUNICIPALITY.

INTRODUCTION:

1. I refer to the above matter as well as the following:

- (a) The complaint received by the Department regarding the activities conducted on the abovementioned site.
- (b) A site inspection conducted on site by the Environmental Management Inspectors (the EMI's) on the 8th day of April 2021.

FINDINGS (Details of conduct constituting non compliance):

2. During an inspection that was conducted by the EMI's, the following was observed:

- (a) Security guard house;
- (b) Erection of fence around the property;
- (c) Installation of aboveground diesel tank 1X8000 litres;
- (d) Administration block/offices;



- (e) Visitors' parking bay;
- (f) Ablution facilities;
- (g) One mobile and one static coal crushing plant.

3. I, **Pamella Ntuli** in my capacity as a **Grade 1 Environmental Management Inspector (EMI)**, hereby issue against you **Ceili Blu Mining (Pty) LTD** a Compliance Notice in terms of Section 31L of the National Environmental Management Act (Act 107 of 1998) ("NEMA") and **Regulation 8 of the Environmental Management Inspectors Regulations (GNR 494 dated 2 June 2006)** issued in terms of NEMA.

4. The Compliance Notice relates to the illegal commencement with an activities which are listed under **GNR 327 Listing Notice 1** dated 04 December 2014 as amended. The activities required an environmental authorisation in terms of Section 24 (5) of NEMA read with GN R327 Environmental Impact Assessment Regulations prior commencement.

5. **THE FOLLOWING ACTIVITIES ARE IDENTIFIED IN GNR327 TO HAVE COMMENCED UNLAWFULLY IN THE ABSENCE OF AN ENVIRONMENTAL AUTHORISATION (Prohibited Conduct)**

The relevant section of the NEMA provides as follows: *Section 24F (1): Notwithstanding any other Act, no person may:*

- 1. (a) commence an activity listed or specified in terms of section 24(2)(a) or (b) unless the competent authority or the Minister of Minerals and Energy, as the case may be, has granted an environmental authorisation for the activity;
- 2. Section 49A (1); a person is guilty of an offence if that person commences with an activity in contravention of Section 24F (1).

6. **PROHIBITED ACTIVITIES**

GNR 327 Listing Notice 1

6.1 Activity 27 The clearance of an area of 1 hectares or more, but less than 20 hectares of indigenous vegetation, except where such clearance of indigenous vegetation is required for—
(i) the undertaking of a linear activity; or
(ii) maintenance purposes undertaken in accordance with a maintenance management plan. JN



7. INSTRUCTIONS (Steps to be taken):

- 7.1 Within 5(five) working days of receipt of the Notice, appoint the services of an accredited Environmental Management Practitioner to submit a report detailing the environmental damage culminating from the said activity.
- 7.2 The Environmental Practitioner must thereafter compile an environmental rehabilitation plan for the environmental damage on site and submit the plan to this department to be considered which includes, but is not only limited to *inter alia* the following:
- (a) Indicate the extent of the environmental damage caused by the unauthorised activities, together with the plan to reinstate the environmentally damaged area to its original state that it was prior to the commencement with the listed activities, with specific emphasis to any adjacent watercourse in the area.
 - (b) Indicate the impact caused by the activities on the receiving environment, watercourses, taking into consideration biodiversity, ecosystem, siltation and soil erosion within the riparian zone of the watercourse (if any).
 - (c) Detailed recommendation aimed at the specific methodology to be undertaken for the remediation and the restoration of all the other areas affected by the unlawful activity undertaken on site.
- 7.3 Within 30 (thirty) working days from receipt of the Compliance Notice submit the reports mentioned hereinabove for Departmental consideration by the Department.
- 7.4 Implement the measures identified in the report within 7(seven) working days if the Department has made a decision to approve the report. The Department further reserves the right to augment (within reasonableness) any of the measures identified in the report without any prior notice.
- 7.5 The Department further reserves the right to use the information provided by the specialist appointed in criminal proceedings. In this regard please be advised that the specialist may be called to provide evidence on behalf of the state.
8. I would also like to bring to your attention that the commencement of a listed activity without an environmental authorisation is **prohibited in terms of section 24F of the NEMA.**
9. **You may still submit an application in terms of Section 24G (1) of NEMA for an *ex post facto* environmental impact assessment.** However, take note that the submission of the application in terms of sub-section section (1) or the granting of an environmental authorisation in terms of sub-section 2 (b) shall in no way derogate from: *JN*



- (i) The Environmental Management Inspectors (EMI's) or the South African Police (SAPS) to investigate any transgression in terms of this Act or any specific environmental management Act.
- (ii) The National Prosecuting Authority's legal authority to institute any criminal prosecution.

10. It further constitutes an offence in terms of section 49A of NEMA, upon conviction for such an offence, a person is liable to a fine not exceeding R 10 Million or to imprisonment for a period not exceeding 10 years or to both such fine and imprisonment.

11. (Procedure for lodging an objection)

- (a) In terms of section 31M of NEMA you are entitled to lodge an objection to this compliance notice. Kindly note the following in relation to this option:
 - (b) If you would like to request to vary this notice or to extend the period to which it relates, you may make written representations to this Department to do so.
 - (c) If you wish to lodge an objection to this notice, you may also do so by **submitting representations, in writing, to the MEC within 30 days of receipt of this notice.**
 - (d) You may also **submit representations to the MEC to suspend the operation of the notice pending finalisation of the objection.**
 - (e) Take note further that, **irrespective of any representations you may make to the Department or to the MEC, you must comply with this notice within the time period stated in the notice unless the MEC makes a decision to suspend the operation of the notice.**
12. An objection, as well as any request for suspension, must be sent to the Office of the MEC, details are set out below. Please also copy the office of Ms PN Ntuli, the **Acting Chief Director: Environmental Affairs** PNntuli@mpg.gov.za and to Ms Tanda the **Deputy Director Compliance and Enforcement** tanda@mpg.gov.za (contact details are indicated on enquiries above).

PN



13. Failure to comply with a Compliance Notice (Section 31N of NEMA)

- (a) Section 49A (1) (k) provides that it is an offence to fail to comply with or contravene the compliance notice issued in terms of Section 31L. A **notice of intention** to issue a compliance notice has not been issued because of the delayed that could consequently cause permanent irreversible harm to the environment.
- (b) I would also like to reiterate and bring to your attention that section 49B (1) of NEMA provides that a person convicted of an offence in terms of section 49A (1) (referred to above in paragraph 5) is liable to a fine not exceeding R10 million or to imprisonment for a period not exceeding ten years, or to both such fine and such imprisonment.

Address Office of the MEC
Building No 6, 2nd Floor
No. 7 Government Boulevard
RIVERSIDE PARK
1200
Mpumalanga Province

Private Bag X 11219,
NELSPRUIT
1200

14. Should you be unclear of any of the contents of this Compliance Notice, revert back to me and the person highlighted under enquiries hereinabove above to seek clarity.

Yours Sincerely

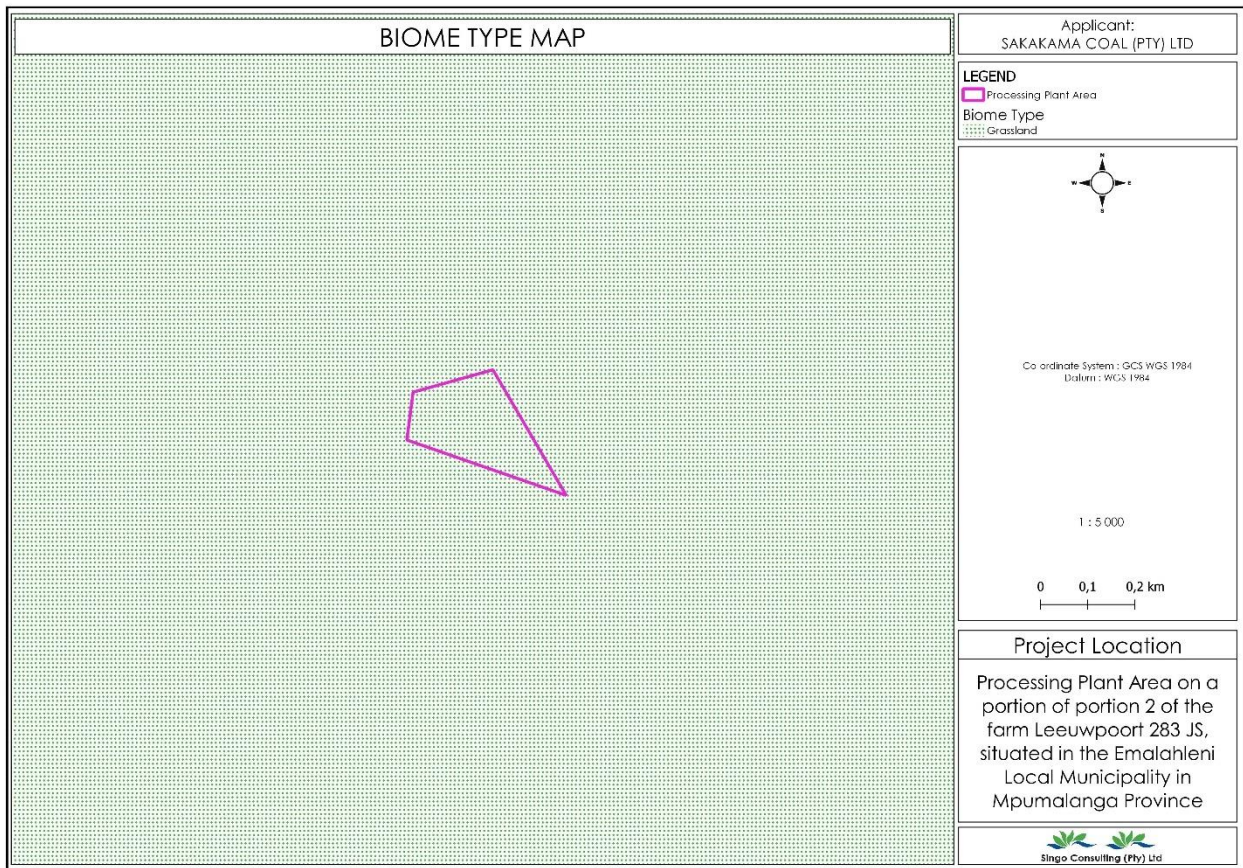
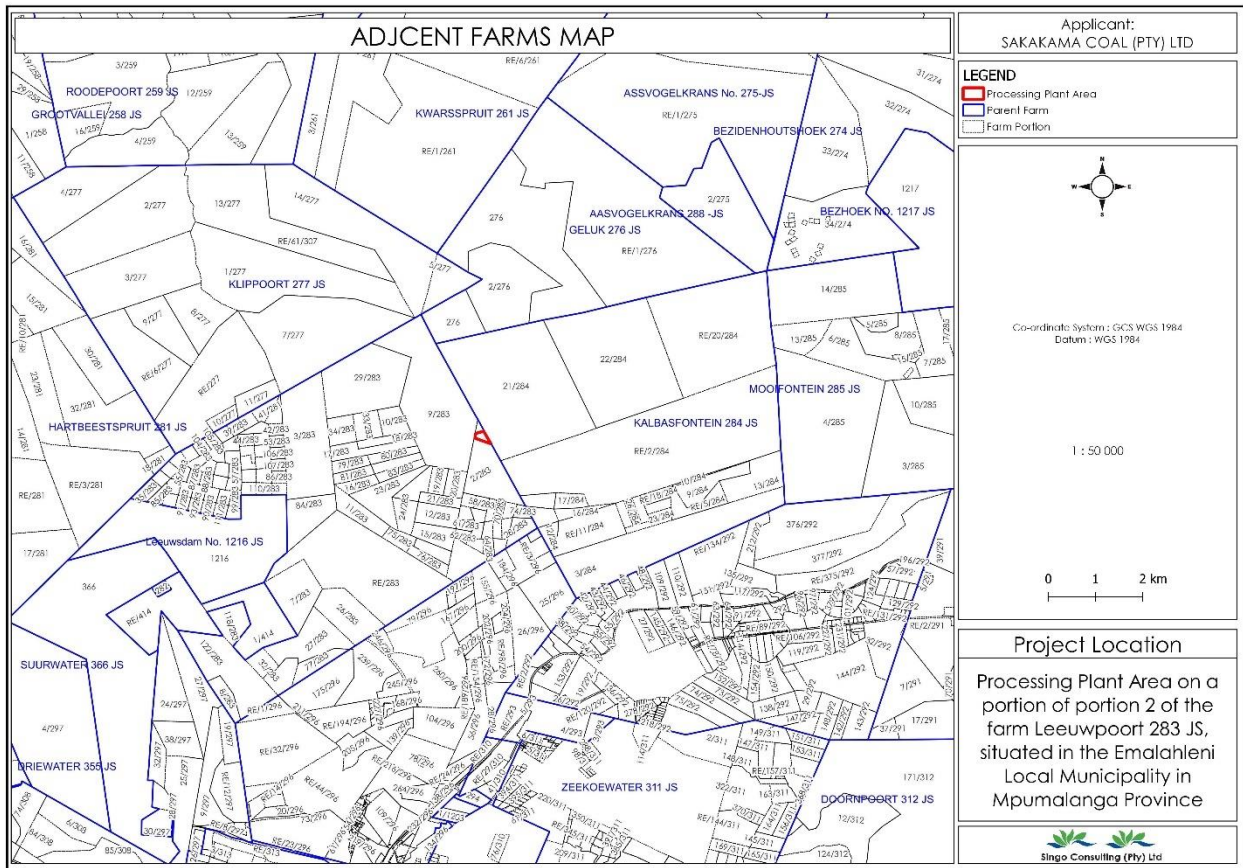


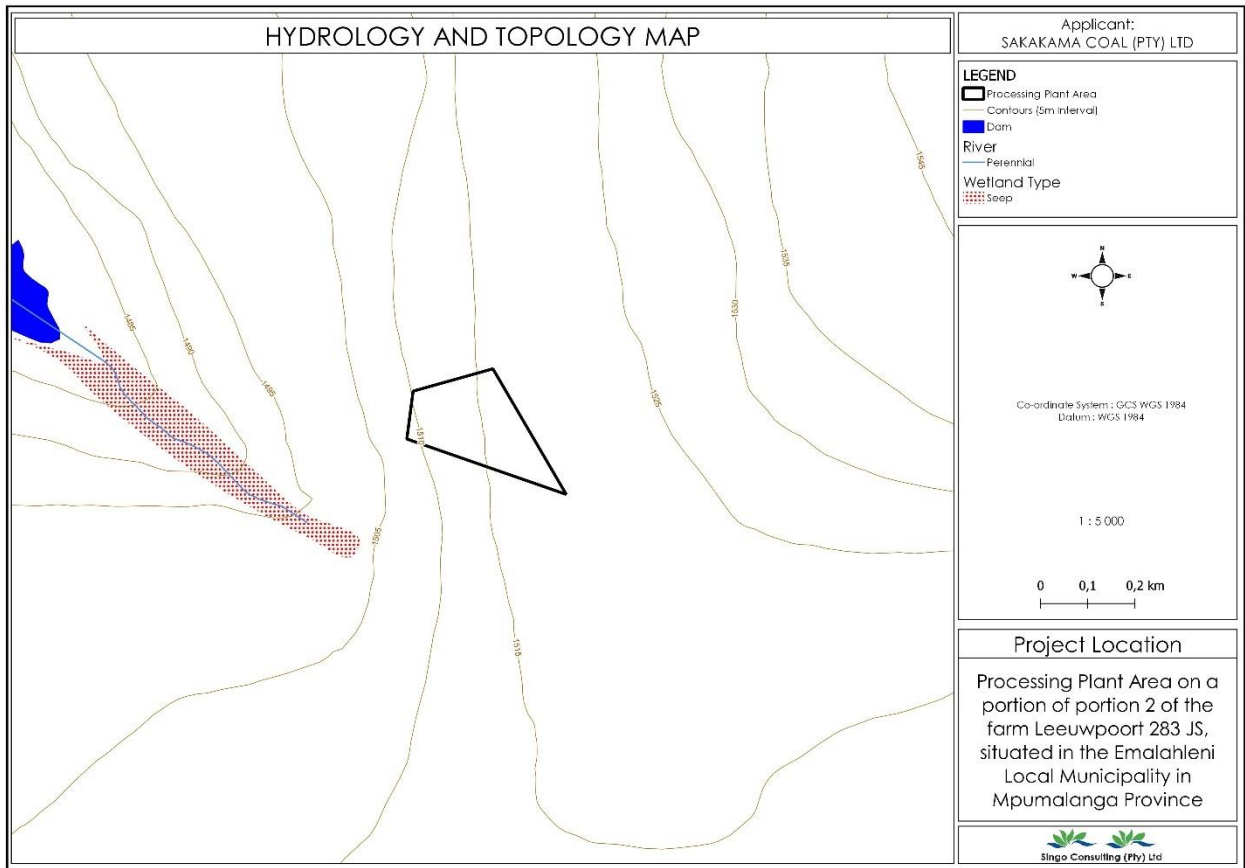
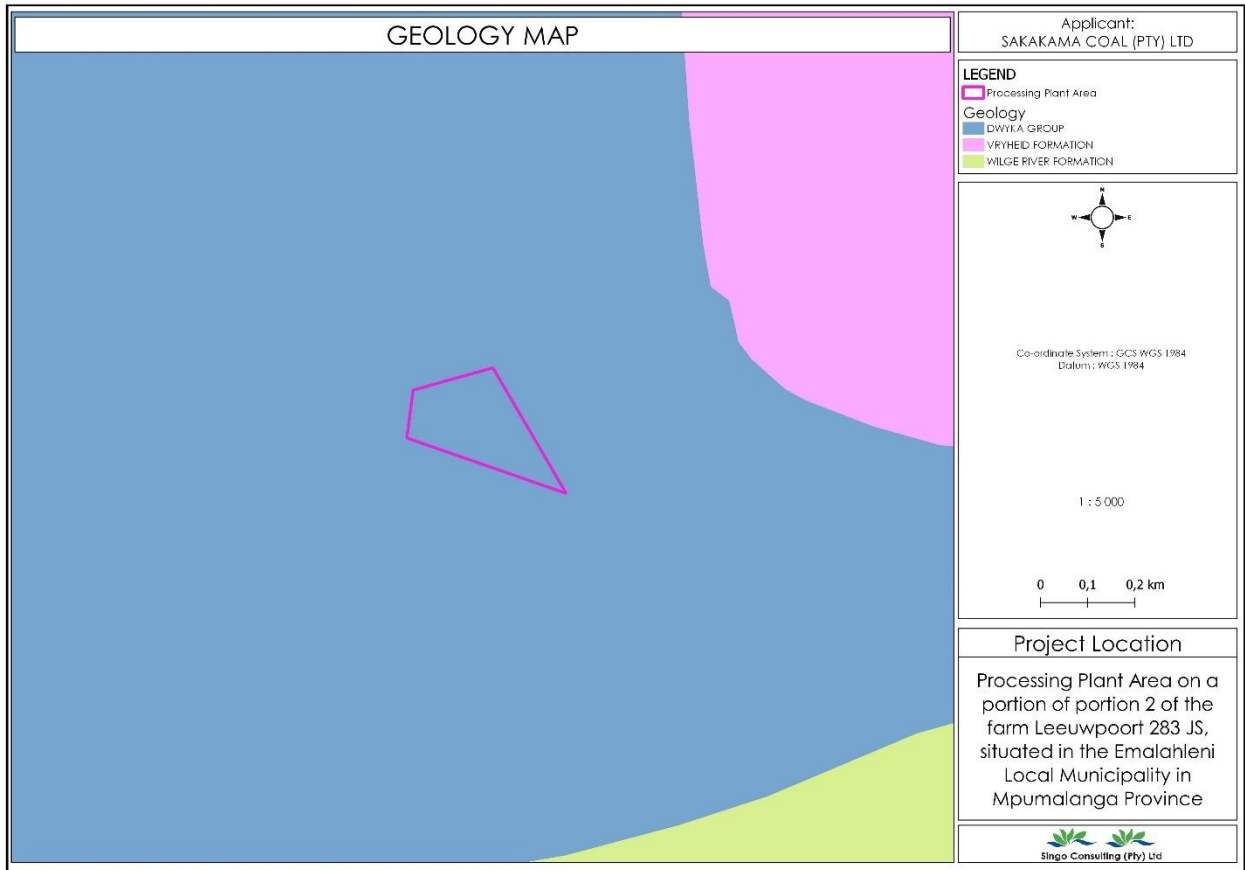
Ms PAMELLA N NTULI
GRADE 1 ENVIRONMENTAL MANAGEMENT INSPECTOR

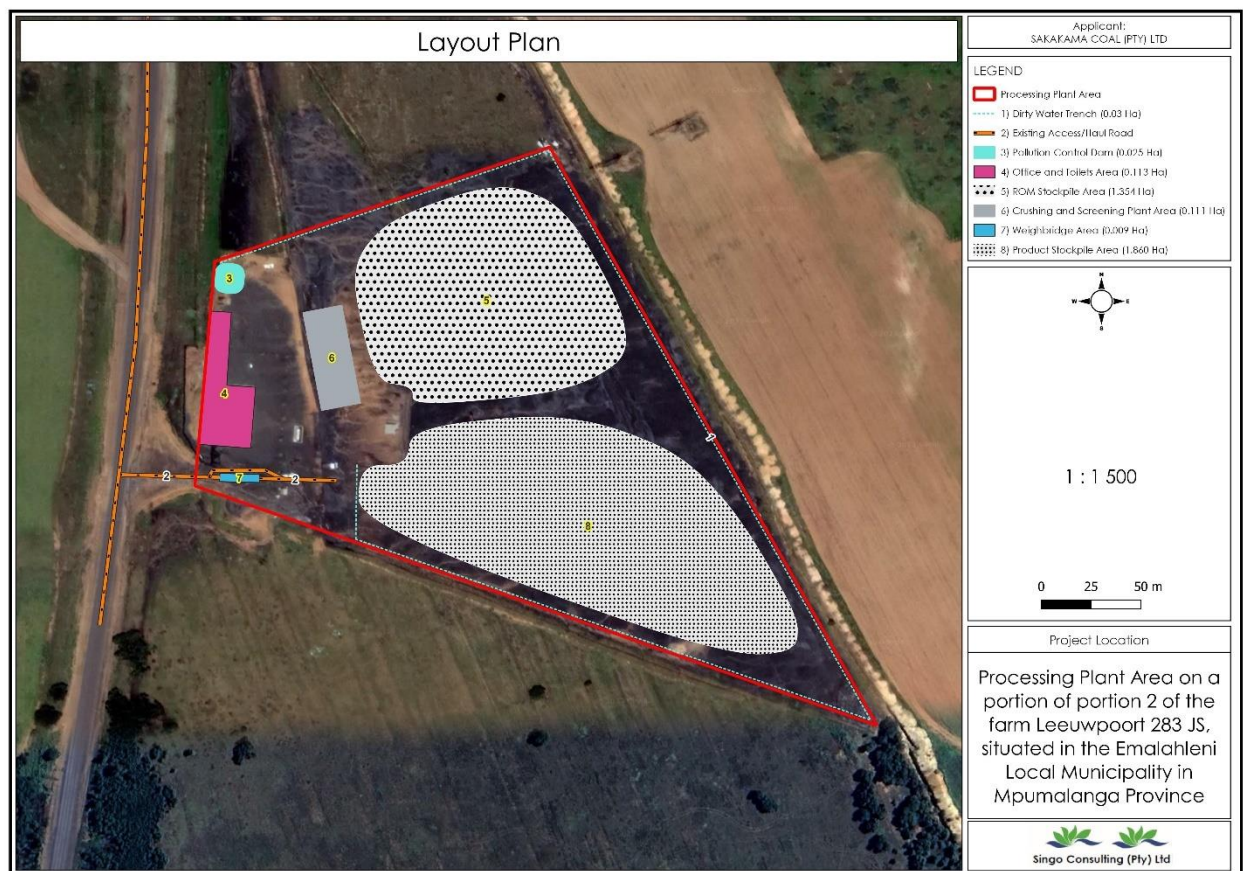
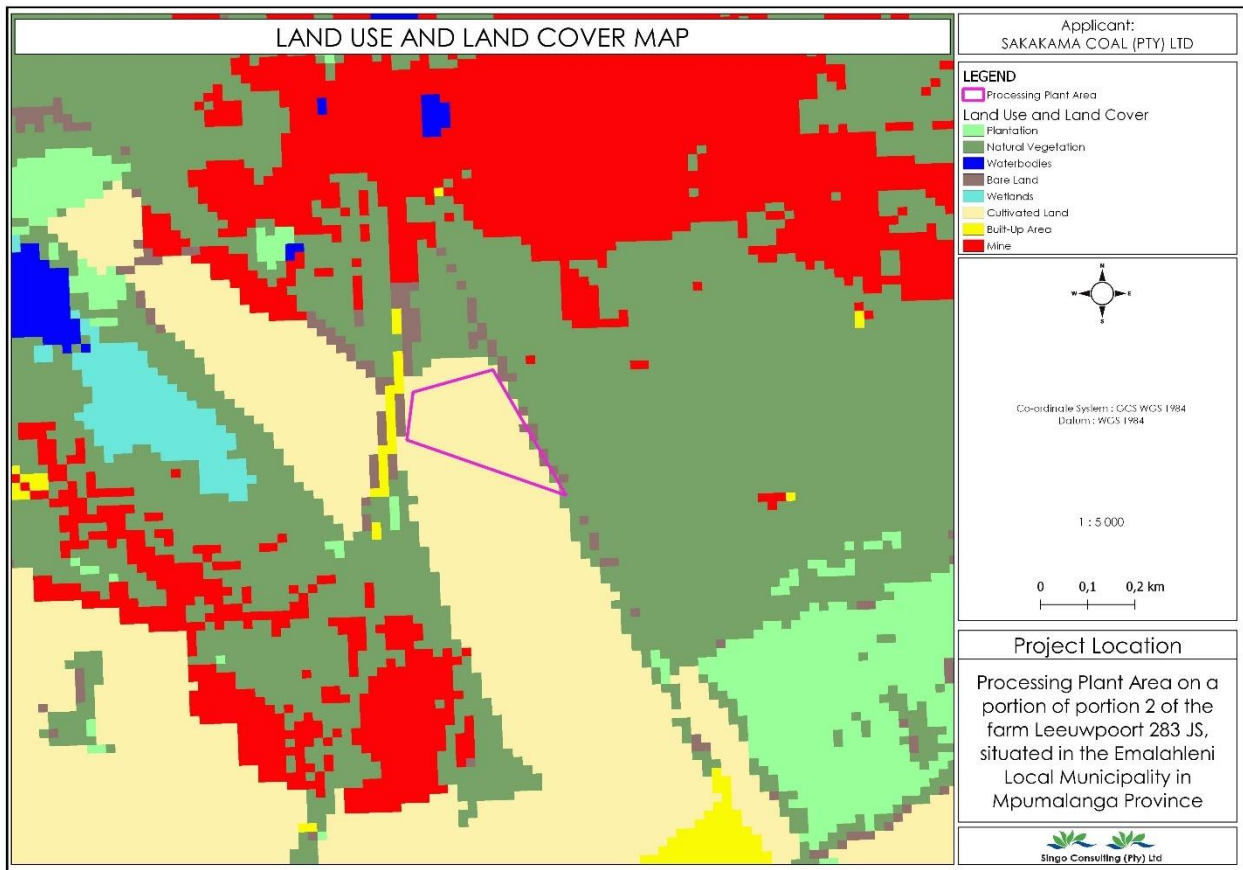
DATE 21/04/2021

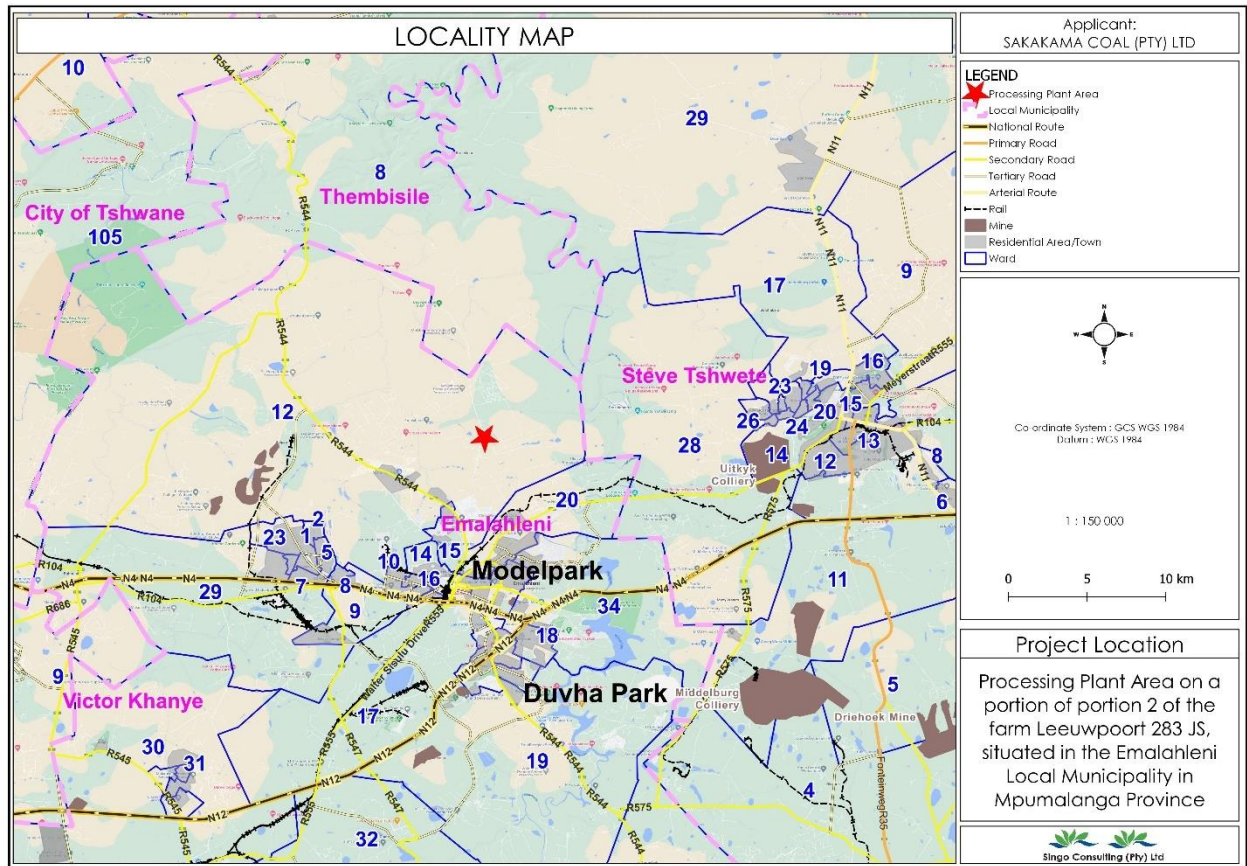
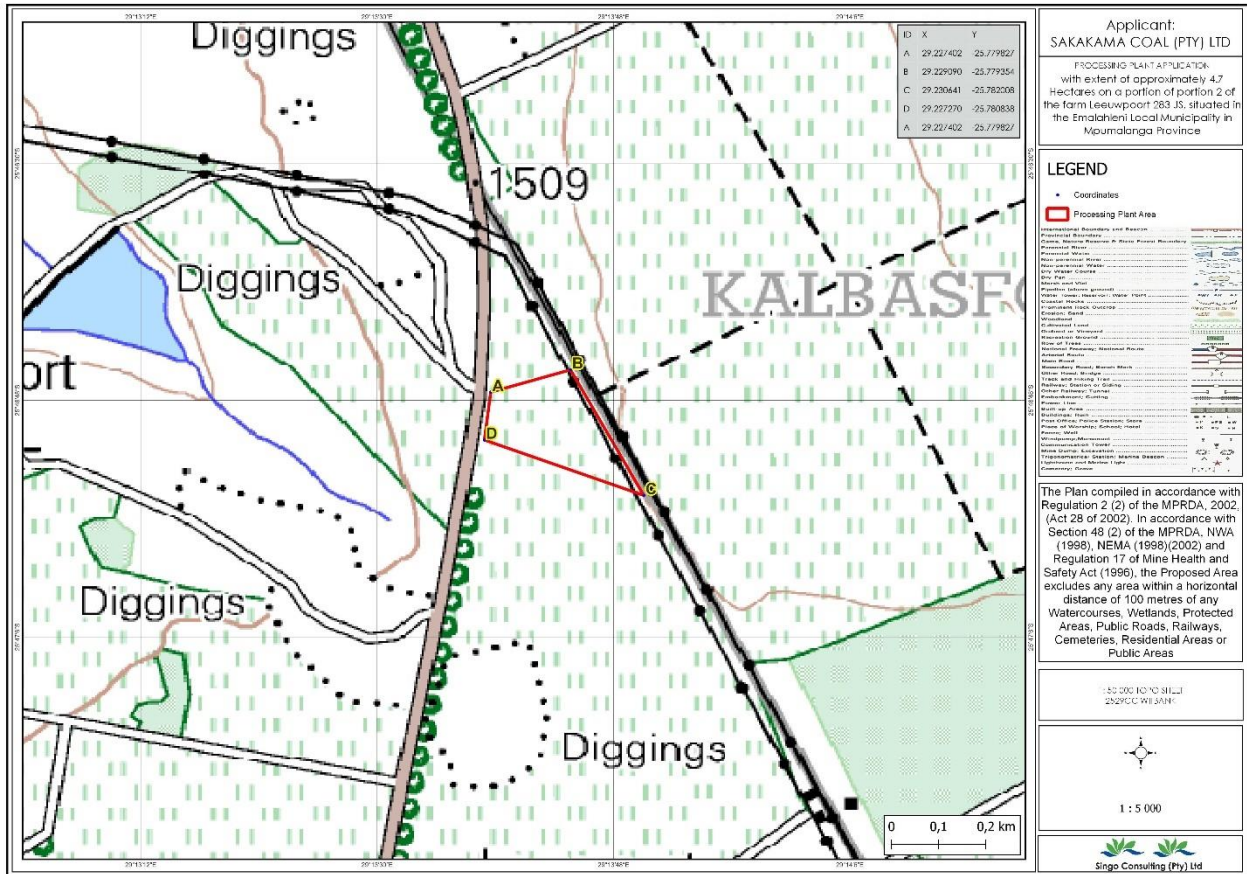


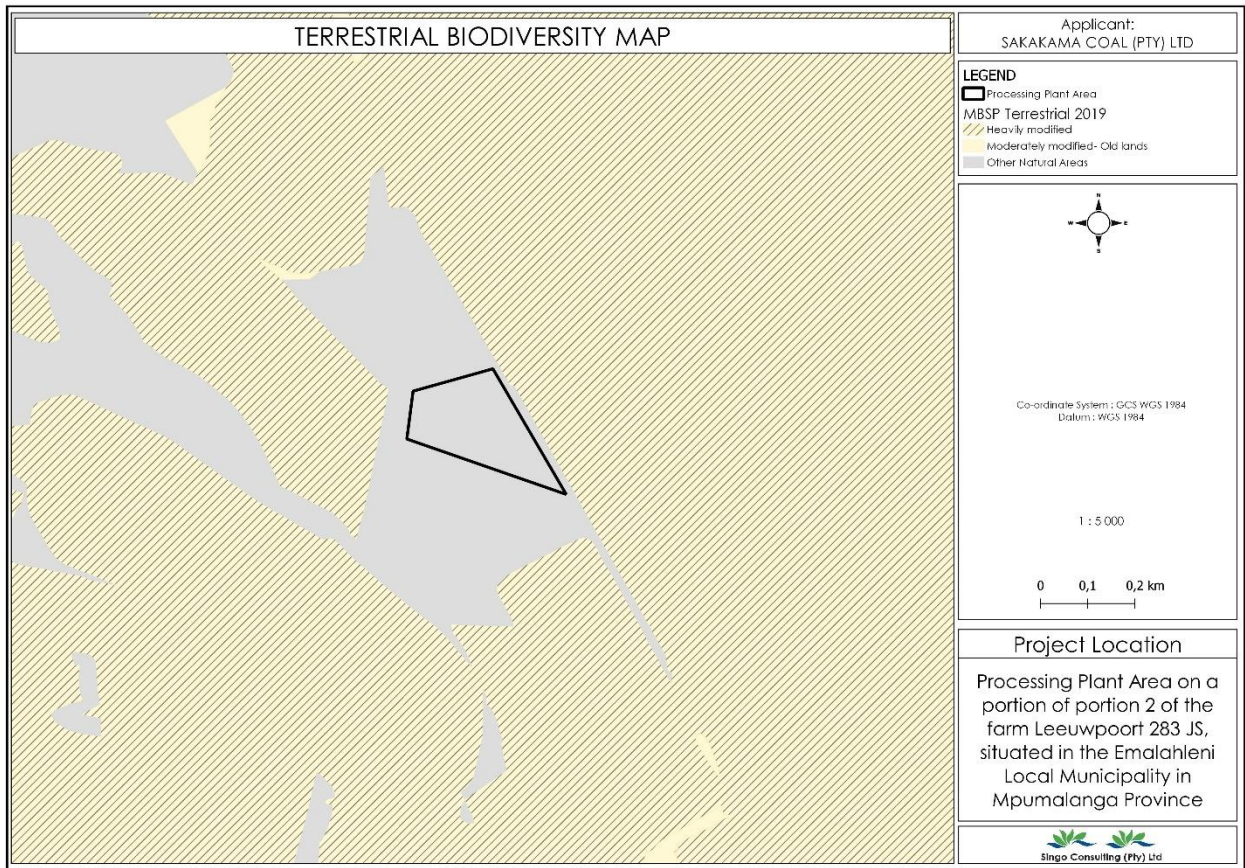
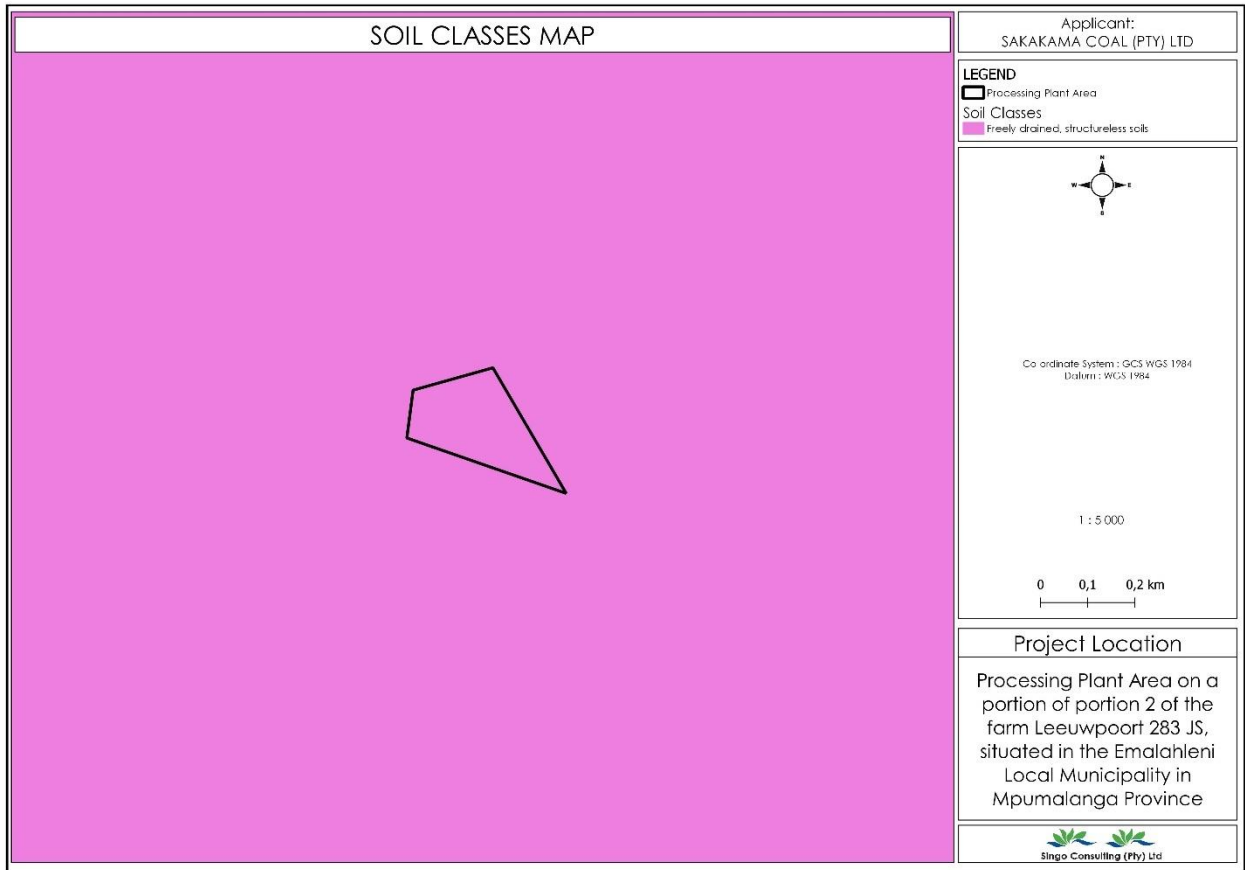
Appendix B: Project Maps.

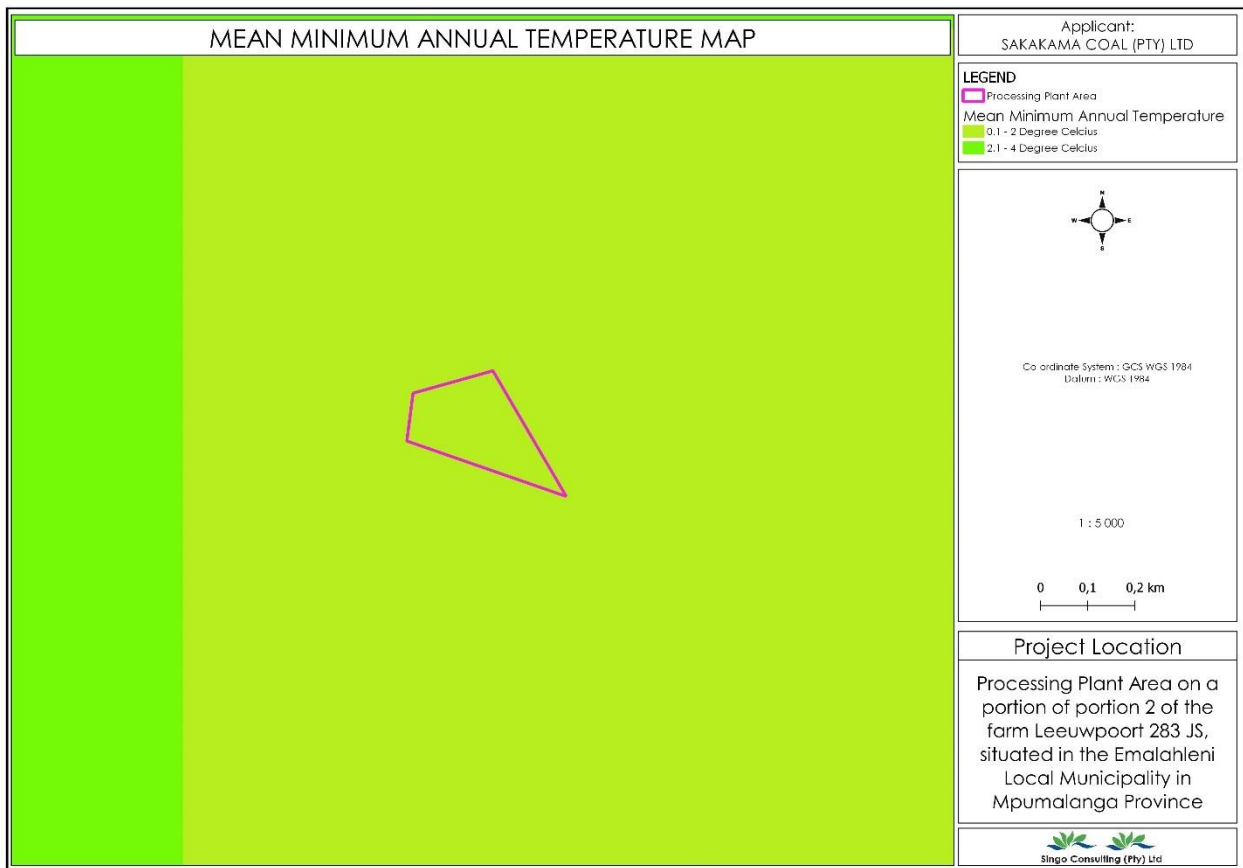
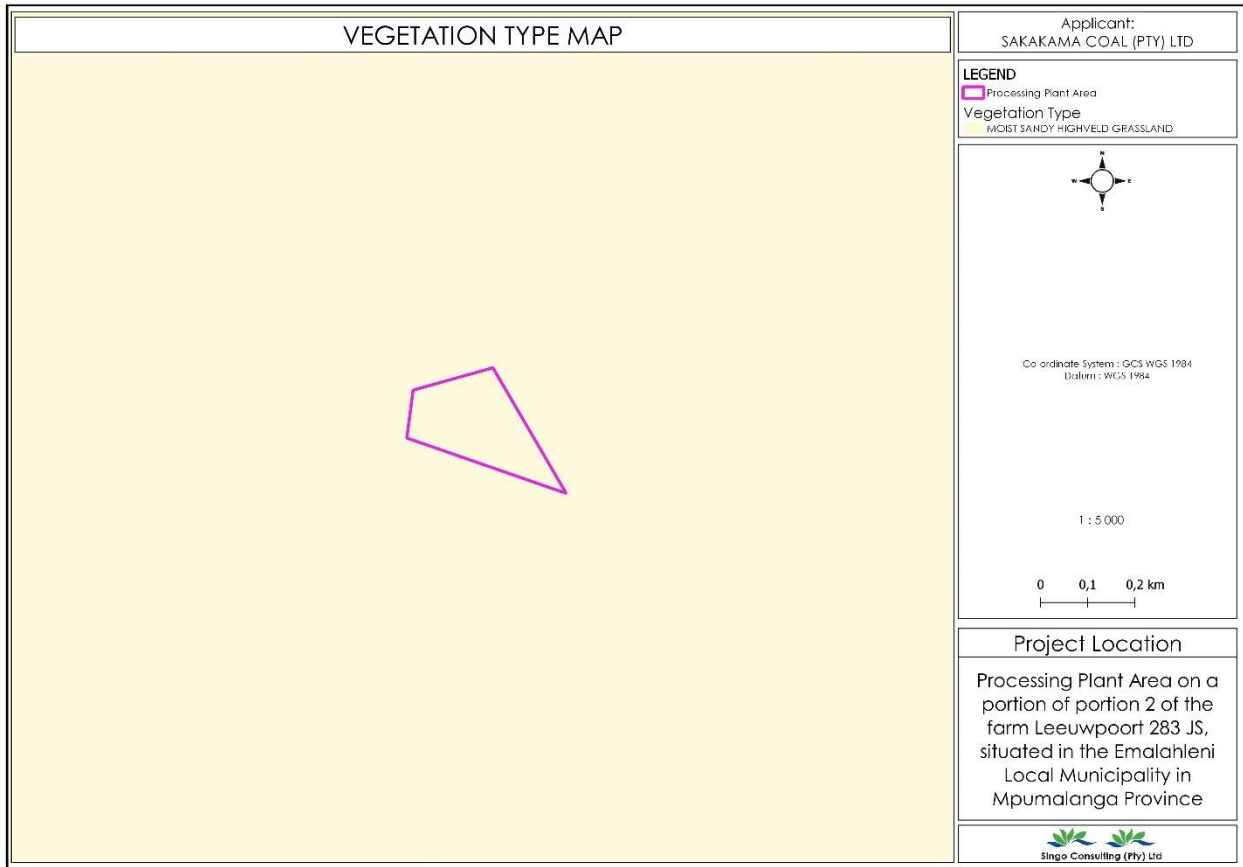












Appendix C: Environmental impact statement

Environmental impact statement

Taking the assessment of potential impacts into account, herewith please receive an environmental impact statement that summarises the impact that the proposed activity may have on the environment after the management and mitigation of impacts have been taken into account, with specific reference to types of impact, duration of impacts, likelihood of potential impacts actually occurring and significance of impacts.

Type of impact	Likelihood	Significance
Site establishment/ construction phase	Duration: Planning phase	
Topsoil stripping and stockpiling		
Visual intrusion associated with Processing Plant area establishment	Possible	Medium concern
Dust nuisance caused by soil disturbance	Low possibility	Low concern
Noise nuisance caused by machinery stripping and stockpiling topsoil	Low possibility	Low concern
Infestation of topsoil heaps by weeds and invader plants	Low possibility	Low concern
Loss of topsoil due to incorrect storm water management	Low possibility	Low concern
Area contamination with hydrocarbon/hazardous waste	Low possibility	Low concern
Operational phase	Duration: Operational phase; minimum of 3 years	
Excavation (Not Applicable)		
Visual intrusion associated with the excavation activities	Definite	Medium concern
Dust nuisance due to excavation activities	Low possibility	Low concern
Noise nuisance generated by excavation equipment	Low possibility	Low-medium concern
Unsafe working conditions for employees	Low possibility	Low concern
Negative impact on the fauna and flora of the area	Low possibility	Low concern
Area contamination with hydrocarbon/hazardous waste	Low possibility	Low concern
Weed and invader plant infestation of the area	Low possibility	Low concern

Crushing		
Dust nuisance due to the crushing activities	Possible	Low-medium concern
Noise nuisance generated by the crushing activities	Possible	Low-medium concern

Area contamination with hydrocarbon/hazardous waste	Low possibility	Low-medium concern
Stockpiling and transporting		
Visual intrusion associated with the stockpiled material and vehicles transporting the material	Low possibility	Low-medium concern
Loss of material due to ineffective storm water handling	Low possibility	Low concern
Weed/invader plant infestation of area due to soil disturbance	Low possibility	Low concern
Dust nuisance from stockpiled material and vehicles transporting the material	Low possibility	Low concern
Degradation of access roads	Possible	Low-medium concern
Noise nuisance caused by vehicles	Low possibility	Low concern
Area contamination with hydrocarbon/hazardous waste	Low possibility	Low concern
Decommissioning phase		Duration: Decommissioning phase
Sloping and landscaping during rehabilitation		
Soil erosion	Low possibility	Low concern
Health and safety risk posed by un-sloped areas	Low possibility	Low concern
Dust nuisance caused by sloping and landscaping	Low possibility	Low concern
Noise nuisance caused by machinery	Low possibility	Low concern
Area contamination with hydrocarbon/hazardous waste	Low possibility	Low concern
Replacing of topsoil and rehabilitation of disturbed area		
Loss of reinstated topsoil due to absence of vegetation	Low possibility	Low concern
Infestation of the area by weed/invader plants	Low possibility	Low concern

Appendix D: Specialist Studies

(Attached)

Appendix E: Comments



Consultation with Jambo Van Der Merwe

INVITATION TO COMMENT ON THE ENVIRONMENTAL AUTHORISATION (EA) APPLICATION FOR THE RECTIFICATION OF ...

RN Rofhiwa Nemutandani <rofhiwa@singoconsulting.co.za>
 To 'Moloto Maditsietsi (BHT)'
 Cc 'Rudzani, Shonisani'; 'Dr Singo, Kenneth'
 Bcc 'mazithi@singoconsulting.co.za'; 'Abel, Mojapelo'

Fri 5/5/2023 8:49 AM

BID.pdf 986 KB
 Processing Plant Area.kml 6 KB
 REG 2.2.jpeg 2 MB

Good day

Receive warm greetings from Singo Consulting.

Singo Consulting (Pty) Ltd has been appointed as an independent Environmental Consultant by Sakakama Coal (Pty) Ltd to conduct an Environmental Impact Assessment (EIA), compile an Environmental Management Programme Report (EMPr) and undertake a Public Participation Process (PPP) for Section 24G application (Ref: TBA). The goal of the abovementioned is to acquire an Environmental Authorisation for the established Coal Processing Plant on plot 12 of Portion 2 of the Farm Leeuwpoort 283 JS, situated in the Magisterial District of Nkangala, eMalahleni Local Municipality, Mpumalanga Province.

Notice is given, in terms of Section 24(G) read together with Section 24(F) of the National Environmental Management Act 107 of 1998 that Sakakama Coal (Pty) Ltd intends to submit an application for the unlawful commencement of activities associated with the coal processing plant where by 4.7 hectares of natural land has already been cleared. Applicable legislative provision contravened in terms of the 2014 EIA regulations (as amended in 2017) - GNR983, LNI-27: The clearance of an area of 1 hectare or more, but less than 20 hectares of indigenous vegetation.

Kindly review the attached BID, REG 2.2 Map and Coordinates 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&APs and to respond to the environmental compliance process;

DWS Consultation

INVITATION TO COMMENT ON THE ENVIRONMENTAL AUTHORISATION (EA) APPLICATION FOR THE RECTIFICATION OF...

RN Rofhiwa Nemutandani <rofhiwa@singoconsulting.co.za>
 To 'EllyT@dalrrd.gov.za'
 Bcc 'Abel, Mojapelo'

Fri 5/5/2023 8:54 AM

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 REG 2.2.jpeg 2 MB

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- Raise issues of concern and provide suggestions for enhanced benefits;




DALRRD Consultation

INVITATION TO COMMENT ON THE ENVIRONMENTAL AUTHORISATION (EA) APPLICATION FOR THE RECTIFICATION OF...

RN Rofhiwa Nemutandani <rofhiwa@singoconsulting.co.za>
To 'Donne Prinsloo'
Cc 'Abel, Mojapelo'

👍 🌞 ↶ Reply ↶ Reply All → Forward ⋮

Fri 5/5/2023 8:56 AM

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DFFE

INVITATION TO COMMENT ON THE ENVIRONMENTAL AUTHORISATION (EA) APPLICATION FOR THE RECTIFICATION OF...

RN Rofhiwa Nemutandani <rofhiwa@singoconsulting.co.za>
To 'TRamavhona@environment.gov.za'
Cc 'Abel, Mojapelo'

👍 🌞 ↶ Reply ↶ Reply All → Forward ⋮

Fri 5/5/2023 8:57 AM

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 REG 2.2.jpeg 2 MB

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- Raise issues of concern and provide suggestions for enhanced benefits;

Environment

INVITATION TO COMMENT ON THE ENVIRONMENTAL AUTHORISATION (EA) APPLICATION FOR THE RECTIFICATION OF...

RN Rofhiwa Nemutandani <rofhiwa@singoconsulting.co.za>
 To: 'Tshlidzi.Mavulwana@transnet.net'
 Cc: 'Abel, Mojapelo'

Fri 5/5/2023 8:57 AM

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 Processing Plant Area.kml 6 KB
 REG 2.2.jpeg 2 MB

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- Raise issues of concern and provide suggestions for enhanced benefits;

Transnet

INVITATION TO COMMENT ON THE ENVIRONMENTAL AUTHORISATION (EA) APPLICATION FOR THE RECTIFICATION OF...

RN Rofhiwa Nemutandani <rofhiwa@singoconsulting.co.za>
 To: 'nrstat@nra.co.za'
 Cc: 'Abel, Mojapelo'

Fri 5/5/2023 8:58 AM

BID.pdf 986 KB
 Processing Plant Area.kml 6 KB
 REG 2.2.jpeg 2 MB

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SANRAL

INVITATION TO COMMENT ON THE ENVIRONMENTAL AUTHORISATION (EA) APPLICATION FOR THE RECTIFICATION OF...

RN Rofhiwa Nemutandani <rofhiwa@singoconsulting.co.za>
 To: 'Ribamo@emalahleni.gov.za'
 Cc: 'Abel, Mojapelo'

Fri 5/5/2023 9:00 AM

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Singo Consulting (Pty) Ltd has been appointed as an independent Environmental Consultant by Sakakama Coal (Pty) Ltd to conduct an Environmental Impact Assessment (EIA), compile an Environmental Management Programme Report (EMPr) and undertake a Public Participation Process (PPP) for Section 24G application (Ref: TBA). The goal of the abovementioned is to acquire an Environmental Authorisation for the established Coal Processing Plant on plot 12 of Portion 2 of the Farm Leeuwpoort 283 JS, situated in the Magisterial District of Nkangala, eMalahleni Local Municipality, Mpumalanga Province.

Notice is given, in terms of Section 24(G) read together with Section 24(F) of the National Environmental Management Act 107 of 1998 that Sakakama Coal (Pty) Ltd intends to submit an application for the unlawful commencement of activities associated with the coal processing plant where by 4.7 hectares of natural land has already been cleared. Applicable legislative provision contravened in terms of the 2014 EIA regulations (as amended in 2017) - GNR983, LN1-27: The clearance of an area of 1 hectare or more, but less than 20 hectares of indigenous vegetation.

Kindly review the attached BID, REG 2.2 Map and Coordinates 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&APs and to respond to the environmental compliance process;
- Raise issues of concern and provide suggestions for enhanced benefits;

Municipality

LANDOWNER INVITATION TO COMMENT ON THE ENVIRONMENTAL AUTHORISATION (EA) APPLICATION FOR THE RECT...

RN Rofhiwa Nemutandani <rofhiwa@singoconsulting.co.za>
 To: 'victor.tlou@vtlou.co.za'

Tue 5/9/2023 10:21 AM

BID.pdf 986 KB
 Processing Plant Area.kml 6 KB
 REG 2.2.jpeg 2 MB

Good day

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Landowner

Appendix F: Application Form

(Attached)

Appendix G: EAP CV & Qualifications.

(Attached)