



**mineral resources**

Department:  
Mineral Resources  
**REPUBLIC OF SOUTH AFRICA**

**DRAFT BASIC ASSESSMENT REPORT**  
**And**  
**ENVIRONMENTAL MANAGEMENT PROGRAMME REPORT**

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

**NAME OF APPLICANT:** [Moqhaka Local Municipality](#)

**TEL NO:** 082 885 9724

**FAX NO:** Not Applicable

**POSTAL ADDRESS:** PO Box 302, Kroonstad, 9500

**PHYSICAL ADDRESS:** Hill Street, Kroonstad

**FILE REFERENCE NUMBER SAMRAD:** FS 30/5/1/3/2/ 10409 MP

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## **ABBREVIATIONS USED IN THIS REPORT**

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<b>DMR</b>	:	Department of Mineral Resources.
<b>DWS</b>	:	Department of Water and Sanitation.
<b>ECO</b>	:	Environmental Control Official.
<b>EIA</b>	:	Environmental Impact Assessment.
<b>EMPr</b>	:	Environmental Management Programme.
<b>FS</b>	:	Free State.
<b>IAP</b>	:	Interested and Affected Parties.
<b>LOM</b>	:	Life of Mine.
<b>MPRDA</b>	:	Minerals and Petroleum Resources Development Act.
<b>NEMA</b>	:	National Environmental Management Act.
<b>SAHRA</b>	:	South African Heritage Resources Agency.
<b>SAPS</b>	:	South African Police Services.



## 1. IMPORTANT NOTICE

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

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

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

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

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

## **2. Objective of the basic assessment process**

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

- (a) determine the policy and legislative context within which the proposed activity is located and how the activity complies with and responds to the policy and legislative context.
- (b) identify the alternatives considered, including the activity, location, and technology alternatives.
- (c) describe the need and desirability of the proposed alternatives,
- (d) through the undertaking of an impact and risk assessment process inclusive of cumulative impacts which focused on determining the geographical, physical, biological, social, economic, heritage, and cultural sensitivity of the sites and locations within sites and the risk of impact of the proposed activity and technology alternatives on these aspects to determine:
  - (i) the nature, significance, consequence, extent, duration, and probability of the impacts occurring to; and
  - (ii) the degree to which these impacts—
    - (aa) can be reversed.
    - (bb) may cause irreplaceable loss of resources; and
    - (cc) can be managed, avoided or mitigated.
- (e) through a ranking of the site sensitivities and possible impacts the activity and technology alternatives will impose on the sites and location identified through the life of the activity to—
  - (i) identify and motivate a preferred site, activity and technology alternative;
  - (ii) identify suitable measures to manage, avoid or mitigate identified impacts; and
  - (iii) identify residual risks that need to be managed and monitored.

## PART A

### SCOPE OF ASSESSMENT AND DRAFT BASIC ASSESSMENT REPORT

#### 3. Contact Person and correspondence address.

##### a) Details of

##### i) Details of the EAP

Name of The Practitioner/s: **Mr. CW Vermeulen (Author and reviewer)**  
Senior Environmental Assessment Practitioner  
BSc Environmental and Biological Sciences  
*EAPASA Registered: 2019/1521*

**Mr. Yamkela Siphso Soyizwapi (Co-author)**  
Environmental Assessment Practitioner  
BSc Environmental Sciences  
*EAPASA Registered: 2021/ 4362*

**Mr. Ricus Nel (Co-author and reviewer)**  
Ecologist  
BSc Botany and Zoology  
BSc Hons Vegetation Ecology  
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##### ii) Expertise of the EAP/s.

###### (1) **The qualifications of the EAP/s** (with evidence).

**Mr. CW Vermeulen** and **Mr. Yamkela Soyizwapi** hold Bachelor of Science degrees in Environmental and Biological Sciences. Their academic background reflects a strong commitment to environmental stewardship and a comprehensive understanding of the complex relationship between the environment and biological systems.

**Mr. Ricus Nel** holds a Bachelor of Science Honors degree in Vegetation Ecology, showcasing specialized knowledge in this field.

For detailed information regarding their qualifications and professional experiences, please refer to their full CVs attached in **Appendix 1**.

###### (2) **Summary of the EAP's past experience.** (In carrying out the Environmental Impact Assessment Procedure)

The Registered Environmental Assessment Practitioner (EAP) **Mr. CW Vermeulen** possesses extensive expertise in environmental assessment, having over 7 years of experience across a diverse range of projects. His portfolio includes waste management, mining permits or rights, road construction, infrastructure developments, agric-industrial developments, and more. Similarly, **Mr. Yamkela Soyizwapi**, another registered EAP, brings over 4 years of experience in environmental assessment, specializing in projects similar to those handled by Mr. Vermeulen.

Additionally, **Mr. Ricus Nel**, who holds registration as a candidate with the South African Council for Natural Scientific Professions (SACNASP), offers over 4 years of experience. His expertise lies predominantly in ecological assessments and encompasses all aspects of EAP work. Collectively, these EAPs possess substantial knowledge and proficiency in environmental management, making them valuable assets to any project requiring their expertise.

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

<b>Farm Name:</b>	Farm Bospoort No. 558, Portion 1
<b>Application area (Ha)</b>	2,30ha
<b>Magisterial district:</b>	Kroonstad Magisterial District
<b>Distance and direction from nearest town</b>	9,93km NW of Kroonstad Town
<b>21-digit Surveyor General Code for each farm portion</b>	F02000000000055800001



### **c) Locality map**

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

The locality map is shown in **Appendix 2**

### **d) Description of the scope of the proposed overall activity.**

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

**Environmental Management Group** is submitting an application for a mining permit on behalf of the **Moqhaka Local Municipality (The Applicant)**. This Draft Basic Assessment pertains to the proposed mining operations located approximately 9,93km NW of Kroonstad town, falling under the jurisdiction of the Kroonstad Magisterial District. The primary objective of this endeavor is to legalize and permit the use of the mining area in conformity with the updated regulations set forth by the **National Department of Mineral Resources and Energy**.

The proposed project will encompass an area of approximately 2,30ha. The focal point of this undertaking revolves around the extraction of weathered dolerite material, a resource vital for maintaining roads and stormwater. To achieve this, the extraction process will employ surface mining techniques, involving a series of steps, including winning, classifying, concentrating, crushing, screening, and washing, all designed to prepare the dolerite material for its intended purpose.

Throughout the operational phase of the proposed mining area, only mobile and temporary structures will be employed by the applicant. This entails the establishment of site office/s and an area for vehicle parking spanning approximately +/-0.5ha. It is essential to highlight that due to the specific nature of the material being extracted (weathered dolerite), the excavation process will exclusively employ Excavators and TLBs. This mining operation will be characterized as a shallow surface mining endeavour, systematically creating "cuts" or mineable faces before transitioning to the subsequent cut. It is important to note that no blasting activities will be necessary.

The Environmental Assessment Practitioners overseeing this proposed project are committed to ensuring that all activities are executed in a manner that aligns with environmental responsibility and full compliance with the requisite regulations.

**(i) Listed and specified activities**

<p><b>NAME OF ACTIVITY</b></p> <p>(E.g. For prospecting - drill site, site camp, ablution facility, accommodation, equipment storage, sample storage, site office, access route etc...etc...etc</p> <p>E.g. for mining,- excavations, blasting, stockpiles, discard dumps or dams, Loading, hauling and transport, Water supply dams and boreholes, accommodation, offices, ablution, stores, workshops, processing plant, storm water control, berms, roads, pipelines, power lines, conveyors, etc...etc...etc.)</p>	<p><b>Aerial extent of the Activity</b></p> <p><b>Ha or m<sup>2</sup></b></p>	<p><b>LISTED ACTIVITY</b></p> <p><b>Mark with an X where applicable or affected.</b></p>	<p><b>APPLICABLE LISTING NOTICE</b></p> <p><b>(GNR 544, GNR 545 or GNR 546)</b></p>
<p><i>Any activity including the operation of that activity which requires a mining permit in terms of section 27 of the Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002).</i></p> <p><i>including –</i></p> <p><i>(a) associated infrastructure, structures and earthworks directly related to the extraction of a mineral resource.</i></p> <p>This application for environmental authorisation aims a mining permit under Section 27 of the Mineral and Petroleum Resources Development Act, 2002, to extract weathered dolerite material, also known as gravel material, for road maintenance and storm water maintenance. The project aligns with regulatory requirements and aims to uphold environmental standards while contributing to infrastructure development.</p>	<p>2,30ha</p>	<p>Activity No. 21 (a) X</p>	<p>NEMA Listing Notice 1, Activity No. 21, GNR 327 of 7 April 2017</p>
<p><i>The clearance of an area of 1ha or more, but less than 20 hectares of indigenous vegetation.</i></p> <p>The proposed project will physically clear an approximate of 2,30ha of indigenous vegetation.</p>	<p>2,30ha</p>	<p>Activity No. 27</p>	<p>NEMA Listing Notice 1, Activity No. 27, GNR 327 of 7 April 2017</p>

**(ii) Description of the activities to be undertaken**

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

The Moqhaka Local Municipality, **(the applicant)**, seeks to procure building aggregates and materials essential for the revitalization, storm water maintenance, and enhancement of roads within its jurisdictional control and the broader

district within the Fezile Dabi district municipality. These resources are integral not only to ongoing infrastructure improvements but also to support forthcoming development initiatives in the local vicinity.

As mining operations commence, the existing gravel roads will serve as crucial conduits for accessing the designated mining zone. The proposed mining area exhibits a historical context characterized by prior mining endeavours, whose permits have since lapsed. The ecological landscape and vegetative composition of the intended site reflect a state of disturbance attributable to past anthropogenic activities. However, the anticipated environmental impacts are anticipated to be relatively minimal.

In preparation for mining activities, any necessitated removal of topsoil and overburden will be executed with diligence, ensuring proper stockpiling for subsequent utilization during the rehabilitation phase of the mining area. The primary excavation operations will be conducted utilizing excavator machinery, while the transportation of mined materials from the site will be facilitated by tipper trucks.

**Material excavated from the mining area will be processed onsite in the following manner:**

For the excavation of G5 to G8 material, an excavator will be utilised, and all mining operation will be of a shallow surface open cast. An excavator will simply excavate the material and load the excavated material on to hauling trucks.

**e) Policy and Legislative Context**

<p><b>APPLICABLE LEGISLATION AND GUIDELINES USED TO COMPILE THE REPORT</b>                      (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><b>REFERENCE WHERE APPLIED</b></p>	<p><b>HOW DOES THIS DEVELOPMENT COMPLY WITH AND RESPOND TO THE LEGISLATION AND POLICY CONTEXT.</b>                       (E.g. In terms of the National Water Act a Water Use License has/ has not been applied for)</p>
<p>Mineral and Petroleum Resources Development Act, No. 28 of 2002</p>	<p>Section 106</p>	<p>Section 106 exempts the organ of state from the provisions of section 27 of the MPRDA (Act 28 of 2002). Provided subsection (2) is adhered to (refer to section 39 of the MPRDA Act 28 of 2002).</p>
<p>Mineral and Petroleum Resources Development Act, No. 49 of 2008</p>	<p>Section 76</p>	<p>Section 76 of the MPRDA (Act 49 of 2008) indicates the repeal of section 39 of the MPRDA Act 28 of 2002 and introduces the need for the organ of state to submit the relevant reports in accordance with chapter 5 of the NEMA in order to obtain environmental authorisation.</p>

**f) Need and desirability of the proposed activities.**

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

The proposed mining activity in the Farm Bospoort 558, Portion 1 and the end use product will benefit the stormwater channels and roads in the Kroonstad region and promises to be a significant catalyst for economic growth and development in the region. This project is poised to inject substantial investment into the local economy, creating a surge of direct and indirect employment opportunities. The influx of workers and associated industries, such as transportation and equipment supply, will boost local businesses, reduce unemployment rates, and improve the standard of living for residents. Additionally, the proposed project can attract further investment into the area, fostering a more robust economic environment and providing long-term stability for the surrounding areas of Kroonstad.

Infrastructure development is another critical benefit of the mining project. The increased traffic and machinery will necessitate the maintenance and expansion of local roads, which will enhance transportation efficiency and safety for all residents. This infrastructure improvement, coupled with investments in stormwater channel maintenance, will protect the area from flooding and erosion, ensuring the community's resilience against natural events. The

Local Municipalities' involvement in these projects demonstrates a commitment to sustainable development, emphasizing the importance of environmental management alongside economic growth.

Furthermore, the proposed mining activity can significantly contribute to community development in the region. By investing in local education and training programs, the Local Municipality can help upskill the workforce, providing long-term benefits beyond the immediate job creation. The municipalities' corporate social responsibility efforts can support community projects such as building schools, healthcare facilities, and recreational areas, thereby enhancing the overall quality of life for residents. These actions, along with a commitment to environmental safeguards and land rehabilitation, ensure that the mining project not only boosts the local economy but also supports sustainable development and social welfare, benefiting Kroonstad and the surrounding areas for generations to come.

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

The proposed mining area comprises of weathered dolerite materials, and it holds critical resources that are essential for maintaining and recalibrating roads within the district.

Obtaining necessary environmental authorization and legalizing the proposed mining area is imperative to responsibly utilize it for infrastructures and rural development, aligning with outlined plans. Alternate site selection hinges on several factors, with prime consideration given to their appropriateness for road refurbishment, maintenance, and potential future development within Moqhaka local municipality. Before finalizing the selection, Environmental Assessment Practitioners (EAPs) have meticulously screened potential mining area alternatives based on specific criteria:

- **Proximity to major roads (R34, R76, R82 and R713):**
  - The proposed mining area is conveniently situated between R34, R713 and R76 highway, providing easy access for transportation of materials. This positive impact will reduce transportation costs and time, which can enhance the overall efficiency and profitability of the mining operations.
- **Material suitability:**
  - The preferred site is selected based on the presence of suitable materials for mining activities, which is crucial for the feasibility and success of mining activities and project.
- **Adjacent open space and land use:**
  - The proposed mining area is surrounded by open spaces and agricultural land, which may allow for easier expansion or auxiliary activities related to mining without significant disruptions. The property is owned by the organ of state, the Moqhaka local Municipality and the availability of the surrounding land for potential future use can lead to further economic activities such as storage facilities, processing plants, or other related infrastructure, boosting local employment and economic development.

The mining activities will be basic with the following occurring on the proposed site:

- Construction and upgrading of existing gravel roads to gain access to the proposed mining area,
- Clearance of vegetation and stockpiling of topsoil and overburden,
- Step wise (cuts) excavation of the dolerite material through means of an excavator.
- Transportation of the excavated material through means of tipper trucks to the project location.

Modern mining techniques will be employed to reduce both operational expenses/costs and environmental repercussions. Given the straightforward nature of the proposed mining area, there are no other technology alternatives recommended or available. This oversight will include strict adherence to the guidelines set forth in the

Mine Health and Safety Act and the National Environmental Management Act to ensure the safety and protection of both people and the environment.

## **h) Full description of the process followed to reach the proposed preferred alternatives within the site.**

NB!! – This section is about the determination of the specific site layout and the location of infrastructure and activities on site, having taken into consideration the issues raised by interested and affected parties, and the consideration of alternatives to the initially proposed site layout.

### **i) Details of the development footprint alternatives considered.**

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

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

a) The proposed mining area is located on Farm Bospoort No. 558, Portion 1, Moqhaka Local Municipality, Free State Province.

b) The activity that will be undertaken is mining and the method used will be basic shallow surface open-cast mining.

c) Areas that will be dedicated for the storage of topsoil and mined material stockpiles will be demarcated prior to the commencement of stripping. Due to the limited scope of the activities, only one layout is considered in this report.

d) No technology alternatives are considered in the report.

e) No operational alternatives are considered in the report.

f) The No-go alternative implies that no material from the proposed area will be available.

### **ii) Details of the Public Participation Process Followed**

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

The following public participation process is proposed for the project:

- Advertisements to be placed in a local and provincial newspaper
- A background information document with key aspects of the project to be done and provided to interested and affected parties.
- Site notices to be placed at the site and surrounding area closer to the site.
- Written notices to be given to the municipality and to identified government departments and provincial government with infrastructure close to the project site.
- Written notices to be given to government department whose jurisdiction cover environmental issues.
- The landowner and lawful occupiers to be contacted directly and notified of the project.

The following Interested and Affected parties were identified:

- Free State Department of Water and Sanitation (DWS)
- Free State Department of Public Works and Infrastructure
- Free State Department Cooperative Governance and Traditional Affairs
- Department of Agriculture, Land Reform and Rural Development (DALRRD)
- Free State Development Community Safety, Roads, and Transport

- Free State Department Economic, Small Business Development, Tourism and Environmental Affairs (DESTEA)
- Free State Department of Agriculture and Rural Development
- Fezile Dabi District Municipality (District Municipal Manager)
- Moqhaka Local Municipality (Municipal Manager)
- Moqhaka Local Municipality (Mayor)
- Moqhaka Local Municipality (Ward Councillor)
- SAHRIS





iii) **Summary of issues raised by I&As**  
 (Complete the table summarising comments and issues raised, and reaction to those responses)

Interested and Affected Parties		Date	Issues raised	EAPs response to issues as mandated by the applicant	Section and paragraph reference in this report where the issues and or response were incorporated.
List the names of persons consulted in this column, and Mark with an <b>X</b> where those who must be consulted were in fact consulted.		Comments Received	<b>Note, that this is a draft BAR and updates to this section will be made after the 30-day PPP</b>		
<b><u>AFFECTED PARTIES</u></b>					
Landowner/s	<b>X</b>				
Moghaka Local Municipality	<b>X</b>	N/A	No issues were raised	Not Applicable	Not Applicable
<b>Lawful occupier/s of the land</b>					
Not Applicable	<b>X</b>	N/A	No issues were raised	Not Applicable	Not Applicable
<b>Landowners or lawful occupiers on adjacent properties</b>					
Not Applicable	<b>X</b>	N/A	No issues were raised	Not Applicable	Not Applicable
<b>Municipal councillor</b>					
	<b>X</b>				
<b>Municipality</b>					
	<b>X</b>				
<b>Organs of state (Responsible for infrastructure that may be affected Roads Department, Eskom, Telkom, DWA e</b>					
Free State Department of Water and Sanitation (DWS)	<b>X</b>	Not Applicable	No issues were raised	Not Applicable	Not Applicable

Fezile Dabi District Municipality	X	Not Applicable	No issues were raised	Not Applicable	Not Applicable
Free State Department of Community Safety, Roads, and Transport	X	Not Applicable	No issues were raised	Not Applicable	Not Applicable
<b>Communities</b>					
Not Applicable					
<b>Dept. Land Affairs</b>					
Department of Agriculture, Land Reform and Rural Development (DALRRD)	X	Not Applicable	No issues were raised	Not Applicable	Not Applicable
<b>Traditional Leaders</b>					
None are applicable	X	Not Applicable	No issues were raised	Not Applicable	Not Applicable
<b>Dept. Environmental Affairs</b>					
Free State Department Economic, Small Business Development, Tourism and Environmental Affairs (DESTEA)	X	Not Applicable	No issues were raised	Not Applicable	Not Applicable
<b>Other Competent Authorities affected</b>					
Not Applicable		X			
<b><u>OTHER AFFECTED PARTIES</u></b>					
None at this stage		X			
<b><u>INTERESTED PARTIES</u></b>					
None at this stage		X			

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

**(1) Baseline Environment**

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

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

The proposed mining activity is situated at about 9,93km NW of Kroonstad town and is falling under the jurisdictional control of the Moqhaka Local Municipality, located in the southern parts of the Fezile Dabi District in the Free State province. The seat of the local government is Kroonstad. The name "Moqhaka" is derived from the Sesotho word for "crown." The municipality encompasses the former Kroonstad, Steynsrus, and Viljoenskroon Transitional Local Councils, as well as sections of the Riemland, Kroonkop, and Koepel Transitional Rural Councils.

Like much of the Free State province, Moqhaka is experiencing a general trend of migration from rural to urban areas. However, compared to other municipalities within the Fezile Dabi District, Moqhaka remains significantly less urbanized. The Greater Kroonstad area is the centre of a large agricultural community, which plays a crucial role in the district's economy. Additionally, industrial activities in the area contribute significantly to the district's economic landscape.

Physical landscape features of the Vaal-Vet Sandy Grassland are typically plains, with few slightly irregular undulating plains which occur at altitudes of 1 220-1 560 m, but generally 1 260-1 360m. The study area is flat, occurring at an altitude of 1 380. The description of the physical environment observed on site agree with that of the vegetation type of Mucina and Rutherford (2006) in which the study area is located (SANBI, 2006-2018).

This vegetation type is characteristically representative of low-tussock grasslands that are dominated by *Themeda triandra* and have noticeable karroid elements. Grasses which are typically associated in a functioning Gh10 area include *Antheophora pubescens*, *Aristida congesta*, *Chloris virgata*, *Cymbopogon caesius*, *Cynodon dactylon*, *Digitaria argyrograpta*, *Elionrus muticus*, *Eragrostis chloromelas*, *E. lehmanniana*, *E. plana*, *E. trichophora*, *Heteropogon contorts*, *Panicum gilvum*, *Setaria sphacelate*, *Themeda triandra* and *Tragus berteronianus* (Mucina and Rutherford, 2006). Few dominant grassy elements remain on site, however, several grassy species found in the Gh10 were observed within the study area. Corresponding species are *Themeda triandra* (D), *Eragrostis lehmanniana* (D), *Aristida congesta* (D), *Digitaria eriantha*, *Pogonarthria squarrosa*, *Eragrostis Curvula*, *Cymbopogon pospischilii* and *Triraphos andropogonoides*. The only corresponding indigenous herb species found on site were *Berkheya onopordifolia* and *Hermannia depressa*. Furthermore, the vegetation shows signs of bush encroachment by *Asparagus larcinus*. Thus, the study area's floral composition and structure does not match that of Gh10.

According to the Census 2022, the population was recorded at 155,410. The age structure shows that 25.2% of the population was under 15 years old, 66.2% were between 15 to 64 years, and 8.6% were over 65 years. The dependency ratio was 51.1 per 100 people in the 15-64 age group. The sex ratio was 92.3 males per 100 females. The annual population growth rate was -0.31%. In the labour market, the unemployment rate was not available for 2022. For the youth aged 15-34, the unemployment rate was also not provided. Regarding education for individuals aged 20 and older, 3.3% had no schooling, while 10.5% had higher education qualifications.

Household dynamics data showed there were 42,789 households, with an average household size of 3.6. The percentage of households living in formal dwellings was 90.9%, and 91.7% of households had a flush toilet connected to sewerage. Weekly refuse removal services covered 88.2% of households, 64.2% had piped water inside the dwelling, and 97.6% used electricity for lighting.

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

The proposed mining area is primarily used for agricultural purposes. Large portions of the land have been cultivated, with various fields displaying past or ongoing farming activities. The proposed mining area sits adjacent to these agricultural areas and are undeveloped, similar to its surrounding land. To the north, a road connects to a nearby safari area "Vrystaat Safari's," indicating the presence of tourism-related activities close to the site. The environment also includes smaller pockets of open land, which may support grazing or remain fallow. Overall, the land use around the proposed mining area suggests a combination of farming and possibly wildlife-related activities due to the safari.

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

The terrain is mostly flat, with subtle rolling hills and some darker patches which could indicate vegetation clusters or small depressions. Environmental features in the landscape indicate water collection areas or ponds, important for wildlife or farming. The river system visible is a significant environmental feature, potentially influencing the hydrology of the area. The proximity of the safari and the river highlights the potential for natural habitats, making environmental conservation a possible consideration alongside agricultural use.

## **(c) Environmental and current land use map.**

(Show all environmental, and current land use features)

Please refer to **Appendix 4** for the visual representation of the current land use and the environment.

### **v) Impacts and risks identified including the nature, significance, consequence, extent, duration and probability of the impacts, including the degree to which these impacts**

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

Please refer to **Appendix 5** for a detailed Impact assessment report.

### **vi) Methodology used in determining and ranking the nature, significance, consequences, extent, duration and probability of potential environmental impacts and risks.**

(Describe how the significance, probability, and duration of the aforesaid identified impacts that were identified through the consultation process was determined in order to decide the extent to which the initial site layout needs revision).

Please refer to **Appendix 5** for a detailed Methodology used.

### **vii) 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)

According to the Terrestrial Ecologist, the proposed mining area will influence roughly 2.3 ha of an agriculturally transformed environment. The proposed mining will not affect any SCC or nationally protected flora. Total vegetation clearance is expected to influence less than 2.3 ha. Strict monitoring and the effective implementation of all the mentioned mitigation measures will reduce the overall impact on the receiving environment. As the

proposed mining area has no confirmed observations and a low probability of floral SCC occurrence, the conservation importance rating of the site is low. Site functional integrity is low due to proposed study area's location within a near completely agriculturally transformed environment. Some protected species may also occur. The biodiversity importance of the proposed mining area is thus Low. Habitat resilience is likely medium due to the moderate likelihood of reoccurrence of species observed within the study area. Site ecological importance is thus low, which requires minimisation and restoration mitigation where mining activities of medium to high impact are acceptable and needs appropriate restoration activities.

**viii) The possible mitigation measures that could be applied and the level of risk.**

(With regard to the issues and concerns raised by affected parties provide a list of the issues raised and an assessment/ discussion of the mitigations or site layout alternatives available to accommodate or address their concerns, together with an assessment of the impacts or risks associated with the mitigation or alternatives considered).

Please refer to **Appendix 5** for the proposed mitigation measures for each aspect.

**ix) Motivation where no alternative sites were considered.**

The proposed mining area has undergone thorough assessment and selection, emerging as the most preferred option for sourcing materials essential for roads and stormwater maintenance in the Moqhaka Local Municipality. The operation aims to extract weathered dolerite material, a critical resource for maintaining and recalibrating roads and stormwater infrastructure.

Obtaining the necessary environmental authorization and legalizing the proposed mining area is imperative for its responsible utilization, ensuring alignment with local infrastructure, stormwater maintenance, and rural development plans. Alternate site selection considers several factors, prioritizing their suitability for road refurbishment, stormwater maintenance, and potential future development within the municipality. Before finalizing the selection, Environmental Assessment Practitioners (EAPs) meticulously screened potential mining area alternatives based on specific criteria:

- **Proximity to major roads (R34, R76, R82 and R713):**
  - The proposed mining area is conveniently situated between R34, R713 and R76 highway, providing easy access for transportation of materials. This positive impact will reduce transportation costs and time, which can enhance the overall efficiency and profitability of the mining operations.

- **Material suitability:**
  - The preferred site is selected based on the presence of suitable materials for mining activities, which is crucial for the feasibility and success of mining activities and project.
- **Adjacent open space and land use:**
  - The proposed mining area is surrounded by open spaces and agricultural land, which may allow for easier expansion or auxiliary activities related to mining without significant disruptions. The property is owned by the organ of state, the Moqhaka local Municipality and the availability of the surrounding land for potential future use can lead to further economic activities such as storage facilities, processing plants, or other related infrastructure, boosting local employment and economic development.

Modern mining techniques will be employed to reduce both operational expenses/costs and environmental repercussions. Given the straightforward nature of the proposed mining area, there are no other technology alternatives recommended or available.

No alternative sites are considered for the proposed mining area. As the screening process was conducted and the finalization of the of the preferred site selection was made.

**x) Statement motivating the alternative development location within the overall site. (Provide a statement motivating the final site layout that is proposed)**

At this stage, no alternative site layout plans within the overall site have been or will be considered. If the applicant chooses to explore an alternative site, relevant information regarding this alternative will be included in the final Basic Assessment Report (BAR) for environmental authorization. It is important to recognize the limited scale of the proposed mining area, which allows for minimal scope for alternative site layout planning. Considering the size of the site, Environmental Assessment Practitioners (EAPs) believe that developing alternative layouts would result in negligible deviations from the preferred layout in terms of significant impacts.

- i) **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.)

Information related to the environmental issues and risks about the process is contained in [Appendix 5](#).





**j) Assessment of each identified potentially significant impact and risk**

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

*Kindly note that a comprehensive impact assessment is attached to **Appendix 5***

<b>NAME OF ACTIVITY</b>  (E.g. For prospecting - drill site, site camp, ablation facility, accommodation, equipment storage, sample storage, site office, access route etc...etc...etc  E.g. For mining, - excavations, blasting, stockpiles, discard dumps or dams, Loading, hauling and transport, Water supply dams and boreholes, accommodation, offices, ablation, stores, workshops, processing plant, storm water control, berms, roads, pipelines, power lines, conveyors, etc...etc...etc.)	<b>POTENTIAL IMPACT</b>  (Including the potential impacts for cumulative impacts)  (e.g. dust, noise, drainage surface disturbance, fly rock, surface water contamination, groundwater contamination, air pollution etc...)	<b>ASPECTS AFFECTED</b>	<b>PHASE</b> In which impact is anticipated  (e.g. Construction, commissioning, operational Decommissioning, closure, post-closure)	<b>SIGNIFICANCE if not mitigated</b>	<b>MITIGATION TYPE</b>  (modify, remedy, control, or stop) through (e.g. noise control measures, storm-water control, dust control, rehabilitation, design measures, blasting controls, avoidance, relocation, alternative activity etc. etc)  E.g. Modify through alternative method. Control through noise control Control through management and monitoring through rehabilitation...	<b>SIGNIFICANCE if mitigated</b>
<b>Mining establishment (fencing, signage, access, site office, etc.).</b>	Loss of floral and faunal diversity	Plant and animal diversity and ecology and aesthetics.	Operational phase	Low	<ul style="list-style-type: none"> <li>• Remedy through restoration and rehabilitation</li> <li>• Storm-water control</li> <li>• Limit footprint and control through loss of indigenous flora and fauna mitigation measures.</li> <li>• Also refer to the recommendations and mitigations in the Ecological report and impact assessment report.</li> </ul>	Low

	Habitat destruction/loss	Plant and animal diversity, ecology and aesthetics.	Operational phase	Low	<ul style="list-style-type: none"> <li>• Remedy through habitat restoration.</li> <li>• Limit footprint and control through habitat loss mitigation measures.</li> <li>• Also refer to the recommendations and mitigations in the Ecological report and impact assessment report.</li> </ul>	Low
	Visual scarring	Aesthetics	Operational phase	Low-Medium	<ul style="list-style-type: none"> <li>• Limit footprint to the authorised area.</li> </ul>	Low-Medium
	Soil erosion and soil instability	Ecology and soil instability	Operational phase	Low-Medium	<ul style="list-style-type: none"> <li>• Limit footprint to the authorised area.</li> <li>• Soil conservation techniques</li> <li>• Dust control measures</li> </ul>	Low
<b>Clearance of area for mining/ removal of topsoil</b>	Loss of floral and faunal diversity and habitat.	Plant and animal diversity, land use and aesthetics	Operational phase	Low	<ul style="list-style-type: none"> <li>• Limit footprint to the authorised area.</li> <li>• Remedy through rehabilitation</li> <li>• Also refer to the recommendations and mitigations in the Ecological report and impact assessment report.</li> </ul>	Low
	Visual scarring.	Aesthetics	Operational phase	Low-Medium	<ul style="list-style-type: none"> <li>• Remedy through site decommissioning and rehabilitation</li> </ul>	Low-Medium
	Floral alien and invasives species (AIS).	Ecology biodiversity and aesthetics	Operational phase	Low-Medium	<ul style="list-style-type: none"> <li>• Remedy through rehabilitation.</li> <li>• Control and management through floral alien and invasives species mitigation measures.</li> </ul>	Low

					<ul style="list-style-type: none"> <li>Also refer to the recommendations and mitigations in the Ecological report and impact assessment report.</li> </ul>	
	Soil erosion and soil instability	Ecology and aesthetics	Operational phase	Low-Medium	<ul style="list-style-type: none"> <li>Control through soil conservation techniques</li> <li>Remedy through soil erosion and soil instability mitigation measures.</li> </ul>	Low-Medium
<b>Excavation of material</b>	Dust	Air quality	Operational phase	Low-Medium	<ul style="list-style-type: none"> <li>Use of dust control measures</li> <li>Reduce vehicle speed to minimize dust emissions.</li> </ul>	Low
	Surface water drainage and disruption	Water resources	Operational phase	Low-Medium	<ul style="list-style-type: none"> <li>Implementation of stormwater action plans.</li> <li>Mining to remain within the authorised footprint.</li> <li>Surface and water drainage mitigation measures.</li> </ul>	Low
	Soil erosion and soil instability	Ecology, topography, and aesthetics	Operational phase	Low	<ul style="list-style-type: none"> <li>Control through slope management.</li> <li>Soil erosion and soil instability mitigation measures.</li> </ul>	Low
	Noise and vibrations	Noise	Operational phase	Low-Medium	<ul style="list-style-type: none"> <li>Control through noise measures.</li> <li>Maintenance and regular upkeep of equipment to reduce noise and vibration.</li> <li>Install isolation under machinery.</li> </ul>	Low
	Visual scarring	Aesthetics	Operational phase	Low-Medium	<ul style="list-style-type: none"> <li>Remedy through rehabilitation of already mined areas.</li> </ul>	Low-medium

	Loss of artefacts and fossils	Heritage resources and fossil records	Operational phase	Low	<ul style="list-style-type: none"> <li>• Control through loss of artefacts and fossil mitigation measures.</li> </ul>	Low
Waste disposal and material storage	Mulch, topsoil, subsoil, and overburden stockpile contamination	Ecology, biodiversity, air quality and aesthetics	Operational phase	Low	<ul style="list-style-type: none"> <li>• Operational control measures</li> <li>• Fire prevention measures.</li> <li>• Site management protocols</li> <li>• General waste disposal control measures</li> </ul>	Low

The supporting impact assessment conducted by the EAP must be attached as an appendix, marked **Appendix 5**

**k) Summary of specialist reports.**

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

LIST OF STUDIES UNDERTAKEN	RECOMMENDATIONS OF SPECIALIST REPORTS	SPECIALIST RECOMMENDATIONS THAT HAVE BEEN INCLUDED IN THE EIA REPORT (Mark with an X where applicable)	REFERENCE TO APPLICABLE SECTION OF REPORT WHERE SPECIALIST RECOMMENDATIONS HAVE BEEN INCLUDED.
Ecological Assessment	<p>The proposed mining area will influence roughly 2.3 ha of an agriculturally transformed environment. The proposed mining will not affect any SCC or nationally protected flora. Total vegetation clearance is expected to influence less than 2.3 ha. Strict monitoring and the effective implementation of all the mentioned mitigation measures will reduce the overall impact on the receiving environment. As the proposed mining area has no confirmed observations and a low probability of floral SCC occurrence, the conservation importance rating of the site is low. Site functional integrity is low due to proposed study area's location within a near completely agriculturally transformed environment. Some protected species may also occur.</p> <p>The biodiversity importance of the proposed mining area is thus Low. Habitat resilience is likely medium due to the moderate likeliness of reoccurrence of species observed within the study area. Site ecological importance is thus low, which requires minimisation and restoration mitigation where mining activities of medium to high impact are acceptable and needs appropriate restoration activities.</p> <p>The study area has experienced previous agricultural transformation, with evidence of disturbance in the form of till lines, topsoil disturbance, bush encroachment, cattle grazing, trampling, and low species richness were observed. The vegetation is compositionally and structurally inconsistent to the Vaal-Vet Sandy Grassland. As such, the ecological functioning of the site has likely been negatively influenced. The vegetation is considered in fair ecological functioning due to previous</p>	X	Please refer to Appendix 6

	<p>agricultural activity and current impacts by surrounding agricultural practices and ongoing bush encroachment within the proposed mining area. No floral SCC were observed. In the vegetation's current state, the occurrence of floral SCC is low. The environmental impact assessment in terms of habitat and floral components is expected to be low with or without mitigation measures. Thus, the commencement of use of the proposed mining area is not expected to influence the environment drastically negatively at the site. However, these influences will be permanent, and care must be taken to minimise the long-term effect of the proposed mining area on the environment.</p>		
Heritage Impact Assessment	<p>Anticipated impact could have moderate negative effects on potentially fossil bearing, Adelaide Subgroup sedimentary strata and will require monitoring by a professional palaeontologist at appropriate times if large-scale excavations exceed 1 m into previously undisturbed sedimentary rocks underlying the unconsolidated sandy deposits at the site as far as archaeological heritage is concerned; anticipated impact will have negligible negative effects and will require no mitigation. The proposed development may proceed provided that all construction activities are restricted to within the boundaries of the demarcated site.</p>	X	Please refer to Appendix 6

Attach copies of Specialist Reports as appendices

## **I) Environmental impact statement**

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

The findings of the studies undertaken within the EIA to assess both benefits and potential negative impacts anticipated from the proposed borrow pit mining area conclude that:

- The proposed mining area will influence roughly 2,30ha of variously disturbed area.
- The proposed mining activity will impact the provincially protected flora located inside the application mining area. Therefore, no mining operations must commence until all necessary flora permits have been obtained.
- The proposed mining activity will, however, benefit the community of Kroonstad by allowing for the refurbishment of failing infrastructure in the area and regionally.
- Strict monitoring and the effective implementation of all the mentioned mitigation measures will reduce the overall impact on the receiving environment.
- The proposed project will have both positive and negative social impacts. It will create employment for locals during operational and closure and rehabilitation. The negative impacts are very low and restricted to the minor loss of grazing pasture.
- Anticipated impact could have moderate negative effects on potentially fossil bearing, Adelaide Subgroup sedimentary strata and will require monitoring by a professional palaeontologist at appropriate times if large-scale excavations exceed 1 m into previously undisturbed sedimentary rocks underlying the unconsolidated sandy deposits at the site. As far as archaeological heritage is concerned; anticipated impact will have negligible negative effects and will require no mitigation. The proposed development may proceed provided that all construction activities are restricted to within the boundaries of the demarcated site.
- The management of the impacts hinge on the effective and efficient operation of the proposed mining activity. There is a need to ensure that competent personnel are employed, and adequate training and skills development are provided for where it is lacking.
- The cumulative significance of all the negative potential impacts on the environment is considered low due to the limited scale of the development and the scarcity of development in the immediate surrounding area.

### **(ii) Final Site Map**

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

Please refer to the map attached in **Appendix 7**.

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

The EAPs meticulously screened the proposed mining activity, initiating an evaluation process through a desktop assessment. Throughout this process, no alternatives were considered, as all non-feasible options were systematically discarded. One of the primary concerns associated with the proposed mining activity is the alteration of environmental parameters, notably the clearance of areas for mining, the removal of topsoil, and the potential loss of flora and faunal diversity.

However, it is essential to underscore that these consequences are relatively minor and have a low impact, particularly within the confined scale of 2,30ha for which environmental authorization is being applied for. Moreover, with the implementation of comprehensive rehabilitation measures and strict adherence to prescribed protocols within the proposed mining area, any potential risks that may arise can be effectively mitigated, rendering them insignificant in the broader context of environmental management and sustainability.

The positive impacts associated with the proposed mining activity significantly outweigh the minimal environmental effects resulting from the operational activities of the intended mine. Permitting and legalizing the proposed mining area will catalyse and prove instrumental in the refurbishment and maintenance of roads and stormwater maintenance within the Moqhaka Local municipality and potentially broader scale of the Free State regions. This endeavour will concurrently generate temporary employment opportunities for the locals of Kroonstad area, which is essential and crucial for investing in local economic growth, social development, safety, and environmental sustainability, thus positioning it as a cornerstone of infrastructure development in the region.

#### **m) Proposed impact management objectives and the impact management outcomes for inclusion in the EMPr;**

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

The primary management objectives and impact management outcomes are:

- To fulfil the requirements of Mineral and Petroleum Resources Development Act, the requirements of the National Environmental Management Act and other legislative requirements.
- To promote the rational development of the proposed mining activity in order to reduce or eliminate the associated negative environmental impacts.
- To identify proposed mitigation and management measures to manage adverse impacts and to increase benefits.
- To ensure that the applicant use resources efficiently and effectively during the life of mine in order to reduce wastage thereby reducing associated negative environmental impacts.
- To improve the environmental awareness of all personnel who will work at the proposed mining area.

#### **n) Aspects for inclusion as conditions of Authorisation.**

Any aspects which must be made conditions of the Environmental Authorisation

All recommendations and mitigations as specified within the EMPr and specialist reports should be included as conditions for the authorization. Specific reference is given to the following:

- Mining activities should remain within the authorised area.
- Topsoil should be kept in stockpiles along the edge of the excavation less than 3 m high to prevent wind erosion and dust emissions.
- A decommissioning and rehabilitation plan should be drafted.
- No waste may be disposed of or burnt within the authorised area.
- A soil erosion control plan should be drafted and adhered to.
- Strict safety measures to safeguard the well-being of workers and the surrounding community, including emergency response plans.
- Obligations for continuous environmental monitoring and regular reporting to relevant regulatory authorities.



- Job opportunities arising from the operation of the borrow pit must be fair, unbiased, and indiscriminate to reduce possible conflicts within the community from arising.
- SAHRA and a qualified archaeologist be consulted immediately in the event of accidental archaeological exposure.
- The proposed mining activity will impact the provincially protected flora located inside the application mining area. Therefore, no mining operations must commence until all necessary flora permits have been obtained.
- During decommissioning of the mining area, the overburden, topsoil, and mulch stockpiles should be redeposited into the excavation area in levelled layers with natural contours for each type of deposition.
- Consequences for non-compliance, including fines, penalties, or permit revocation if the mining project fails to meet environmental standards.

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

(Which relate to the assessment and mitigation measures proposed)

In undertaking this investigation and compiling the report, it has been assumed that:

- The information provided by the client, the applicant and specialists are accurate and unbiased.
- The scope of this investigation is limited to assessing the environmental impacts associated with the proposed mine area and does not include assessment of lifecycle analysis of equipment and other materials to be used at the mine.
- This draft BAR acknowledges and associates its own gaps and limitations based on those gaps and limitations mentioned in the various specialist's assessments.

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

**i) Reasons why the activity should be authorized or not.**

Approving and legalizing the proposed mining project holds immense potential for the Kroonstad community and the broader district municipality, particularly regarding the maintenance and improvement of local roads. The proposed project will provide and secure vital resources for the enhancement of infrastructure, notably in the Moqhaka local municipality and the Fezile Dabi district municipality.

The proposed project promises multifaceted benefits to the region. Firstly, a well-structured road networks facilitating seamless connectivity, facilitating the efficient movement of goods, services, and individuals. This, in turn, catalyses economic development by curbing transportation expenses and enabling businesses to tap into previously inaccessible markets. Moreover, upgraded roads translate into expanded access to education, healthcare, and essential services, particularly in remote locales where transportation infrastructure is lacking. Additionally, enhanced road conditions and storm water maintenance contribute to heightened safety, diminishing the occurrence of accidents and fatalities. This not only preserves lives but also mitigates the societal and economic repercussions of road mishaps.

Furthermore, storm water maintenance and road construction are one significant sources of employment in the built environment. They generate job opportunities both directly, through construction endeavours, and indirectly, by supporting ancillary industries such as manufacturing and transportation. This surge in employment prospects aids in poverty alleviation and bolsters local economies.

**ii) Conditions that must be included in the authorisation**

- The mining area will be rehabilitated properly after material has been sourced.
- The mining area must be managed in accordance with the Environmental Management Program /Plan.
- The finishing off the mining area must be safe for humans and animals.
- There should be no dumping of any kind of waste at or in the mining area.
- Environmental awareness training should be given to all employees working at the mining area (especially on endangered/protected species)
- No protected plant species may be harmed or removed from the mining area without a permit issued by the appropriate authority.
- The applicant should provide environmental training for all employees working at the mining area during life of mine.
- Obligations for continuous environmental monitoring and regular reporting to relevant regulatory authorities.
- No site of archaeological or historical significance may be moved without a permit from the SAHRA. Any permitted removal of any archaeological or historical matter must be done under the strict supervision of a qualified registered heritage specialist.
- The proposed mining activity will impact the provincially protected flora located inside the application mining area. Therefore, no mining operations must commence until all necessary flora permits have been obtained.

**q) Period for which the Environmental Authorisation is required.**

5 years for a mining permit.

## r) Undertaking

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

The undertaking is provided at the end of this Draft Basic Assessment Report.

## s) Financial Provision

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

### i) Explain how the aforesaid amount was derived.

Information related to the Financial Provision of the proposed project is attached in **Appendix 8**.

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

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

Information related to the amount that be provided from the operational expenditure is attached in **Appendix 8**.

## t) Specific Information required by the competent Authority

### i) Compliance with the provisions of sections 24(4)(a) and (b) read with section 24 (3) (a) and (7) of the National Environmental Management Act (Act 107 of 1998). the EIA report must include the:-

#### (1) Impact on the socio-economic conditions of any directly affected person.

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

A comprehensive socio-economic impact assessment is considered unnecessary for this mining area project due to its anticipated positive ripple effects on various socio-economic levels, including the locals in Kroonstad, regional (Fezile Dabi district Municipality), and even national scale. These positive impacts encompass a range of benefits, such as improved connectivity through a well-maintained road network and stormwater maintenance. This enhanced connectivity facilitates the efficient movement of goods, services, and people, ultimately spurring economic growth by reducing transportation costs and enabling businesses to access new markets more easily.

Furthermore, road construction and refurbishment projects are notable job creators. They not only directly generate employment opportunities through operational work but also indirectly support related industries such as construction materials manufacturing and transportation. This boost in employment has a positive impact on poverty alleviation and local economies. Additionally, the modernization and maintenance of road infrastructure play a role in promoting environmental sustainability, aligning with broader socio-economic development goals.

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

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

Anticipated impact could have moderate negative effects on potentially fossil bearing, Adelaide Subgroup sedimentary strata and will require monitoring by a professional palaeontologist at appropriate times if large-scale excavations exceed 1 m into previously undisturbed sedimentary rocks underlying the unconsolidated sandy deposits at the site. As far as archaeological heritage is concerned; anticipated impact will have negligible negative effects and will require no mitigation. The proposed development may proceed provided that all construction activities are restricted to within the boundaries of the demarcated site.

**u) Other matters required in terms of sections 24(4)(a) and (b) of the Act.**

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

In accordance with the NEMA Section 24 (4)(a) and (b), the EAPs have initiated a comprehensive investigation to assess the potential environmental impacts and the significance thereof on the natural environment. A comprehensive impact assessment is featured in **Appendix 5**.



# PART B

## ENVIRONMENTAL MANAGEMENT PROGRAMME REPORT

### 1) Draft environmental management programme.

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

Confirmed.

The information related to the details and expertise of the EAPs are provided in Part A, section 1(a). The EAPs CV's is attached in the **Appendix 1**.

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

Confirmed.

The Information related to the description of the aspects of the activity are covered in Part A, section 1(h) as required. Additionally, the locality map and proof of activity is submitted as **Appendix 2 and 6**, respectively.

### **c) Composite Map**

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

The map is attached in **Appendix 7**.

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

- i) Determination of closure objectives.** (ensure that the closure objectives are informed by the type of environment described)

The closure management objectives took into account the existing environment, possible environmental impacts and the expectations at closure. To ensure that the closure objectives are informed by the type of environment, the anticipated impacts and damage at closure, the sensitivity of the area and expected post closure land use were taken into account. In doing so, principles of integrated environmental management were taken into account together with the principles of sustainable development. The closure objectives are:

- To create a post mining environment that eliminates unacceptable health hazards and ensures public safety
- To leave the site in a stable, non-polluting and tidy condition with no remaining plant or infrastructure that is not required for post mining operational use.
- To minimize or eliminate the downstream environmental impacts on the ecosystem due to interruption of drainage once the mining operations cease.

- To establish a stable post-mining land surface which has been rehabilitated that also supports vegetation growth, is erosion resistant and has long term sustainability.
- To reduce the need for long-term monitoring and maintenance by establishing effective stability of the disturbed areas.

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

Zero

iii) **Has a water use licence has been applied for?**

No, DWS (Department of Water and Sanitation) is one of the key stakeholders in this proposed project. The EAPs will ensure that DWS receives pertinent information and responds to any queries outlined in the application. In the event that water use licenses are necessary for this project, we will diligently apply for the requisite licenses before commencing the proposed project.



iv) 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 facility, accommodation, equipment storage, sample storage, site office, access route etc...etc...etc</p> <p>E.g. For mining,- excavations, blasting, stockpiles, discard dumps or dams, Loading, hauling and transport, Water supply dams and boreholes, accommodation, offices, ablution, stores, workshops, processing plant, storm water control, berms, roads, pipelines, power lines, conveyors, etc...etc...etc.)</p>	<p>(of operation in which activity will take place.</p> <p>State; Planning and design, Pre-Construction, Construction, Operational, Rehabilitation, Closure, Post closure).</p>	<p>(volumes, tonnages and hectares or m<sup>2</sup>)</p>	<p>(describe how each of the recommendations in herein will remedy the cause of pollution or degradation and migration of pollutants)</p>	<p>(A description of how each of the recommendations herein will comply with any prescribed environmental management standards or practices that have been identified by Competent Authorities)</p>	<p>Describe the time period when the measures in the environmental management programme must be implemented Measures must be implemented when required.</p> <p>With regard to Rehabilitation specifically this must take place at the earliest opportunity. With regard to Rehabilitation, therefore state either: -. Upon cessation of the individual activity or.</p> <p>Upon the cessation of mining, bulk sampling or alluvial diamond prospecting as the case may be.</p>
<p>Mining establishment (fencing, signage, access, site office, etc.)</p>	<p>Pre-Construction</p>	<p>± 0.5ha</p>	<p>Please refer to <b>Appendix 5</b></p>	<p>Issues of compliance with standards will be incorporated into the day-to-day activities at the quarry. The work methods used the monitoring and measures done and the review processes will be aimed at ensuring that legal thresholds as set out in the environmental standards are complied with. This will include compliance with Mining and Petroleum Resources Development Act regulations, Mine Health and Safety Act regulations and National Water Act regulations</p>	<p>During the start-up and operational phase.</p>
<p>Removal of vegetation and topsoil.</p>	<p>Start-up and operational phase</p>	<p>2,30ha</p>	<p>Please refer to <b>Appendix 5</b></p>	<p>The work methods used, the monitoring and measurements done, and the review processes will the aimed at ensuring that</p>	<p>During start-up and operational phase as necessary</p>

				legal thresholds as set out in the environmental standards are complied with. This will include compliance with Mining and Petroleum Resources Development Act regulations, Mine Health and Safety Act regulations and Conservation of Agricultural Resources Act.	
Excavation of material	Operational phase	2,30ha	Please refer to <b>Appendix 5</b>	Management of legal compliance will be incorporated into normal business activities. This means that particular responsibilities need to be clearly defined for the identification of relevant issues and delivery of compliance. This will help to ensure that adequate resources are available to support these activities. Environmental standards as set out in Mining and Petroleum Resources Development Act regulations, Mine Health and Safety Act regulations and National Water Act regulations. Operational phase.	Operational phase
Drilling & blasting (if needed)	Operational phase	As needed	Please refer to <b>Appendix 5</b>	All recommendations and mitigation measures will ensure little to no permanent impact on the environment this will ensure effective rehabilitation and restoration.	Operational phase (when necessary)
Waste disposal and material storage	Operational phase	Undetermined	Please refer to <b>Appendix 5</b>	The waste management hierarchy and the proximity principle will be used in ensuring that the environmental standards as set out in National Environmental Management Waste Act regulations and National Water Act regulations, are complied with.	Operational phase
Material handling, hauling and transportation	Operational phase	Undetermined	Please refer to <b>Appendix 5</b>	Issues of compliance with standards will be incorporated into the day-to-day business	Operational phase

				activities at the quarry to ensure that legal thresholds as set out in the environmental standards are complied with. This will include compliance with standards as per Mining and Petroleum Resources Development Act regulations, Mine Health and Safety Act regulations, National Water Act regulations and Mine Health and Safety Act regulations.	
Removal of infrastructure & equipment	Decommissioning and closure	Affected areas	Please refer to <b>Appendix 5</b>	The recommendations will incorporate factors that include the elimination or the minimization of negative impacts in the work methodologies used during decommissioning so as to comply with the standards as per Mining and Petroleum Resources Development Act regulations, Mine Health and Safety Act regulations and National Environmental Management Act.	At decommissioning stage
Re-shaping of borrow pit mined area	Decommissioning and closure	Affected areas	Please refer to <b>Appendix 5</b>	Considerations with the elimination or at least the minimization of any future impacts from the quarry and the long-term stability of the facility. Also, any concerns in relation to the long-term liability for the proposed quarry/mine and its aesthetics will be incorporated in order to ensure compliance with standards as set out in the Mine Health and Safety Act regulations, National Environmental Management Act and National Water Act regulations.	Closure stage
Community and labour relations management	Operational phase	Not Applicable	Please refer to <b>Appendix 5</b>	Will comply with Basic Conditions of Employment Act regulations, Employment equity Act, Labour Relations Act and Skills Development Act.	During operational phase

Re-vegetation of disturbed areas	Closure phase	Affected areas	Please refer to <b>Appendix 5</b>	The future impacts from the quarry and the long-term stability of the area, any concerns in relation to the long-term liability for the facility and its aesthetics will be taken into account to ensure compliance with the National Environmental Management Act, Conservation of Agricultural Resources Act and National Environmental Management Biodiversity Act regulations.	During operational phase in sections where mining has been completed and during closure.
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**e) Impact Management Outcomes**

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

ACTIVITY  (whether listed or not listed).  (E.g. Excavations, blasting, stockpiles, discard dumps or dams, Loading, hauling and transport, Water supply dams and boreholes, accommodation, offices, ablution, stores, workshops, processing plant, storm water control, berms, roads, pipelines, power lines, conveyors, etc...etc...etc.).	POTENTIAL IMPACT  (e.g. dust, noise, drainage surface disturbance, fly rock, surface water contamination, groundwater contamination, air pollution etc....etc...)	ASPECTS AFFECTED	PHASE  In which impact is anticipated  (e.g. Construction, commissioning, operational Decommissioning, closure, post-closure)	MITIGATION TYPE  (modify, remedy, control, or stop) through (e.g. noise control measures, storm-water control, dust control, rehabilitation, design measures, blasting controls, avoidance, relocation, alternative activity etc. etc)  E.g. <ul style="list-style-type: none"> <li>• Modify through alternative method.</li> <li>• Control through noise control</li> <li>• Control through management and monitoring</li> <li>• Remedy through rehabilitation.</li> </ul>	STANDARD TO BE ACHIEVED  (Impact avoided, noise levels, dust levels, rehabilitation standards, end use objectives) etc.
Mining establishment (fencing, signage, access, site offices, etc.)	Loss of floral and faunal diversity	Biodiversity, ecology, and aesthetics	Operational phase	<ul style="list-style-type: none"> <li>• Remedy through rehabilitation.</li> <li>• Limit footprint</li> </ul>	Impact managed effectively
	Habitat loss	Biodiversity, ecology, and aesthetics	Operational phase	<ul style="list-style-type: none"> <li>• Remedy through rehabilitation.</li> <li>• Limit footprint</li> </ul>	Impact reduced
	Visual scarring	Aesthetics	Operational Phase	<ul style="list-style-type: none"> <li>• Remedy through rehabilitation</li> </ul>	Impact managed effectively

ACTIVITY	POTENTIAL IMPACT	ASPECTS AFFECTED	PHASE	MITIGATION TYPE	STANDARD TO BE ACHIEVED
	Soil erosion and soil instability	Ecology and soil stability	Operational Phase	<ul style="list-style-type: none"> <li>Remedy through rehabilitation,</li> <li>Storm water control.</li> <li>Limit footprint.</li> <li>Control through storm water control</li> </ul>	Impact avoided
Clearance of area for mining	Visual scarring	Aesthetics	Operational Phase	<ul style="list-style-type: none"> <li>Remedy through rehabilitation.</li> <li>Limit footprint and,</li> <li>Removal of vegetation.</li> </ul>	Impact managed to acceptable levels (determined by the appointed Environmental Compliance Officer), residual impact reduced
	Loss of floral and faunal diversity and habitat	Biodiversity, ecology, land use and aesthetics	Operational Phase	<ul style="list-style-type: none"> <li>Remedy through rehabilitation</li> </ul>	Impact reduced to satisfactory levels
	Floral alien and invasives species (AIS)	Ecology, biodiversity, and aesthetics	Operational Phase	<ul style="list-style-type: none"> <li>Remedy through rehabilitation.</li> <li>Control through floral alien and invasive species (AIS) mitigation measures.</li> </ul>	Impact managed to suitable alien invasive species control levels
	Soil erosion and soil instability	Ecology and aesthetics	Operational Phase	<ul style="list-style-type: none"> <li>Control through soil techniques.</li> <li>Remedy through soil erosion and soil instability mitigation measure.</li> <li>Remedy through rehabilitation,</li> <li>Storm water control</li> </ul>	Impact avoided
Excavation of materials	Dust emissions	Air quality	Operational Phase	<ul style="list-style-type: none"> <li>Control with dust control measures</li> </ul>	Dust management to meet appointed Environmental Compliance Officers standards

ACTIVITY	POTENTIAL IMPACT	ASPECTS AFFECTED	PHASE	MITIGATION TYPE	STANDARD TO BE ACHIEVED
	Surface water drainage disruption	Water resources	Operational Phase	<ul style="list-style-type: none"> <li>Remain within authorised footprint</li> <li>Control with Storm water controls</li> <li>Surface water drainage disruption mitigation measures</li> </ul>	Good surface water run-off established around the mining area.
	Slope instability	Topography	Operational Phase	<ul style="list-style-type: none"> <li>Control with slope management controls</li> </ul>	Stable surfaces established
	Noise	Noise	Operational Phase	<ul style="list-style-type: none"> <li>Control with Noise control measures</li> </ul>	Noise reduced to acceptable levels
	Visual scarring	Aesthetics	Operational Phase	<ul style="list-style-type: none"> <li>Rehabilitation</li> </ul>	Impact managed effectively; residual impact reduced
	Soil erosion	Land use	Operational Phase	<ul style="list-style-type: none"> <li>Rehabilitation, use slope management control</li> </ul>	Impact levels avoided
	Destruction of heritage resource	Heritage issues	Operational Phase	<ul style="list-style-type: none"> <li>Avoidance</li> <li>Contact SAHRIS in the event of accidental heritage resource discovery</li> </ul>	Impact avoided
Drilling & blasting (if done)	Noise and vibrations	Noise	Operational Phase	<ul style="list-style-type: none"> <li>Control with blast control measures</li> </ul>	Noise levels reduced to acceptable levels
	Dust	Air quality	Operational Phase	<ul style="list-style-type: none"> <li>Control with dust control measures</li> </ul>	Particulates reduced to acceptable levels
	Fly rock	Safety and land degradation	Operational Phase	<ul style="list-style-type: none"> <li>Control with blast control measures</li> </ul>	Fly rock avoided
Waste Disposal and Material storage	Soil contamination	Land degradation	Operational Phase	<ul style="list-style-type: none"> <li>Avoidance, operational control measures</li> </ul>	Impact avoided
	Water pollution	Water	Operational Phase	<ul style="list-style-type: none"> <li>Avoidance, operational control measures</li> </ul>	Impact avoided

ACTIVITY	POTENTIAL IMPACT	ASPECTS AFFECTED	PHASE	MITIGATION TYPE	STANDARD TO BE ACHIEVED
	Increased risk of fire	Safety	Operational Phase	<ul style="list-style-type: none"> <li>Avoidance, operational control measures</li> </ul>	Impact avoided or managed to low levels
Material handling, hauling and transportation	Dust	Air quality	Operational Phase	<ul style="list-style-type: none"> <li>Control with dust control measures</li> </ul>	Particulates reduced to acceptable levels
	Increased risk of accidents	Safety	Operational Phase	<ul style="list-style-type: none"> <li>Use site management protocols</li> </ul>	Accidents avoided or reduced to low levels
	Noise	Noise	Operational Phase	<ul style="list-style-type: none"> <li>Control with noise control measures</li> </ul>	Noise reduced to acceptable levels
	Soil contamination from oil/fuel leaks	Land degradation	Operational Phase	<ul style="list-style-type: none"> <li>Operational control measures</li> </ul>	Impact managed to suitable soil fertility levels
Removal of infrastructure & equipment and re-shaping of mining area	Noise	Noise	Decommissioning and Closure	<ul style="list-style-type: none"> <li>Control with noise control measures</li> </ul>	Noise levels reduced to acceptable levels
	Dust	Air quality	Decommissioning and Closure	<ul style="list-style-type: none"> <li>Control with dust control measures</li> </ul>	Particulates reduced to acceptable levels
	Soil contamination from oil/fuel	Land degradation and water pollution	Decommissioning and Closure	<ul style="list-style-type: none"> <li>Avoidance, Control with operational control measures</li> </ul>	Impact managed to suitable soil fertility levels
	Disruption of surface drainage	Water movement	Decommissioning and Closure	<ul style="list-style-type: none"> <li>Control with storm water controls</li> </ul>	Free drainage achieved
Community and labour relations management	Community conflicts and tensions	Community relations	Operational Phase	<ul style="list-style-type: none"> <li>Control using site management protocols</li> </ul>	Reduction in complaints and incidences of conflict
	Increased risk of fire	Fire risk	Operational Phase	<ul style="list-style-type: none"> <li>Control using Site management protocols</li> </ul>	Fires avoided and risk reduced
	Reduced security on area	Safety issues	Operational Phase	<ul style="list-style-type: none"> <li>Control site management protocols</li> </ul>	Improvement in security and elimination of theft incidences
	Improved employment	Community relations	Operational Phase	<ul style="list-style-type: none"> <li>Control site management protocols</li> </ul>	Increase in number of people employed

ACTIVITY	POTENTIAL IMPACT	ASPECTS AFFECTED	PHASE	MITIGATION TYPE	STANDARD TO BE ACHIEVED
	Improved skills	Community relations	Operational Phase	<ul style="list-style-type: none"> <li>• Controls site management protocols</li> </ul>	Improvement in skills level



### f) Impact Management Actions

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

ACTIVITY	POTENTIAL IMPACT	MITIGATION TYPE	TIME PERIOD FOR IMPLEMENTATION	COMPLIANCE WITH STANDARDS
<p>whether listed or not listed.</p> <p>(E.g. Excavations, blasting, stockpiles, discard dumps or dams, Loading, hauling and transport, Water supply dams and boreholes, accommodation, offices, ablution, stores, workshops, processing plant, storm water control, berms, roads, pipelines, power lines, conveyors, etc...etc...etc.).</p>	<p>(e.g. dust, noise, drainage surface disturbance, fly rock, surface water contamination, groundwater contamination, air pollution etc....etc...)</p>	<p>(modify, remedy, control, or stop) through (e.g. noise control measures, storm-water control, dust control, rehabilitation, design measures, blasting controls, avoidance, relocation, alternative activity etc. etc)</p> <p>E.g.</p> <ul style="list-style-type: none"> <li>• Modify through alternative method.</li> <li>• Control through noise control</li> <li>• Control through management and monitoring</li> </ul> <p>Remedy through rehabilitation..</p>	<p>Describe the time period when the measures in the environmental management program must be implemented Measures must be implemented when required. With regard to Rehabilitation specifically this must take place at the earliest opportunity. With regards to Rehabilitation, therefore state either:-                      Upon cessation of the individual activity or.                      Upon the cessation of mining, bulk sampling or alluvial diamond prospecting as the case may be.</p>	<p>(A description of how each of the recommendations in 2.11.6 read with 2.12 and 2.15.2 herein will comply with any prescribed environmental management standards or practices that have been identified by Competent Authorities)</p>
<p>Mining establishment (fencing, signage, access site offices, etc.)</p>	<p>Loss of floral and faunal diversity</p>	<ul style="list-style-type: none"> <li>• Remedy through rehabilitation</li> <li>• Limit footprint</li> </ul>	<p>Operational phase</p>	<p>Issues of compliance with standards will be incorporated into the day-to-day activities at the mine. The work methods used, the monitoring and measures done, and the review processes will be aimed at ensuring that legal thresholds, as set out in the environmental standards, are complied with. This will include compliance with Mining and Petroleum Resources Development Act regulations, Mine Health and Safety Act regulations and National Water Act regulations.</p>
	<p>Habitat loss</p>	<ul style="list-style-type: none"> <li>• Remedy through rehabilitation</li> <li>• Limit footprint</li> </ul>	<p>Operational phase</p>	
	<p>Visual scarring</p>	<ul style="list-style-type: none"> <li>• Remedy through rehabilitation</li> </ul>	<p>Start-up and Operational Phase</p>	
	<p>Soil erosion and soil instability</p>	<ul style="list-style-type: none"> <li>• Remedy through rehabilitation</li> <li>• Storm water control</li> <li>• Limit footprint</li> <li>• Control through storm water control</li> </ul>	<p>Operational Phase</p>	
<p>Clearance of area for mining</p>	<p>Visual scarring</p>	<ul style="list-style-type: none"> <li>• Remedy through rehabilitation</li> <li>• Limit footprint and removal of vegetation.</li> </ul>	<p>Operational Phase</p>	<p>The work methods used, the monitoring and measurements done, and the review processes will be aimed at ensuring that legal thresholds, as set out in the environmental standards, are complied with. This will include compliance with</p>
	<p>Loss of flora and faunal diversity and habitat</p>	<ul style="list-style-type: none"> <li>• Remedy through rehabilitation</li> </ul>	<p>Operational Phase</p>	

ACTIVITY	POTENTIAL IMPACT	MITIGATION TYPE	TIME PERIOD FOR IMPLEMENTATION	COMPLIANCE WITH STANDARDS
		<ul style="list-style-type: none"> <li>• Limit footprint and removal of vegetation</li> <li>• Control through loss of floral and faunal diversity</li> <li>• Habitat mitigation measures</li> </ul>		Mining and Petroleum Resources Development Act regulations, Mine Health and Safety Act regulations and Conservation of Agricultural Resources Act.
	Floral alien and invasive species (AIS)	<ul style="list-style-type: none"> <li>• Remedy through rehabilitation</li> <li>• Control through rehabilitation</li> <li>• Control through floral alien and invasive species mitigation measures</li> </ul>	Operational Phase	
	Soil erosion and soil instability	<ul style="list-style-type: none"> <li>• Remedy through rehabilitation,</li> <li>• Control through soil conservation techniques</li> <li>• Soil instability mitigation measures</li> </ul>	Operational Phase	
Excavation of material	Dust emissions	<ul style="list-style-type: none"> <li>• Control with dust control measures</li> </ul>	Operational Phase	Management of legal compliance will be incorporated into normal business activities. This means that particular responsibilities need to be clearly defined for the identification of relevant issues and delivery of compliance. This will help to ensure that adequate resources are available to support these activities. Environmental standards as set out in Mining and Petroleum Resources Development Act regulations and Mine Health and Safety Act regulations and South African Heritage Resources Act.
	Surface water drainage disruption	<ul style="list-style-type: none"> <li>• Control through storm water controls</li> <li>• Surface water drainage mitigation measures</li> </ul>	Operational Phase	
	Soil erosion and soil instability	<ul style="list-style-type: none"> <li>• Control with slope management controls</li> <li>• Soil erosion and soil instability mitigation measures</li> </ul>	Operational Phase	
	Noise and vibrations	<ul style="list-style-type: none"> <li>• Control with Noise control measures</li> </ul>	Operational Phase	
	Visual scarring	<ul style="list-style-type: none"> <li>• Remedy through rehabilitation of already mined areas</li> </ul>	Operational Phase	
	Loss of artefacts and fossils	<ul style="list-style-type: none"> <li>• Avoidance</li> </ul>	Operational Phase	

ACTIVITY	POTENTIAL IMPACT	MITIGATION TYPE	TIME PERIOD FOR IMPLEMENTATION	COMPLIANCE WITH STANDARDS
		<ul style="list-style-type: none"> <li>Control through loss of artefacts and fossils mitigation measures</li> </ul>		
Drilling & blasting (if done)	Noise and vibrations	<ul style="list-style-type: none"> <li>Control with blast control measures</li> </ul>	Operational Phase	This will be achieved by clearly outlining the environmental standards to be achieved and the thresholds which are not to be exceeded in the management system used at the site. This will include compliance with standards as per, Explosive Act regulations, Mine Health and Safety Act regulations and the Hazardous Substances Act.
	Dust emissions	<ul style="list-style-type: none"> <li>Control with dust control measures</li> <li>Control with blast control measures</li> </ul>	Operational Phase	
	Fly rock	<ul style="list-style-type: none"> <li>Control with blast control measures</li> </ul>	Operational Phase	
Waste disposal and material storage	Mulch, topsoil, subsoil, and overburden stockpile contamination	<ul style="list-style-type: none"> <li>Avoidance,</li> <li>Control through mitigation measures for soil erosion</li> <li>Soil instability</li> <li>Aesthetics</li> <li>Air quality</li> <li>Loss of floral and faunal diversity</li> </ul>	Operational Phase	The waste management hierarchy and the proximity principle will be used in ensuring that the environmental standards as set out in National Environmental Management Waste Act regulations and National Water Act regulations are complied with.
	Surface water contamination	<ul style="list-style-type: none"> <li>Avoidance</li> <li>Operational control measures</li> </ul>	Operational Phase	
	General solid waste	<ul style="list-style-type: none"> <li>Avoidance</li> <li>Operational control measures</li> </ul>	Operational Phase	
Material handling, hauling and transportation	Dust emissions	<ul style="list-style-type: none"> <li>Control with dust Control measures</li> </ul>	Operational Phase	Issues of compliance with standards will be incorporated into the day-to-day activities at the mine to ensure that legal thresholds as set out in the environmental standards are complied with. This will include compliance with Mining and Petroleum Resources Development Act regulations, Mine Health and Safety Act regulations, National Water Act regulations and Mine Health and Safety Act regulations
	Noise	<ul style="list-style-type: none"> <li>Control with noise control measures</li> </ul>	Operational Phase	
	Soil contamination from oil/fuel leaks	<ul style="list-style-type: none"> <li>Control with operational control measures</li> </ul>	Operational Phase	

ACTIVITY	POTENTIAL IMPACT	MITIGATION TYPE	TIME PERIOD FOR IMPLEMENTATION	COMPLIANCE WITH STANDARDS
Removal of infrastructure & equipment and shaping of quarry	Noise and vibrations	<ul style="list-style-type: none"> <li>Control with noise control measures</li> </ul>	Decommissioning and Closure	The recommendations will incorporate factors that include the elimination or the minimization of negative impacts in the work methodologies used during decommissioning so as to comply with the Mining and Petroleum Resources Development Act regulations, Mine Health and Safety Act regulations and National Environmental Management Act.
	Dust emissions	<ul style="list-style-type: none"> <li>Control with dust control measures</li> </ul>	Decommissioning and Closure	
	Floral alien and invasive species	<ul style="list-style-type: none"> <li>Remedy through rehabilitation</li> <li>Remedy through AIS control methods</li> </ul>	Decommissioning and Closure	
	Disruption of surface water drainage	<ul style="list-style-type: none"> <li>Remedy through storm water controls</li> <li>Remedy through rehabilitation</li> </ul>	Decommissioning and Closure	
Community and labour relations management	Community conflicts and tensions	<ul style="list-style-type: none"> <li>Control using site management protocols</li> </ul>	Operational Phase	The future impacts from the mine and the long-term stability of the area, any concerns in relation to the long-term liability for the facility and its aesthetics will be taken into account to ensure compliance with the National Environmental Management Act, Conservation of Agricultural Resources Act, National Environmental Management Biodiversity Act regulations and the Occupational Health and Safety Act.
	Increased risk of fire	<ul style="list-style-type: none"> <li>Control using site management protocols</li> </ul>	Operational Phase	
	Reduced security in area	<ul style="list-style-type: none"> <li>Control site management protocols</li> </ul>	Operational Phase	
	Improved employment	<ul style="list-style-type: none"> <li>Control site management protocols</li> </ul>	Operational Phase	
	Improved skills	<ul style="list-style-type: none"> <li>Use of site management protocols</li> </ul>	Operational Phase	

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

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

Rehabilitation will be the sole responsibility of the the applicant/contractor using the mining area. Whilst steps are taken throughout the project life cycle to reduce negative environmental impacts as they occur, the specific closure objectives are as follows:

- To create a post mining environment that eliminates unacceptable health hazards and ensures public safety.
- To leave the site in a stable, non-polluting and tidy condition with no remaining plant or infrastructure that is not required for post mining operational use.
- To minimise or eliminate the downstream environmental impacts on the ecosystem due to interruption of drainage once the mine operations cease.
- To establish a stable post-mining land surface which has been rehabilitated that also supports vegetation growth, is erosion resistant and has long term sustainability.
- To rehabilitate the disturbed areas to an end land use similar to that prior to commencement of any mining activities as far possible, in this case an end land use of at least grazing.
- To reduce the need for long-term monitoring and maintenance by establishing effective stability of the disturbed areas.

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

The key environmental objectives related to the closure of the mining area have been set out. Consultation between the EAPs, I&AP's, the applicant, its representatives, and associates have taken place.

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

The rehabilitation plan is shown in [Appendix 9](#).

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

The rehabilitation takes into consideration the nature of the impacted land at the end of operational activities, objectives at closure and the need to ensure that the post closure maintenance is minimal.

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

Please refer to **Appendix 9** to information related to the Financial Provision.

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

The Applicant being the Moqhaka Local Municipality will be responsible in ensuring progressive rehabilitation is done effectively and, in a manner, stipulated in the Rehabilitation Plan which is attached in **Appendix 9**.

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

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

SOURCE ACTIVITY	IMPACTS REQUIRING MONITORING PROGRAMMES	FUNCTIONAL REQUIREMENTS FOR MONITORING	ROLES AND RESPONSIBILITIES (FOR THE EXECUTION OF THE MONITORING PROGRAMMES)	MONITORING AND REPORTING FREQUENCY and TIME PERIODS FOR IMPLEMENTING IMPACT MANAGEMENT ACTIONS
Mining establishment activities (fencing, signage, access, site office etc.)	<ul style="list-style-type: none"> <li>• Loss of flora and faunal diversity</li> <li>• Habitat loss</li> <li>• Aesthetics</li> <li>• Soil erosion and soil instability</li> </ul>	<p>Visual checks, monitoring incidences of non-compliance, recording of key parameters.</p> <p>See Appendix 10 for details</p>	Appointed Contractor/	<p>At site office establishment and as and when required. Record incidences of non-compliance monthly.</p> <p>See Appendix 9 for details</p>
Removal of vegetation and topsoil	<ul style="list-style-type: none"> <li>• Aesthetics</li> <li>• Loss of flora and faunal diversity</li> <li>• Habitat loss</li> </ul>	<p>Visual checks, monitoring incidences of non-compliance, recording of key parameters.</p> <p>See Appendix 10 for details</p>	Appointed Contractor	<p>During operational phase and as and when required. Record incidences of non-conformances as they occur and do monthly report.</p> <p>See Appendix 9 for details</p>
Excavation of materials	<ul style="list-style-type: none"> <li>• Dust</li> <li>• Surface water disruptions</li> <li>• Soil erosion and soil instability</li> <li>• Aesthetics</li> <li>• Loss of artefacts and fossils</li> </ul>	<p>Visual checks, monitoring incidences of non-compliance, recording of key parameters.</p> <p>See Appendix 10 for details</p>	Appointed Contractor	<p>During operational phase. Record measurements monthly and incidences of non-compliance.</p> <p>See Appendix 9 for details</p>

Drilling & blasting (if done)	<ul style="list-style-type: none"> <li>Noise and vibrations</li> <li>Dust</li> </ul>	<p>Visual checks, monitoring incidences of non-compliance, recording of key parameters.</p> <p>See Appendix 10 for details</p>	Appointed Contractor	<p>When drilling and/or blasting is done. Record key parameters when done.</p> <p>See Appendix 9 for details</p>
Waste disposal and material storage	<ul style="list-style-type: none"> <li>Mulch</li> <li>Topsoil</li> <li>Subsoil and overburden stockpile.</li> <li>Surface water contamination</li> <li>General solid waste</li> </ul>	<p>Visual checks, monitoring incidences of non-compliance, recording of key parameters.</p> <p>See Appendix 9 for details</p>	Appointed Contractor	<p>During life of mine as and when required. Record key parameters monthly and non-compliances.</p> <p>See Appendix 9 for details</p>
Material handling, hauling and transportation	<ul style="list-style-type: none"> <li>Dust</li> <li>Noise and vibrations</li> </ul>	<p>Visual checks, monitoring incidences of non-compliance, recording of key parameters.</p> <p>See Appendix 10 for details</p>	Appointed Contractor	<p>Ongoing during life of mine and record key parameters monthly &amp; non compliances.</p> <p>See Appendix 9 for details</p>
Removal of infrastructure & equipment and shaping of mining area	<ul style="list-style-type: none"> <li>Noise</li> <li>Dust</li> <li>Disruption of surface drainage</li> <li>Floral alien and invasive species</li> </ul>	<p>Visual checks, monitoring incidences of non-compliance, recording of key parameters.</p> <p>See Appendix 10 for details</p>	Appointed Contractor	<p>At decommissioning and closure and when required. Maintain disposal records.</p> <p>See Appendix 9 for details</p>
Community and labour relations management	<ul style="list-style-type: none"> <li>Community conflicts</li> </ul>	<p>Monitoring incidences of complaints, recording of key parameters</p> <p>See Appendix 10 for details</p>	Appointed Contractor	<p>During life of mine and record complaints, incidents and labour statistics monthly.</p> <p>See Appendix 9 for details</p>



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

Once the proposed mining area has been authorized by the Department of Mineral Resources and Energy and utilized by the contractor, they will be required to appoint an Environmental Control Officer, which then will be required to perform and ensure that monthly environmental compliance reports which includes the mining area.

**m) Environmental Awareness Plan**

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

All employees will go through an induction of general environmental issues and given specifics on their jobs. The training will include

- Making employees aware that everyone has a right to a clean environment and that everyone has a responsibility to protect the environment.
- Explanation of the importance of complying with the EMP specifications.
- Discussion of the potential environmental impacts of operational activities and mitigation measures that must be implemented when carrying out activities.
- The importance of personal performance on dealing with environmental issues and explanations of the management structure of individuals responsible for matters pertaining to the EMP.
- Communication can be done either in a written or verbal format but will be in an appropriate format for the receiving audience. Records of all training done are to be kept.
- When encountering fossils, obtain a permit from the SAHRA. Any permitted removal of any archaeological or historical matter must be done under the strict supervision of a qualified registered heritage specialist.

Refer to Environmental Awareness Plan Appendix 11

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

- The applicant will endeavour to improve the competence and skills of personnel. A culture of environmental protection will be promoted.
- Procedures will be put in place to effectively minimize any identified high-risk areas and to proactively control any environmental incidents if they occur.
- The applicant will also continuously improve and promote a code that goes beyond minimal compliance with environmental legislation.

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

Confirmed. The applicant is applying to take responsibility for the proposed mining area.

## 2) UNDERTAKING

The EAP herewith confirms

- a) the correctness of the information provided in the reports
- b) the inclusion of comments and inputs from stakeholders and I&APs;
- c) the inclusion of inputs and recommendations from the specialist reports where relevant;  and
- d) that the information provided by the EAP to interested and affected parties and any responses by the EAP to comments or inputs made by interested and affected. parties are correctly reflected herein.

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Signature of the environmental assessment practitioner

Environmental Management Group (Pty) Ltd

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Name of company:

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Date:

**-END-**