

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

**PROPOSED COAL MINING PERMIT ON PORTION 24 OF THE  
FARM WALTEVREDEN 227 IR, SITUATED UNDER THE  
MAGISTERIAL DISTRICT OF VICTOR KHANYE (DELMAS),  
MPUMALANGA PROVINCE**

**Prepared by**



**Physical Address:** Office No. 870,  
5 Balalaika Street, Tasbet Park Ext 2, Witbank,  
1035

**Tel No.:** +27 13 692 0041

**Fax No.:** +27 86 514 4103

**Email:** [admin@singoconsulting.co.za/](mailto:admin@singoconsulting.co.za)  
[kenneth@singoconsulting.co.za](mailto:kenneth@singoconsulting.co.za)

**2023**

**Prepared on behalf of:**



**Physical Address:** Pentagon House 5 Neven Street, Model Park,  
eMalahleni, 1035

**Contact person:** Mr Given Bongani Simelane

**Tel No.:** +27 13 591 2120

**Email:** [admin@jaments.co.za](mailto:admin@jaments.co.za)

**Prepared for:**



**mineral resources  
& energy**

Department:  
Mineral Resources and Energy  
REPUBLIC OF SOUTH AFRICA



mineral resources  
& energy

Department:  
Mineral Resources and Energy  
REPUBLIC OF SOUTH AFRICA

**BASIC ASSESSMENT REPORT**

**AND**

**ENVIRONMENTAL MANAGEMENT PROGRAMME REPORT**

**(DMRE REF: MP 30/5/1/1/3/13702 MP)**

SUBMITTED FOR ENVIRONMENTAL AUTHORIZATION IN TERMS OF THE NATIONAL ENVIRONMENTAL 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).

**APPLICANT** : Jaments (Pty) Ltd

**Postal Address** : Pentagon House 5 Neven Street, Model Park, eMalahleni 1035

**Contact Person** : Mr. Bongani Given Simelane

**Tel** : +27 13 591 2120

**Email** : admin@jaments.co.za

## DISCLAIMER

Singo Consulting acts as an advisor to the Jaments (Pty) Ltd and exercises all reasonable skill and care in the provision of its professional services in a manner consistent with the level of care and expertise exercised by members of the environmental profession.

Where site inspections, testing or fieldwork have taken place, the report is based on the information made available by Singo Consulting (Pty) Ltd during the visit, visual observations and any subsequent discussions with regulatory authorities. The information used in this report were obtained from relevant stakeholders through sharing BID's as a way of notifying the stakeholders about the proposed project and referred to other outside sources (includes historical site investigation information and third-party expert research).

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

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

# 1 EXECUTIVE SUMMARY

Singo Consulting (Pty) Ltd has been appointed as an independent Environmental Consultant by Jaments (Pty) Ltd to conduct Environmental Impact Assessment (EIA), Compile an Environmental Management Programme report (EMPr) and undertake Public Participation Process (PPP). This is done for processes of acquiring Environmental Authorization for the proposed mining permit Application on Portion 24 of the farm Weltevreden 227 IR, situated under the Magisterial District of Delmas Mpumalanga Province, the application with the DMRE REF: MP 30/5/1/1/3/13702 MP.

The Mining Permit is situated approximately 9 km East of Botleng and 10 km Southeast of Delmas. This area can be accessed using the gravel road that extends towards the R555. The Delmas town is known for producing maize, wheat, potatoes, soybeans and chicken in the region.

In terms of the desktop studies conducted, the Screening Report and MTPA, the proposed mining area is situated within heavily modified land and the whole area falls within cultivated land. The area also comprises of low sensitivity Archaeological and Cultural, very high sensitivity Paleontological and very high sensitivity Terrestrial Biodiversity land. The neighboring surrounding areas comprise of plantations, dams, wetlands, built-up areas and bare land.

During ground truthing and site assessment that was conducted on 02 March 2023, the land within which the proposed site is nestled is mainly currently used for soybeans farming. The surroundings of the project area comprise of agricultural land (used for crop farming and maize farming). No species of ecological importance were observed on site. Power lines were observed outside the proposed mining area and a wetland was observed approximately 580 m from the proposed mining area.

Neighboring operations were also identified in close proximity to the proposed mining area such as Phalandwa Colliery situated 3,26 km East, Stuart Coal Delmas situated 3,87 km South-West, Welgelegen Iyanga Colliery situated 9,48 km East, Leeuwpan Colliery situated 8,61 km South-West, Vanggatfontein Colliery situated 9,02 km, Thaba Chueu Mining situated 4,57 km, BME Plant situated 3,17 km away from the proposed mining permit area.

The Mining Permit Application has been submitted for the exploitation of Coal resource on the property mentioned above. Mining activities will be undertaken over a period of two (2) years with an option to renew for three (3) periods of which each may not exceed one year in terms of Section 27(8)a of the Mineral and Petroleum Resources Development Act (MPRDA), 2002 (Act No. 28 of 2002) as amended. This project will entail an open cast method of excavation. The mine design will be developed according to the dimensions of the applied mineral deposit within the project area, but overall mining activities will be limited to an area of 5 Ha as per mining permit requirements. The method that will be employed is a very basic form of open cast mining. Blasting with non-conventional explosives such as Non-Ex Rock Breaking Cartridges and

subsequent mining of coal utilizing a truck and shovel operation will be conducted. The mined coal will be crushed and screened utilizing a mobile crushing and screening plant. A front-end loader will be utilized to load the material into haulage trucks. The coal will be processed off site. The topsoil will be stockpiled elsewhere on site, preferably next to the farm boundary and will be used during rehabilitation period. Once a box cut has been made, the overburden and mineral resources where necessary will be loosened by blasting with non-conventional explosives or ripping method. The loosened material will then be loaded onto trucks by excavators. A haul road will be situated at the side of the open cast, forming a ramp up which trucks can drive, carrying coal and waste rock. Waste rock will be piled up at the surface, near the edge of the open cast (waste dump). The waste dump will be tiered and stepped, to minimize degradation. All the activities will be guided by the project's EMP so that the project does not impact the environment negatively.

There is additional 12+ applications lodged by Singo Consulting (Pty) Ltd on behalf of applicants within 10 km radius from the proposed mining permit application. Amongst others, applications include activities on all portions of the Farm Geluk 234 IR (MP 30/5/1/1/2/16995 PR); mining permit application by Thando Tech Mining (Pty) Ltd for coal mining activities on Portion 4 of the Farm Leeupoort 205 IR (30/5/1/3/3/2/1/ 12746 EA and 30/5/1/2/2/ 10349 MR); mining permit application by Dimbane Resources for coal mining activities on a portion of portion 10 of the Farm Leeupoort 205 IR (30/5/1/1/3/ 13183 MP); mining permit application by Mbileni Properties (Pty) Ltd for coal mining on a portion of the remaining extent of the farm Hekpoort 207 IR; prospecting right application by Favoured by Grace (Pty) Ltd for coal mining on a portion of portion 14 of the farm Middelbult 235 IR and prospecting right application by Jaments (Pty) Ltd for coal mining on portion 10 and the remaining extent of the farm Goedgedacht 228 IR (30/5/1/1/2/17668 PR).

This Mining Permit application requires authorization in terms of the following interlinked pieces of legislation: The Mineral and Petroleum Resources Development Act, 2002 (MPRDA, Act 28 of 2002), as amended and the National Environmental Management Act, 1998 (NEMA, Act 107 of 1998), as amended. These pieces of core legislation stipulate the required studies, reports, and legal processes to be conducted and the results thereof are to be submitted to the relevant authorities for approval prior to commencement.

The project was announced on the 03rd of March 2023 through publication of newspaper and plugging of site notices on the 02nd of March 2023. An e-mail was sent to the landowners were consulted face-face on the second of March 2023. Stakeholders and other organs of the state were consulted through emails on the 03rd of March 2023. According to the Windeed search, the landowner of the farm Weltevreden 227 IR is T B T Boerdery (Pty) Ltd and consultation emails were sent on the 06th of March 2023 to the landowner.

## 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 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 BASIC ASSESSMENT 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 considered any minimum requirements applicable, or instructions or guidance provided by the competent authority to the submission of applications.

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

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

## OBJECTIVE OF THE BASIC ASSESSMENT PROCESS

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

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



## TABLE OF CONTENTS

|        |                                                                                                                     |     |
|--------|---------------------------------------------------------------------------------------------------------------------|-----|
| 1      | EXECUTIVE SUMMARY .....                                                                                             | iii |
|        | Location of the overall activity .....                                                                              | 2   |
| 1.1    | Locality map (show nearest town, scale not smaller than 1: 150,000 .....                                            | 2   |
| 1.2    | Description of the scope of the proposed overall activity.....                                                      | 3   |
| 1.3    | Listed and specified activities.....                                                                                | 5   |
| 1.4    | Description of the activities to be undertaken .....                                                                | 6   |
| 1.4.1  | Site establishment/construction phase .....                                                                         | 10  |
| 1.4.2  | Operational phase .....                                                                                             | 12  |
| 1.4.3  | Decommissioning phase .....                                                                                         | 13  |
| 1.5    | Policy and legislative context .....                                                                                | 13  |
| 1.6    | Environmental Authorization Process.....                                                                            | 15  |
| 1.6.1  | Mineral and Petroleum Development Act.....                                                                          | 15  |
| 1.6.2  | National Environmental Management Act.....                                                                          | 16  |
| 1.6.3  | National Environmental Management: Waste Amendment Act .....                                                        | 17  |
| 1.6.4  | The National Environmental Management: Biodiversity Act .....                                                       | 20  |
| 1.6.5  | The National Environmental Management: Protected Areas Act.....                                                     | 21  |
| 1.6.6  | National Water Act.....                                                                                             | 21  |
| 1.6.7  | National Heritage Resources Act .....                                                                               | 22  |
| 1.7    | Need and desirability of the proposed activities.....                                                               | 24  |
| 1.7.1  | Advantages .....                                                                                                    | 29  |
| 1.7.2  | Disadvantages.....                                                                                                  | 30  |
| 1.8    | Motivation for the overall preferred site, activities and technology alternative.....                               | 30  |
| 1.9    | Full description of process followed to reach proposed preferred alternatives within the site .....                 | 31  |
| 1.10   | Details of the development footprint alternatives considered .....                                                  | 31  |
| 1.10.1 | Open cast mining (preferred alternative) vs. underground mining.....                                                | 38  |
| 1.10.2 | Temporary infrastructure (preferred alternative) vs. permanent infrastructure .....                                 | 39  |
| 1.10.3 | Access onto provincial road (preferred alternative) vs. national road.....                                          | 39  |
| 1.10.4 | No-go alternative .....                                                                                             | 40  |
| 1.10.5 | Public Participation Methodology .....                                                                              | 41  |
| 1.10.6 | Public Participation Plan: Discussion of approach and methodology to meet the requirements of the Regulations ..... | 42  |
| 1.11   | Notification of I&APs .....                                                                                         | 40  |
| 1.12   | List Authorities Identified and Notified .....                                                                      | 46  |
| 1.12.1 | List of Surface Rights/Landowners Identified and Notified .....                                                     | 46  |

|        |                                                                                                                                                                                              |     |
|--------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|
| 1.12.2 | Summary of Issues Raised by I&APs .....                                                                                                                                                      | 49  |
| 2      | Baseline environment.....                                                                                                                                                                    | 57  |
| 2.1    | Type of environment affected by the proposed activity.....                                                                                                                                   | 57  |
| 2.1.1  | Regional geology.....                                                                                                                                                                        | 57  |
| 2.1.2  | Local geology .....                                                                                                                                                                          | 63  |
| 2.1.3  | Vegetation .....                                                                                                                                                                             | 64  |
| 2.2    | Description of current land uses.....                                                                                                                                                        | 83  |
| 2.3    | Description of site-specific environmental features and infrastructure.....                                                                                                                  | 83  |
| 2.4    | Environmental and current land use map .....                                                                                                                                                 | 86  |
| 2.5    | Impacts and risks identified, including the nature, significance, consequence, extent, duration and probability of the impacts .....                                                         | 86  |
| 2.5.1  | Stripping and stockpiling of topsoil.....                                                                                                                                                    | 87  |
| 2.5.2  | Blasting .....                                                                                                                                                                               | 87  |
| 2.5.3  | Excavation .....                                                                                                                                                                             | 87  |
| 2.5.4  | In-proposed mine crushing .....                                                                                                                                                              | 87  |
| 2.5.5  | Stockpiling and transporting .....                                                                                                                                                           | 88  |
| 2.5.6  | Sloping and landscaping during rehabilitation.....                                                                                                                                           | 88  |
| 2.5.7  | Replacing of topsoil and rehabilitation of disturbed area.....                                                                                                                               | 88  |
| 2.6    | Methodology for the assessment of the potential environmental, social and cultural impacts .....                                                                                             | 88  |
| 2.7    | The Impact Assessment Methodology .....                                                                                                                                                      | 89  |
| 2.7.1  | Method of Assessing Impacts .....                                                                                                                                                            | 89  |
| 2.7.2  | Determination of Environmental Risk.....                                                                                                                                                     | 89  |
| 2.7.3  | Impact Prioritization.....                                                                                                                                                                   | 92  |
| 2.8    | 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..... | 95  |
| 2.9    | The possible mitigation measures that could be applied and the level of risk .....                                                                                                           | 95  |
| 2.9.1  | Visual mitigation .....                                                                                                                                                                      | 95  |
| 2.9.2  | Dust handling.....                                                                                                                                                                           | 96  |
| 2.9.3  | Noise handling.....                                                                                                                                                                          | 97  |
| 2.9.4  | Management of weed or invader plants .....                                                                                                                                                   | 98  |
| 2.9.5  | Storm water handling .....                                                                                                                                                                   | 98  |
| 2.9.6  | Management of health and safety risks .....                                                                                                                                                  | 99  |
| 2.9.7  | Waste management .....                                                                                                                                                                       | 99  |
| 2.9.8  | Management of access roads .....                                                                                                                                                             | 100 |
| 2.9.9  | Topsoil handling .....                                                                                                                                                                       | 100 |

|        |                                                                                                         |     |
|--------|---------------------------------------------------------------------------------------------------------|-----|
| 2.9.10 | Protection of fauna and flora .....                                                                     | 101 |
| 2.10   | Motivation where no alternative sites were considered.....                                              | 101 |
| 2.11   | Statement motivating the alternative development location within overall site .....                     | 101 |
| 2.12   | Process undertaken to identify, assess and rank impacts and risk of site activities.....                | 102 |
| 2.13   | Assessment of each identified potentially significant impact and risk.....                              | 103 |
| 2.14   | Summary of baseline reports .....                                                                       | 167 |
| 2.15   | Environmental impact statement.....                                                                     | 173 |
| 2.15.1 | Summary of the key findings of the basic assessment .....                                               | 173 |
| 2.15.2 | Final site map .....                                                                                    | 173 |
| 2.15.3 | Positive and negative impacts of the proposed activity and alternatives.....                            | 174 |
| 2.16   | Proposed impact management objectives and the impact management outcomes for inclusion in the EMPr..... | 175 |
| 2.17   | Aspects for inclusion as conditions of authorisation .....                                              | 178 |
| 2.18   | Description of any assumptions, uncertainties and gaps in knowledge.....                                | 178 |
| 2.19   | Reasoned opinion as to whether the proposed activity should be authorised.....                          | 178 |
| 2.20   | Period for which the Environmental Authorisation is required .....                                      | 179 |
| 2.21   | Undertaking .....                                                                                       | 179 |
| 2.22   | Financial provision.....                                                                                | 179 |
| 2.22.1 | Explain how the aforesaid amount was derived.....                                                       | 179 |
| 2.22.2 | Confirm that this amount can be provided from operating expenditure .....                               | 180 |
| 2.23   | Specific information required by the Competent Authority .....                                          | 180 |
| 2.23.1 | Impact on the socio-economic conditions of any directly affected person .....                           | 180 |
| 2.23.2 | Impact on any national estate referred to in section 3(2) of the National Heritage Resources Act .....  | 180 |
| 2.24   | Other matters required in terms of section 24(4)(a) and (b) of the Act .....                            | 181 |
| 3      | Environmental management programme.....                                                                 | 182 |
| 3.1    | Details of the EAP .....                                                                                | 182 |
| 3.2    | Description of the aspects of the activity.....                                                         | 182 |
| 3.3    | Composite map .....                                                                                     | 182 |
| 3.4    | Description of impact management objectives, including management statements .....                      | 182 |
| 3.4.1  | Determination of closure objectives .....                                                               | 182 |
| 3.5    | Volume and rate of water use required for the operation.....                                            | 183 |
| 3.6    | Has a water use licence has been applied for? .....                                                     | 183 |
| 3.7    | Impacts to be mitigated in their respective phases .....                                                | 184 |
| 3.8    | Impact management outcomes.....                                                                         | 220 |
| 3.9    | Impact management actions .....                                                                         | 232 |

|       |                                                                                                                                                                                      |     |
|-------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|
| 4     | Determination of the amount of financial provision .....                                                                                                                             | 247 |
| 4.1   | Closure objectives and the extent to which they have been aligned to the baseline environment described under the Regulation .....                                                   | 247 |
| 4.2   | Confirm specifically that the environmental objectives in relation to .....                                                                                                          | 247 |
| 4.3   | 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 ..... | 248 |
| 4.3.1 | Integrated Rehabilitation and Closure Plan .....                                                                                                                                     | 248 |
| 4.4   | Explain why it can be confirmed that the rehabilitation plan is compatible with the closure objectives .....                                                                         | 252 |
| 4.4.1 | Rehabilitation of the excavated area .....                                                                                                                                           | 252 |
| 4.4.2 | Rehabilitation of plant area .....                                                                                                                                                   | 253 |
| 4.4.3 | Final rehabilitation .....                                                                                                                                                           | 254 |
| 4.5   | Calculate and state the quantum of the financial provision required to manage and rehabilitate the environment in accordance with the applicable guideline .....                     | 255 |
| 4.5.1 | Mine type and saleable mineral by-product .....                                                                                                                                      | 255 |
| 4.5.2 | Risk ranking.....                                                                                                                                                                    | 255 |
| 4.5.3 | Environmental sensitivity of the mine area.....                                                                                                                                      | 255 |
| 4.5.4 | Level of information .....                                                                                                                                                           | 255 |
| 4.5.5 | Identify closure components .....                                                                                                                                                    | 255 |
| 4.5.6 | Calculation of closure costs .....                                                                                                                                                   | 257 |
| 4.6   | Confirm that the financial provision will be provided as determined .....                                                                                                            | 258 |
| 4.7   | Mechanisms for compliance monitoring against EMP .....                                                                                                                               | 259 |
| 4.8   | Indicate frequency of the submission of the performance assessment/ environmental audit report .....                                                                                 | 269 |
| 4.9   | Environmental Awareness Plan .....                                                                                                                                                   | 269 |
| 4.9.1 | Manner in which the applicant intends to inform employees of any environmental risk which may result from their work.....                                                            | 269 |
| 5     | Manner in which risk will be dealt with to avoid pollution or environmental degradation .....                                                                                        | 273 |
| 5.1   | Training (educational needs).....                                                                                                                                                    | 273 |
| 5.2   | Outsourced specialist skills .....                                                                                                                                                   | 273 |
| 5.3   | Review and updating of training manual and course layout.....                                                                                                                        | 273 |
| 5.4   | Records .....                                                                                                                                                                        | 274 |
| 5.5   | Environmental awareness notice boards .....                                                                                                                                          | 274 |
| 5.5.1 | Site management .....                                                                                                                                                                | 276 |
| 5.5.2 | Water management and erosion.....                                                                                                                                                    | 276 |
| 5.5.3 | Waste management .....                                                                                                                                                               | 276 |
| 5.5.4 | Hazardous waste management (petrol, oil, diesel, grease).....                                                                                                                        | 276 |

|       |                                                               |     |
|-------|---------------------------------------------------------------|-----|
| 5.5.5 | Discoveries.....                                              | 277 |
| 5.5.6 | Air quality.....                                              | 277 |
| 5.5.7 | Driving and noise .....                                       | 277 |
| 5.5.8 | Vegetation and animal life.....                               | 277 |
| 5.5.9 | Fire management .....                                         | 278 |
| 5.6   | Specific information required by the Competent Authority..... | 278 |
| 6     | Undertaking.....                                              | 279 |

## FIGURES

|                                                                                                                                  |    |
|----------------------------------------------------------------------------------------------------------------------------------|----|
| Figure 1: Locality map showing nearest towns (project area represented by a red star) (source: Singo consulting (Pty) Ltd) ..... | 2  |
| Figure 2: Locality map (source: Singo consulting (Pty) Ltd) .....                                                                | 3  |
| Figure 3: Mine layout Plan (Source: Singo consulting (Pty) Ltd).....                                                             | 4  |
| Figure 4: Expected speed limit on site (Singo Consulting (Pty)Ltd, 2023) .....                                                   | 7  |
| Figure 5: Opencast mining (Singo Consulting (Pty)Ltd, 2023).....                                                                 | 7  |
| Figure 6: Topsoil removal (source: Singo consulting (Pty) Ltd) .....                                                             | 8  |
| Figure 7: Overburden blasting and removal (source: Singo consulting (Pty) Ltd).....                                              | 8  |
| Figure 8: Backfilling and rehabilitation stage (source: Singo consulting (Pty) Ltd) .....                                        | 9  |
| Figure 9: Accessories, Blasting Design, and Planning for Blasting .....                                                          | 13 |
| Figure 10: Proposed mine layout (infrastructure plans) (source: Singo consulting (Pty) Ltd) .....                                | 32 |
| Figure 11: access road to site .....                                                                                             | 42 |
| Figure 12: Biodiversity Terrestrial Map (source: Singo consulting (Pty) Ltd).....                                                | 42 |
| Figure 13: Published newspaper advert, Streeknuus, in red polygon (03 <sup>rd</sup> of March 2023).....                          | 41 |
| Figure 14: site notice written in Zulu.....                                                                                      | 42 |
| Figure 15: Site notice written in English .....                                                                                  | 43 |
| Figure 16: Windeed results .....                                                                                                 | 48 |
| Figure 17: Coal field of South Africa (adopted from Hancox and Gotz, 2014).....                                                  | 58 |
| Figure 18: Geographic extent of Witbank Coalfield .....                                                                          | 60 |
| Figure 19: Typical Coal seam of the area. ....                                                                                   | 62 |
| Figure 20: Geology map (source: Singo consulting (Pty) Ltd) .....                                                                | 64 |
| Figure 21: Vegetation type (source: Singo consulting (Pty) Ltd) .....                                                            | 65 |
| Figure 22: Vegetation on the boundaries and on the proposed project area. ....                                                   | 66 |
| Figure 23: Plant theme sensitivity (adopted from screening tool) .....                                                           | 67 |
| Figure 24: Relative animal species theme sensitivity (adopted from screening report). ....                                       | 69 |
| Figure 25: Typical example of Mammalia-Crocidura maquassiensis.....                                                              | 70 |
| Figure 26: Typical example of Hydrictis maculicollis .....                                                                       | 70 |
| Figure 27: Soil classes map (source: Singo consulting (Pty) Ltd) .....                                                           | 71 |
| Figure 28: Surface water map (source: Singo consulting (Pty) Ltd) .....                                                          | 73 |
| Figure 29: Quaternary catchment and water management (source: Singo consulting (Pty) Ltd) .....                                  | 74 |
| Figure 30: Wetland observed on site .....                                                                                        | 75 |
| Figure 31: High and low temperatures in Delmas.....                                                                              | 75 |
| Figure 32: Mean annual rainfall within the project area (source: Singo consulting (Pty) Ltd) .....                               | 76 |

|                                                                                                                                             |     |
|---------------------------------------------------------------------------------------------------------------------------------------------|-----|
| Figure 33: Mean minimum annual temperature map (source: <i>Singo consulting (Pty) Ltd</i> ) .....                                           | 76  |
| Figure 34: Topography of the study area (source: <i>Singo consulting (Pty) Ltd</i> ) .....                                                  | 77  |
| Figure 35: Map of relative archaeological and cultural heritage theme sensitivity. ....                                                     | 79  |
| Figure 36: Employment of Municipal area (Source: Stats SA).....                                                                             | 83  |
| Figure 37: Figure showing nearest town within 15 km radius and the surrounding infrastructure in relation to the proposed mining area. .... | 87  |
| Figure 38: Land use and land cover map.....                                                                                                 | 88  |
| Figure 39: Dust monitoring stations ( <i>Singo Consulting(Pty)Ltd, 2023</i> ) .....                                                         | 99  |
| Figure 40: Map indicating site activities ( <i>Singo Consulting (Pty) Ltd,2023</i> ).....                                                   | 176 |
| Figure 41: A typical diagram of a Mine closure and Rehabilitation (adapted from online (Pinterest.com)).....                                | 257 |
| Figure 42: Environmental awareness poster ( <i>Singo Consulting (Pty) Ltd, 2023</i> ).....                                                  | 275 |

### **List of Tables**

|                                                                 |     |
|-----------------------------------------------------------------|-----|
| Table 1: Policy and Legislative context.....                    | 14  |
| Table 2: Issues raised by I&APs .....                           | 50  |
| Table 3: Criteria for determination of impact Consequence ..... | 91  |
| Table 4: Probability scoring. ....                              | 91  |
| Table 5: Determination of Environmental Risk.....               | 91  |
| Table 6: Significance classes .....                             | 92  |
| Table 7: Criteria for the determination of prioritization ..... | 92  |
| Table 8: Determination of prioritization factor. ....           | 93  |
| Table 9: Environmental significance rating.....                 | 94  |
| Table 10: Financial provision .....                             | 179 |

**APPENDIX  
LIST**

|                                                  |     |
|--------------------------------------------------|-----|
| Appendix 1: Project maps.....                    | 280 |
| Appendix 2: EAPs CV and qualification .....      | 287 |
| Appendix 3: Supporting impact assessment .....   | 288 |
| Appendix 4: Background Information Document..... | 292 |
| Appendix 5: Landowner notification letter .....  | 298 |
| Appendix 6: Stakeholder’s Consultation.....      | 306 |
| Appendix 7: Stakeholder’s Consultation.....      | 307 |
| Appendix 8: Stakeholder’s Consultation.....      | 308 |
| Appendix 9: Stakeholder’s Consultation.....      | 309 |
| Appendix 10: Stakeholder’s Consultation .....    | 310 |
| Appendix 11: Stakeholder’s Consultation .....    | 311 |
| Appendix 12: Stakeholder’s Consultation .....    | 312 |
| Appendix 13: Stakeholder’s Consultation .....    | 313 |
| Appendix 14: Adjacent landowner engagement.....  | 314 |
| Appendix 15: Stakeholder’s consultation .....    | 315 |
| Appendix 16: SAHRA’s consultation.....           | 316 |
| Appendix 17: Stakeholder’s consultation .....    | 317 |
| Appendix 18: Landowner engagement.....           | 318 |



**PART A: SCOPE OF ASSESSMENT AND BASIC ASSESSMENT REPORT**

| <b>DOCUMENT CONTROL</b> |                 |                                                                                                                                                                                                                                         |                      |                     |
|-------------------------|-----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|---------------------|
| <b>Document Title</b>   |                 | Basic Assessment Report and Environmental Management Programme report for Coal on Portion 24 of the farm Weltevreden 227 IR, situated in the Magisterial District of Delmas, Mpumalanga Province <b>DMRE REF:.30/5/1/1/3/(13702) MP</b> |                      |                     |
| <b>Version</b>          | Version 1:      | Draft Basic Assessment Report and Environmental Management Programme (15 <sup>th</sup> of March 2023 to the 17 <sup>th</sup> April 2023)                                                                                                |                      |                     |
|                         |                 |                                                                                                                                                                                                                                         |                      |                     |
| <b>QUALITY CONTROL</b>  |                 |                                                                                                                                                                                                                                         |                      |                     |
|                         | <b>Compiler</b> | <b>EAP</b>                                                                                                                                                                                                                              | <b>Principal EAP</b> | <b>Distribution</b> |
| <b>Name</b>             | M Mangcu        | R Shonisani Radebe                                                                                                                                                                                                                      | Dr NK Singo          | <b>Stakeholders</b> |

Due to POPIA, 2013(Act No.14 of 2013) Act the CV of an EAP will only be made available upon request and for final submission to the Competent Authority.

Singo Consulting (Pty) Ltd is a growing organization in the field of geological sciences, environmental sciences and environmental management. This organization has provided sound practicable solutions to unavoidable environmental problems, particularly those triggered by human activities. This is achieved by tackling environmental problems using various fields of applied science, such as chemistry, hydrology, environmental geology, geochemistry, geophysics, and soil sciences. This leads to proper and sound environmental impact assessments and the production of enforceable environmental management plans. This organization has conducted over 26 successful Environmental Impact Assessments (basic assessments) in various provinces of South Africa, basic assessment reports and environmental management plans (EMPs) which protect and promote the sustainable utilization of environment.

## Location of the overall activity

|                                                             |                                                                                             |
|-------------------------------------------------------------|---------------------------------------------------------------------------------------------|
| <b>Farm name</b>                                            | Proposed Mining Permit Application on Portion of Portion 24 of the farm Weltevreden 227 IR. |
| <b>Application area (ha)</b>                                | 5 ha                                                                                        |
| <b>Magisterial district</b>                                 | Victor Khanye (Delmas)                                                                      |
| <b>Distance and direction from nearest town</b>             | Approximately 9 km East of Botleng and 10 km Southeast of Delmas.                           |
| <b>21-digit Surveyor General code for each farm portion</b> | T0IR00000000022700024                                                                       |

### 1.1 Locality map (show nearest town, scale not smaller than 1: 150,000)

The Mining Permit is situated approximately 9 km East of Botleng and 10 km Southeast of Delmas. This area can be accessed using the gravel road that extend towards the R555.

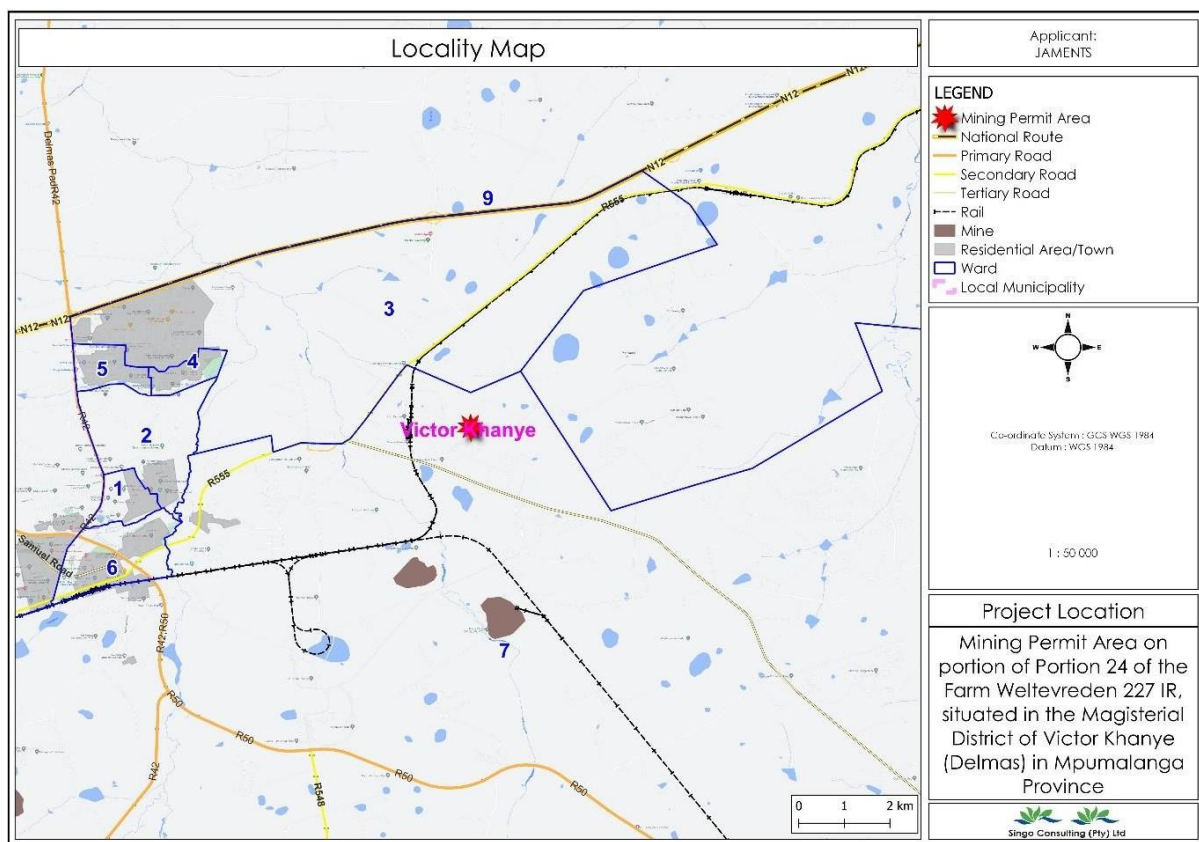


Figure 1: Locality map showing nearest towns (project area represented by a red star)

(source: Singo consulting (Pty) Ltd)

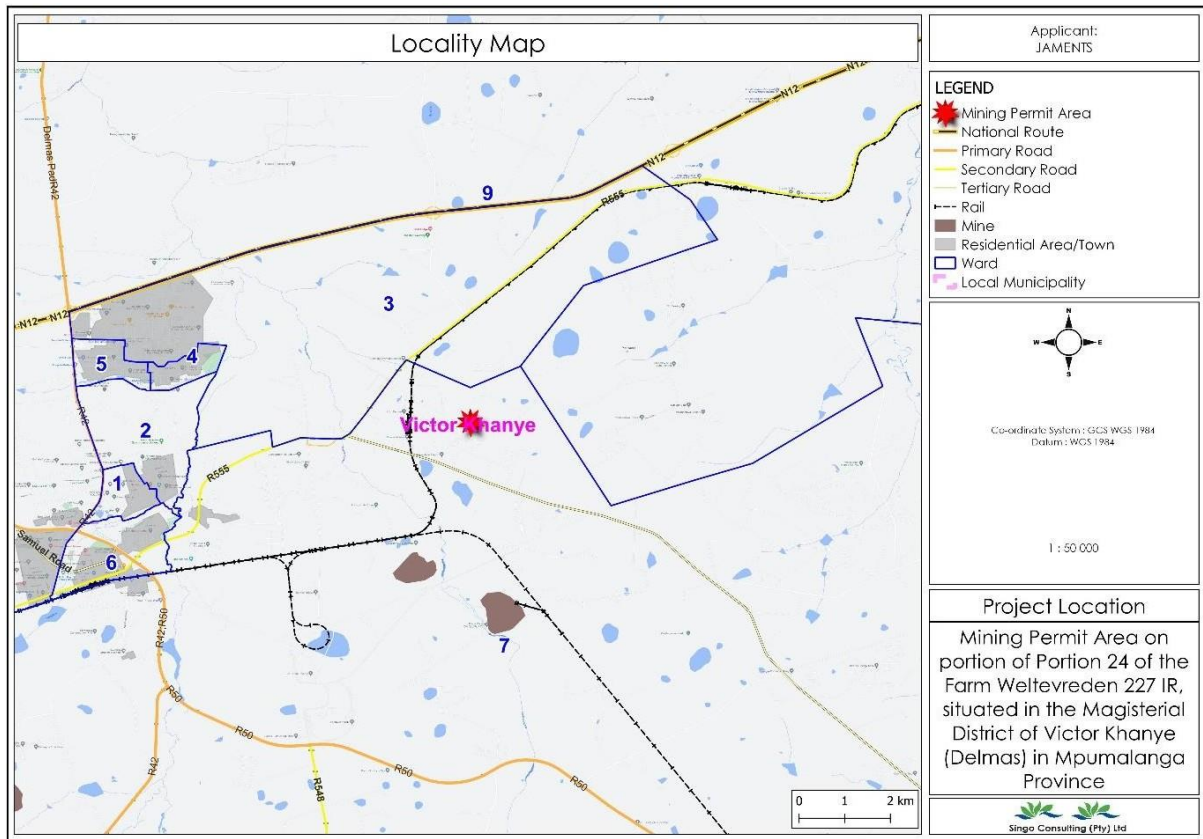


Figure 2: Locality map (source: Singo consulting (Pty) Ltd)

## 1.2 Description of the scope of the proposed overall activity

Provide a plan drawn to a scale acceptable to the competent authority, but not less than 1: 5 000 that shows the location, and area (hectares (ha)) of all aforesaid main and listed activities, and infrastructure to be placed on site.

The method that will be employed is a very basic form of open cast mining, and a 5-ha area will be demarcated for mining activities. Blasting with non-conventional explosives and subsequent mining of coal utilizing a truck and shovel operation will be conducted. The mined coal will be crushed and screened utilizing a mobile crushing and screening plant that will be established within the boundaries of the mining area (see Figure 3). A front-end loader will be utilized to load the material into haulage trucks. The mine will operate for a two (2) year permit period with an option to renew for three (3) periods of which may not exceed one year. The product (coal) will be stockpiled within the boundaries of the mining site. All activities will be contained within the boundaries of the mining site.

The project infrastructure and activities will include the following:

- Site clearance.
- Removal of topsoil and overburden and stockpiling.
- Site establishment, including the establishment of an access route, mobilization of equipment and preparation of area for mining.
- Excavation of an opencast.
- Blasting with non-conventional explosives.
- Loading zone.
- Dust control.
- Hauling and transporting of coal.
- Crushing and screening.
- Ablution facilities and waste storage area.
- Rehabilitation of site and Monitoring.



Figure 3: Mine layout Plan (Source: Singo consulting (Pty) Ltd)

### 1.3 Listed and specified activities

| NAME OF ACTIVITY<br>E.g. for prospecting: drill site, site camp, ablution facility, accommodation, equipment storage, sample storage, site office and access route; and for mining: excavations, blasting, stockpiles, discard dumps/ dams, loading, hauling, transport, water supply dams and boreholes, accommodation, offices, ablution, stores, workshops, processing plant, storm water control, berms, roads, pipelines, power lines and conveyors. | Aerial extent of the activity<br>Ha or m <sup>2</sup> | Listed activity<br>Mark with X where applicable | Applicable listing notice<br>(GN 517/2021) |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------|-------------------------------------------------|--------------------------------------------|
| Open cast mining and crushing to produce coal specs required by Jaments (Pty) Ltd.                                                                                                                                                                                                                                                                                                                                                                        | 5 Ha                                                  | X                                               | GN 517/2021, Listing notices 1 activity 21 |
| A closure certificate in terms of section 43 of the Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002).                                                                                                                                                                                                                                                                                                                           | 5 Ha                                                  |                                                 | Not listed                                 |
| Vegetation Clearance                                                                                                                                                                                                                                                                                                                                                                                                                                      | 4.97 Ha                                               | X                                               | GN 517/2021, Listing Notice 1 activity 27  |
| Overburden stockpile                                                                                                                                                                                                                                                                                                                                                                                                                                      | 0.08Ha                                                |                                                 | Not listed                                 |
| Topsoil stockpile                                                                                                                                                                                                                                                                                                                                                                                                                                         | 0.08Ha                                                |                                                 | Not listed                                 |
| ROM stockpile area                                                                                                                                                                                                                                                                                                                                                                                                                                        | 0.06Ha                                                |                                                 | Not listed                                 |
| Mobile offices                                                                                                                                                                                                                                                                                                                                                                                                                                            | 0.005Ha                                               |                                                 | Not listed                                 |
| Toilets and sanitation                                                                                                                                                                                                                                                                                                                                                                                                                                    | 0.001Ha                                               |                                                 | Not listed                                 |
| Pollution Control Dam (PCD) construction                                                                                                                                                                                                                                                                                                                                                                                                                  | 0.05Ha                                                |                                                 | Not listed                                 |

|                           |         |  |            |
|---------------------------|---------|--|------------|
| Box cut construction      | 1.48Ha  |  | Not listed |
| Ripping, Drill & Blasting | 4.47Ha  |  | Not listed |
| Coal extraction           | 4.47 Ha |  | Not listed |
| Rehabilitation            | 5 Ha    |  | Not listed |

#### 1.4 Description of the activities to be undertaken

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

The method that will be employed is a very basic form of open cast mining, and a 5-ha area will be demarcated for mining activities. Blasting with non-conventional explosives and subsequent mining of coal utilizing a truck and shovel operation will be conducted. The mined coal will be crushed and screened utilizing a mobile crushing and screening plant. A front-end loader will be utilized to load the material into haulage trucks. The coal will be processed off site.

The mining method proposed involves open cast extraction of coal from a proposed mine. The mining methods will include blasting with non-conventional explosives to loosen the hard rock (overburden) when necessary. The material will be loaded with excavators and hauled to the mobile crushing and screening plant that will be established within the project area. The coal will be stockpiled and transported to dedicated clients via trucks and trailers. All activities will be contained within the boundaries of the mining site.

The trucks transporting coal from the proposed Mining Permit area to dedicated clients will travel through an existing gravel road that extends to the R 555 tar road. All mining vehicles using public roads will be in a roadworthy condition and their loads will be secured. They will adhere to the speed limits (40 km/h) and all local, provincial and national regulations with regards to road safety and transport.



Figure 4: Expected speed limit on site (Singo Consulting (Pty)Ltd, 2023)



Figure 5: Opencast mining (Singo Consulting (Pty)Ltd, 2023)

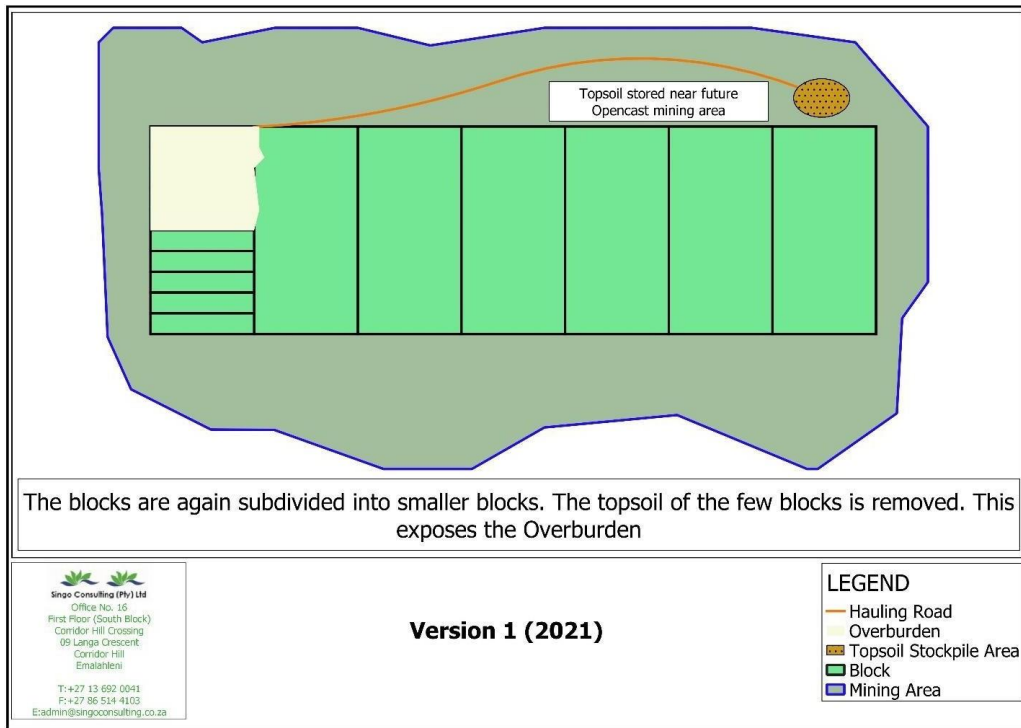


Figure 6: Topsoil removal (source: Singo consulting (Pty) Ltd)

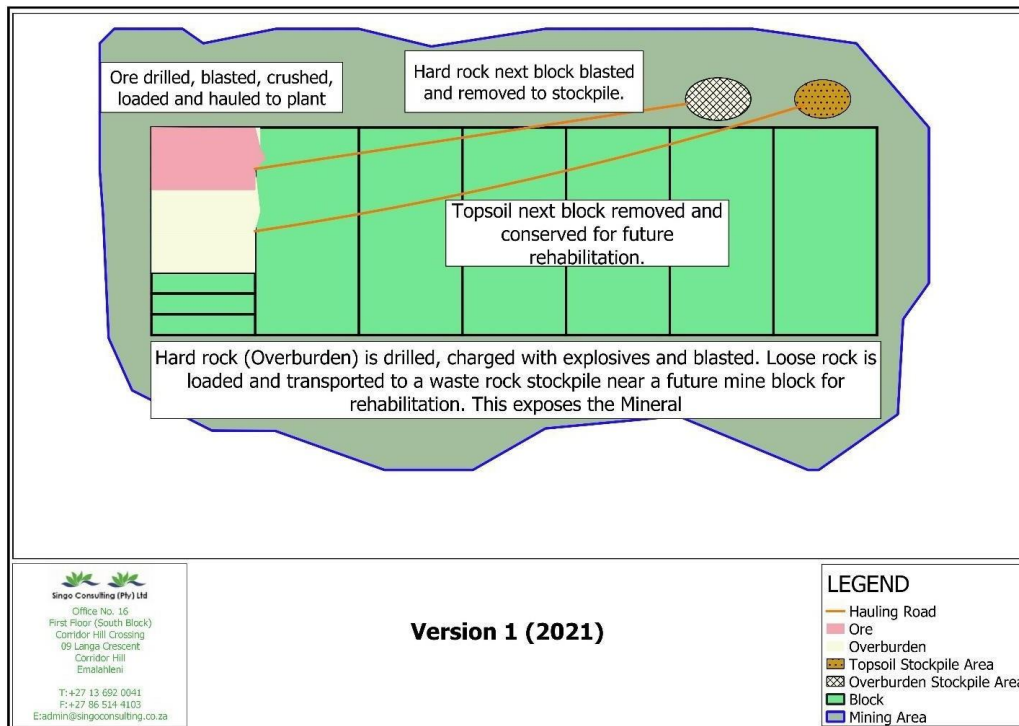


Figure 7: Overburden blasting and removal (source: Singo consulting (Pty) Ltd)



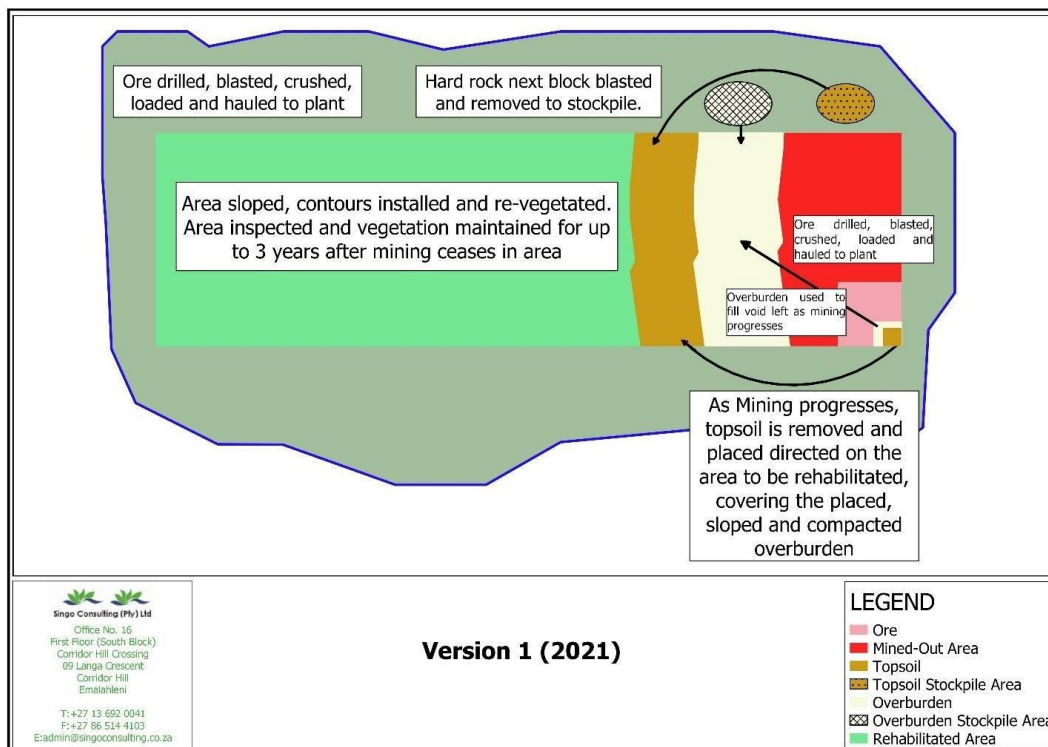


Figure 8: Backfilling and rehabilitation stage (source: Singo consulting (Pty) Ltd)

This project will be carried out in terms of National Environmental Management Act, 1998 (Act No. 107 of 1998), as amended and the Environmental Impact Assessment Regulations, 2014 (as amended) read together with regulation 40-43 of the Act. The triggered activities as reflected on GN 517/2021; LN 1 Activity 21 & 27:

- ❖ LN 1 Activity 27: The clearance of an area of 1 hectare or more, but less than 20 hectares of indigenous vegetation, except where such clearance of indigenous vegetation is required for -
  - (i) the undertaking of a linear activity; or
  - (ii) maintenance purposes undertaken in accordance with a maintenance management plan.
- ❖ Activity 21: 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, as well as any other applicable activity as contained in this Listing Notice or in Listing Notice 3 of 2014, required to exercise the mining permit.
- ❖ LN 1 Activity 27 is about clearing of vegetation and this application seeks to be authorized for this activity. Vegetation clearing process is required before commencement of any mining activity if the area is vegetated, this process allows the mining company to gain access to the mining area and locating other required infrastructures. Therefore, land clearance will be the first stage of development.

| <b>Phase</b>           | <b>Activity no</b> | <b>Activity</b>                                                                                                                                      |
|------------------------|--------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Construction</b>    | 1                  | Site clearing: Removal of topsoil and vegetation                                                                                                     |
|                        | 2                  | Construction of any surface infrastructure, e.g., Haul roads, pipes, storm water diversion berms (incl. transportation of materials and stockpiling) |
|                        | 3                  | Free digging and development of initial box cut for mining                                                                                           |
|                        | 4                  | Temporary storage of hazardous products (fuel, explosives) and waste                                                                                 |
| <b>Operation</b>       | 5                  | Removal of overburden and backfilling when possible (incl. drilling/free digging of hard overburden and stockpiling)                                 |
|                        | 6                  | Use and maintenance of haul roads.                                                                                                                   |
|                        | 7                  | Extraction of coal resource                                                                                                                          |
|                        | 8                  | Water use and storage on site                                                                                                                        |
|                        | 9                  | Storage, handling and treatment of hazardous products (fuel, explosives, oil) and waste activities (waste, discard)                                  |
|                        | 10                 | Concurrent replacement of overburden, topsoil and re-vegetation                                                                                      |
| <b>Decommissioning</b> | 11                 | Removal of all infrastructure (incl. transportation off site)                                                                                        |
|                        | 12                 | Rehabilitation (spreading of soil, re-vegetation, and profiling)                                                                                     |
|                        | 13                 | Installation of post-closure water infrastructure                                                                                                    |
|                        | 14                 | Environmental monitoring of decommissioning activities                                                                                               |
|                        | 15                 | Storage, handling and treatment of hazardous products (fuel, explosives, oil) and waste activities (waste discard)                                   |
| <b>Post-closure</b>    | 16                 | Rehabilitation and Post-closure monitoring                                                                                                           |

#### 1.4.1 Site establishment/construction phase

During site establishment, the applicant must demarcate the site boundaries and clear the topsoil and overburden from the extension area to open it for free digging. Upon stripping, the topsoil and overburden will be stockpiled along the boundaries of the proposed mine for use during the rehabilitation phase. Topsoil stripping will be restricted to the areas to be mined. The complete A-horizon (topsoil – the top 100-200 mm of soil, which is generally darker in colour due to high organic matter content) will be removed. If it is unclear where the topsoil layer ends, the top 300 mm of soil must be stripped.

The topsoil will be stockpiled in the form of a berm alongside the boundary of the mine proposed mine where it will not be driven over, contaminated, flooded, or moved during the operational phase. The topsoil berm will measure a maximum of 1,5 m high and indigenous grass species must be planted on it, if vegetation does not naturally establish within 6 months of stockpiling, to prevent soil erosion and discourage weed growth. The roots of the grass will improve soil viability for rehabilitation purposes. The stripped overburden will

be stockpiled on a designated area after the topsoil has been removed.

Overburden is waste rock consisting of consolidated and unconsolidated material that must be removed to expose the underlying coal. It is desirable to remove as little overburden as possible to access the coal of interest, but a larger volume of waste rock is excavated when the mineral deposit is deep. The removal techniques that will be employed are cyclical with interruption in the extraction (drilling, blasting, and loading) and removal (haulage) phases. This is particularly true for hard rock overburden which must be drilled and blasted first. An exception to this cyclical effect is dredges used in hydraulic surface mining and some types of loose material mining with bucket wheel excavators. The fraction of waste rock to coal extracted is defined as the stripping ratio. Stripping ratios of 2:1 up to 4:1 is not uncommon in large mining operations. Ratios above 6:1 tend to be less economically viable, depending on the commodity. Once removed, overburden can be used for road and tailings construction or may have non-mining commercial value as fill dirt.

Surface mining is a mine in which the coal lies near the surface and can be extracted by removing the covering layers of rock and soil. Almost all surface mining operations are exposed to the elements and require no roof support. Open cast mining method employ a conventional mining cycle of operations to extract minerals: rock breakage is usually accomplished by drilling and blasting for consolidated materials and by ripping or direct removal by excavators for unconsolidated soil and/or decomposed rock, followed by materials handling and transportation. Open cast mining method was considered based on the geological data, extrapolation of resource from nearby mines, life span of a permit and the closure advantage of open cast mining.

During the development and exploitation stages of mining when natural materials are extracted from the earth, remarkably similar unit operations are normally employed. The unit operations of mining are the basic steps used to produce mineral from the deposit, and the auxiliary operations that are used to support them. The steps contributing directly to mineral extraction are production operations, which constitute the production cycle of operations. The ancillary steps that support the production cycle are termed auxiliary operations. The production cycle employs unit operations that are normally grouped into rock breakage and materials handling. This cyclic operation will be employed to recover coal resources.

Breakage generally consists of drilling and blasting, and materials handling encompasses loading or excavation and haulage (horizontal transport) and sometimes hoisting (vertical or inclined transport).

Thus, the basic production cycle consists of these unit operations:

**Production cycle=Drill+ Blast + Load+ Haul**

Although production operations tend to be separate and cyclic in nature, the trend in modern mining and tunneling is to eliminate or combine functions and to increase continuity of extraction. For example, in coal and other soft rock mines, continuous miners break and load the mineral to eliminate drilling and blasting. The cycle of operations in surface and underground mining differs primarily by the scale of the equipment. Specialized machines have evolved to meet the unique needs of the two regimes.

The applicant will introduce the mining equipment to the area during the site establishment phase. The equipment to be used on site will include but not limited to:

- Weigh bridge
- Mobile crusher plant
- Mobile toilet
- Drilling equipment
- Excavating equipment
- Earth moving equipment.

**1.4.2 Operational phase**

Drilling and blasting can be defined as the controlled use of explosives and other methods such as gas pressure blasting pyrotechnics, to break rock for excavation. It is practiced most often in mining, quarrying and civil engineering such as dam, tunnel, or road construction. The result of rock blasting is often known as a rock cut.

Drilling and blasting currently utilizes many different varieties of explosives with different compositions and performance properties. Higher velocity explosives are used for relatively hard rock in order to shatter and break the rock, while low velocity explosives are used in soft rocks to generate more gas pressure and a greater heaving effect. For instance, an early 20th-century blasting manual compared the effects of black powder to that of a wedge, and dynamite to that of a hammer. The most used explosives in mining today are ANFO based blends due to lower cost than dynamite.

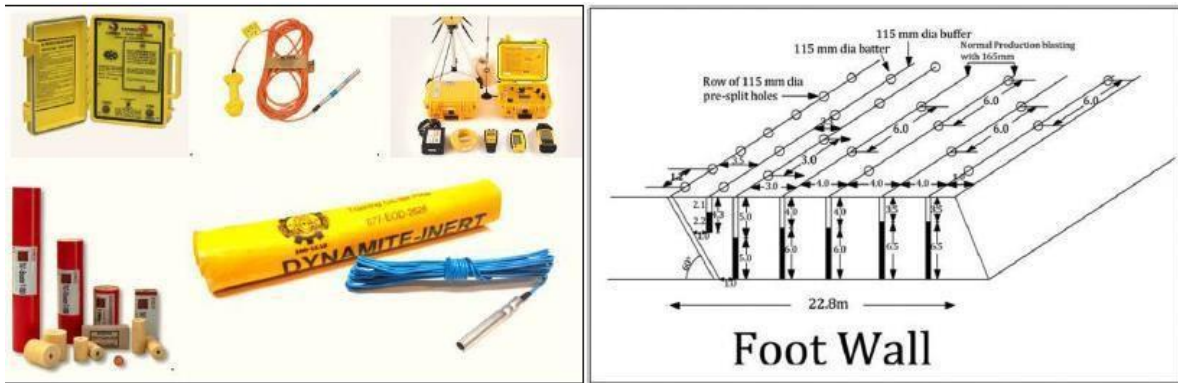


Figure 9: Accessories, Blasting Design, and Planning for Blasting

### 1.4.3 Decommissioning phase

The closure objectives include making the coal proposed mine safe and ensuring that the remainder of the site is fit for agricultural use. The coal proposed mine will be incorporated into the closure objectives of the proposed extension area, which will entail the refilling of the site. Control of weeds and alien invasive plant species is an important aspect after topsoil replacement and seeding (if applicable) has been done in an area. Site management will implement an alien invasive plant management plan during the aftercare period to address germination of problem plants in the area.

The decommissioning activities will include:

- Sloping and landscaping during rehabilitation
- Replacing of topsoil
- Implementation of an alien invader plant management plan

### 1.5 Policy and legislative context

This Mining Permit application requires authorization in terms of the following interlinked pieces of legislation:

- ❖ The Mineral and Petroleum Resources Development Act, 2002 (MPRDA, Act 28 of 2002), as amended.
- ❖ The National Environmental Management Act, 1998 (NEMA, Act 107 of 1998), as amended.

These pieces of core legislation stipulate the required studies, reports, and legal processes to be conducted and the results thereof are to be submitted to the relevant authorities for approval prior to commencement. In addition to the above, there are various pieces of

legislation which govern certain aspects of the mining operations, and these are summarized in Table 1, together with the main legislative requirements mentioned above.

**Table 1: Policy and Legislative context.**

| Applicable legislation and guidelines used to compile the report                                                                                                                                                                                                                                                                                                                                                                                                                             | Reference where applied                                                               | How does this development comply with and respond to the legislation and policy context                                                                                                                                                                                                                                                            |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| A description of the policy and legislative context within which the development is proposed, including an identification of all legislation, policies, plans, guidelines, spatial tools, municipal development planning frameworks and instruments that are applicable to this activity and are to be considered in the assessment process.                                                                                                                                                 |                                                                                       | E.g. In terms of the National Water Act (NWA)a Water Use License has/has not been applied for.                                                                                                                                                                                                                                                     |
| Minerals and Petroleum Development Resources Act, Act 28 of 2002 (MPRDA) and the MPRDA Amendment Act, Act 49 of 2008                                                                                                                                                                                                                                                                                                                                                                         | Application for a mining permit<br>reference: DMRE REF: MP 30/5/1/1/3/13702 MP        | GN 517/2021, Activity 21: 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, as well as any other applicable activity as contained in this Listing Notice or in Listing Notice 3 of 2014, required to exercise the mining permit. |
| Constitution of South Africa, specifically everyone has the right to: an environment that is not harmful to their health or wellbeing have the environment protected, for the benefit of present and future generations, through reasonable legislative and other measures that prevent pollution and ecological degradation, promote conservation, and secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development | Republic of South Africa                                                              | The mining activities will only proceed after effective consultation.                                                                                                                                                                                                                                                                              |
| Environmental Impact Assessment (EIA) regulations                                                                                                                                                                                                                                                                                                                                                                                                                                            | Application for environmental authorization:<br>DMRE Reference: 30/5/1/1/3/13702 MP   | GN 517/2021 Activities 21 and 27                                                                                                                                                                                                                                                                                                                   |
| National Environmental Management Act, Act 107 of 1998 (as amended) (NEMA)                                                                                                                                                                                                                                                                                                                                                                                                                   | Application for environmental authorization:<br>DMRE Reference: MP30/5/1/1/3/13702 MP | GN 517/2021 Activities 21 and 27                                                                                                                                                                                                                                                                                                                   |

| Applicable legislation and guidelines used to compile the report                                                                                                                                       | Reference where applied                             | How does this development comply with and respond to the legislation and policy context                                                                                                     |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| National Water Act, 1998 (Act 36 of 1998), and GN 704 regulation.<br>Best Practice Guidelines: Series A, G, & H                                                                                        | S 21 & S 26)<br>Water use & mine water management   | Best practice guidelines will be followed for water management, water characterization, water resource protection, water treatment, and the development of the mine water management model. |
| National Environmental Management: Waste Act, Act 59 of 2008 (NEMWA)NEM: WA                                                                                                                            | Management measures<br>Environmental awareness plan | All type of waste will be managed as prescribed by the regulation (NEMWA)                                                                                                                   |
| National Heritage Resources Act, 25 of 1999 (NHRA)                                                                                                                                                     | Management measures                                 | No mining activities will take place within 100 m of any identified heritage resource, such as a grave. No graves have been identified on the site in question.                             |
| Municipality By-Laws: Waste Management by-law Act 59 of 2008, Air Quality Management By-law Act 39 of 2004, Noise control by-law, Spatial Planning and Land Use Management act no 16 of 2013 (SPLUMA). | Environmental Management measures awareness plan.   | Best practice guidelines will be followed for any by-law's management and the development of the mine environmental and other legislative management.                                       |

## 1.6 Environmental Authorization Process

### 1.6.1 Mineral and Petroleum Development Act

In terms of the Mineral and Petroleum Resources Development Act (Act 28 of 2002), a Mining Permit must be issued prior to the commencement of any mining activities. As per Section 79(4)(a) and (b) of the MPRDA, the Applicant is required to conduct a Basic Assessment and submit an EMP for approval as well as to notify in writing and consult with Interested and Affected Parties (I&APs) within 90 days of acceptance of the application. The MPRDA also requires adherence with related legislation, chief amongst them is the National Environmental Management Act (Act 107 of 1998, NEMA) and the National Water Act (Act 36 of 1998, NWA).

Several amendments have been made to the MPRDA. These include, but are not limited to, the amendment of Section 102, concerning amendment of rights, permits, programmes and plans, to requiring the written permission of the Minister for any amendment or alteration; and the Section 5A(c) requirement that landowners or land occupiers receive twenty-one (21) days' written notice prior to any activities taking place on their properties. One of the most recent amendments requires all mining related

activities to follow the full NEMA process as per the 2014 basic assessment Regulations (as amended), which came into effect on 8<sup>th</sup> of December 2014.

A Mining Permit is exclusive, transferable, valid for two (2) years and may be renewed for three periods of which may not exceed one year.

### **1.6.2 National Environmental Management Act**

The main aim of the National Environmental Management Act, 1998 (Act 107 of 1998) (NEMA) is to provide for co-operative governance by establishing decision-making principles on matters affecting the environment. In terms of the NEMA Environmental Impact Assessment (EIA) regulations, the proponent is required to appoint an environmental assessment practitioner (EAP) to undertake the EIA as well as the public participation process. In South Africa, EIA became a legal requirement in 1997 with the promulgation of regulations under the Environmental Conservation Act (ECA). Subsequently, NEMA was passed in 1998. Section 24(2) of NEMA empowers the Minister and any MEC, with the concurrence of the Minister, to identify activities which must be considered, investigated, assessed, and reported on to the competent authority responsible for granting the relevant environmental authorization. On 21 April 2006 the Minister of Environmental Affairs and Tourism promulgated regulations in terms of Chapter 5 of the NEMA.

The objective of the Regulations is to establish the procedures that must be followed in the consideration, investigation, assessment, and reporting of the activities that have been identified. The purpose of these procedures is to provide the competent authority with adequate information to make decisions which ensure that activities which may impact negatively on the environment to an unacceptable degree are not authorized, and that activities which are authorized are undertaken in such a manner that the environmental impacts are managed to acceptable levels.

The aim of the EIA process is to identify and assess the potential impacts associated with the proposed project and to develop measures through which potential negative biophysical and socio-economic impacts can be mitigated and positive benefits can be enhanced. The EIA will ensure that all issues are integrated into the lifecycle of the mining operation and its infrastructure. This will occur during the planning, construction, operation and decommissioning and site closure phases.

The EIA Report and the associated EMPr will indicate how the identified impacts will be avoided, mitigated and/or managed by setting environmental objectives and goals. The EMPr will further outline the implementation programme for the environmental objectives and goals. The EMPr is a legal requirement of the MPRDA and all mines, existing or new,



are required to possess an approved EMPr prior to initiating any mining operations. The EMPr is legally binding, and the proponent is required to meet the requirements specified in the document.

The written decision called an Environmental Authorization, is a legal document setting out the conditions of the Authorization and the actions required to protect human health and the environment. Any affected party may appeal against the decision contained in an Environmental Authorization. Appeals must be lodged with the Minister who considers appeals in terms of the relevant provisions of NEMA and the Environmental Regulations.

An important amendment to the NEMA (December 2014) Regulations is that the Department of Mineral Resources has been the responsible authority for approving and issuing of Environmental Authorizations under the NEMA for mining related activities. The Department of Environmental Affairs is the appeal authority for mining related Environmental Authorizations.

### **1.6.3 National Environmental Management: Waste Amendment Act**

The Regulations pertaining to the NEMWA activities were published on 3<sup>rd</sup> of July 2009 in Government Gazette 32368 under GN 718. These were amended in August 2013 in Government Notice Regulation 921. Regulations regarding the planning and management of residue stockpiles and residue deposits were published and commenced on 24 July 2015 in Government Notice Regulation 632 and the List of waste management activities that have or are likely to have a detrimental effect on the environment were amended on the same date by Government Notice Regulation 921. As per this list the following is of important to note:

- ❖ Category A: (15) The establishment or reclamation of a residue stockpile or residue deposit resulting from activities which require a mining permit or mining permit, in terms of the Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002).

On the 2<sup>nd</sup> of June 2014 the National Environmental Management: Waste Amendment Act came into force. Of importance for mining activities is that according to this amendment, waste resulting from exploration, mining, quarrying, and physical and chemical treatment of minerals is classified as Hazardous Waste. Waste is accordingly no longer governed by the MPRDA but is subject to all the provisions of the National Environmental Management: Waste Act, 2008 (NEMWA). Section 16 of the NEMWA must also be considered which states as follows:

A holder of waste must, within the holder's power, take all reasonable measures to:

- ❖ Avoid the generation of waste and where such generation cannot be avoided, to minimize the toxicity and amounts of waste that are generated.
- ❖ Reduce, re-use, recycle and recover waste.
- ❖ Where waste must be disposed of, ensure that the waste is treated and disposed of in an environmentally sound manner.
- ❖ Manage the waste in such a manner that it does not endanger health or the environment or cause a nuisance through noise, odours, or visual impacts.
- ❖ Prevent any employee or any person under his or her supervision from contravening the Act.
- ❖ Prevent the waste from being used for unauthorized purposes.

These general principles of responsible waste management are incorporated into the requirements in the EMP to be implemented for this project.

Schedule 3: Defined Wastes have been broken down into two categories: Category A being hazardous wastes and category B being general wastes. Under Category A (hazardous wastes) the act makes allowance for "wastes resulting from exploration, mining, quarrying, and physical and chemical treatment of minerals".

In order to understand the implications of this it is important to ensure that the definitions of all the relevant terminologies are defined:

- ❖ Hazardous waste: means "any waste that contains organic or inorganic elements or compounds that may, owing to the inherent physical, chemical or toxicological characteristic of that waste, have a detrimental impact on health and the environment and includes hazardous substances, materials or objects within business waste, residue deposits and residue stockpiles.
- ❖ Residue deposits: means "any residue stockpile remaining at the termination, cancellation or expiry of a prospecting right, mining right, mining permit, exploration right or production right.
- ❖ Residue stockpile: means "any debris, discard, tailings, slimes, screening, slurry, waste rock, foundry sand, mineral processing plant waste, ash or any other product derived from or incidental to a mining operation and which is stockpiled, stored or accumulated within the mining area for potential re-use, or which is disposed of, by the holder of a mining right, mining permit

or, production right or an old order right, including historic mines and dumps created before the implementation of this Act.

Various regulations have been drafted in support of the NEMWA, as discussed below:

- ❖ Proposed Regulations regarding the planning and management of waste from a prospecting, mining, exploration or production operations (2014):
- ❖ Chapter 2, Section 3 states the identification and assessment of any environmental impacts, including those on groundwater, arising from waste must be done as part of the Environmental Impact Assessment (EIA) conducted in terms of the National Environmental Management Act, 1998 (Act No.107 of 1998) (hereafter referred to as the NEMA). The pollution control barrier system shall be defined by the (a) Waste Classification and Management Regulations (2013); (b) National Norms and Standards for the Assessment of Wastes for Landfill Disposal (2013); and (c) National Norms and Standards for Disposal of Waste to Landfill (2013).
- ❖ Waste Characterization must be done in terms of physical and chemical composition as well as content. The classification must be done in terms of the health and safety classification and the environmental classification.

Proposed Regulations to exclude a waste stream or a portion of a waste stream from the definition of a waste (2014):

This regulation will give the holder of the right the opportunity to exclude a waste stream, or a portion of a waste stream from the definition of a waste. Chapter 2, Section 4 of this Regulation, Sub-section (1) states that any portion of a waste generated from a source listed in Category A of Schedule 2 of the NEMWA, may be excluded from being defined as hazardous on demonstration that such portion of waste is non-hazardous in accordance with the Waste Management and Classification Regulations of 2013. The application process will be in the form of a prescribed process and application must be made to the Minister. This Regulation is however not yet in force. National Norms and Standards for the assessment of waste for landfill disposal (23 August 2013): These norms and standards prescribe the requirements for the assessment of waste prior to disposal to landfill. The aim of the waste classification tests is to characterize the material to be deposited or stored in terms of the above-mentioned waste classification guidelines set by the Department of Environmental Affairs (DEA).

The outcomes of the tests provide the necessary information in terms of:

- ❖ Identification of chemical substances present in the waste.
- ❖ Determination of the total concentrations (TC) and leachable concentrations (LC) of the elements and chemical substances that have been identified in the waste and that are specified in Section 6 of the above-mentioned Regulations. The obtained TC and LC values of the waste material will be compared to the threshold limits for total concentrations (TCT limits) and leachable concentrations (LCT limits) specified in Section 6 of the above-mentioned Regulations. Based on the TC and LC values of the elements and chemical substances in the waste exceeding the corresponding TCT and LCT limits respectively, the specific type of waste for disposal to landfill will be determined in terms of Section 7 of the Regulations.

#### **1.6.4 The National Environmental Management: Biodiversity Act**

The National Environmental Management: Biodiversity Act, 2004 (Act 10 of 2004, NEMBA), “provides for: the management and conservation of South Africa’s biodiversity within the framework of the NEMA; the protection of species and ecosystems that warrant national protection; the sustainable use of indigenous biological resources; the fair and equitable sharing of benefits arising from bio-prospecting involving indigenous biological resources; the establishment and functions of a South African National Biodiversity Institute (SANBI); and for matters conducted therewith”.

In terms of the Biodiversity Act, the applicant has a responsibility for: The conservation of endangered ecosystems and restriction of activities according to categorization of the area (not just by listed activity as specified in the EIA regulations): Promote the application of appropriate environmental management tools in order to ensure integrated environmental management of activities thereby ensuring that all developments within the area are in line with ecological sustainable development and protection of biodiversity. Limit further loss of biodiversity and conserve endangered ecosystems.

Regulations published under the NEMBA also provide a list of protected species, according to the Act (GNR 151 dated 23 February 2007, as amended in GNR 1187 dated 14 December 2007). Section 57 of NEMBA identifies restricted activities involving threatened or protected species. Restricted activities include the gathering, collecting, cutting, uprooting, damaging or destroy a listed species.

### **1.6.5 The National Environmental Management: Protected Areas Act**

The National Environmental Management: Protected Areas Act, 2003 (Act 57 of 2003) (NEMPAA) serves to: “provide for the protection and conservation of ecologically viable areas representative of South Africa’s biological biodiversity and its natural landscapes and seascape; for the establishment of a national register of all national, provincial and local protected areas; for the management of those areas in accordance with national norms and standards; for intergovernmental co-operation and public consultation in matters concerning protected areas; for the continued existence, governance and functions of South African National Parks; and for matters in connection therewith.

The objectives of this Act are –

- ❖ To provide, within the framework of the national legislation, including the National Environmental Management Act, for the declaration and management of protected areas.
- ❖ To provide for co-operation governance in the declaration and management of protected areas.
- ❖ To affect a national system of protected areas in South Africa as part of a strategy to manage and conserve its biodiversity.
- ❖ To provide for a diverse and representative network of protected areas on state land, private land, communal land and marine water.
- ❖ To promote sustainable utilization of protected areas for the benefit of people, in a manner that would preserve the ecological character of such areas.
- ❖ To promote participation of local communities in the management of protected areas, when appropriate.
- ❖ To provide for the continued existence of South African National Parks.

### **1.6.6 National Water Act**

The National Water Act, 1998 (Act 36 of 1998) (NWA) makes provision for two types of application for water use licenses, namely individual applications, and compulsory applications. The NWA also provides that the responsible authority may require an assessment by the Applicant of the likely effect of the proposed license on the resource quality, and that such assessment be subject to the EIA regulations. A person may use water if the use is-

- ❖ Permissible as a continuation of an existing lawful water use (ELWU).
- ❖ Permissible in terms of a general Authorization (GA).
- ❖ Permissible under Schedule 1.

- ❖ Authorized by a licensed.

The NWA defines 11 water uses. A water use may only be undertaken if authorized. Water users are required to register certain water uses that took place on the date of registration, irrespective of whether the use was lawful or not.

Section 21 of the National Water Act 1998 lists the following 11 water uses which can only be legally undertaken through the water use Authorization issued by the Department of Water and Sanitation (DWS):

- (a) Taking water from a water resource.
- (b) Storing water.
- (c) Impeding or diverting the flow of water in a watercourse.
- (d) Engaging in a stream flow reduction activity contemplated in Section 36.
- (e) Engaging in a controlled activity identified as such in Section 37(1) or declared under Section 38(1).
- (f) Discharging waste or water containing waste into a water resource through a pipe, canal, sewer, sea outfall or other conduits.
- (g) Disposing of waste in a manner which may detrimentally impact on a water resource.
- (h) Disposing in any manner of water which contains waste from, or which has been heated in, any industrial or power generation process.
- (i) Altering the bed, banks, course or characteristics of a watercourse.
- (j) Removing, discharging or disposing of water found underground if it is necessary for the efficient continuation of an activity or for the safety of people.
- (k) Using water for recreational purposes.

In terms of the National Water Act, no Water Use License has been applied for this project. DWS was engaged about this project so they can direct us whether it is viable or not to apply for water use license.

#### **1.6.7 National Heritage Resources Act**

The National Heritage Resources Act, 1999 (NHRA) stipulates that cultural heritage resources may not be disturbed without authorization from the relevant heritage authority. Section 34(1) of the NHRA states that, "no person may alter or demolish any structure or part of a structure which is older than 60 years without a permit issued by the relevant provincial heritage resources authority" The NHRA is utilized as the basis for the

identification, evaluation, and management of heritage resources and in the case of CRM those resources specifically impacted on by development as stipulated in Section 38 of NHRA, and those developments administered through NEMA, MPRDA and the DFA legislation. In the latter cases the feedback from the relevant heritage resources authority is required by the State and Provincial Departments managing these Acts before any authorizations are granted for development. The last few years have seen a significant change towards the inclusion of heritage assessments as a major component of Environmental Impacts processes required by NEMA and MPRDA. This change requires us to evaluate the Section of these Acts relevant to heritage (Fourie, 2008b).

The NEMA 23(2)(b) states that an integrated environmental management plan should, "...identify, predict and evaluate the actual and potential impact on the environment, socio-economic conditions and cultural heritage". A study of subsections (23) (2)(d), (29) (1)(d), (32)(2)(d) and (34)(b) and their requirements reveals the compulsory inclusion of the identification of cultural resources, the evaluation of the impacts of the proposed activity on these resources, the identification of alternatives and the management procedures for such cultural resources for each of the documents noted in the Environmental Regulations. A further important aspect to be taken account of in the Regulations under NEMA is the Specialist Report requirements laid down in Section 33 (Fourie, 2008b).

MPRDA defines 'environment' as it is in the NEMA and therefore acknowledges cultural resources as part of the environment. Section 39(3)(b) of this Act specifically refers to the evaluation, assessment, and identification of impacts on all heritage resources as identified in Section 3(2) of the National Heritage Resources Act that are to be impacted on by activities governed by the MPRDA. Section 40 of the same Act requires the consultation with any State Department administering any law that has relevance on such an application through Section 39 of the MPRDA. This implies the evaluation of Heritage Assessment Reports in Environmental Management Plans or Programmes by the relevant heritage authorities (Fourie, 2008b).

The NHRA identifies 5 activities that require a Heritage Impact Assessment (HIA). An HIA is the process to be followed in order to determine whether any heritage resources are located within the area to be developed as well as the possible impact of the proposed development thereon. An Archaeological Impact Assessment (AIA) only looks at archaeological resources.

An HIA must be done under the following circumstances:

1. The construction of a linear development (road, wall, power line, canal etc.) exceeding 300 m in length.
2. The construction of a bridge or similar structure exceeding 50 m in length.
3. Any development or other activity that will change the character of a site and exceed 5 000 m<sup>2</sup> or involve three or more existing erven or subdivisions thereof.
4. Re-zoning of a site exceeding 10 000 m<sup>2</sup>.
5. Any other category provided for in the regulations of SAHRA or a provincial heritage authority.

South African Heritage Resource Agency has been consulted for this project so they can have an input to the proposed application.

### **1.7 Need and desirability of the proposed activities**

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

In South Africa, the mining sector has traditionally played a key role in the generation of economic output. It creates jobs and reduces poverty. Mining companies have an obligation to improve and develop the infrastructure, education, and skill development of the communities in which they operate. Mining activities generate various types of business, which has significant economic benefits for communities. In most cases, the mines' jobs pay more than the national average. The proposed project will directly and indirectly benefit Delmas society and the surrounding communities by creating additional jobs, improving and developing the state of Delmas and surrounding communities through road maintenance, infrastructure and skill development.

The mining industry contributes significantly to South Africa's export market. It makes significant profits from foreign exchange rate differences. The mining industry contributes to total government revenue at the national and sub-national levels. Mining company profits and taxes generated by companies also contribute to the country's Gross Domestic Product (GDP).

Mining and agriculture can coexist, and both can provide solutions to poverty. Those who work in agriculture benefit immediately. Farmers are compensated for the crops they grow, which they can use to finance additional crop production as well as their families' daily expenses. Mining, on the other hand, can help to advance development by bringing in money for the state. Mining company taxes and royalties can be used by governments



to improve infrastructure and other beneficial purposes. Mining companies make additional contributions in addition to funding community development initiatives, road construction, and school construction.

South Africa accounts for approximately 3.5% of the world's coal resources. The country produces approximately 3.3% of global annual output and exports approximately 6% of global exports. South Africa's main source of primary energy is coal. Coal generates more than 90% of the country's electricity and approximately 30% of its liquid fuel (DoE, 2016). Coal is also an important component of South Africa's steelmaking industry and is used to supply the country's chemicals industry. Coal is expected to play a significant role in the country's efforts to diversify energy in the foreseeable future, and it is the leading mining commodity revenue generator in South Africa. The Witbank and Highveld coalfields supply the majority of the coal which account for roughly 75% of South Africa's output. These resources, however, will be depleted within the next century (DMR, 2016).

South Africa produces an average of 224 million tonnes of marketable coal per year, making it the world's fifth largest coal producer. South Africa is the third largest coal exporter in the world, with 25% of our output exported internationally. The remainder of South Africa's coal production is used to fuel various local industries, with 53% used to generate electricity. The fact that Eskom is the world's seventh largest electricity generator and Sasol is the world's largest coal-to-chemical producer demonstrates the importance of our coal reserves in the economy. The Mpumalanga province is rich in coal resources, which creates many job opportunities. The Witbank Coalfield in South Africa produces the majority of the coal. The seams of which have various properties, resulting in a variety of potential markets/applications in the power generation, export, domestic, metallurgical, liquefaction, and chemical sectors.

South Africa's main source of primary energy is coal. Coal provides more than 90% of the country's electricity, approximately 30% of its liquid fuel, and approximately 70% of its total energy needs (DoE, 2016). Coal is also an important component in the South African chemicals industry and is a necessary component in the steelmaking industry, i.e. metallurgical coal.

South Africa's indigenous energy resource base remains dominated by coal, and the country's reliance on coal-based energy is unlikely to change dramatically over the next two decades. Considering South Africa's recent electricity struggles since 2008, the South African government decided to build two more coal-fired power stations (Kusile and Medupi) with a lifespan of seventy years. More coal mining will be required to support the operations of the two aforementioned power plants.

The proposed project will contribute on improving and developing the communities situated in Delmas through road maintenance, infrastructure and skill development. Mining activities, in addition to providing employment, generate a variety of business opportunities. Catering to contractors, for example, has significant microeconomic benefits for the Delmas area. In most cases, mine-created jobs pay more than the average farm salary.

The concept of "need and desirability" refers to the nature, scale, and location of proposed development, as well as the wise use of land. While the concept of "need and desirability" can be explained in terms of the general meaning of its two components, where need primarily refers to time and desirability to place (i.e. is this the right time and is this the right place for locating the type of land-use/activity being proposed?), "need and desirability" are interrelated, and the two components can be considered collectively in an integrated and holistic manner. Given the foregoing, the need for and desirability of an application must be addressed separately and in detail, as demonstrated by the following questions:

**Table 2: Need and Desirability**

| <b>NEED AND DESIRABILITY OF THE PROPOSED PROJECT</b>                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                        |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>PART I: NEED</b>                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                        |
| <b>Questions (Notice 792, NEMA, 2012)</b>                                                                                                                                                                | <b>Answers</b>                                                                                                                                                                                                                                                                                                         |
| <p><b>1.</b> Is the land use associated with the activity being applied for considered within the timeframe intended by the existing approved SDF agreed to be the relevant environmental authority?</p> | <p>Yes. Delmas is heavily reliant on mining for job opportunities; this opportunity will help to build a strong, resilient, and prosperous district.</p>                                                                                                                                                               |
| <p><b>2.</b> Should the development, or if applicable, expansion of the town/area concerned in terms of this land use occurs here at this point in time?</p>                                             | <p>The planned activities would allow Jaments (Pty) Ltd to use the coal, resulting in benefits to local communities and South Africa as a whole, such as continued job creation and social upliftment.</p>                                                                                                             |
| <p><b>3.</b> Does the community/area need the activity and the associated land use concerned? This refers to the strategic as well as local level.</p>                                                   | <p>Yes, the unemployment rate in Delmas fell slightly from 19.7% in 2011 to 16.4% in 2015, making it the lowest in Mpumalanga among all municipal areas. Female unemployment is 21.8%, while male unemployment is 12.9%. According to 2011 Census figures, the youth unemployment rate is 27.1% - a challenge with</p> |

|  |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|--|--|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  |  | <p>a particularly high female youth unemployment rate. According to the IDP, the largest employing industries in Delmas are trade (including tourism), community/government services, and mining. Once operations begin, the Jaments (Pty) Ltd mine will have a positive impact on the socio-economic conditions of the local communities involved, as well as contribute to the socio-economic development of the region as a whole through social upliftment and job creation as key agents.</p> |
|--|--|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

|    |                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|----|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 4. | Are the necessary services with adequate capacity currently available (at the time of application) or must additional capacity be created to cater for the development?                                                                        | Yes, the Applicant has all of the resources necessary to proceed with mining activities; if a particular resource is unavailable, it will be outsourced from other contractors.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| 5. | Is this development provided for in the infrastructure planning of the municipality, and if not what will the implication be on the infrastructure planning of the municipality (priority and placement of the services and opportunity cost)? | Because it is a minor development of local significance, it is not included in the municipality's infrastructure planning. As a result, the proposed project will have no impact on infrastructure planning because no services or infrastructure will need to be upgraded or created to accommodate this project. Temporary structures will be used in the proposed project.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| 6. | Is the project part of a national programme to address an issue of national concern or importance?                                                                                                                                             | <p>The mining industry contributes significantly to national GDP and employs a large number of people. During 2010, the mining sector contributed 10% of the local economy's GVA and 1.2% of its employment. Between 1995 and 2010, the average annual GVA growth rate was -8.5%, with an annual average formal employment contribution of 1.1%.</p> <p>Furthermore, the Vision for 2030 of the National Development Plan (NDP) provides a long-term perspective. It defines a desired destination and identifies the roles that various sectors of society must play in order to achieve that goal.</p> <p>Employment is one of the main goals highlighted in the NDP that pertain to the proposed project. The National Development Plan's Chapter 6 emphasizes a "inclusive rural economy," with the goals of creating jobs in mining and industry and</p> |

|                              |                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                              |                                                                                                                                                                                                                                       | activating rural economies through service to small and micro mining.                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>PART II: DESIRABILITY</b> |                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>7.</b>                    | Is the development the best practicable environmental option for this land/site?                                                                                                                                                      | Yes. Much of the region under consideration is undergoing transformed cultivation activities, which have already impacted environmental management.                                                                                                                                                                                                                                                                                                                       |
| <b>8.</b>                    | Would the approval of this application compromise the integrity of the existing approved and credible IDP, and SDF as agreed to by the relevant authorities?                                                                          | Partially. In terms of land use, the project does not meet the goals of the Local Spatial Development System (SDF) and Integrated Development Plan (IDP), but it does not jeopardize the credibility of these respective forward planning documents.<br><br>Unemployment is a problem in South Africa, as it is in Delmas Local Municipality, and a mining permit should be able to provide continuity of existing employment in the area for an extended period of time. |
| <b>9.</b>                    | Would the approval of this application compromise the integrity of the existing environmental management priorities for the area (e.g. as defined in EMFs), and if so, can it be justified in terms of sustainability considerations? | No, the integrity of the area's existing environmental management priorities will not be jeopardized by this development.                                                                                                                                                                                                                                                                                                                                                 |
| <b>10.</b>                   | Do location factors favor this land use at this place? (This relates to the contextualization of the proposed land use on this site within its broader context).                                                                      | Yes. Phalandwa Colliery is located adjacent to the proposed mining study area. The current infrastructure is adequate for the mining process. No new permanent infrastructure is required for the proposed mine.                                                                                                                                                                                                                                                          |
| <b>11.</b>                   | How will the activity of the land use have associated with the activity being applied for, impact on sensitive natural and cultural areas (built and rural/natural environment)?                                                      | During the site assessment, no heritage was discovered; we also consulted SAHRA. If any objects of archaeological or paleontological remains are discovered during activities, the work will be halted immediately, and the ECO will be notified to consult an archaeologist and/or a paleontologist, depending on the nature of the findings.                                                                                                                            |

|                   |                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                             |
|-------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><b>12.</b></p> | <p>How will the development impact on people's health and well-being? (E.g. In terms of noise, odours, visual character and sense of place, etc.)?</p> | <p>In summary, due to the fact that this area has no community, the impacts on well-being, following mitigation, will be as follows:</p> <ul style="list-style-type: none"> <li>• Visual: Low</li> <li>• Dust: Low-Medium</li> <li>• Noise: Medium</li> <li>• Sense of place: Medium</li> </ul> <p>However, environmental good practice compliance policies would have limited effects.</p> |
| <p><b>13.</b></p> | <p>Will the proposed activity or the land use associated with the activity being applied for, result in unacceptable opportunity costs?</p>            | <p>No. For a long time, the mining industry in South Africa has been a pillar of the economy. South Africa continues to demonstrate that mineral revenues can generate significant economic benefits in the countries where they are extracted. Coal has helped South Africa fund impressive economic growth and stability.</p>                                                             |
| <p><b>14.</b></p> | <p>Will the proposed land use result in unacceptable cumulative impacts?</p>                                                                           | <p>No, the proposed project only has minimal cumulative impacts that can be mitigated to an acceptable level. The measures outlined in the attached EMPr will be used to keep the proposed project from having any serious long-term cumulative impacts on the receiving environment.</p>                                                                                                   |

### 1.7.1 Advantages

- Delmas has an abundance of coal reserves (Delmas coal and Delmas Stuart coal are evidence).
- There is market demand for coal.
- Coal-fired power plants are dependable.
- Mpumalanga's coal resources are shallow in depth, resulting in low mining costs.
- Despite recent power outages, South Africa's coal-fired electricity generation infrastructure is well-established.
- Coal combustion is the most cost-effective and energy-efficient method of generating electricity.

### **1.7.2 Disadvantages**

- a. Delmas is well-known for its farming, particularly the production of maize, wheat potatoes, and chickens. Coal mining will have an impact on agricultural productivity in the area.
- b. Of all energy sources, coal has the most waste problems. Sulfur and nitrogen oxides, organic compounds, greenhouse gases, and a lot of ash are all found in waste.
- c. South Africa's coal fields are concentrated in Mpumalanga, limiting power station to coal mining.

### **1.8 Motivation for the overall preferred site, activities and technology alternative**

The proposed site earmarked for the mining of the coal will include the opencast. The proposed site was identified as the preferred alternative due to the following reasons:

- The site provides the desired resource.
- The mining impacts can be contained to one area.
- The Mining Permit area can be accessed via the secondary road that extends towards the R555, so no new road infrastructure is required.
- Open cast coal mining has been identified as the most effective method of producing the desired coal. The potential environmental impacts associated with open cast mining are deemed to be insignificant.
- Because equipment maintenance and servicing will be performed at an off-site workshop, the amount of hazardous waste generated at the site will be minimal, resulting primarily from accidental oil or diesel spillages.
- Contaminated soil will be removed to the depth of the spillage and contained in sealed bins until a hazardous waste-handling contractor removes it from the site to be disposed of at a registered hazardous waste disposal site.
- When mining activities in the area of interest cease, the disturbed land will be rehabilitated to its original state before mining activities began, and current activities will continue as before mining. The proposed site is in an area with mining-related activities, such as Phalandwa Colliery and Stuart Coal adjacent to the proposed Mining Permit area.

## 1.9 Full description of process followed to reach proposed preferred alternatives within the site

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

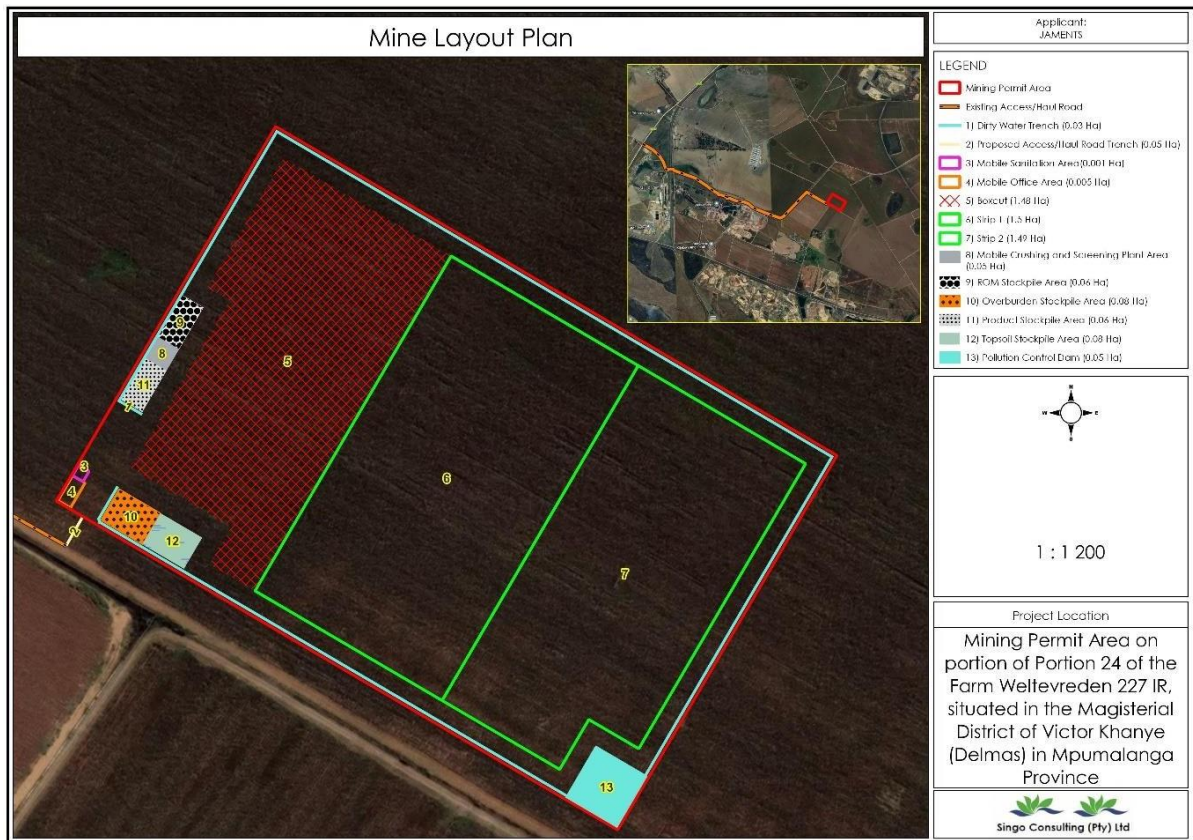


Figure 10: Proposed mine layout (infrastructure plans) (source: *Singo consulting (Pty) Ltd*)

## 1.10 Details of the development footprint alternatives considered

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

- the property on which or location where it is proposed to undertake the activity
- the type of activity to be undertaken
- the design or layout of the activity
- the technology to be used in the activity
- the operational aspects of the activity
- the option of not implementing the activity



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

The proposed project is located within the Portion 24 of the farm Weltevreden 227 IR, situated under the Magisterial District of Delmas Mpumalanga Province. The Mining Permit is situated approximately 9 km East of Botleng and 10 km Southeast of Delmas. This area can be accessed using the gravel road that extends towards the R555.

Geology is the primary driver for determining the location of the mining operation. A fraction of the application area, which is 5 hectares, will be expected to develop. Due to an increase in coal usage and demand in the industry, the company recognized the need for commodities applied in the region. The applicant therefore described the proposed area as the preferred and only viable site alternative.

**b) The type of activity to be undertaken**

The main activity to be undertaken is the extraction of in-situ coal resource on the Portion 24 of the farm Weltevreden 227 IR, using open cast mining technique. The mining method proposed, open cast, allows easy access of machinery to the site and does not require extensive machinery as other methods, making it economical feasible for small-scale miners. It reduces the overall costs associated with the mining process, thus allowing financial viability in small scale mining of coal deposits.

**c) The design or layout of the activity**

The proposed mining method is open cast. The open cast proposed mine will be mined using conventional truck and shovel mechanism using roll over techniques in a single direction. Sustainable development principle to be applied during mining and rehabilitation phase to ensure that the mined-out area is restored to pre-mining condition. The primary procedure that will be implemented during the mining process includes:

- Digging and Trenching around mining area
- Building a Pollution Control Dam
- Connect Trenches to the dam
- Build a flat ramp for water bowser
- Topsoil to be stripped and stacked
- Ripping of hard overburden and stockpiling
- Excavation of the initial box cut
- Extraction of coal and run of mine (RoM)
- Load and haul
- Backfilling rehabilitation concurrently as mine progress forward

#### **d) The technology to be used in the activity**

The opencast mining method will be considered to maximize coal extraction and utilization of the area's coal resource. There will be truck and shovel operations. Haul trucks will be used to transport the coal through haul roads that will be built in the area. As previously stated, these mining methods are standard practice for opencast mining operations. The ripper method of mining is the preferred technology for the proposed mining permit. Given the remote location of the mine area, this method is preferred because it has fewer environmental impacts than drilling and blasting. A front-end loader will be used to load material into haulage trucks, which will be used to transport coal through haul roads built within the demarcated Mining Permit area. A mobile crushing and screening plant will be used to crush and screen the mined coal. The mined coal will be processed off site. As previously stated, these mining methods are standard practice for opencast mining operations. If the mining activities change, the applicant will be advised to apply for amendments under Section 102 of the MPRDA.

- **Types of Blasting Explosives to be Employed**

Non-Ex Rock Breaking Cartridges will be applied when blasting hard rocks in sensitive areas as it does not contain high explosives and have low vibrations compared to conventional explosives. It is a pyrotechnic composition (low explosives) that break rocks by generating tensile force through rapid gas expansion in a sealed (stemmed) drill hole and have no adverse environmental effects.

- **Environmental Impacts Associated with the Non-Ex Rock Breaking Cartridges**

#### **Air blast Overpressure**

The pressure produced by blasting that is greater than the atmospheric pressure produced by explosives is known as air blast overpressure. Human, structural, and window damage are the three main concerns associated with air blast overpressure.

The Non-Ex TM breaking method ensures that expansion gases are contained in the drill hole by effective stemming, resulting in extremely low overpressure levels. When compared to conventional explosives, the overpressure levels produced by Non-ExTM are extremely low, with a shorter duration and less damaging frequency. Non-ExTM has a significant advantage over explosives in environmentally sensitive areas.

#### **Noise**

The portion of the air blast pressure wave that falls within the audible frequency range of the human ear is referred to as noise. The audible portion of the air pressure wave is responsible for the noise associated with a blast. The lower frequency portion is inaudible, but it can

excite structures such as windows, which respond by producing secondary noise such as rattles. Non-ExTM noise levels are largely determined by the type and nature of the rock broken charge, its weight, burden, the depth of the hole, and the effectiveness of the stemming used. At 50 meters from the hole, a well-stemmed Non-ExTM cartridge in granite will typically produce a noise level of 80 to 85 dBl. Noise levels can be attenuated by the use of conveyor belting, or other matting, to cover the holes being fired.

### **Ground Vibration**

Ground-borne vibrations from blasting can cause damage to buildings and can cause damage to buildings and infrastructure in the blast's vicinity. The magnitude, frequency, and duration of the vibration all influence the degree of vibration-induced damage caused by blasting. Low frequency, long duration vibrations are generally more harmful than higher frequency, short duration vibrations. Non-ExTM vibration waves are mostly of a higher frequency, with a mean of 450 Hz, and of short duration, making them the least harmful to sensitive structures. Furthermore, when compared to explosives at the same distance from the shot hole, the magnitude of the vibration levels produced by Non-ExTM is particularly low. When a Non-ExTM cartridge's propellant mixture deflagrates, the almost instantaneous change from solid to gaseous matter is accompanied by a very sharp increase in blast hole pressure and temperature. This is accompanied by a pressure wave that radiates from the drill hole, the amplitude of which decreases with increasing distance from the drill hole. The primary factors known to influence the level of ground vibration from the Non-ExTM cartridges include:

- The weight of propellant per cartridge;
- The distance between the drillholes and the point of measurement;
- The local geological conditions, and the influence of geology and topography on vibration attenuation.

### **Vibration Limits for Structures**

The degree of vibration-induced damage caused by blasting is dependent on the magnitude, frequency and duration of the vibration. Generally, low frequency, long duration vibrations are more damaging than higher frequency, short duration vibrations.

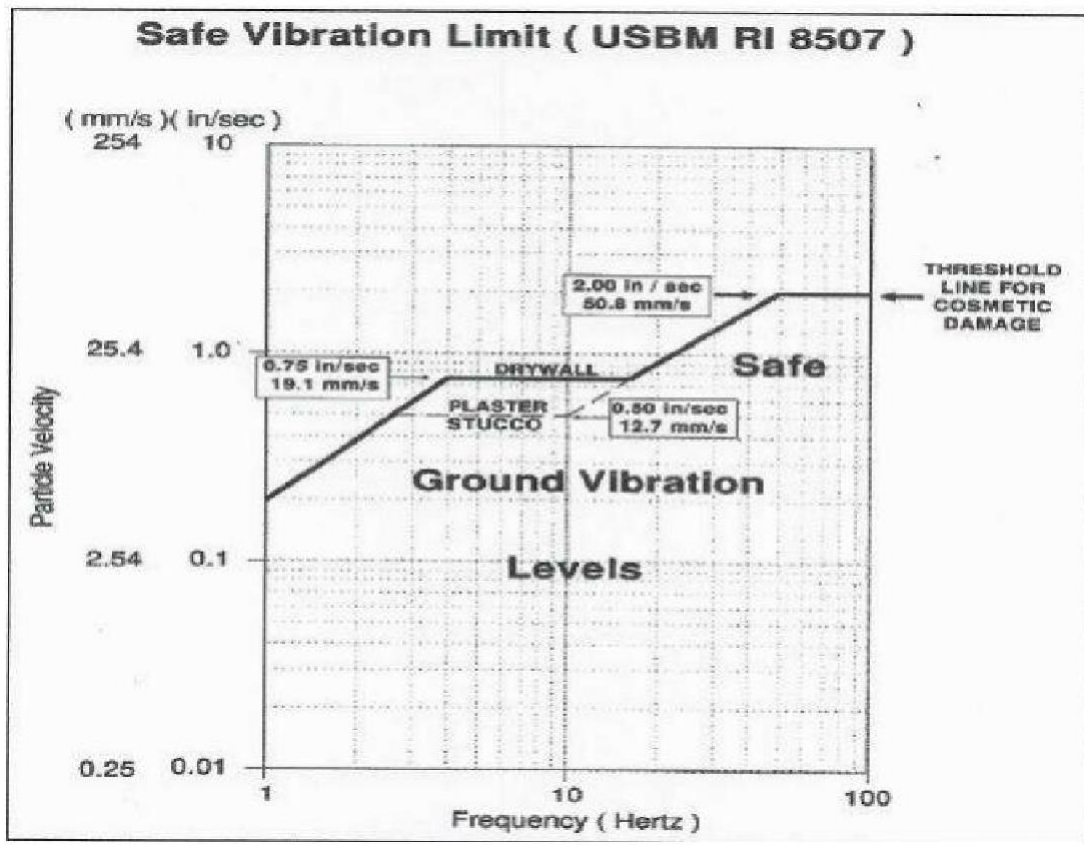
This general rule is contained in recommendations by both the US Bureau of Mines ("USB") and the British Standard ("BS"), both of which are widely used in vibration specifications for rock breaking near sensitive structures. The USBM criteria are as follows:

Frequencies above 40 Hz

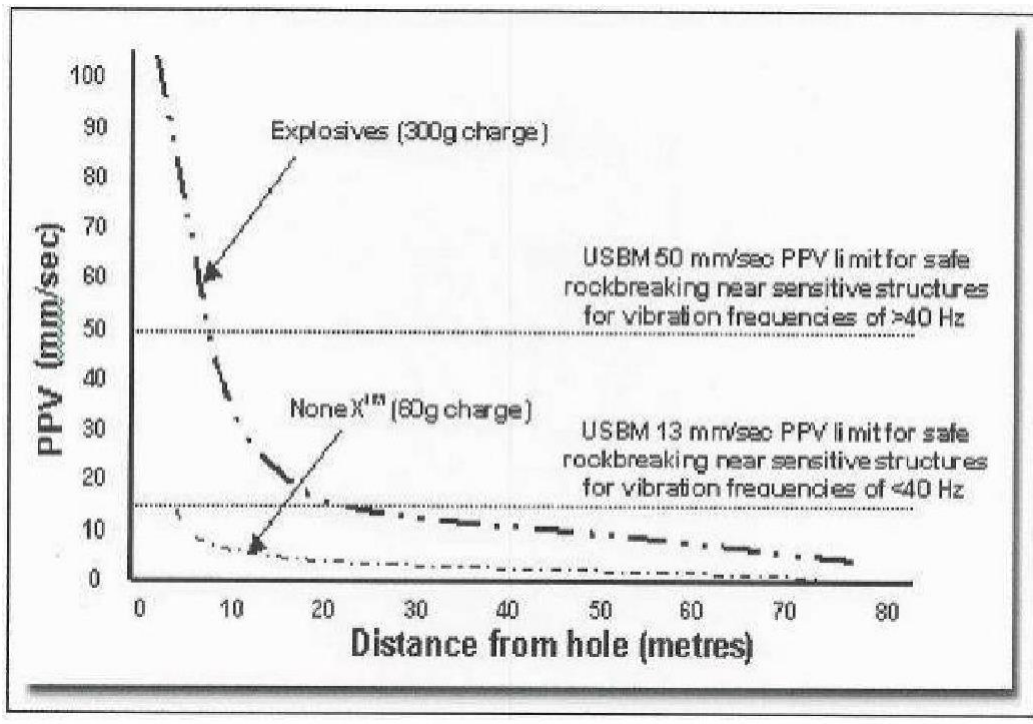
- PPV less than 50 mm/s- safe zone
- PPV greater than 50 mm/s- damage zone

Frequencies below 40 Hz

- PPV less than 13 mm/s- safe zone (old wooden house)
- PPV greater than 19.5 mm/s- safe zone (modern house)



**Figure 10.1:** The vibrations generated by Non-Ex™ are well within most imposed restrictions for rock breaking close to sensitive structures.



**Figure 10.2:** Comparative vibration results of explosives

As can be seen from the above figure, safe vibration levels for rock breaking, as defined in the USBM guidelines, can be achieved by Non-Ex™ within 5 metres of a sensitive structure.

### **Safety Distances**

One of the significant advantages of the Non-Ex Rock Breaking Cartridges is that the safety distances are approximately 50 metres from blasting over-sized rock in the open, without any covering. This means that personnel and equipment only require local clearance instead of complete site evacuation. This benefit is that rocks and boulders can be broken in shifts and close to working operations.

The safety distance to infrastructure and sensitive equipment is further reduced by covering the blast with mats and soft soil.

### **Noxious fumes**

The Non-Ex™ cartridge is oxygen balanced so that sufficient oxygen is available for the chemical reaction to achieve optimal oxidation to produce gases consisting of carbon dioxide, nitrogen and steam and thus avoiding the production of noxious gases such as carbon monoxide and nitrous fumes. The reduced quantities of propellant required to break the rock compared to explosives means that considerably less fumes are emitted by the rock breaking event. As a result of the degree of oxidation achieved in the deflagration process, through the incorporation of an effective oxidizing agent and the relatively small amount of propellant used in each hole, the Non-Ex™ cartridge produces a negligible level of noxious

gases which are cleared in minutes when an adequate standard of airflow (nominally a velocity of 0.25 metres per second) is available.

### Fly rock

Normally, blasting using conventional explosives requires the rock breaking area to be evacuated for a distance of 500m which means disruption of the production operations and delays to operating equipment. The generation of unpredictable fly rock rules out the use of lay-on charges in any situation where fly rock is restricted.

In contrast, a Non-Ex™ cartridge produces an optimal pressurization of the hole for a given burden and type of rock. By controlling the characteristics of the pressure pulse, the velocity and distance travelled by the dislodged rock can be limited.

Controlled gas release from the Non-Ex™ cartridge, at a relatively low pressure, results in a minimal quantity of low velocity fly rock, which is generally contained within 10m of the rock breaking event.

The table below shows clear advantages in the use of Non-Ex.

| Particulars          | Conventional Explosives                                                       | Nonex Cartridge                                              |
|----------------------|-------------------------------------------------------------------------------|--------------------------------------------------------------|
| Environmental effect | Adverse Effects – Landslides, crevasses in earth strata, tunnel collapse etc. | No adverse effect.                                           |
| Fly Rock             | High velocity, uncontrolled, fly rocks up to 500metres                        | Controllable low velocity fly rocks up to 50m                |
| Shockwave            | Supersonic shock wave with significant damage                                 | No shock wave                                                |
| Dust levels          | High level of dust produced by crushing effect.                               | Minimal dust due to better fragmentation.                    |
| Vibrations           | High level vibrations – unfit for use in built up areas                       | Low vibrations – ideal for built up areas/sensitive projects |
| UN Hazard Division   | 1.1                                                                           | 1.3C                                                         |
| Functions on         | Detonation                                                                    | Deflagrating                                                 |
| Reaction speed       | 3,000 -10,000 m/sec.                                                          | 300 – 1000 m/sec.                                            |
| Pressure             | 1200 GPa                                                                      | 450 MPa                                                      |
| Working principle    | Produces SHOCK WAVE, resulting in Blast and Shattering effect                 | NO SHOCK WAVE- Produces gases only which split the rock.     |
| Safety Distance      | Minimum 500m                                                                  | Average 100m                                                 |
| Noxious fumes        | Underground mines – 3 hour re-entry time                                      | 30 minutes re-entry time                                     |

**Figure 10.3:** Comparison of Conventional explosives and Nonex Cartridge

### **e) Operation aspect of the activity**

The timing of implementing mining programme will commence as soon as the permit is granted by the DMRE, the landowner, interested and affected parties will be notified about the mining programme to ensure a satisfactory working and adhering relationship.

### **f) Option of not implementing the activity**

If the proposed mining operation is not approved, it is expected that no coal will be produced, resulting in a shortage of coal for power generation purposes, which will have a negative impact on the power stations because they rely on coal to produce electricity.

Due to an increase in coal usage, the company identified a need for coal in the area. The applicant identified the proposed areas as the preferred and only viable site alternative in this light. It is known from previous extensive work in this area that this area contains the resource sought. This land may have contamination levels on the property that are thought to have a higher significance without the need or motivation to justify it.

Various project alternatives were considered during the planning phase of the project. These included the following:

#### **1.10.1 Open cast mining (preferred alternative) vs. underground mining**

##### **Open cast mining**

- Open cast mining is used when deposits of commercially useful minerals or rock are discovered near the surface, where the overburden is thin or the material is structurally unsuitable for tunneling.
- Because the coal is found near the surface and only a thin layer of overburden needs to be removed, open cast mining has been identified as the most cost-effective method of producing the desired coal.
- The open cast mining method generates no residual waste that must be disposed of. Because of the proposed coal mines' location, the potential impacts on the surrounding environment are expected to be minimal. It is proposed that all mining-related infrastructure be contained within the mining area's boundary.

##### **Underground mining**

- Underground mining is used when the mineral is found deep underground and the overburden is thick.
- The geology of the coal-mining area and depth is structurally unsuitable for tunnelling.

Therefore, open cast mining is the leading alternative based on the reasons mentioned above.



### **1.10.2 Temporary infrastructure (preferred alternative) vs. permanent infrastructure**

- Track-based or easily removable infrastructure will be used for temporary infrastructure. This includes a mobile crusher plant within the proposed mine, a temporary weigh bridge, and a chemical toilet, as well as off-site vehicle and equipment servicing (at the applicant's existing workshop). The remote office will be used for project administration.
- Positive aspects: As mining progresses, the infrastructure can be moved around within the mining area boundaries, reducing the distance material must be transported from the crusher plant to the stockpile area. Furthermore, during a blast, the crusher plant and other equipment can be moved out of the mining area (and onto the existing road) to avoid potential fly rock damage. Infrastructure will be removed from the mining area during the decommissioning phase, making site rehabilitation simple and effective.
- Permanent infrastructure will include the construction of an office building with restrooms, the installation of a septic tank connected to the restrooms, the installation of a permanent weigh bridge, and the installation of a permanent crusher plant.
- The use of permanent infrastructure will increase the impact of the proposed project on the environment as it will entail the establishment of more structures, necessitate the use of concrete products on site in order to establish this infrastructure, lengthen the period required for rehabilitation as well as increase the rehabilitation cost as the permanent infrastructure will either have to be decommissioned or be maintained after the closure of the site.
- Due to the small size of the mining area the infrastructure may be exposed to fly rock damage during blasting events.
- The construction of permanent infrastructure on-site will increase the visual impact of the proposed project on the surrounding environment, necessitating the implementation of additional mitigation measures.

In the light of the above, the use of temporary infrastructure is deemed to be the most viable preferred alternative.

### **1.10.3 Access onto provincial road (preferred alternative) vs. national road**

- There is no alternative for the access road to the project area, the area can only be accessed through a gravel road that extends towards the R555.



Figure 11: access road to site

#### 1.10.4 No-go alternative

The no-go alternative entails no change to the status quo and should therefore not be considered. From the baseline environmental sensitivity conducted, it was found that the proposed area is characterised as heavily modified with respect to the terrestrial biodiversity. See **Figure 12**.

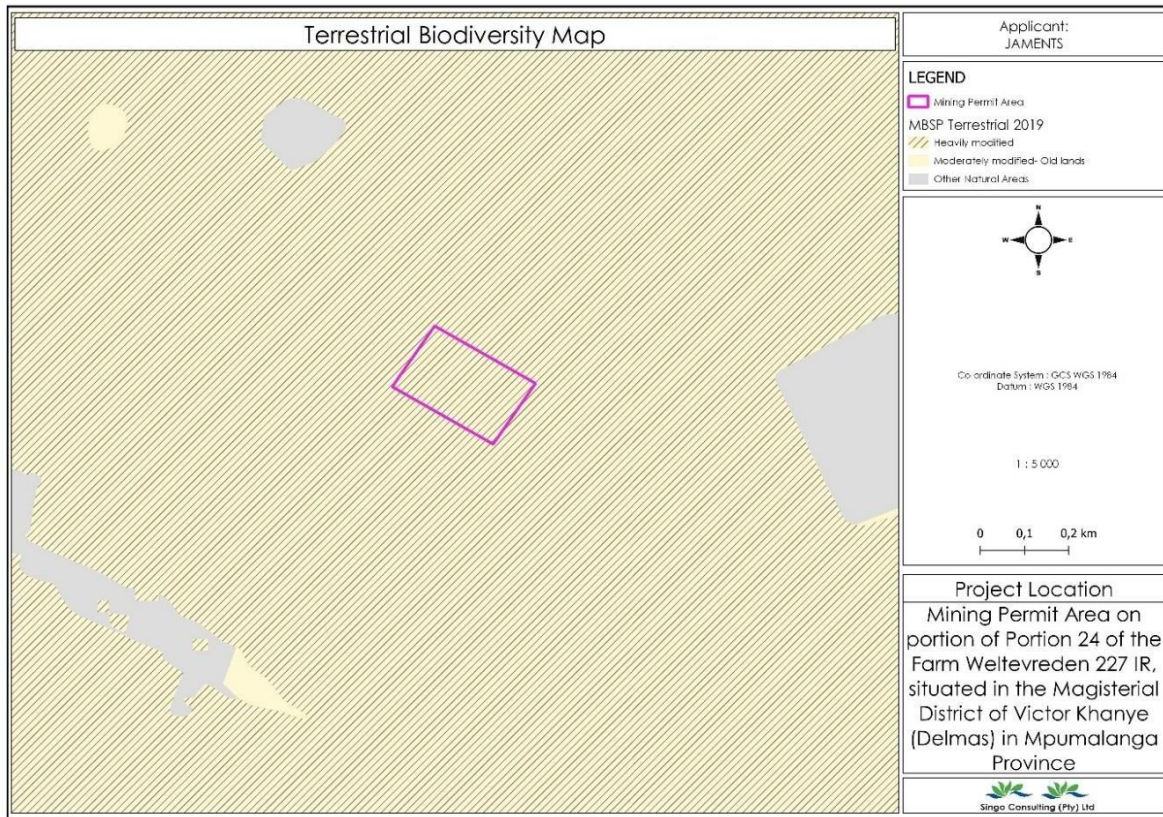


Figure 12: Biodiversity Terrestrial Map (source: *Singo consulting (Pty) Ltd*)

#### DETAILS OF THE PUBLIC PARTICIPATION PROCESS FOLLOWED

Describe the process undertaken to consult I&APs, including public meetings and one-on-one consultation. The affected parties must be specifically consulted regardless of whether or not they attended public meetings. Information to be provided to affected parties must include

sufficient detail of the intended operation to enable them to assess what impact the activities will have on them or on the use of their land.

#### **1.10.5 Public Participation Methodology**

South Africa, being one of the countries with the most progressive constitutions, enshrined the public's right to be involved in decisions. Section 57(1) of the new Constitution that provides: "The National Assembly may (b) make rules and orders concerning its business, with due regard to representative and participatory democracy, accountability, transparency and public involvement". This provision, along with several others gave rise to many new trends in South African legislation. In environmental legislation, the idea of public participation (or stakeholder engagement) features strongly and especially the National Environmental Management Act, 1998 (Act 107 of 1998, NEMA – as amended) and the recent regulations passed under the auspices of this Act make very strict provisions for public participation in environmental decision-making.

Public participation can be defined as "a process leading to a joint effort by stakeholders, technical specialists, the authorities and the proponent who work together to produce better decisions than if they had acted independently" (Greyling, 1999). From this definition, it can be noted that the input of the public is regarded as very important indeed.

The Public Participation Process (PPP) is designed to provide sufficient and accessible information to Interested and Affected Parties (I&APs) in an objective manner to assist them to:

- ❖ Raise issues of concern and suggestions for enhanced benefits.
- ❖ Verify that their issues have been recorded.
- ❖ Assist in identifying reasonable alternatives.
- ❖ Contribute relevant local information and knowledge to the environmental assessment.
- ❖ Comment on the findings of the environmental assessments.
- ❖ Obtain information on the outcome, i.e. the competent authority's decision, and how and by when the decision can be appealed.

### 1.11 Notification of I&APs

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

I&AP can be any person, group of persons or organization interested in or affected by the proposed activity, and any organ of state that may have jurisdiction over any aspect of the activity. The key objective of PPP during the basic assessment Process is to afford the I&APs with an opportunity to comment and provide valuable inputs during the planning phase of the project.

The project timelines have been developed on the section below.

- ❖ **Announcement of the project:** On the 03<sup>rd</sup> of March 2023.
- ❖ **Review of Draft BAR & EMPr:** On the 15<sup>th</sup> of March 2023 – 17<sup>th</sup> of April 2023.

Stakeholders will be given 30 days to review the DBAR & BAR, from the first day they received it. Engagement of I&APs was done through publishing of newspaper (**Figure 13**), site notice (refer to Photo 1), emails and one-on-one consultation refer to appendix. Site notices were placed at the turn off from the roads onto the property. The notices were extended to the **Delmas Public Library (Cnr Sarel Cillies & Van Riebeeck Ln, Delmas, 2210)** and Delmas local Municipality.

The landowner was identified through Windeed search.

The benefits of the online stakeholder engagement platform include:

- ❖ Ability to create a dedicated project-specific online platform to enable easy access to project-related information.
- ❖ Ability to reach a wider audience, allowing more widespread consultation for major infrastructure projects.
- ❖ Allowing stakeholders and I&APs the opportunity to engage on a project without leaving their office or home.
- ❖ Enabling stakeholders and I&APs to register their interest in a project (for inclusion on the project database), and automatically gaining access to comprehensive project documentation.
- ❖ Enabling the EAP to maintain a complete database of I&APs through maintaining a record of persons accessing the online stakeholder consultation platform.
- ❖ Enabling the EAP and stakeholders/I&APs to meet virtually.

# STREEK NUUS/NEWS CLASSIFIEDS

Booking deadline: Tuesday 15:00

010-971-3301

logang@caxton.co.za

**YOU'RE IN GOOD HANDS**  
CAXTON CLASSIFIEDS  
Call 010 971 3301 or email logang@caxton.co.za



**NOTICE: PUBLIC PARTICIPATION PROCESS (PPP): SCOPING REPORT AND ENVIRONMENTAL IMPACT REPORT (SR&EIR) FOR AN INTEGRATED ENVIRONMENTAL AUTHORISATION (IEA) NEMA REGISTRATION AND SCOPING PHASE CONSULTATION PROCESS FOR TRENTA (PTY) LTD**

**NOTICE NOT FOR JOB APPLICATIONS**

Trenta (Pty) Ltd is applying for an Integrated Environmental Authorisation (IEA) which requires an Environmental Authorisation in terms of Sections 24 (5) and Section 44 of the National Environmental Management Act, 1998 (Act No. 107 of 1998) (NEMA) and a Waste Management License (WML) for waste management activities in terms of Section 20(6) and Section 45 of the National Environmental Management Waste Act, 2008 (Act No. 59 of 2008) (NEMWA). Both legislations are read together with Regulations 21, 22, 23 & 24 of the Environmental Impact Assessment Regulations, 2014 (Government Notice R 982) (EIA Regulations). The above-mentioned applications involve the mining of coal.

These activities will occur on portions 1, 5, 6, 9, 70, 77, 78, 85, 87, 90, 99 and the remaining extent of the farm Bietel 237 IR, situated within the Magisterial District of Delmas, Mpumalanga Province.

Geovion Environmental (Pty) Limited has been appointed as the independent environmental consultant to compile the Scoping Report (SR), Environmental Impact Report (EIR) and Environmental Management Programme report (EMPR), and to conduct consultation with interested and Affected Parties (I&APs) regarding the proposed project in terms of the NEMA.

A new consultation process has commenced, due to an incorrect email address published in the previous notice in the Streeknuus newspaper on 27 January 2023. The printed draft SR will be available at the Smdra Public Library from 3 March 2023 until 3 April 2023 for public perusal and comments. The electronic copy will be available upon request from the contact person mentioned below.

As part of the Public Participation Process (PPP), as stipulated in Chapter 6 of the amended Environmental Impact Assessment Regulations, 2014 (Government Notice No. 982), any person who is interested in, or affected by the above-mentioned project is hereby invited to register as an Interested or Affected Party, and to comment on the Draft SR. With registration, the party's interest in the project must be declared. Comments regarding the proposed project must be submitted in writing, with reference number: MP/30/5/1/2/10370 IR on or before 3 April 2023 to the consultant below.

Consultant:  
Geovion Environmental (Pty) Limited  
P.O. Box 4050  
Middeburg  
1050

Tel: 013 243 0542  
Fax: 086 632 4936  
Cell: 082 359 5604  
Email: luyanda@geovion.co.za  
Contact person: Riama Bete

## 0900 Legals

Place your legal notice in your local newspaper.

010-971-3301  
logang@caxton.co.za

**IN THE MAGISTRATE'S COURT FOR THE DISTRICT OF TSHWANE EAST HELD AT CULLINAN**  
Case Number: 628/2022

In the matter between:  
**WENKEM S.A. (PTY) LTD**  
(Registration number: 1988/003854/07)  
Plaintiff/Execution Creditor  
and  
**JOHANNES JACOB BREYTENBACH**  
(Identity number: 550906 5151 08 1)  
Defendant/Execution Debtor

**NOTICE OF SALE IN EXECUTION**

In pursuance of a Judgment granted in the above Honourable Court in favour of the Plaintiff/Execution Creditor, against the Defendant/Execution Debtor on 31 October 2022, the Sheriff Cullinan, will sell in execution to the highest bidder for cash without reserve, the undermentioned property on the 28th day of March 2023 at 11:00 at THE FARM KAFFERSKRAAL 475 JR, CULLINAN:

- 1 x Ford 7840 Tractor
- 1 x John Deere 4940 Tractor; and
- 1 x John Deere 7000 Planter.

The sale shall be subject to the following conditions:

- All prospective buyers must produce FICA documents, which include a certified copy of the buyer's identity document and proof of residence.
- ALL ITEMS sold during the sale in execution will be sold "VOETSTOOTERS".
- Terms of payment at sale: Cash only - No cheques accepted.

DATED at CULLINAN on this \_\_\_ day of FEBRUARY 2023.

**SMT SEWGOOLAM INCORPORATED**  
Plaintiff/Execution Creditor's Attorneys  
Comer Jan Smuts Avenue  
Saxonwold  
Johannesburg  
Tel: 011 646 0006  
Email: nicolene@smtsew.co.za  
Ref: MAC4237/PJA/NC

**C/O VAN DER MERWE & VAN DER MERWE**  
18 Ross Road  
Cullinan  
Tel: 012 734 1092  
Email: frauatt@vweb.co.za  
Ref: 50194/Charlene

**NOTICE OF PUBLIC PARTICIPATION FOR MINING PERMIT AND ENVIRONMENTAL AUTHORISATION APPLICATION**

| ISIZULU                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | ENGLISH                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Isaziso Sesicelo Selungelo Loluamba Amalalhe: Jaments (Pty) Ltd ifake isicelo kuMnyango Wezibhwa Namandla (DMRE Ref: MP 30/5/1/3/13702 MP) ngenhloso yokubala amalahle kwilungwane yenganyane ye-24 yepulazi l- Welwevreden 227 IR, esendaweni yeMantshi yaseDelmas esifundazweni esaseMpumalanga.</p> <p>Isaziso simkethwa ngokomthetho Woluthuthukiswa kwezibhwa kanye Nezamalutha (MIPROA) (umthetho wama-28 wezi-2002) kanye nemithetho ezoqobo ye-EIA ka-2014, esilicilelwe ngaphansi kweSaziso Silubhalaneni No. 982 kaSazishi No. 3822 yamhla zayo-8 kuLizandela wezi-2014, ephuhlisiwe mihla zayo-7 kuLizandela wezi-2017, ukuthi i-Jaments (Pty) Ltd ifake isicelo selungelo sokubala amalalhe.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <p>Notice of the Mining Permit Application: Jaments (Pty) Ltd has lodged an application with the Department of Mineral Resources and Energy (DMRE Ref: MP 30/5/1/3/13702 MP) for the purpose of extracting Coal on Portion of portion 24 of the farm Welwevreden 227 IR, situated in the Magisterial District of Delmas in Mpumalanga Province.</p> <p>Notice is hereby given in terms of the Mineral and Petroleum Resources Development Act (MPROA) (Act 28 of 2002) and EIA regulations 2014, published under Government Notice No. 982 in Gazette No. 3822 of 8 December 2014, amended on 7 April 2017, that Jaments (Pty) Ltd has applied for a mining permit for the above-mentioned mineral.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <p><b>ISIMEMO SOKUPHAWULA NOKUYEZA IMIBONO MVELLANA NALESI SICELO</b></p> <p>Umlalaba laseMnyango Abanathuthukiswa kabanathuthukiswa: Njengenganyane yenganyane ye-EIA, ikhululukiwe iminyaka yokubambjethwa kophakathi yale phawuleni elilungwane, Abanathuthukiswa Nabanathuthukiswa (I&amp;APs) baganyanywa ukuba babhalise futhi bafakele ngomso noma yiluphi ukuphawula noma ukuthathelwa ukuzo kufinyelelwe kuMnyango Mazithi Mangcu esebenza imininingwane yokuthumana enikezwe ngezansi. Umphakathi nganyanywa ukuthi ubeyezwe futhi ighawule Draft BAR kanye Environmental Management Programme Report (EMPR). Uhlaka loqoqo lwe-Draft BAR kanye ne-EMPR lotholokala ukuthi luyezwe isidathu sestrato ezingu-30 kusukela ngolawulathu mihla zi-15 kuLizandela wezi-2023 kanye ngolawulathu mihla zayo-17 kuMhasa wezi-2023 (ngaphandle kwamalibhole ophakathi azaqhina kuzokuba ngomthetho oqobo 54(2), isidathu 4.6 esilulekile kuzoqobo ze-PPP ze-NEMA, imibhesho ezoqobo ye-EIA).</p> <p>Lo mibono ukutholokala e-Delmas Public Library (Cir Sarei Olliers &amp; Van Riebeeck St, Delmas 2210) kanye nampulazi WaseDelmas (Cir Saremuel &amp; Van der Walt St, Delmas). Imiphakathi ethambile iyatholokala kwe-Singo Consulting (Pty) Ltd uma icelwa, kusethenziswa imininingwane yokuthumana yomsihi ka-Environmental Assessment Practitioner (EAP) UDkt Kenneth Singo kanye noChwepheshe wezemvelo (Envir. Tech.) uMiss Mazithi Mangcu.</p> <p>Amazwana nge-Draft BAR &amp; EMPR kufanele athunyelwe ngaphambi kamhla zayo-17 ku-Mhasa 2023.</p> | <p><b>INVITATION TO COMMENT</b></p> <p>Registration as Interested &amp; Affected Party: As part of the EIA process, more especially the Public Participation Process (PPP) for this proposed project, interested and affected parties (I&amp;APs) are invited to register and kindly submit any comments or concerns to reach Miss Mazithi Mangcu using the contact details provided below. The public is also invited to review and comment on the Draft BAR and Environmental Management Programme Report (EMPR). The Draft BAR &amp; EMPR will be available for review for a 30-day calendar period from Wednesday the 15th of March 2023 to Monday the 17th of April 2023 (with the exclusion of public holidays that will affect business days as per regulation 54(2), Section 4.6 contained in PPP Guidelines of NEMA, EIA Regulations).</p> <p>This report will be available at Delmas Public Library (Cir Sarei Olliers &amp; Van Riebeeck St, Delmas, 2210) and Delmas Local Municipality (Cir Saremuel &amp; Van Der Walt St, Delmas). A soft copy is available from Singo Consulting (Pty) Ltd upon request, using the contact details of the Environmental Assessment Practitioner (EAP) Dr Kenneth Singo and Environmental Technician (Envir. Tech) Miss Mazithi Mangcu.</p> <p>Comments on the Draft BAR &amp; EMPR should be submitted no later than the 17th of April 2023.</p> |
| <p><b>EAP, ENVIR. TECH AND APPLICANT CONTACT DETAILS:</b></p> <p><b>Singo Consulting (Pty) Ltd</b><br/>Physical Address: Office 870, 5 Balaalika Street,<br/>Tactical Park Ext. 2, eMalahleni (Witbank), 1040<br/>BAR: Dr Kenneth Singo<br/>Email: kenneth@singoconsulting.co.za/admin@singoconsulting.co.za<br/>Tel No.: +27 13 6920 041<br/>Fax No.: +27 86 5144 103<br/>Envir. Tech.: Miss Mazithi Mangcu<br/>Cell No.: +27 74 984 1000<br/>Email: mazithi@singoconsulting.co.za</p> <p><b>JAMENTS</b><br/>Physical Address: Pentagon House 5 Seven Street, Model Park, eMalahleni, Mpumalanga, 1035<br/>Contact person: Mr Given Bongani Simelane<br/>Tel No.: +27 13 591 2120<br/>Email: admin@jaments.co.za</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |

Figure 13: Published newspaper advert, Streeknuus, in red polygon (03<sup>rd</sup> of March 2023)

**ISAZISO SOKUHLANGANYELA KOMPHAKATHI UKUZE KUHLONGOZWE UKUMBA NOKUSETSHENZISWA  
KWEMVUME YENDAWO EZUNGEZILE**

Isaziso Sasicelo Selungelo Lokumba Amalahle Njengokwemithetho Yokuthuthukiswa Kwezimbiwa kanye Nezithombo Zophethiloli (MPRDA) (uMithetho 28 ka-2002) (njengoba uchitshiyelwe) mayelana nokumba amalahlé kwingxenyé yengxenyé 24 yeFarm Weltevrede 227 IR, etholakala kwisifunda sikaMantshi saseDelmas, eSifundazweni saseMpumalanga esine-DMRE Ref.: MP 30/5/1/1/3/13702 MP.



**Figure 1: Regulation 2(2) Yendawo Yephrojekthi Ehlangozwayo (A -26.117336, 28.779070)**

**ISIMEMO SOKUPHAWULA NOKUVEZA IMIBONO MAYELANA NALE APPLICATION!**

Isaziso sikhishwa ngokoMithetho Wokuthuthukiswa Kwezimbiwa kanye Nezithombo Zamafutha (MPRDA) (uMithetho wama-28 wezi-2002) kanye nemi thethonqubo ye-EIA ka-2014, eshicilelwe ngaphansi kweSaziso sikaHulumeni No. 982 kuGazethi No. 3822 yaka Uzibandlela 2014, ichitshiyelwe mhla ziyisi-7 kuMbaso wezi-2017 ukuthi i-Jaments (Pty) Ltd ifake isicelo sokumba amalahlé.

Njengengxenyé yenqubo ye-EIA, ikakhulukazi Inqubo Yokubambiqhaza Komphakathi yale phrojekthi ehlongozwayo, Abanentshisekelo Nabathintekayo (I&APs) bayamenywa ukuba babhalise futhi bathumele ngomusa noma yikuphi ukuphawula noma ukukhathazeka ukuze kufinyelele **unKz Mazithi Mangcu** kusetshenziswa imininingwane yokuxhumana enikezwe ngezansi. Umphakathi uyamenywa futhi ukuthi ubuyekeze futhi uphawule ngoMibiko Osalungiswa Wokuhlola Okuyisisekelo kanye Nohlelo Lokuphatwa Kwemvelo aluzotholakala ukuthi lubuyekeze enkatini yekhalenda yezinsuku ezingama-30 kusukela **ngoLwesithathu zivi-15 kuNdasa 2023 kuya ngoMsombuluko zivi-17 kuMbaso 2023**. I-Draft BAR & EMP izotholakala e-Delmas Public Library (Cnr Sarel Cilliers & Van Riebeck St, Delmas 2210) kanye nekhophi ethambile uma icelwa yiSingo I-Consulting (Pty) Ltd isebenzisa imininingwane yoxhumana ye-Environmental Assessment Practitioner (EAP) Dr Kenneth Singo kanye noChwepheshe wezemvelo (Envir. Tech) Miss Mazithi Mangcu engezansi. Imibono ngemibiko kufanele ithunyelwe ungakadluli umhla zi-17 kuMbaso wezi-2023. Ukuze uthole ulwazi olwengeziwe, ukubhalisa Njengeqembu Elinentshisekelo Nohintekayo, sicela uthinte: -

**EAP, Envir. Tech & Applicant Details**



|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                            |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p style="text-align: center;"><br/><b>Singo Consulting (Pty) Ltd</b></p> <p><b>Physical Address:</b> Office B70, 5 Balalaika Street, Tasbet Park Ext. 2, eMalahleni (Witbank), 1040</p> <p><b>EAP:</b> Dr Kenneth Singo</p> <p><b>Email:</b> <a href="mailto:kenneth@singoconsulting.co.za/">kenneth@singoconsulting.co.za/</a><br/><a href="mailto:admin@singoconsulting.co.za/">admin@singoconsulting.co.za/</a></p> <p><b>Tel No.:</b> +27 13 6920 041<br/><b>Fax No.:</b> +27 86 5144 103</p> <p><b>Envir. Tech:</b> Miss Mazithi Mangcu<br/><b>Cell No.:</b> +27 74 884 1000</p> <p><b>Email:</b> <a href="mailto:mazithi@singoconsulting.co.za/">mazithi@singoconsulting.co.za/</a></p> | <p style="text-align: center;"><br/><b>JAMENTS</b></p> <p><b>Physical Address:</b> Pentagon House 5 Neven Street, Model Park, eMalahleni, 1035</p> <p><b>Contact person:</b> Mr Given Bongani Simelane</p> <p><b>Tel No.:</b> +27 13 591 2120</p> <p><b>Email:</b> <a href="mailto:admin@jaments.co.za/">admin@jaments.co.za/</a></p> |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Figure 14: site notice written in Zulu

## NOTICE OF PUBLIC PARTICIPATION FOR A MINING PERMIT AND ENVIRONMENTAL AUTHORIZATION APPLICATION

Notice of the **Mining Permit** Application Process as per the Mineral and Petroleum Resources Development Act (MPRDA) (Act 28 of 2002) (as amended) for the proposed prospecting for **coal** on **portion of portion 24** of the farm **Weltevreden 227 IR** situated in the **Magisterial District of Delmas, Mpumalanga Province** with **DMRE Ref.: MP 30/5/1/1/3/13702 MP**.



**Figure 1: Regulation 2(2) of the Proposed Project Area (A -26.117336, 28.779070)**

### INVITATION TO COMMENT

Notice is given in terms of the Mineral and Petroleum Resources Development Act (MPRDA) (Act 28 of 2002) and EIA regulations 2014, published under Government Notice No. 982 in Gazette No. 3822 of 4 December 2014, amended on 7 April 2017, that **Jaments (Pty) Ltd** has applied for a Mining Permit. As part of the EIA process, more especially the Public Participation Process for this proposed project, Interested and Affected Parties (I&APs) are invited to register and kindly submit any comments or concerns to reach **Ms Mazithi Mangcu** using the contact details provided below. The public is also invited to review and comment on Draft Basic Assessment Report (Draft BAR) and Environmental Management Programme (EMPr) which will be available for review for a 30-day calendar period from **Wednesday the 15<sup>th</sup> of March 2023 to Monday the 17<sup>th</sup> of April 2023**. The Draft BAR & EMPr will be available at the **Delmas Public Library (Cnr Sarel Cilliers & Van Riebeck St, Delmas 2210)** and a soft copy upon request from Singo Consulting (Pty) Ltd using the details of the Environmental Assessment Practitioner (EAP) Dr Kenneth Singo and the Environmental Technician (Envir. Tech) Ms Mazithi Mangcu below. Comments on the Draft BAR & EMPr should be submitted no later than the **17<sup>th</sup> of April 2023**. For more information, to register as Interested and Affected Party, please contact:-

#### EAP & ENVIR. TECH CONTACT DETAILS



**Physical Address:** Office 870, 5 Balabaka Street, Tasbet Park Ext. 2, eMalaheni (Witbank), 1040  
**EAP:** Dr Kenneth Singo  
**Email:** [kenneth@singoconsulting.co.za/](mailto:kenneth@singoconsulting.co.za)  
[admin@singoconsulting.co.za](mailto:admin@singoconsulting.co.za)  
**Tel No.:** +27 13 6920 041  
**Fax No.:** +27 86 5144 103  
**Envir. Tech:** Miss Mazithi Mangcu  
**Cell No.:** +27 74 884 1000  
**Email:** [mazithi@singoconsulting.co.za](mailto:mazithi@singoconsulting.co.za)

#### APPLICANT CONTACT DETAILS

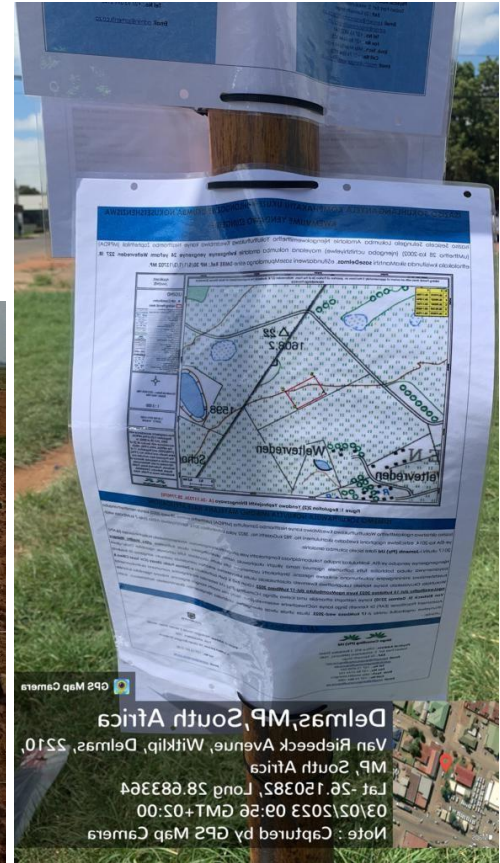


**Physical Address:** Pentagon House 5 Neven Street, Model Park, eMalaheni, 1035  
**Contact person:** Mr Given Bongani Simelane  
**Tel No.:** +27 13 591 2120  
**Email:** [admin@aments.co.za](mailto:admin@aments.co.za)

Figure 15: Site notice written in English



Delmas, MP, South Africa  
 R555, Victor Khanye, Delmas, MP, South Africa  
 Lat -26.120402, Long 28.735697  
 03/02/2023 01:21 PM GMT+02:00  
 Note : Captured by GPS Map Camera



Delmas, MP, South Africa  
 Van Riebeck Avenue, Wikilip, Delmas, 2210  
 MP, South Africa  
 Lat -26.120382, Long 28.683364  
 03/02/2023 09:56 GMT+02:00  
 Note : Captured by GPS Map Camera





Photo 1: Placement of site notices

## **1.12 List Authorities Identified and Notified**

The following authorities, stakeholders, landowners together with adjacent landowners have been identified and notified of the proposed Mining Permit project:

- Victor Khanye (Delmas) Local Municipality.
- Department of Water Affairs.
- Department of Agriculture, Forestry and Fisheries.
- Department of Environmental forestry and fisheries.
- Department of Rural Development and Land Reform.
- South African National Roads Agency Ltd (SANRAL).
- South African Heritage Resources Agency.
- Eskom SOC Limited.
- Landowner (T B T Boerdery (Pty) Ltd)
- Adjacent landowners

### **1.12.1 List of Surface Rights/Landowners Identified and Notified**

The land belongs to T B T Boerdery (Pty) Ltd as per the tittle deed illustrated in Figure 16 and was consulted via email. The affected portion is Portion 24of the farm Weltevreden 227 IR.

Any personal information obtained from this search will only be used as per the Terms and Conditions agreed to and in accordance with applicable data protection laws including the Protection of Personal Information Act, 2013 (POPI), and shall not be used for marketing purposes.

| SEARCH CRITERIA   |                  |                       |              |
|-------------------|------------------|-----------------------|--------------|
| Search Date       | 2023/02/20 17:03 | Farm Number           | 227          |
| Reference         | -                | Registration Division | IR           |
| Report Print Date | 2023/02/20 19:32 | Portion Number        | -            |
| Farm Name         | -                | Remaining Extent      | NO           |
| Deeds Office      | Mpumalanga       | Search Source         | Deeds Office |

| PORTION LIST |                                             |              |                   |                    |
|--------------|---------------------------------------------|--------------|-------------------|--------------------|
| Portion      | Owner                                       | Title Deed   | Registration Date | Purchase Price (R) |
| 0            | *** NO LONGER EXISTS - SEE ENDORSEMENTS *** | -            | -                 | -                  |
| 1            | AFGRI OPERATIONS LTD                        | T16478/1979  | -                 | -                  |
| 2            | GRO AFRICA PROP PTY LTD                     | T10175/2013  | -                 | -                  |
| 3            | TRANSNET LTD                                | T446/1915    | -                 | -                  |
| 4            | TRUTER BOERDERY TRUST                       | T53749/1999  | -                 | -                  |
| 5            | TRUTER BOERDERY TRUST                       | T5105/2019   | -                 | -                  |
| 6            | GEYER HEIN RENIER                           | T66036/1989  | -                 | -                  |
| 7            | EXXARO COAL PTY LTD                         | T9659/2002   | -                 | -                  |
| 8            | TRANSNET LTD                                | T5099/1918   | -                 | -                  |
| 9            | STUART MINERALS PTY LTD                     | T106015/2002 | -                 | -                  |
| 10           | GRO AFRICA PROP PTY LTD                     | T10175/2013  | -                 | -                  |
| 11           | OMNIA GROUP PTY LTD                         | T4899/2010   | -                 | -                  |
| 13           | INTER-WASTE PTY LTD                         | T10887/2013  | -                 | -                  |
| 14           | *** NO LONGER EXISTS - SEE ENDORSEMENTS *** | -            | -                 | -                  |
| 15           | *** NO LONGER EXISTS - SEE ENDORSEMENTS *** | -            | -                 | -                  |
| 16           | INTER-WASTE PTY LTD                         | T10887/2013  | -                 | -                  |
| 17           | INTER-WASTE PTY LTD                         | T10887/2013  | -                 | -                  |
| 18           | *** NO LONGER EXISTS - SEE ENDORSEMENTS *** | -            | -                 | -                  |
| 19           | *** NO LONGER EXISTS - SEE ENDORSEMENTS *** | -            | -                 | -                  |

**DISCLAIMER**

This report contains information provided to LNRM by content providers and LNRM cannot control the accuracy of the data nor the timely accessibility. LNRM will not be held liable for any claims based on reliance on the search information provided. This report is subject to the terms and conditions of LexisNexis Risk Management Agreement. LexisNexis Risk Management (Pty) Ltd is a registered credit bureau (NCRCB26).



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

| PORTION LIST |                                             |             |                   |                    |
|--------------|---------------------------------------------|-------------|-------------------|--------------------|
| Portion      | Owner                                       | Title Deed  | Registration Date | Purchase Price (R) |
| 20           | INTER-WASTE PTY LTD                         | T12824/2013 | -                 | -                  |
| 21           | INTER-WASTE PTY LTD                         | T12777/2013 | -                 | -                  |
| 22           | BERG ZAGRYA CATHARINA                       | T29403/1978 | -                 | -                  |
| 23           | BERG ZAGRYA CATHARINA                       | T29403/1978 | -                 | -                  |
| 24           | T B T BOERDERY PTY LTD                      | T3216/2020  | -                 | -                  |
| 25           | *** NO LONGER EXISTS - SEE ENDORSEMENTS *** | -           | -                 | -                  |
| 26           | INTER-WASTE PTY LTD                         | T12824/2013 | -                 | -                  |
| 27           | INTER-WASTE PTY LTD                         | T12777/2013 | -                 | -                  |
| 28           | INTER-WASTE PTY LTD                         | T7129/2019  | -                 | -                  |
| 29           | STUART COAL PTY LTD                         | T2140/2020  | -                 | -                  |
| 30           | TRUTER BOERDERY TRUST                       | T53748/1999 | -                 | -                  |
| 31           | TRANSNET LTD                                | T30399/1966 | -                 | -                  |
| 32           | *** NO LONGER EXISTS - SEE ENDORSEMENTS *** | -           | -                 | -                  |
| 34           | *** NO LONGER EXISTS - SEE ENDORSEMENTS *** | -           | -                 | -                  |
| 35           | PHILBOS PTY LTD                             | T47947/1981 | -                 | -                  |
| 36           | TRANSNET LTD                                | T83473/1994 | -                 | -                  |
| 37           | TRANSNET LTD                                | T39719/1994 | -                 | -                  |
| 38           | TRANSNET LTD                                | T72026/1994 | -                 | -                  |
| 39           | TRANSNET LTD                                | T40637/1994 | -                 | -                  |
| 40           | TRANSNET LTD                                | T70591/1994 | -                 | -                  |
| 41           | INTER-WASTE PTY LTD                         | T13894/2013 | -                 | -                  |
| 42           | TRANSNET LTD                                | T48913/1996 | -                 | -                  |
| 43           | TRANSNET LTD                                | T48913/1996 | -                 | -                  |
| 45           | SOUTHERN PROTEINS PTY LTD                   | T941/2019   | -                 | -                  |
| 46           | OMNIA GROUP PTY LTD                         | T7530/2015  | -                 | -                  |
| 47           | AFGRI GRAIN SILO COMPANY PTY LTD            | T7501/2020  | -                 | -                  |
| 48           | AFGRI OPERATIONS LTD                        | T7529/2015  | -                 | -                  |

**DISCLAIMER**

This report contains information provided to LNRM by content providers and LNRM cannot control the accuracy of the data nor the timely accessibility. LNRM will not be held liable for any claims based on reliance of the search information provided. This report is subject to the terms and conditions of LexisNexis Risk Management Agreement. LexisNexis Risk Management (Pty) Ltd is a registered credit bureau (NCRB26).



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

Figure 16: Windeed results

### **1.12.2 Summary of Issues Raised by I&APs**



The stakeholders were informed about the project through publication of a newspaper, plugging of site notices and consulted through emails attached with BID and Reg 2.2 map, all the comments received will be included on this Draft BAR and EMPr.

**Table 3: Issues raised by I&APs**




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




| <b>I&amp;APs</b><br>List the names of persons consulted in this column. Mark with an X where those who must be consulted were in fact consulted. | <b>Date comments received</b> | <b>Issues raised</b>                                                                                         | <b>EAPs response to issues as mandated by the applicant</b>                                                                                                | <b>Section and paragraph reference</b><br>In this report where issues and/or responses were incorporated |
|--------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|--------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|
| <b>Affected parties</b>                                                                                                                          |                               |                                                                                                              |                                                                                                                                                            |                                                                                                          |
| <b>Landowner/s</b>                                                                                                                               |                               |                                                                                                              |                                                                                                                                                            |                                                                                                          |
| <b>T B T Boerdery (Pty) Ltd</b><br><div style="border: 1px solid black; height: 40px; width: 180px; margin-top: 5px;"></div>                     | <b>X</b>                      | <ul style="list-style-type: none"> <li>No issue raised yet</li> </ul>                                        | <ul style="list-style-type: none"> <li>Consultation email together with BID was sent on the 06<sup>th</sup> of March 2023.</li> </ul>                      | Refer to appendix 18                                                                                     |
| <b>Adjacent land occupiers</b>                                                                                                                   |                               |                                                                                                              |                                                                                                                                                            |                                                                                                          |
| <ul style="list-style-type: none"> <li>Phalandwa Colliery</li> </ul>                                                                             | <b>X</b>                      | <ul style="list-style-type: none"> <li>Please register Sarah Wanless and Michelle Venter as IAPs.</li> </ul> | <ul style="list-style-type: none"> <li>Face to face consultation was done and the BID was shared with the security, on 02<sup>nd</sup> of March</li> </ul> |                                                                                                          |

| <b>I&amp;APs</b><br>List the names of persons consulted in this column. Mark with an X where those who must be consulted were in fact consulted. | <b>Date</b><br><b>comments</b><br><b>received</b> | <b>Issues raised</b>                                                                                                                                                                                            | <b>EAPs response to issues as mandated by the applicant</b>                                                                                                                                                                                                                                                                        | <b>Section and paragraph reference</b><br>In this report where issues and/or responses were incorporated |
|--------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>• Southern Protein</li> <br/> <li>• Delmas Environmental Centre</li> </ul>                                |                                                   | <ul style="list-style-type: none"> <li>• Once we have reviewed the BID we will comment if there is any.</li> <br/> <li>Thank you for your consultation, we will send our comments after our meeting.</li> </ul> | 2023.<br><ul style="list-style-type: none"> <li>• Face to face consultation was done and the BID was shared with the Environmental Officer, on 02<sup>nd</sup> of March 2023.</li> <br/> <li>• Face to face consultation was done and the BID was shared with the Centre Manager, on the 02<sup>nd</sup> of March 2023.</li> </ul> |                                                                                                          |

| <b>I&amp;APs</b><br>List the names of persons consulted in this column. Mark with an X where those who must be consulted were in fact consulted. | <b>Date</b><br><b>comments</b><br><b>received</b> | <b>Issues raised</b> | <b>EAPs response to issues</b><br><b>as mandated by the</b><br><b>applicant</b>                                                 | <b>Section and</b><br><b>paragraph</b><br><b>reference</b><br>In this report where issues and/or responses were incorporated                                |                      |
|--------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------|----------------------|---------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|
| <b>Local Municipal Officials</b>                                                                                                                 |                                                   |                      |                                                                                                                                 |                                                                                                                                                             |                      |
| <br><input type="text"/>                                       |                                                   |                      | <ul style="list-style-type: none"> <li>Thank you for letting us know, we will forward the comments after the review.</li> </ul> | <ul style="list-style-type: none"> <li>Face to face consultation at the municipality and we shared the BID on the 02<sup>nd</sup> of March 2023.</li> </ul> | Refer to appendix 6  |
| <b>Organs of state (Responsible for infrastructure that may be affected: Roads Department, Eskom, Telkom, DWA)</b>                               |                                                   |                      |                                                                                                                                 |                                                                                                                                                             |                      |
| <br>Email: <input type="text"/>                               | x                                                 |                      | <ul style="list-style-type: none"> <li>No issues raised, yet</li> </ul>                                                         | <ul style="list-style-type: none"> <li>Consultation email together with BID was sent on the 03<sup>rd</sup> of March 2023.</li> </ul>                       | Refer to appendix 10 |



| <b>I&amp;APs</b><br>List the names of persons consulted in this column. Mark with an X where those who must be consulted were in fact consulted. | <b>Date</b><br><b>comments</b><br><b>received</b> | <b>Issues raised</b>                                                    | <b>EAPs response to issues</b><br><b>as mandated by the</b><br><b>applicant</b>                                                       | <b>Section and</b><br><b>paragraph</b><br><b>reference</b><br>In this report where issues and/or responses were incorporated |
|--------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------|-------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|
| <br>Email: <input type="text"/>     | <b>x</b>                                          | <ul style="list-style-type: none"> <li>No issues raised, yet</li> </ul> | <ul style="list-style-type: none"> <li>Consultation email together with BID was sent on the 03<sup>rd</sup> of March 2023.</li> </ul> | Refer to appendix 13                                                                                                         |
| <br>Email: <input type="text"/>     | <b>x</b>                                          | <ul style="list-style-type: none"> <li>No issues raised, yet</li> </ul> | <ul style="list-style-type: none"> <li>Consultation email together with BID was sent on the 03<sup>rd</sup> of March 2023.</li> </ul> | Refer to appendix 17                                                                                                         |
| <br>Email: <input type="text"/> | <b>x</b>                                          | <ul style="list-style-type: none"> <li>No issues raised, yet</li> </ul> | <ul style="list-style-type: none"> <li>Consultation email together with BID was sent on the 03<sup>rd</sup> of March 2023.</li> </ul> | Refer to appendix 9                                                                                                          |
| <b>Mpumalanga Provincial Government</b>                                                                                                          |                                                   |                                                                         |                                                                                                                                       |                                                                                                                              |

| <b>I&amp;APs</b><br>List the names of persons consulted in this column. Mark with an X where those who must be consulted were in fact consulted.                                                                                   | <b>Date comments received</b> | <b>Issues raised</b>                                                    | <b>EAPs response to issues as mandated by the applicant</b>                                                                           | <b>Section and paragraph reference</b><br>In this report where issues and/or responses were incorporated |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|-------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|
| <br>Email: <input type="text"/>                                                                                       | x                             | <ul style="list-style-type: none"> <li>No issues raised, yet</li> </ul> | <ul style="list-style-type: none"> <li>Consultation email together with BID was sent on the 03<sup>rd</sup> of March 2023.</li> </ul> | Refer to appendix 7                                                                                      |
| <b>Department of Land Affairs</b>                                                                                                                                                                                                  |                               |                                                                         |                                                                                                                                       |                                                                                                          |
| <br>Email: <input type="text"/>                                                                                    | x                             | <ul style="list-style-type: none"> <li>No issues raised, yet</li> </ul> | <ul style="list-style-type: none"> <li>Consultation email together with BID was sent on the 03<sup>rd</sup> of March 2023.</li> </ul> | Refer to appendix 12                                                                                     |
| <br>Department:<br>Agriculture, Forestry and Fisheries<br>REPUBLIC OF SOUTH AFRICA<br>Email: <input type="text"/> | x                             | <ul style="list-style-type: none"> <li>No issues raised, yet</li> </ul> | <ul style="list-style-type: none"> <li>Consultation email together with BID was sent on the 03<sup>rd</sup> of</li> </ul>             | Refer to appendix 8                                                                                      |

| <b>I&amp;APs</b><br>List the names of persons consulted in this column. Mark with an X where those who must be consulted were in fact consulted. | <b>Date comments received</b> | <b>Issues raised</b>                                                    | <b>EAPs response to issues as mandated by the applicant</b>                                                                           | <b>Section and paragraph reference</b><br>In this report where issues and/or responses were incorporated |
|--------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|-------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|
|                                                                                                                                                  |                               |                                                                         | March 2023.                                                                                                                           |                                                                                                          |
|                                                                 | <b>X</b>                      | <ul style="list-style-type: none"> <li>No issues raised, yet</li> </ul> | <ul style="list-style-type: none"> <li>Submitted consultation online on the 07<sup>th</sup> of March 2023</li> </ul>                  | Refer to appendix 16                                                                                     |
| <br>Email: <input type="text"/>                                |                               | <ul style="list-style-type: none"> <li>No issues raised, yet</li> </ul> | <ul style="list-style-type: none"> <li>Consultation email together with BID was sent on the 03<sup>rd</sup> of March 2023.</li> </ul> | Refer to appendix 15                                                                                     |
| <br>Email: <input type="text"/>                               |                               | <ul style="list-style-type: none"> <li>No issues raised, yet</li> </ul> | <ul style="list-style-type: none"> <li>Consultation email together with BID was sent on the 03<sup>rd</sup> of March 2023.</li> </ul> | Refer to appendix 11                                                                                     |

Due to POPIA Act Please note a full issues and responses report will only be made available for final submission to the Competent Authority.

The environmental attributes associated with the alternatives.

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

## **2 Baseline environment**

### **2.1 Type of environment affected by the proposed activity**

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

#### **2.1.1 Regional geology**

##### **Karoo Supergroup**

According to the CPR, the proposed project area falls under the Ecca supergroup of the main Karoo supergroup. The sedimentary part of the Karoo Supergroup is divided into four major lithostratigraphic units, which are the Dwyka, Ecca, Beaufort, and Stormberg (Molteno, Elliot, and Clarens formations) groups from the bottom up (Johnson et al., 1996; SACS, 1980;). These are capped by 1.4 8 km of Drakensberg Group basaltic lavas (Johnson et al., 1996; Veevers et al., 1994), the extrusion of which is related to the breakup of Gondwana (Cox, 1992). The basement to the Karoo Supergroup fill is heterogeneous in both the MKB and the northern basins (Bordy et al., 2004; Hancox, 1998; Rutherford, 2009), and this heterogeneity has a significant influence on the fill, especially during the early stages of the Karoo Supergroup's deposition.

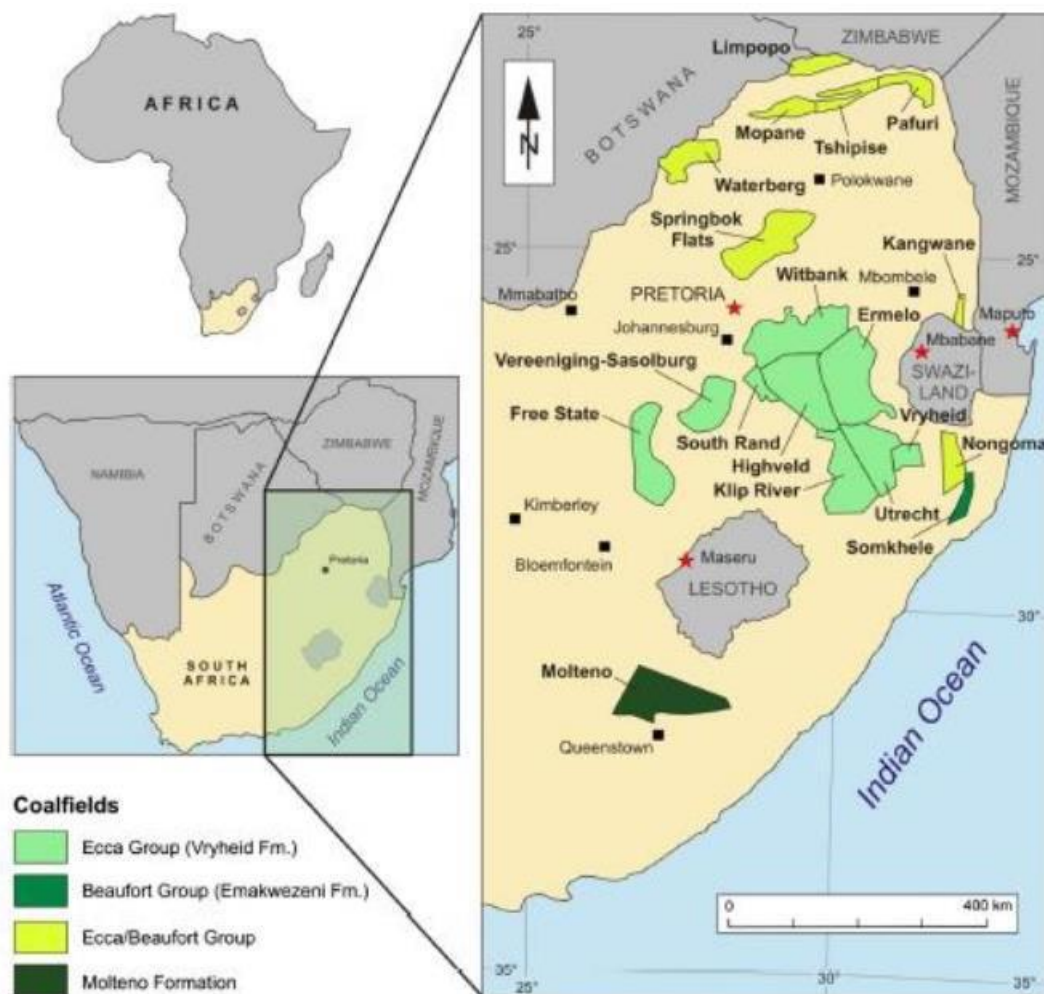


Figure 17: Coal field of South Africa (adopted from Hancox and Gotz, 2014).

## Dwyka Group

The rocks of South Africa's Dwyka Group are among the most important glaciogenic deposits from Gondwana. According to the studies, this Group is named after exposures along the Dwyka River east of Laingsburg and forms the Karoo Supergroup's basal succession. The Dwyka Group strata are mostly found within bedrock valleys cut into Archean to Lower Palaeozoic bedrock (Visser, 1990; Visser and Kingsley, 1982; Von Brunn, 1996). The lithologies beneath South Africa's coalfields are a heterolithic arrangement of massive and stratified polymictic diamictites, conglomerates, sandstones, and drop stone-bearing varved mudstones. The easily discernible lithologies serve as a good marker beneath the coal-bearing Ecca group. These sedimentary strata accumulated primarily in the distal sector of the MKB. Ground moraine is commonly associated with continental ice sheets and is made up of basal lodgement and supraglacial tills. These deposits are generally massive, but there is some crude horizontal bedding near the top (Tankard et al., 1982).

## **Ecca Group**

Several studies conducted in the 1970s (Cadle, 1974; Hobday, 1973, 1978; Mathew, 1974; Van Vuuren and Cole, 1979) demonstrated that the Ecca Group could be subdivided into several informal units based on the cyclic nature of the sedimentary fills. The South African Committee for Stratigraphy (SACS) established a formal lithostratigraphic nomenclature for the Ecca Group Middle, and Upper subdivisions with the Pietermaritzburg Shale Formation, the Vryheid Formation, and the Volksrust Shale Formation.

## **Witbank Coalfield**

The conducted CPR states that, the Witbank Coalfield is elongated over 180 km in a west to east direction, it is not surprising that the basement to the Karoo Supergroup succession is varied. From west to east the basement rocks include metasedimentary, metavolcanic, and dolomitic rocks of the Neoproterozoic Transvaal Supergroup, metasedimentary and metavolcanic rocks of the Palaeoproterozoic Waterberg Group and BIC age intrusives (felsites and granites). The changing nature of the basement plays a major role in the nature of the palaeotopography created. For example, in the far east of the Witbank Coalfield, where dolomites of the Transvaal Supergroup form the basement, abnormally thick coals filling karst topography are known. A similar but more extreme case is documented at the Syferfontein Colliery in the West Rand outlier (Stuart-Williams, 1986). In some areas close to the north-western basin margin, the stratigraphic column is reduced to only 80 m. It was also the focus of much of the academic research, including the works of Cairncross (1979) in the Van Dykes Drift area, Le Blanc Smith and Eriksson (1979) to the west of Witbank, and Holland et al. (1989) to the east of Witbank. Cadle and Cairncross (1993) described a sandy bedload dominated system with lateral accretion surfaces from the southern part of the central sector. More recently it has been covered in the regional geological model of Grodner (2002) and Grodner and Cairncross (2006) and various Competent Persons' Reports available on various companies' websites (Goldschmidt et al., 2010a).

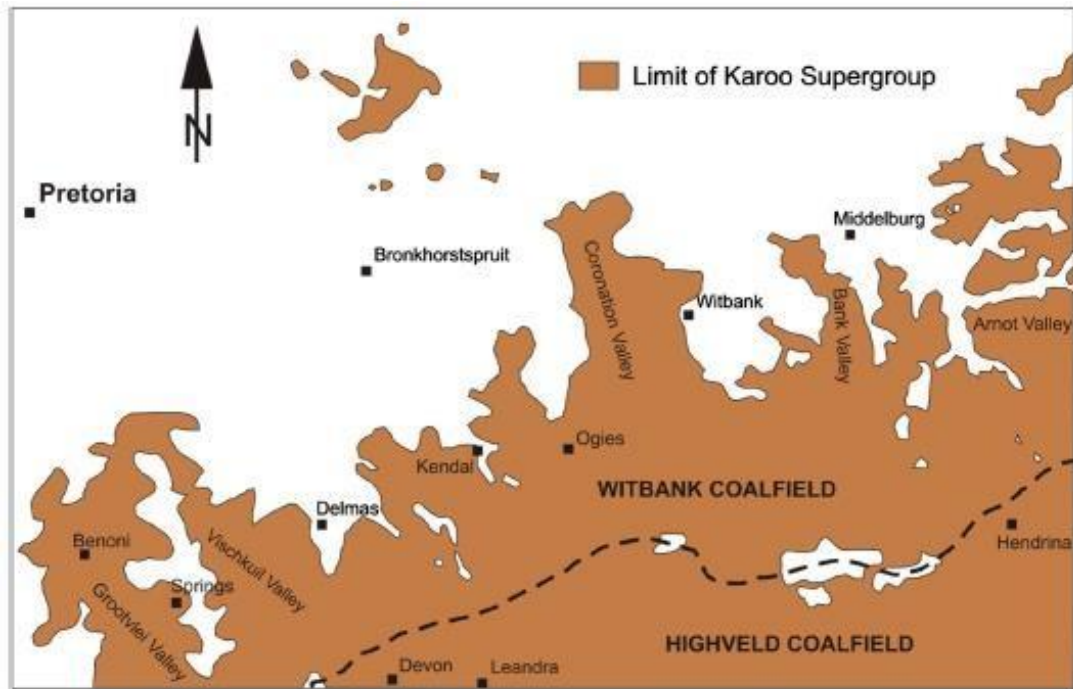


Figure 18: Geographic extent of Witbank Coalfield

Five coal seams occur in the Vryheid formation and these are associated predominantly with the coarser-grained fluvial facies at the top of each sequence. These coal seams can be traced laterally across the entire area of occurrence of the Vryheid Formation in the MKB; however, some disagreement exists as to the exact correlation in the various coalfields. Regional differences allow for the considerable diversity of coal types (organic content), mineral matter composition, and rank (maturity) that is found within the coalfields of South Africa (Falcon, 1986b). The majority of the economically extracted coal in South Africa occurs in rocks of the Vryheid Formation, which ranges in thickness in the MKB from less than 70.0 m to over 500.0 m. It is thickest to the south of the towns of Newcastle and Vryheid, where maximum subsidence took place (Du Toit, 1918; Cadle, 1975; Whateley, 1980a; Stavrakis, 1989; Cadle et al., 1982) and where the basin was the deepest.

The No. 2 Seam Sequence (Figure 4) includes the succession from the top of the basement to the top of the No. 2 Seam, which may be up to a maximum development of 60 m in places (Le Blanc Smith, 1980a). It incorporates the rocks of the Dwyka Group, as well as the overlying No. 1 and No. 2 coal seams. It should be noted that we accept that the Dwyka has separate Group status, but that it is described as the basal part of the No. 2 Seam Sequence. The thickness of the Dwyka Group in the Witbank Coalfield also varies considerably dependant on the nature of the underlying topography. It ranges from being thin or absent over the most prominent pre-Karoo topographic highs, to over 25 m thick in the central part of the Witbank Coalfield (Le Blanc Smith and Eriksson, 1979) to 30 m thick (Glasspool, 2003) in the deeper palaeo valleys. Le Blanc Smith and Eriksson (1979) note that the fill consists of poorly sorted matrix rich diamictites, laminated sandstones and siltstones, stratified pebbly mudstones and cross-stratified conglomerates.



In the western Witbank Coalfield, the No. 2 Seam Sequence tends to be much more variable in nature than it is in the central part. This is mainly due to the irregular nature of the Transvaal Supergroup (Malmani Group) dolomite floor. The Dwyka Group outcrops in the area around Delmas and is also well known from borehole core, which show the succession to be between 0 and 10 m in thickness. The base of the No. 2 Seam Sequence is usually formed by poorly sorted matrix rich diamictites, with angular to rounded basement clasts, set in a matrix of fine- to medium-grained sandstone, which may be highly carbonaceous in places. Maximum clasts sizes documented by the authors are in the region of 30 cm. According to Le Blanc Smith (1980a) the Dwyka Group diamictites may in turn be overlain by a succession up to 36 m thick of mudstone and siltstone, which grades upwards to sandstone and conglomerate that form the floor of the No. 1 Seam or its carbonaceous mudstone equivalent.

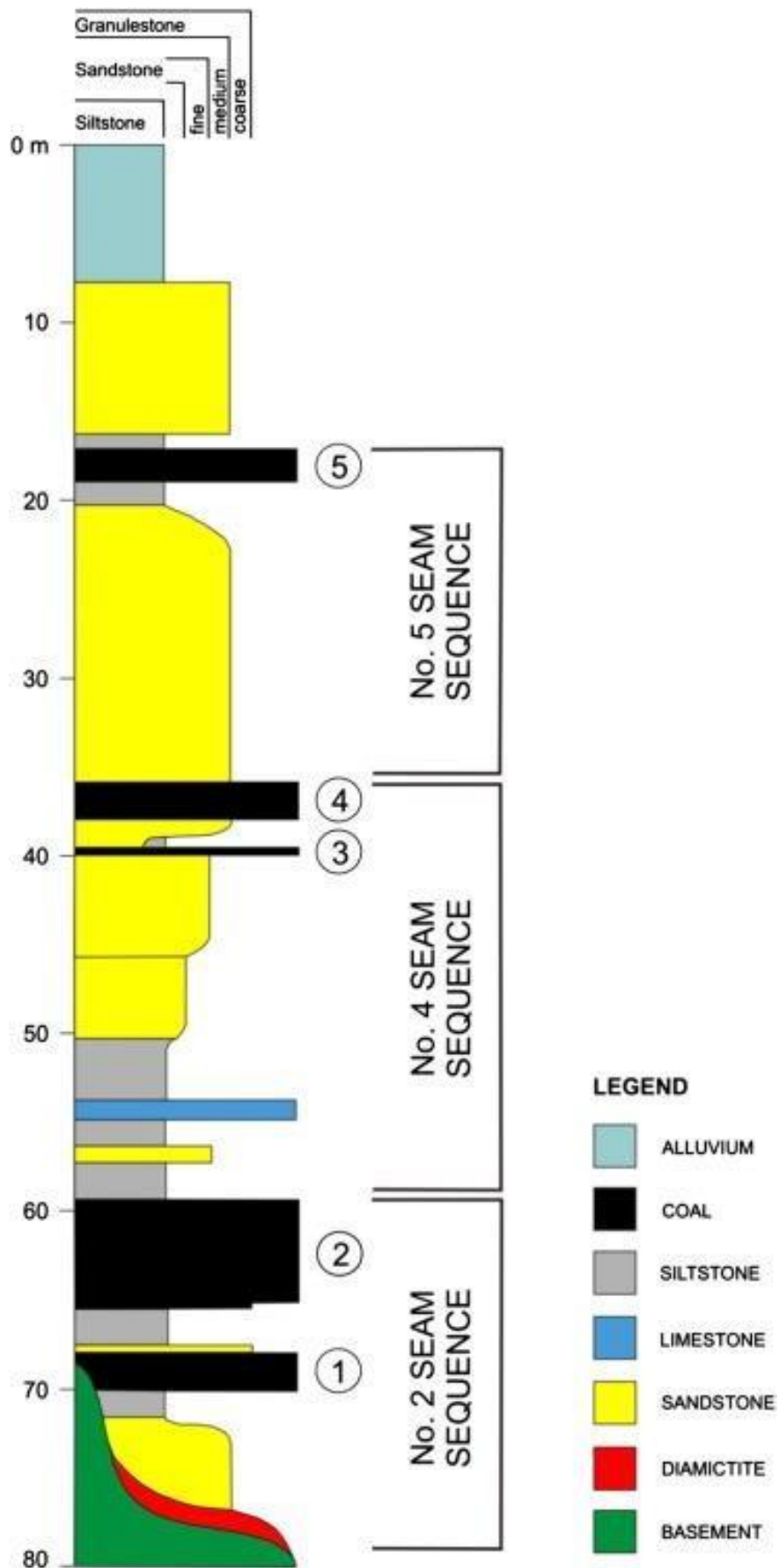


Figure 19: Typical Coal seam of the area.

## 2.1.2 Local geology

### Vryheid formation

According to the in-house studies, the proposed mining permit project area comprises of the Vryheid formation (**Figure 20**). The dominant rocks of the Vryheid formation that can be found are sandstones together with subequal or subordinate mudrock/rhythmite. The base of an idealised coarsening upwards deltaic cycle in the eastern part of the Vryheid formation consists of dark grey, muddy siltstone resulting from shelf suspension deposition in anoxic water of moderate depth. Combinations of these rock types are often found in the form of interbedded siltstone, mudstone, and coarse-grained sandstone.

The majority of the economically extracted coal in South Africa occurs in rocks of the Vryheid Formation, which ranges in thickness in the MKB from less than 70.0 m to over 500.0 m. It is thickest to the south of the towns of Newcastle and Vryheid, where maximum subsidence took place (Du Toit, 1918; Cadle, 1975; Whateley, 1980a; Stavrakis, 1989; Cadle et al., 1982) and where the basin was the deepest. According to SACS (1980) the basic concept, distinguishing features and boundaries of the Vryheid Formation are those of the "Middle Ecca" as described by Du Toit (1954) and others. Prior to 1973 studies of the Vryheid Formation were largely stratigraphic. This situation changed when Hobday (1973) postulated deltaic depositional systems for the Vryheid Formation, and academic studies became more depositional process orientated.

Several coal seams occur in the Vryheid Formation, and these are associated predominantly with the coarser-grained fluvial facies at the top of each sequence. These coal seams can be traced laterally across the entire area of occurrence of the Vryheid Formation in the MKB; however, some disagreement exists as to the exact correlation in the various coalfields. Regional differences allow for the considerable diversity of coal types (organic content), Mineral matter composition, and rank (maturity) that is found within the coalfields of South Africa (Falcon, 1986b). The origination of the coal seams came about as peat swamps that developed on broad abandoned alluvial plains and, less commonly in interfluves (backswamps). Most of the economically important coal seams occur in the fluvial succession. The fluvial interval grades into deltaic sediments towards the southwest. The Vryheid formation can be subdivided into a lower fluvial -dominated deltaic interval, a middle fluvial interval and an upper fluvial dominated deltaic interval in the east. These subdivisions correspond approximately to the lower sandstones, coal zones and upper sandstones.

The proposed project area falls within the Witbank coalfields. This Coalfield was first exploited in 1895 and became the most significant production area in South Africa supporting many collieries. Six coal seams (numbered 1 through 6 from the base upwards) are contained in a 70 m-thick succession comprising dominantly of sandstone with subordinate siltstone, mudstone and shale (Vryheid Formation). The partings between the seams are remarkably constant, although seam splitting is common.



Figure 20: Geology map (source: Singo consulting (Pty) Ltd)

### 2.1.3 Vegetation

The proposed project area is located within the grassland biome. The grassland biome is one of the nine biomes in Southern Africa and is the largest biome after the Savanna Biome accounting to 28% of the terrestrial surface area of Southern Africa (Mucina and Rutherford 2006). A high proportion of vegetation types in Mesic Highveld Grassland are considered to be threatened and this ecosystem group is generally poorly protected.

(Low & Rebelo 1996) further classifies the project area as characterised by the Moist Sandy Highveld Grassland (**see Figure 21**); The vegetation comprises predominantly of highly productive sourveld grasslands characterised by long-lived grasses that favour re-sprouting, and other plants that show a tendency to store carbohydrates in specialised underground storage organs; plants withstand above-ground disturbance by being long-lived with only occasional replacement from seed.

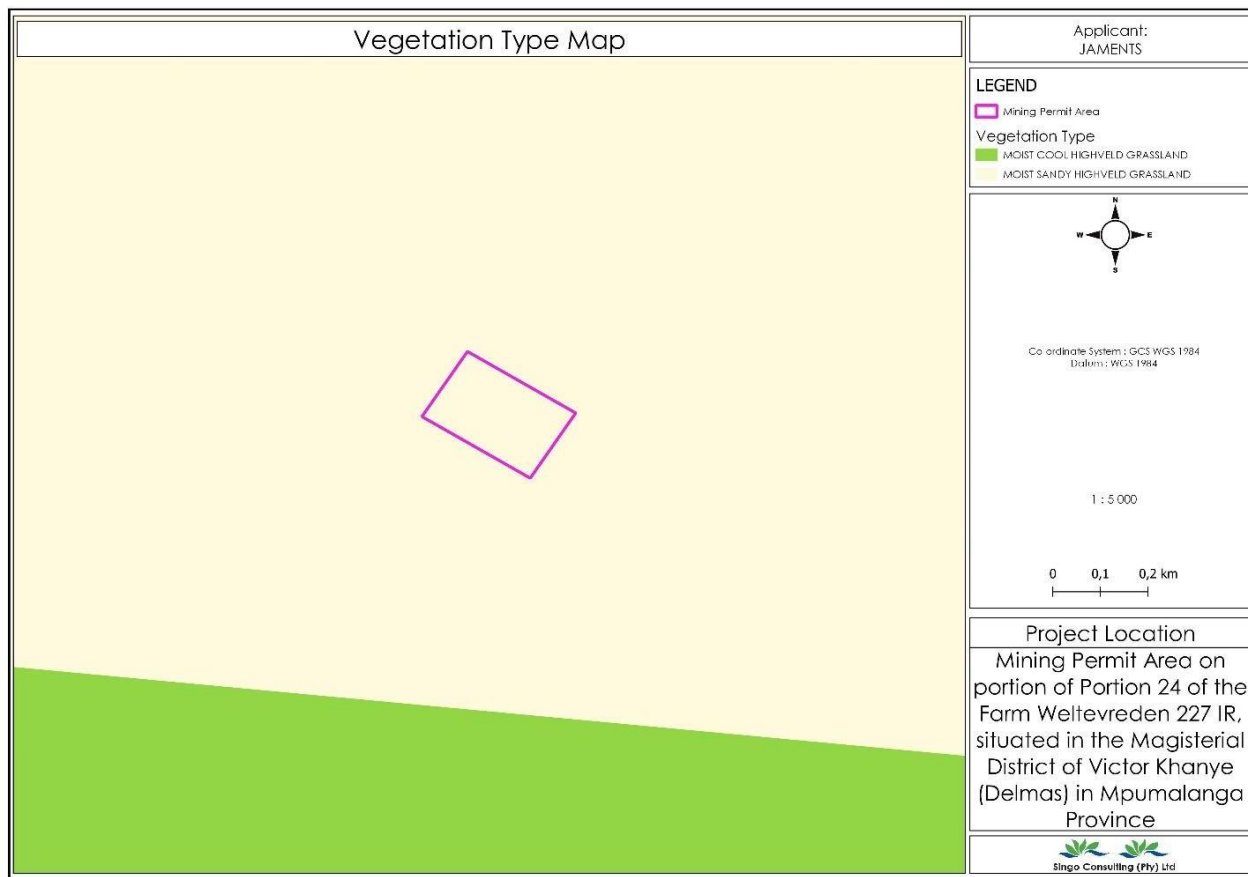


Figure 21: Vegetation type (source: *Singo consulting (Pty) Ltd*)



Figure 22: Vegetation on the boundaries and on the proposed project area.

## MAP OF RELATIVE PLANT SPECIES THEME SENSITIVITY



Figure 23: Plant theme sensitivity (adopted from screening tool)

| Very High sensitivity | High sensitivity | Medium sensitivity | Low sensitivity |
|-----------------------|------------------|--------------------|-----------------|
|                       |                  |                    | X               |

### Sensitivity Features:

| Sensitivity | Feature(s)      |
|-------------|-----------------|
| Low         | Low Sensitivity |

### 2.1.3.1 Fauna

According to the screening report, the proposed mining permit area has the following mammal species medium sensitivity, *Chrysospalax villosus*, *Crocidura maquassiensis*, and *Hydrictris maculicollis*. The Makwassie musk shrew (Figure 25 Mammalia-*Crocidura maquassiensis*) is a species of mammal in the family Soricidae. This is a rare species endemic to South Africa, Swaziland, and Zimbabwe, existing in moist grassland habitats in the Savannah and Grassland biomes and the *Hydrictris Maculicollis* on Figure 26. The main threats to shrews are the loss or degradation of moist, productive areas such as wetlands and rank grasslands within suitable habitat. The two main drivers behind this are abstraction of surface water and draining of wetlands through industrial and residential expansion, and overgrazing of moist grasslands, which leads to the loss of ground cover and decreases small mammal diversity and abundance (Bowland & Perrin 1989, 1993). Suppression of natural ecosystem

processes, such as fire, can also lead to habitat degradation through bush encroachment or loss of plant diversity through alien invasive infestation, and is suspected to be increasing with human settlement expansion. There are also clear overlaps and synergistic effects between these threats. We infer a continuing population decline based on loss of natural habitat.

During site visit, no animal species and bird species were observed on site and this could be the result of the heavily modified area.



MAP OF RELATIVE ANIMAL SPECIES THEME SENSITIVITY



| Very High sensitivity | High sensitivity | Medium sensitivity | Low sensitivity |
|-----------------------|------------------|--------------------|-----------------|
|                       |                  | X                  |                 |

Sensitivity Features:

| Sensitivity | Feature(s)                       |
|-------------|----------------------------------|
| Medium      | Mammalia-Chrysospalax villosus   |
| Medium      | Mammalia-Crocidura maquassiensis |
| Medium      | Mammalia-Dasymys robertsii       |
| Medium      | Invertebrate-Clonia uvarovi      |

Figure 24: Relative animal species theme sensitivity (adopted from screening report).



Figure 25: Typical example of Mammalia-Crocidura maquassiensis



Figure 26: Typical example of Hydrictis maculicollis

### 2.1.3.2 Soil

With reference to the conducted baseline soil study as attached in appendix the soil classes map in **Figure 27** below, shows that the mining permit area is largely covered with freely drained, structureless soils.

The freely drained, structureless soils and textural contrast soils can be defined based on their soil depth, soil drainage, erodibility, and natural fertility.

#### Soil depth

Depth of the soil profile is from the top to the parent material or bedrock. This type of soil can be classified as a restricted soil depth. A restricted soil depth is a nearly continuous layer that has one or more physical, chemical, or thermal properties.

## Soil Drainage

Soil drainage is a natural process by which water moves across, through, and out of the soil because of the force of gravity. The soils in the proposed area have an excessive drainage due to the soils having very coarse texture. Their typical water table is less than 150.

## Erodibility

Erodibility is the inherent yielding or non-resistance of soils and rocks to erosion. The freely drained structureless soils have high erodibility. A high erodibility implies that the same amount of work exerted by the erosion processes lead to a larger removal of material.

## Natural Fertility

Soil fertility refers to the ability of soil to sustain agricultural plant growth, i.e., to provide plant habitat and result in sustained and consistent yields of high quality. The soil, as a nature of them, contains some nutrients which is known as 'inherent fertility'. Among the plant nutrients, nitrogen, phosphorus, and potassium is essential for the normal growth and yield of crop. The proposed area has a low natural fertility soil.



Figure 27: Soil classes map (source: Singo consulting (Pty) Ltd)



**Photo 2:** Actual picture of soil type on site

### 2.1.3.3 Surface and ground water

The hydrology surrounding the proposed coal mining permit area falls within the B20A quaternary catchment in the Olifants Water Management. In this context hydrology is all the surface waters appearing within and nearby the proposed project area, where a potential to be impacted upon by the project exist. The hydrology map, **figure 28**, illustrates that the following water bodies exists within and nearby the project area:

- Seep
- Depression

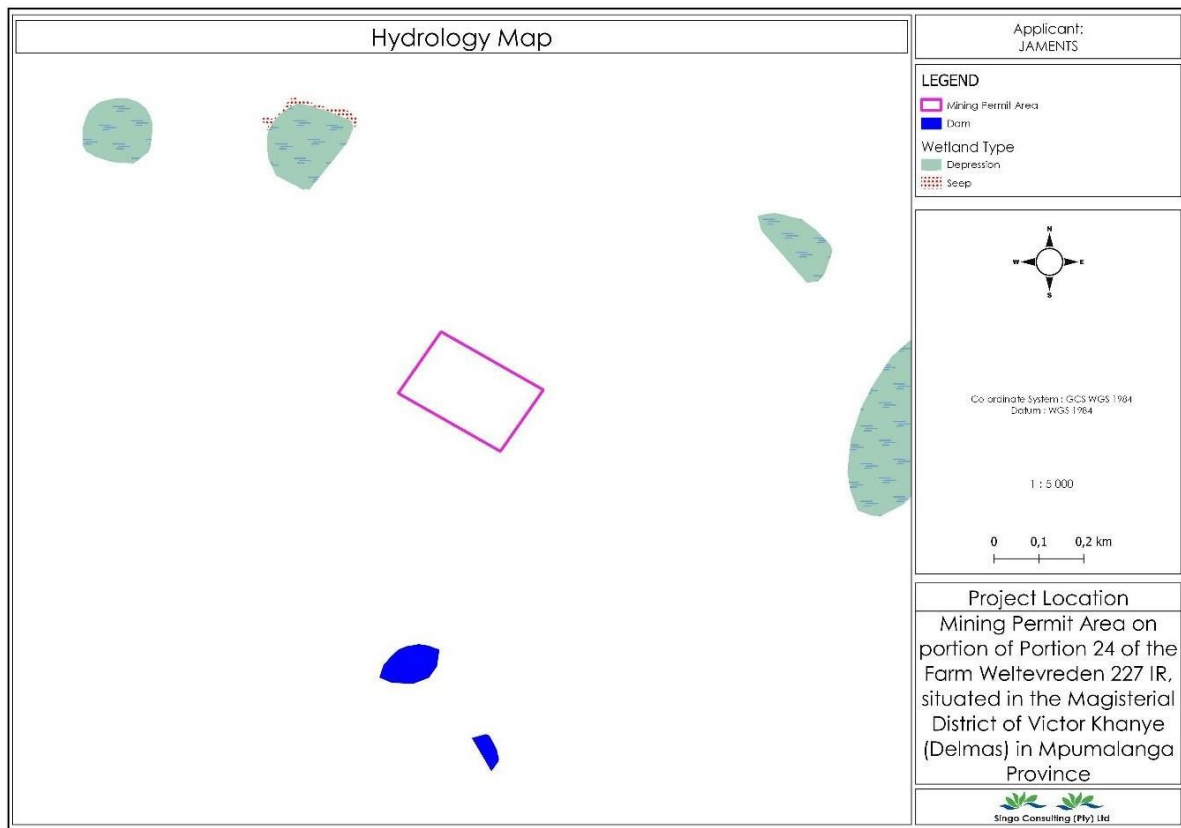


Figure 28: Surface water map (source: Singo consulting (Pty) Ltd)

#### 2.1.3.4 Catchment Description

South Africa's water resources are divided into quaternary catchments, which are the country's primary water management units (DWA 2011). In a hierarchical classification system, a quaternary catchment is a fourth order catchment below the primary catchments. The primary drainages are further classified as Water Management Areas (WMA) and Catchment Management Agencies (CMA). In accordance with Section 5 subsection 5(1) of the National Water Act, 1998, the Department of Water and Sanitation (DWS) has established nine WMAs and nine CMAs as outlined in the National Water Resource Strategy 2 (2013). (Act No. 36 of 1998). The purpose of establishing these WMAs and CMAs is to improve water governance in various regions of the country, ensuring a fair and equal distribution of the Nation's water resources while ensuring resource quality is maintained.

The prospecting area falls within the Olifants Water Management Area (WMA). The quaternary catchment is the B20A. The WRC 2012 study, presents hydrological parameters for each quaternary catchment including area, mean annual precipitation (MAP) and mean annual runoff (MAR).

| Water management          | Quaternary catchment | Catchment Area (km <sup>2</sup> ) | MAP (mm) |
|---------------------------|----------------------|-----------------------------------|----------|
| Olifants water management | B20A                 | 621                               | 669      |

**Table 4:** Quaternary catchment information (WRC. 2012)

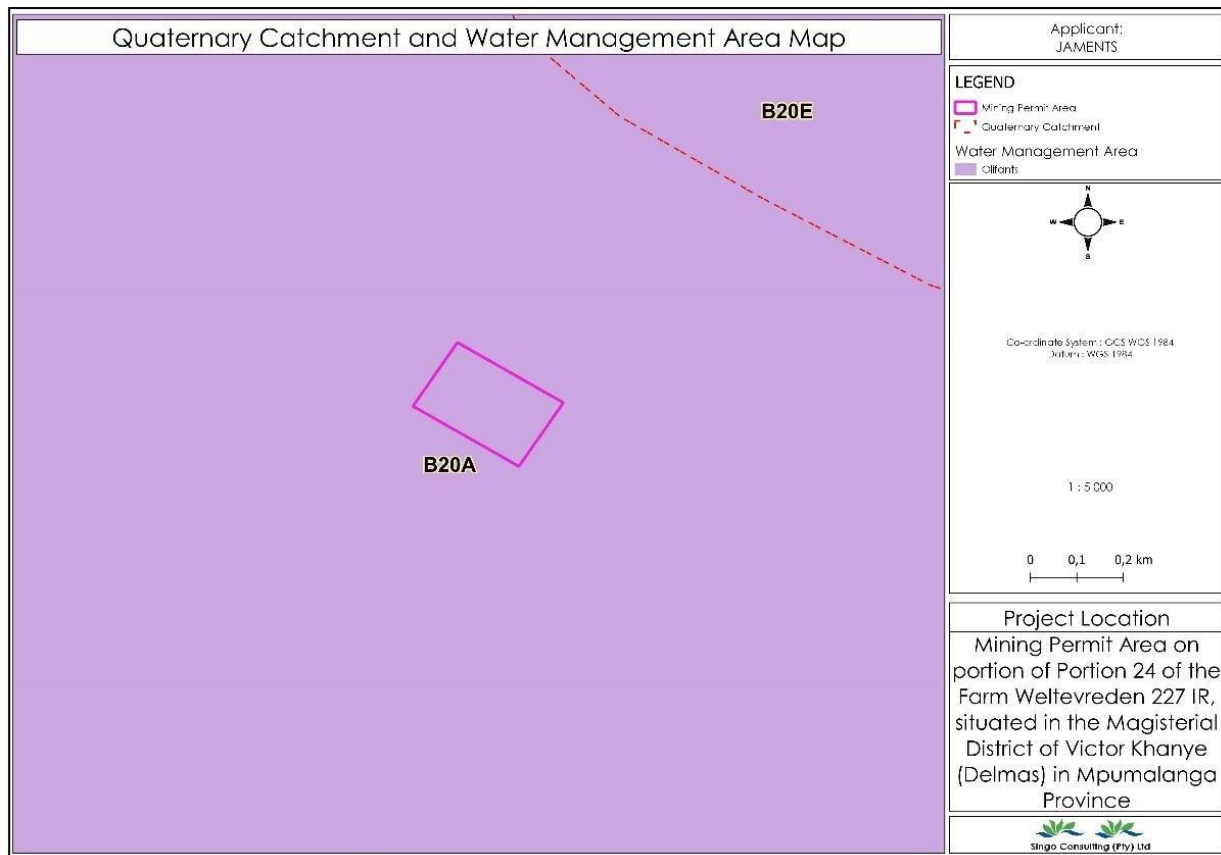


Figure 29: Quaternary catchment and water management (source: Singo consulting (Pty) Ltd)

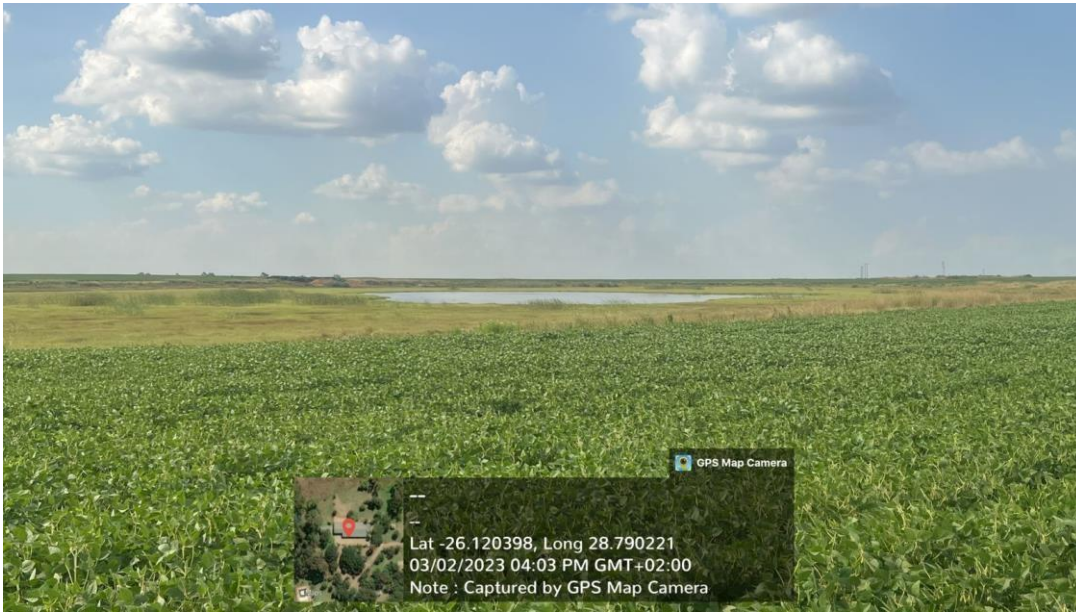


Figure 30: Wetland observed on site

### 2.1.3.5 Climate

The climate in Mpumalanga is pleasant and temperate. Mpumalanga is a city that experiences a lot of rainfall. Even in the driest month, there is a lot of rain. This site is classified as Cfb by Köppen and Geiger. The average high temperature in the area is above 24°C, with January being the hottest month of the year, with an average high of 26°C and a low of 15°C. June and July are the coldest months in Delmas, with average lows of 2°C and highs of 18°C. **Figure 33** depicts the mean annual minimum temperature in the Coal Mining Permit area. **Figure 31** depicts the temperatures in the Delmas area. **Figure 32** depicts the area's Mean Annual Rainfall.

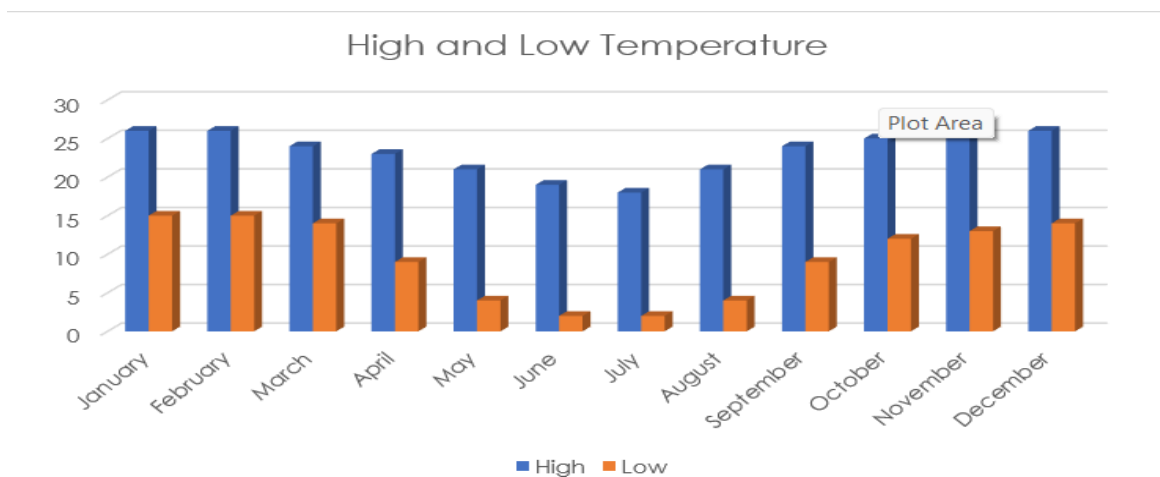


Figure 31: High and low temperatures in Delmas

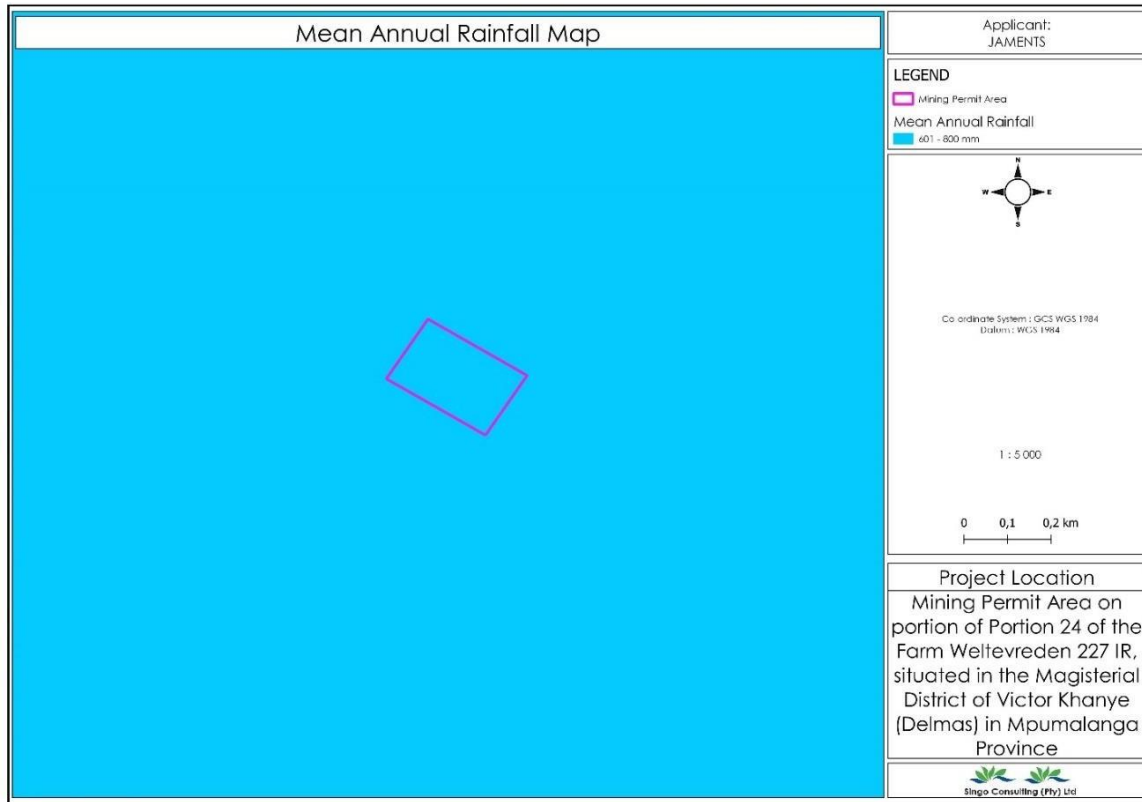


Figure 32: Mean annual rainfall within the project area (source: *Singo consulting (Pty) Ltd*)

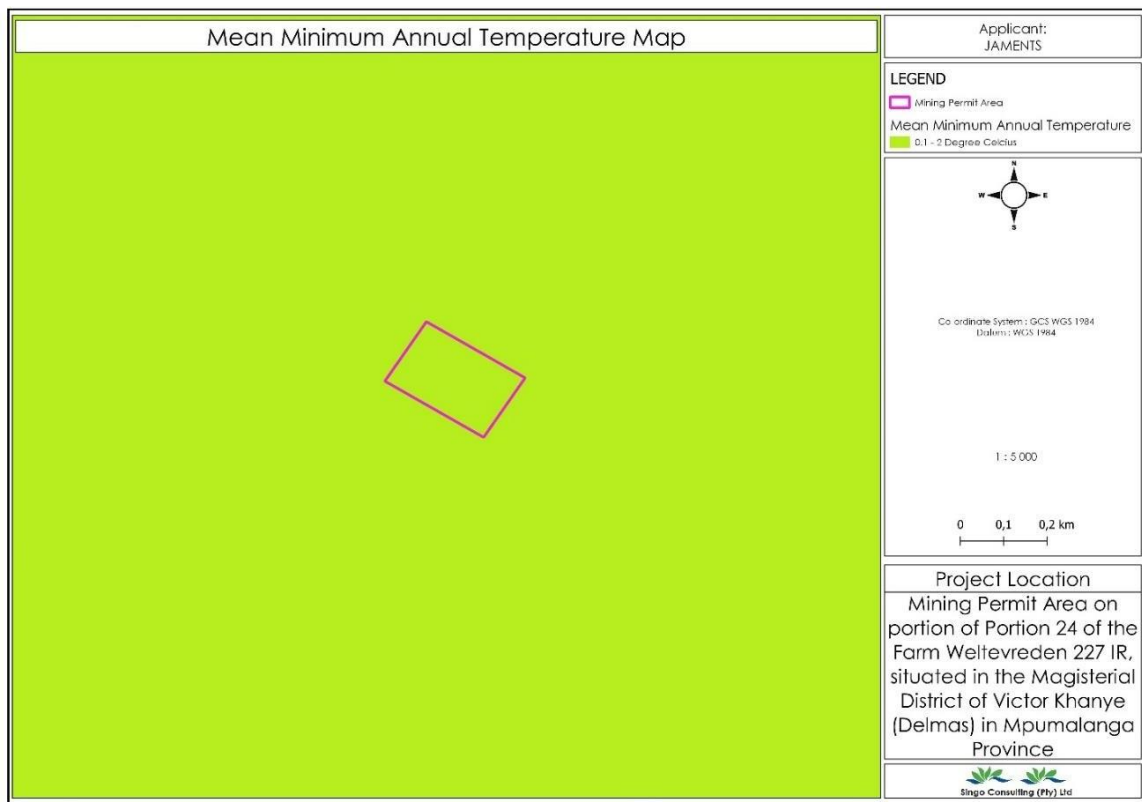


Figure 33: Mean minimum annual temperature map (source: *Singo consulting (Pty) Ltd*)



### 2.1.3.6 Topography

The topology of the area is illustrated below. A topographical map shows the physical features of the land. Besides just showing landforms such as mountains and rivers, the map also shows the elevation changes of the land. The topographical map illustrates that the proposed project area is situated in a region generally characterized by a flat-lying topography with the project area situated at 1595 m above the mean sea level as depicted on the topography map below.

In this environmental project, topography is used to determine how soil can be conserved and how water will flow over the land. Data from topography can help to conserve the environment. By understanding the contour of the land, scientists can determine how water and wind may cause erosion. They can help to establish conservation areas such as watersheds and wind blocks. In this project contour lines indicates a gentle slope and a lower chance of soil erosion as they are sparsely packed.

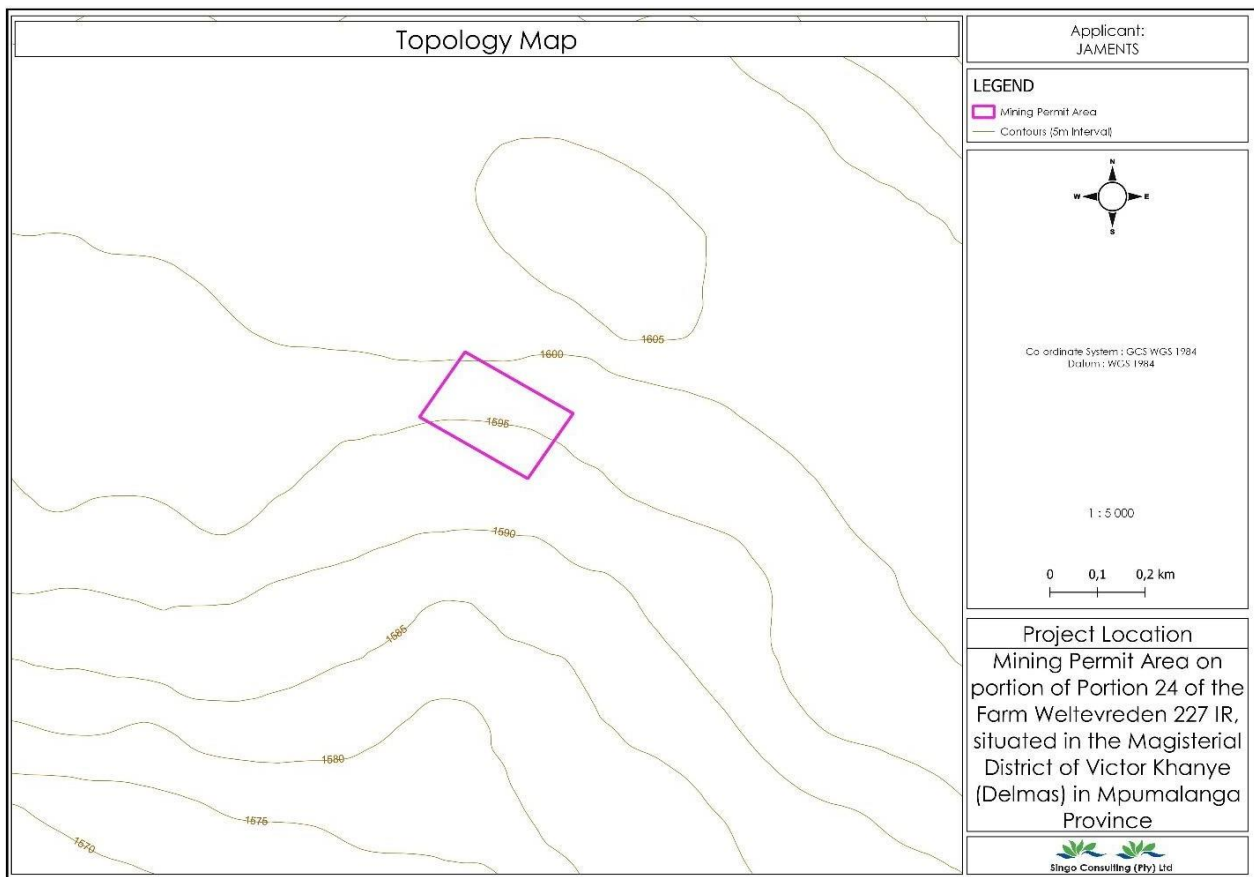
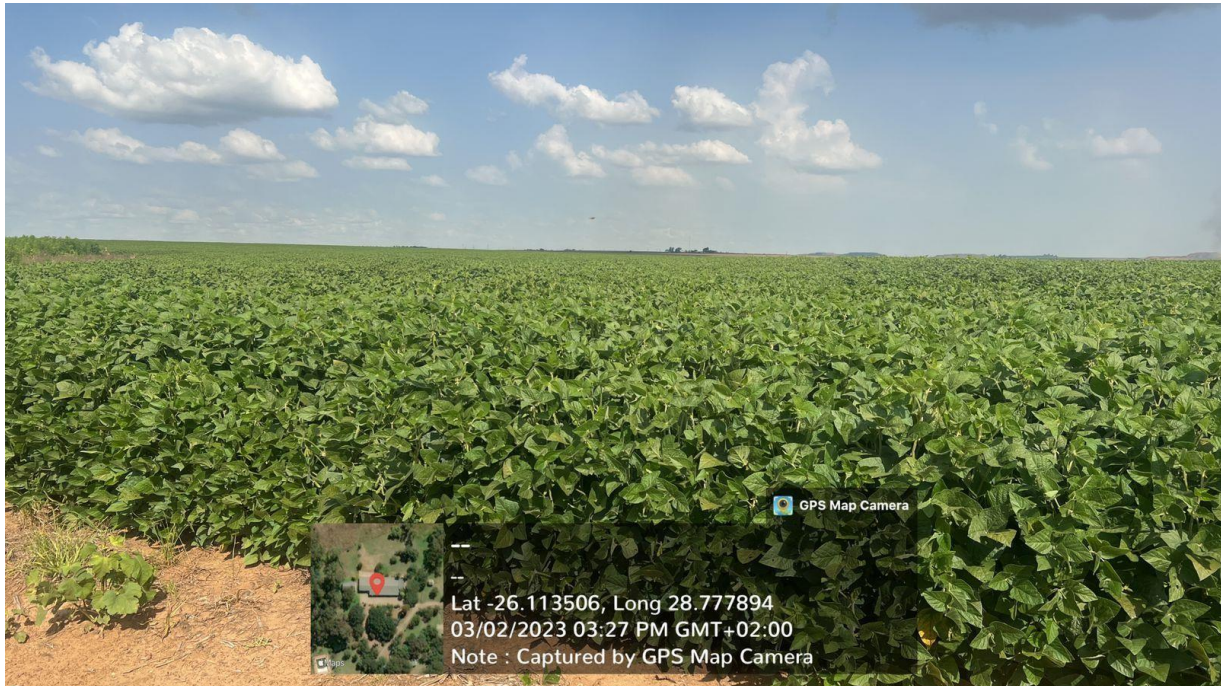


Figure 34: Topography of the study area (source: Singo consulting (Pty) Ltd)



**Photo 5:** Actual picture of topology on site

#### **2.1.3.7 Public roads**

The national road R555 is operating below its threshold with capacity for additional volumes of traffic. No mining activities will be conducted within 100m of any structures, including public roads.

#### **2.1.3.8 Graves, heritage, archaeological and cultural resources**

No graveyards were identified on site, the screening tools show a low sensitivity for archaeological and cultural heritage, see **Figure 33**.

MAP OF RELATIVE ARCHAEOLOGICAL AND CULTURAL HERITAGE THEME SENSITIVITY



Figure 35: Map of relative archaeological and cultural heritage theme sensitivity.

| Very High sensitivity | High sensitivity | Medium sensitivity | Low sensitivity |
|-----------------------|------------------|--------------------|-----------------|
|                       |                  |                    | X               |

Sensitivity Features:

| Sensitivity | Feature(s)      |
|-------------|-----------------|
| Low         | Low sensitivity |

**2.1.3.9 Visual exposure**

The proposed mining area will include the coal opencast on the farm. The mining area will be visible from the R555 and will be noticeable from surrounding community.

The applicant Jaments (Pty) Ltd should ensure that housekeeping is managed to standard, as this will mitigate the visual impact during the operational phase of the mine. Upon closure of the mine and decommissioning of the site, the area should be fully rehabilitated, and all exposed areas should be seeded to enhance vegetation recovery should natural vegetation not establish within six months of rehabilitation completion.

**2.1.3.10 Socio-economic**

The socioeconomic analysis focuses on spatial issues such as employment, income, and economic profile. This analysis is done at the municipal level to provide a broader picture of the municipality. The socioeconomic data detailed in this section of the report helps readers understand the need for economic development in order to create job opportunities. The high unemployment rate in the municipal area demonstrates the importance of this requirement. Though no local job opportunities

are expected during the prospecting phase, the confirmation of a viable mineral resource and the potential establishment of a mine may help to address unemployment issues in project-affected communities.

Reference to the following section has been made from (2021/2022) Final Integrated Development Plan of Victor Khanye Local Municipality.

- **Demographic Profile and Density**

The below table provides data of the indicator according to Stats SA (2011 Census and 2016 Community Survey - CS).

Table 5: Municipal population size and growth trend (Victor Khanye LM encircled in red), Source: DED

| Local municipal area    | Population    |              | Average annual population growth 2011-2016 | Projected 2030 numbers |
|-------------------------|---------------|--------------|--------------------------------------------|------------------------|
|                         | 2011 (Census) | 2016 (CS)    |                                            |                        |
| Mbombela                | 588794        | 622158       | 1.3%                                       | 745 475                |
| Bushbuckridge           | 541248        | 548760       | 0.3%                                       | 572 263                |
| Emalahleni              | 395466        | 455228       | 3.2%                                       | 707 530                |
| Nkomazi                 | 393030        | 410907       | 1.0%                                       | 472 327                |
| Govan Mbeki             | 294538        | 340091       | 3.3%                                       | 535 796                |
| Thembisile Hani         | 310458        | 333331       | 1.6%                                       | 416 282                |
| Steve Tshwete           | 229831        | 278749       | 4.4%                                       | 509 355                |
| Dr JS Moroka            | 249705        | 246016       | -0.3%                                      | 235 882                |
| Mkhondo                 | 171982        | 189036       | 2.1%                                       | 252 874                |
| Chief Albert Luthuli    | 186010        | 187630       | 0.2%                                       | 192 952                |
| Msukaligwa              | 149377        | 164608       | 2.2%                                       | 223 236                |
| Lekwa                   | 115662        | 123419       | 1.5%                                       | 152 022                |
| Thaba Chweu             | 98 387        | 101895       | 0.8%                                       | 113 920                |
| Dr Pixley Ka Isaka Seme | <b>83235</b>  | <b>85395</b> | <b>0.6%</b>                                | <b>92 855</b>          |
| Victor Khanye           | 75 452        | 84 151       | 2.5%                                       | 118 903                |
| Umjindi                 | 67 156        | 71 211       | 1.3%                                       | 85 326                 |
| Emakhazeni              | 47 216        | 48 149       | 0.4%                                       | 50 917                 |
| Dipaleseng              | 42 390        | 45 232       | 1.5%                                       | 55 715                 |
| Mpumalanga              | 4 039939      | 4 335964     | 1.6%                                       | 5 533629               |

- **Education indicators**

The grade 12 pass rate for Victor Khanye fell from 26.7% in 2011 to 26.0% in 2016. Furthermore, the percentage of people aged 20 and up in the municipal area fell from 11.8% in 2011 to 10.7% in 2016. Furthermore, the number of people with a higher education fell. Higher education enrollment was 7.7% in 2011 and 5.4% in 2016. The municipal area's overall educational performance has declined.

The number of matriculants who took the year-end exam increased, which contributed to Victor Khanye Local Municipality ranking fifth in the province. This improved pass rate, however, was not reflected in the university admission rate, with only 26.2% of scholars wishing to further their education. When these statistics are compared to the unemployment statistics, it is reasonable to assume that a large proportion of job seekers lack the required level of education.

Unfortunately, these job seekers will be limited to unskilled manual labor in a sector where the main employer, Agriculture, is declining as a leading employer. As the dependency syndrome and criminal activity increase, this poses a huge problem in the communities.

- **Municipal Administration Units and Wards**

The Victor Khanye Local Municipality comprises of 9 Wards and a total population of approximately 84 151 (CS 2016). The municipality has an area of approximately 1 568 km<sup>2</sup> and includes the following major un-established urban areas or towns:

Table 5: main places within the municipal area (2011/2016 census)

| No. | Places                        | Population size |
|-----|-------------------------------|-----------------|
| 1.  | Delmas                        | 3 496           |
| 2.  | Botleng                       | 30 793          |
| 3.  | Sundra                        | 3 252           |
| 4.  | Eloff                         | 1 391           |
| 5.  | Remainder of the Municipality | 17 275          |

- **Unemployment and Employment**

According to Global insight figures, unemployment has decreased from 28.2 to 21.6 percent as a result of increased investment in our local economy. Over the medium term, the employment situation is expected to improve, with additional jobs expected in the mining sector. According to the most recent data, the employment rate in the Victor Khanye Local Municipality is currently 28.9%. Based on the 2016 definition of Economically Active Population (EAP) of 30,415 people, the unemployment rate is 21.6 percent, representing an increase in employment over 2011.

This figure is high when we consider the area's economic activity, but it is clearly influenced by the influx of job seekers. Trade (18, 7%), Agriculture (18, 2%), and Community Services (14, 3%) are the leading industries in terms of employment. However, employment in the former two sectors has decreased in recent years, whereas Community Services has increased and Mining as an employer has grown and now contributes 12.7%.

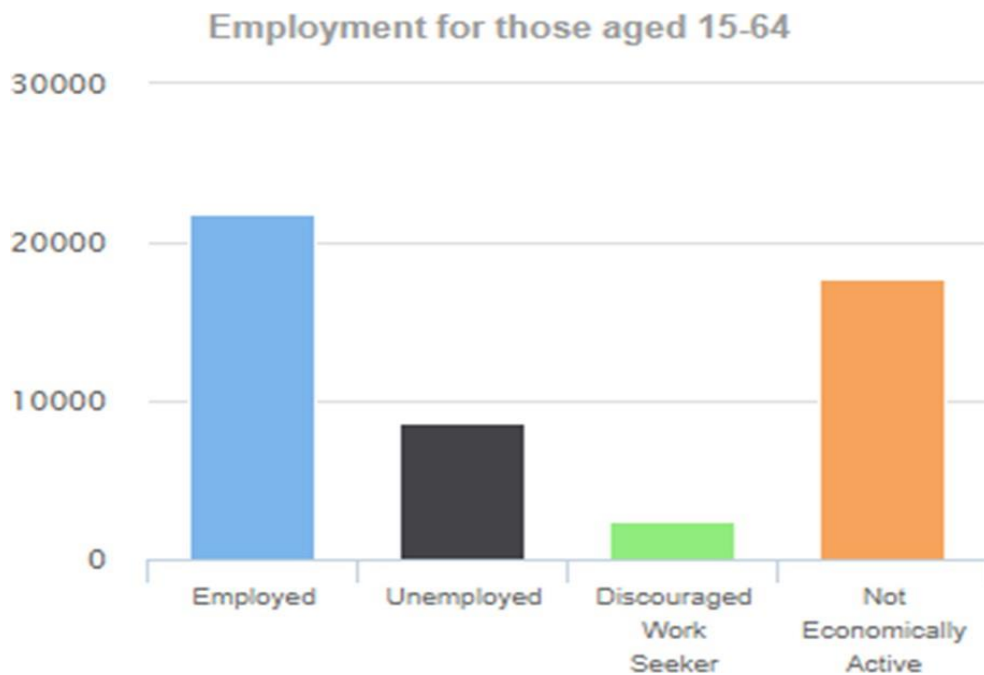


Figure 36: Employment of Municipal area (Source: Stats SA)

### Leading challenges facing the Municipality

According to the 2016 CS (Community Survey) of Stats SA, the 5 leading challenges facing the municipality as perceived by households in the municipal area the following:

- Lack of safe and reliable water supply.
- Lack of/inadequate employment opportunities (correlate with poverty driver information of the CS).
- Inadequate roads.
- Water and sanitation services.
- Inadequate/lack of housing.

### Conclusively

Due to a lack of economic opportunities, the municipality has been put under strain as a result of the influx of job seekers and high unemployment rate, and it faces challenges in accommodating the area's potential educated young people. COVID-19 also had a negative impact, as it caused many people to lose their jobs, contributing significantly to the unemployment rate. The potential establishment of a mine may assist in addressing the challenges currently confronting the communities most impacted by the proposed project.

## 2.2 Description of current land uses

The land in which the proposed mining area is nestled is within cultivated land and is situated within heavily modified land.

According to the desktop studies conducted, the Screening Report and MTPA, the proposed mining area is situated within heavily modified land and the whole area falls within cultivated land. The area also comprises of low sensitivity Archaeological and Cultural, very high sensitivity Paleontological and very high sensitivity Terrestrial Biodiversity land. The neighboring surrounding areas comprise of plantations, dams, wetlands, built-up areas and bare land.

During ground truthing and site assessment that was conducted on 02 March 2023, the land within which the proposed site is nestled is mainly currently used for soybeans farming. The surroundings of the project area comprise of agricultural land (used for crop farming and maize farming). No species of ecological importance were observed on site. Powerlines were observed outside the proposed mining area and a wetland was observed approximately 580 m from the proposed mining area.

Neighboring operations were also identified in close proximity to the proposed mining area such as Phalandwa Colliery situated 3,26 km East, Stuart Coal Delmas situated 3,87 km South-West, Welgelegen Iyanga Colliery situated 9,48 km East, Leeuwpan Colliery situated 8,61 km South-West, Vanggatfontein Colliery situated 9,02 km, Thaba Chueu Mining situated 4,57 km, BME Plant situated 3,17 km away from the proposed mining permit area.

## 2.3 Description of site-specific environmental features and infrastructure

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

| Land use character         | Yes | No | Description                                                                                                                                     |
|----------------------------|-----|----|-------------------------------------------------------------------------------------------------------------------------------------------------|
| Natural area               | Yes |    | The surrounding area and the proposed mining permit area is covered by cultivated land. The area is mainly used for maize and soybeans farming. |
| Low-density residential    |     | No |                                                                                                                                                 |
| Medium-density residential |     | No |                                                                                                                                                 |
| High-density residential   |     | No |                                                                                                                                                 |
| Informal residential       |     | No |                                                                                                                                                 |



|                                            |    |
|--------------------------------------------|----|
| Retail commercial and warehousing          | No |
| Light industrial                           | No |
| Medium industrial                          | No |
| Heavy industrial                           | No |
| Power station                              | No |
| Office/consulting room                     | No |
| Military or police base/ station/compound  | No |
| Soil heap or slimes dam                    | No |
| Quarry, sand, mine or borrow proposed mine | No |
| Dam or reservoir                           | No |
| Proposed mineral/medical centre            | No |
| School or crèche                           | No |
| School                                     | No |
| Tertiary education facility                | No |
| Church                                     | No |

| Land use character             | Yes | No | Description                                                                                                               |
|--------------------------------|-----|----|---------------------------------------------------------------------------------------------------------------------------|
| Old age home                   |     | No |                                                                                                                           |
| Sewage treatment plant         |     | No |                                                                                                                           |
| Train station or shunting yard |     | No |                                                                                                                           |
| Railway line                   |     | No |                                                                                                                           |
| Major (road 4 lines or more)   |     | No | The provincial road R555 is more than 3,12 km away, the area can be accessed using the gravel that extents from the R555. |
| River, stream or wetland       | YES |    | Depression and seep wetlands located above the 500 m radius                                                               |
| Agriculture                    | YES |    | The proposed project area is used for cultivation of maize and soybeans.                                                  |
| Nature conservation area       |     | No |                                                                                                                           |
| Mountain, hill or ridge        |     | No |                                                                                                                           |
| Museum                         |     | No |                                                                                                                           |
| Historical building            |     | No |                                                                                                                           |
| Plantation                     |     | No |                                                                                                                           |
| Landfill/waste treatment site  |     | No |                                                                                                                           |
| Archaeological sites           |     | No |                                                                                                                           |
| Other land uses                |     | No |                                                                                                                           |



Figure 37: Figure showing nearest town within 15 km radius and the surrounding infrastructure in relation to the proposed mining area.

## 2.4 Environmental and current land use map

Show all environmental and current land use features.

According to **Figure 38** the area is mainly characterised by cultivated land and Natural Vegetation. During site assessment the area was confirmed to have cultivated land. The site is mainly used for soybeans farming.

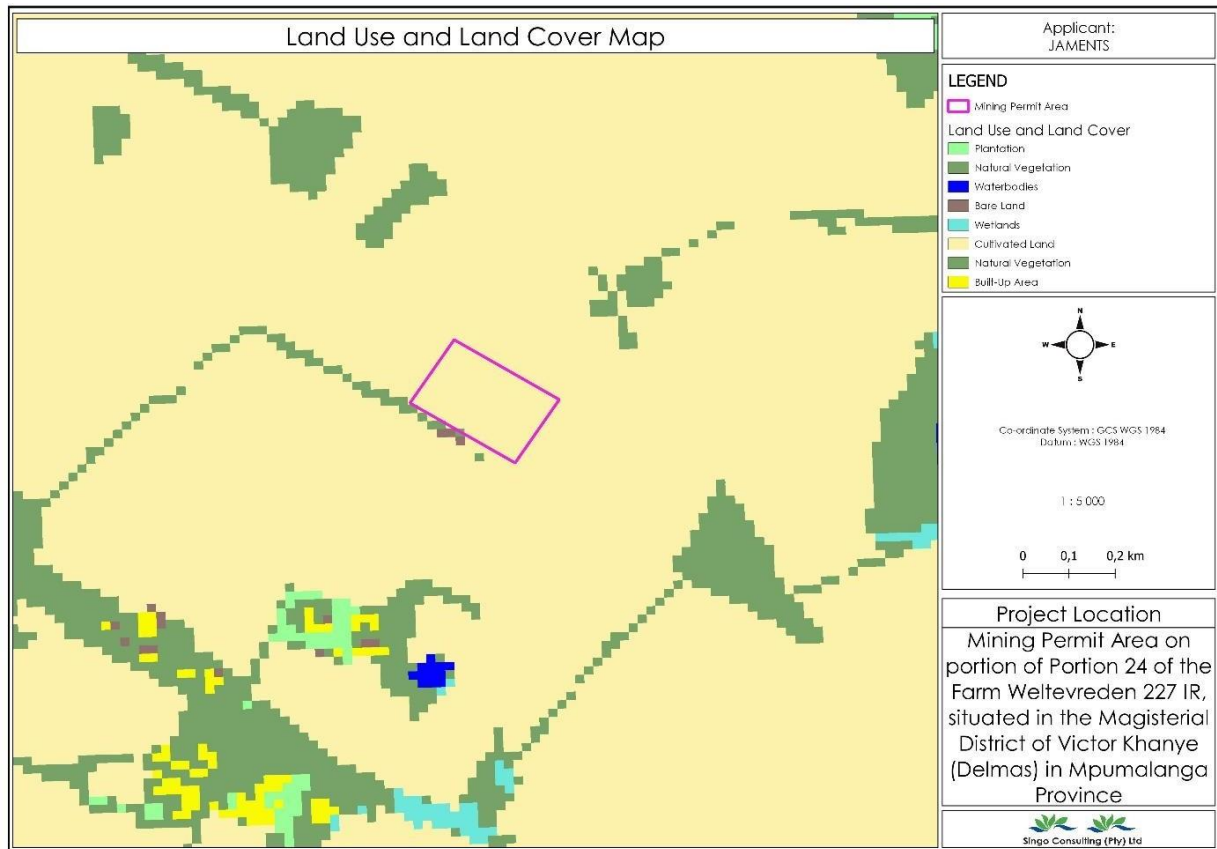


Figure 38: Land use and land cover map

## 2.5 Impacts and risks identified, including the nature, significance, consequence, extent, duration and probability of the impacts

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

The following potential impacts were identified of each main activity in each phase. The significance rating was determined using the methodology described in. The impact rating listed below was determined for each impact prior to bringing the proposed mitigation measures into consideration. The degree of mitigation indicates the possibility of partial, full or no mitigation of

the identified impact.

### **2.5.1 Stripping and stockpiling of topsoil**

#### **Significant impacts:**

Visual intrusion associated with the establishment of the mining area

Dust nuisance caused by soil disturbance.

Noise nuisance caused by machinery stripping and stockpiling the topsoil.

Infestation of the topsoil heaps by weeds or invader plants.

Loss of topsoil due to incorrect storm water management.

Contamination of area with hydrocarbons or hazardous waste materials.

### **2.5.2 Blasting**

#### **Significant impacts:**

Health and safety risk posed by blasting activities.

Dust nuisance caused by blasting activities.

Noise nuisance caused by blasting activities.

### **2.5.3 Excavation**

#### **Significant impacts:**

Visual intrusion associated with the excavation activities.

Dust nuisance due to excavation activities.

Noise nuisance generated by excavation equipment.

Unsafe working conditions for employees.

Negative impact of the fauna and flora of the area.

Contamination of area with hydrocarbons or hazardous waste materials.

Weed and invader plant infestation of the area.

### **2.5.4 In-proposed mine crushing**

#### **Significant impacts:**

Dust nuisance due to the crushing activities.

Noise nuisance generated by the crushing activities.

Contamination of area with hydrocarbons or hazardous waste materials.

### **2.5.5 Stockpiling and transporting**

#### **Significant impacts:**

Visual intrusion associated with the stockpiled material and vehicles transporting material. Loss of material due to ineffective storm water handling Weed and invader plant infestation of the area due to the disturbance of the soil. Dust nuisance from stockpiled material and vehicles transporting the material Degradation of access roads.

Noise nuisance caused by vehicles

Contamination of area with hydrocarbons or hazardous waste materials

### **2.5.6 Sloping and landscaping during rehabilitation**

#### **Significant impacts:**

Soil erosion

Health and safety risk posed by un-sloped areas

Dust nuisance caused during sloping and landscaping activities

Noise nuisance caused by machinery

Contamination of area with hydrocarbons or hazardous waste materials

### **2.5.7 Replacing of topsoil and rehabilitation of disturbed area**

#### **Significant impacts:**

Loss of reinstated topsoil due to the absence of vegetation

Infestation of the area by weed and invader plants

## **2.6 Methodology for the assessment of the potential environmental, social and cultural impacts**

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

The impact assessment process may be summarized as follows:

- ❖ Identification of proposed mining activities including their nature and duration.
- ❖ Screening of activities likely to result in impacts or risks.
- ❖ Utilization of the above-mentioned methodology to assess and score preliminary impacts and risks identified.
- ❖ Inclusion of I&AP comments regarding impact identification and assessment.
- ❖ Finalization of impact identification and scoring.

The impact significance rating methodology is guided by the requirements of the NEMA 2014 EIA Regulations (as amended). Please refer to Section 9.1 for a full description of the impact assessment methodology. Please refer to Table 20 for a description of the activities and associated impacts.

## 2.7 The Impact Assessment Methodology

The subsections below present the approach to assessing the identified potential environmental impact with the aim of determining the relevant environmental significance.

### 2.7.1 Method of Assessing Impacts

The requirements of the NEMA 2014 EIA Regulations guide the impact assessment process (as amended). The Environmental Risk (ER) is calculated by comparing the Consequence (C) of each effect (which includes Nature, Extent, Duration, Magnitude, and Reversibility) to the Probability/Likelihood (P) of the impact occurring. The Environmental Risk is determined by this. Other criteria, including as cumulative impacts, public concern, and the risk of irreversible resource loss, are also considered when determining a Prioritization Factor (PF), which is then applied to the ER to establish the overall Significance (S).

### 2.7.2 Determination of Environmental Risk

The significance (S) of an impact is determined by applying a Prioritization Factor (PF) to the Environmental Risk (ER).

The Environmental Risk is dependent on the Consequence (C) of the particular impact and the Probability (P) of the impact occurring. Consequence is determined through the consideration of the Nature (N), Extent (E), Duration (D), Magnitude (M) and Reversibility (R) applicable to the specific impact.

For the purpose of this methodology the Consequence of the impact is represented by:

| Aspect          | Score | Definition                                                                     |
|-----------------|-------|--------------------------------------------------------------------------------|
| <b>Nature</b>   | - 1   | <b>Likely to result in a negative/ detrimental impact</b>                      |
|                 | +1    | <b>Likely to result in a positive/ beneficial impact</b>                       |
| <b>Extent</b>   | 1     | <b>Activity (i.e. limited to the area applicable to the specific activity)</b> |
|                 | 2     | <b>Site (i.e. within the development property boundary),</b>                   |
|                 | 3     | <b>Local (i.e. the area within 5 km of the site),</b>                          |
|                 | 4     | <b>Regional (i.e. extends between 5 and 50 km from the site</b>                |
|                 | 5     | <b>Provincial / National (i.e. extends beyond 50 km from the site)</b>         |
| <b>Duration</b> | 1     | <b>Immediate (&lt;1 year)</b>                                                  |

|                                 |   |                                                                                                                                                        |
|---------------------------------|---|--------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                 | 2 | <b>Short term (1-5 years)</b>                                                                                                                          |
|                                 | 3 | <b>Medium term (6-15 years)</b>                                                                                                                        |
|                                 | 4 | <b>Long term (the impact will cease after the operational life span of the project),</b>                                                               |
|                                 | 5 | <b>Permanent (no mitigation measure of natural process will reduce the impact after construction).</b>                                                 |
| <b>Magnitude/<br/>Intensity</b> | 1 | <b>Minor (where the impact affects the environment in such a way that natural, cultural and social functions and processes are not affected)</b>       |
|                                 | 2 | <b>Low (where the impact affects the environment in such a way that natural, cultural and social functions and processes are slightly affected)</b>    |
|                                 | 3 | <b>Moderate (where the affected environment is altered but natural, cultural and social functions and processes continue albeit in a modified way)</b> |
|                                 | 4 | <b>High (where natural, cultural or social functions or processes are altered to the extent that it will temporarily cease) or</b>                     |
|                                 | 5 | <b>Very high / don't know (where natural, cultural or social functions or processes are altered to the extent that it will permanently cease)</b>      |
| <b>Reversibility</b>            | 1 | <b>Impact is reversible without any time and cost</b>                                                                                                  |
|                                 | 2 | <b>Impact is reversible without incurring significant time and cost</b>                                                                                |
|                                 | 3 | <b>Impact is reversible only by incurring significant time and cost</b>                                                                                |
|                                 | 4 | <b>Impact is reversible only by incurring prohibitively high time and cost</b>                                                                         |

$$C = (E+D+M+R) \times N \ 4$$

Each individual aspect in the determination of the Consequence is represented by a rating scale as defined in Table 5.



**Table 5: Criteria for determination of impact Consequence.**

| Aspect | Score | Definition          |
|--------|-------|---------------------|
|        | 5     | Irreversible Impact |

Once the C has been determined the ER is determined in accordance with the standard risk assessment relationship by multiplying the C and the P. Probability is rated/scored as per Table 6.

**Table 6: Probability scoring.**

|             |   |                                                                                                                                                                             |
|-------------|---|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Probability | 1 | Improbable (the possibility of the impact materializing is very low as a result of design, historic experience, or implementation of adequate corrective actions;<br><25%), |
|             | 2 | Low probability (there is a possibility that the impact will occur; >25% and <50%),                                                                                         |
|             | 3 | Medium probability (the impact may occur; >50% and <75%),                                                                                                                   |
|             | 4 | High probability (it is most likely that the impact will occur- > 75% probability), or                                                                                      |
|             | 5 | Definite (the impact will occur),                                                                                                                                           |

The result is a qualitative representation of relative ER associated with the impact. ER is therefore calculated as follows (Table 7):

$$ER = C \times P$$

**Table 7: Determination of Environmental Risk.**

|             |             |   |    |    |    |    |
|-------------|-------------|---|----|----|----|----|
| Consequence | 5           | 5 | 10 | 15 | 20 | 25 |
|             | 4           | 4 | 8  | 12 | 16 | 20 |
|             | 3           | 3 | 6  | 9  | 12 | 15 |
|             | 2           | 2 | 4  | 6  | 8  | 10 |
|             | 1           | 1 | 2  | 3  | 4  | 5  |
|             |             | 1 | 2  | 3  | 4  | 5  |
|             | Probability |   |    |    |    |    |

The outcome of the environmental risk assessment will result in a range of scores, ranging from 1 through to 25. These ER scores are then grouped into respective classes as described in Table 8.

**Table 8: Significance classes.**

| Environmental Risk Score |                                                                                  |
|--------------------------|----------------------------------------------------------------------------------|
| Value                    | Description                                                                      |
| < 10                     | Low (i.e. where this impact is unlikely to be a significant environmental risk), |
| ≥ 10; < 20               | Medium (i.e. where the impact could have a significant environmental risk),      |
| ≥ 20                     | High (i.e. where the impact will have a significant environmental risk).         |

The impact ER will be determined for each impact without relevant management and mitigation measures (pre- mitigation), as well as post implementation of relevant management and mitigation measures (post-mitigation). This allows for a prediction in the degree to which the impact can be managed/ mitigated.

### 2.7.3 Impact Prioritization

In accordance with Appendix 3(1)(j) of the NEMA 2014 EIA Regulations (as amended) (GNR 326 of 2017), and in addition to the assessment criteria presented in the Section above, each potentially significant impact must be evaluated in terms of cumulative impacts and the degree to which the impact may cause irreplaceable resource loss.

Furthermore, public opinion and attitude about a potential development, as well as its potential consequences, must be considered during the decision-making process.

An impact Prioritization Factor (PF) will be assigned to each impact ER in order to ensure that these considerations are considered (post-mitigation). This element is used to direct the attention of the decision-making authority on the higher priority/significant issues and impacts, rather than to distract from the risk assessments. The PF will be applied to the ER score assuming that all recommended management/mitigation measures are executed.

**Table 9: Criteria for the determination of prioritization.**

|                        |            |                                                                                                                                                                                           |
|------------------------|------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Public response (PR)   | Low (1)    | Issue not raised in public response.                                                                                                                                                      |
|                        | Medium (2) | Issue has received a meaningful and justifiable public response.                                                                                                                          |
|                        | High (3)   | Issue has received an intense meaningful and justifiable public response.                                                                                                                 |
| Cumulative Impact (CI) | Low (1)    | Considering the potential incremental, interactive, sequential, and synergistic cumulative impacts, it is unlikely that the impact will result in spatial and temporal cumulative change. |

|                                      |            |                                                                                                                                                                                                           |
|--------------------------------------|------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                      | Medium (2) | Considering the potential incremental, interactive, sequential, and synergistic cumulative impacts, it is probable that the impact will result in spatial and temporal cumulative change.                 |
|                                      | High (3)   | Considering the potential incremental, interactive, sequential, and synergistic cumulative impacts, it is highly probable/definite that the impact will result in spatial and temporal cumulative change. |
| Irreplaceable loss of resources (LR) | Low (1)    | Where the impact is unlikely to result in irreplaceable loss of resources.                                                                                                                                |
|                                      | Medium (2) | Where the impact may result in the irreplaceable loss (cannot be replaced or substituted) of resources but the value (services and/or functions) of these resources is limited.                           |
|                                      | High (3)   | Where the impact may result in the irreplaceable loss of resources of high value (services and/or functions).                                                                                             |

The value for the final impact priority is represented as a single consolidated priority, determined as the sum of each individual criterion. The impact priority is therefore determined as follows:

$$\text{Priority} = \text{PR} + \text{CI} + \text{LR}$$

The result is a priority score which ranges from 3 to 9 and a consequent PF ranging from 1 to 2 (Table 10).

Table 10: Determination of prioritization factor.

| Priority | Ranking | Prioritization Factor |
|----------|---------|-----------------------|
| 3        | Low     | 1                     |
| 4        | Medium  | 1.17                  |
| 5        | Medium  | 1.33                  |
| 6        | Medium  | 1.5                   |
| 7        | Medium  | 1.67                  |
| 8        | Medium  | 1.83                  |
| 9        | High    | 2                     |

In order to determine the final impact significance, the PF is multiplied by the ER of the post mitigation scoring. The ultimate aim of the PF is to be able to increase the post mitigation environmental risk rating by a full ranking class, if all the priority attributes are high (i.e. if an impact comes out with a medium environmental risk after the conventional impact rating, but there is significant cumulative impact potential, significant public response, and significant potential for irreplaceable loss of resources, then the net result would be to upscale the impact to a high significance (**Table 11**).

**Table 11: Environmental significance rating.**

| Environmental Significance Rating |                                                                                                                                              |
|-----------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|
| Value                             | Description                                                                                                                                  |
| ≤ 1                               | Very low (impact is negligible. No mitigation required)                                                                                      |
| >1≤2                              | Low negative (i.e. where this impact would not have a direct influence on the decision to develop in the area).                              |
| >2≤3                              | Moderate negative (i.e. where the impact could influence the decision to develop in the area).                                               |
| >3≤4                              | High negative (i.e. where the impact must have an influence on the decision process to develop in the area).                                 |
| >4≤5                              | Very high negative (impact is of highest order possible. Mitigation is required to lower impacts to acceptable levels. Potential fatal flaw) |
| 0                                 | No impact                                                                                                                                    |
| >1≤2                              | Low positive (i.e. where this impact would not have a direct influence on the decision to develop in the area).                              |
| >2≤3                              | Moderate positive (i.e. where the impact could influence the decision to develop in the area).                                               |
| >3≤4                              |                                                                                                                                              |
| >4≤5                              | High positive (i.e. where the impact must have an influence on the decision process to develop in the area)                                  |

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

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

The proposed coal mine will be established on a cultivated area. The adjacent land hosts coal mine industries such as Phalandwa Colliery and Stuart Coal, and some parts are being utilised for agricultural purposes. Upon closure of the mining area, the land will, once again, be used for agricultural purposes.

Due to the remote location of the mine, low to medium significantly negative impacts on the community could be identified. The dust and noise impacts that may emanate from the mining area during the operational phase could have a negative impact on the surrounding community if the mitigation measures proposed in this document are not implemented and managed on-site. The operation of the mine will, however, also have a number of positive impacts, such as permanent job creation for skilled, semi-skilled and unskilled workers of the nearby communities. The proposed mine will, therefore, contribute to upgrading/maintaining infrastructure in and around Delmas area, which will indirectly contribute to the economy of the area.

## **2.9 The possible mitigation measures that could be applied and the level of risk**

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

### **2.9.1 Visual mitigation**

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

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

### 2.9.2 Dust handling

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

- Dust liberation into the surrounding environment must be effectively controlled by the use of, *inter alia*, water spraying and/or other dust-allaying agents.
- The site manager must ensure continuous assessment of all dust suppression equipment to confirm its effectiveness in addressing dust suppression.
- Access road speeds must be limited to 40km/h to prevent excessive dust generation.
- Roads must be sprayed with water or an environmentally friendly dust allaying agent, that contains no PCBs (e.g. DAS products), if dust is generated above acceptable limits.
- The in-proposed mine crusher plant must have operational water sprayers to alleviate dust generation from the conveyor belts.

The following sensitive receptors of dust have been identified and it is expected that these receptors may be affected by dust fallout and other air pollutants, resulting from the proposed mining activities on Portion 24 of the farm Weltevreeden 227 IR:

- Legal occupants of the study area
- Legal owners of properties adjacent to the study area;
- Surrounding communities, including land users and residential areas;
- Faunal and floral species found on the farm

The main source of air pollution in the local area is the dust emanating from the agricultural activities within the farm. Dust fallout will be measured prior to mining activities and monitored throughout the period of the mining activities within the proposed farm area. It is not expected that the air quality outside of the study area will deviate from its current condition during mining. Normal vehicular activity, as is already present, will most likely continue. There is, however, a risk that dust levels may increase because of the proposed mining project and therefore mitigation measures will be recommended. Limiting the speed of vehicles on the gravel roads to 40km/h will have a threefold benefit in terms of health and safety: it will reduce dust fallout, reduce exhaust emissions and ensure the safety of workers. Another measure is to suppress dust by means of spraying water on the gravel roads, 18 000L of water will be bought from the local municipality or from the local water service facility to aid in the suppression of the amount of dust to be created by mining activities. To minimize impacts on plants caused by dust deposition from the drilling activities.



Figure 39: Dust monitoring stations (Singo Consulting(Pty)Ltd, 2023)

### 2.9.3 Noise handling

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

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

cognisance of other land users and structures in the vicinity.

- Surrounding landowners must be notified, in writing, prior to blasting occasions.

#### **2.9.4 Management of weed or invader plants**

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

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

#### **2.9.5 Storm water handling**

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

- Storm water must be diverted around the topsoil heaps, stockpile areas and access roads to prevent erosion and loss of material.
- Runoff water must also be diverted around the stockpile areas with trenches and contour structures to prevent erosion of the work areas.
- Mining must be conducted in accordance with the Best Practice Guideline for small scale mining that relates to storm water management, erosion and sediment control and waste management, developed by the Department of Water and Sanitation (DWS), and any other conditions the DWS may impose:
  - Clean water (e.g. rainwater) must be kept clean and routed to a natural watercourse by a system separate from the dirty water system. Clean water must be prevented from running or spilling into dirty water systems.
  - Dirty water must be collected and contained in a system separate from the clean water system.
  - Dirty water must be prevented from spilling/seeping into clean water systems.
  - The storm water management plan must apply for the entire life cycle of the mine



and over different hydrological cycles (rainfall patterns).

- The statutory requirements of various regulatory agencies and the interests of stakeholders must be considered and incorporated into the storm water management plan.

### **2.9.6 Management of health and safety risks**

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

- The type, duration and timing of the blasting procedures must be planned with due cognisance of other land users and structures in the vicinity.
- The surrounding landowners and communities must be informed, in writing, ahead of any blasting event.
- Measures to limit fly rock must be taken.
- Audible warning of a pending blast must be given at least 3 minutes before the blast.
- All fly rock (with diameters of 150 mm and larger) which falls beyond the working area, together with the rock spill, must be collected and removed.
- Workers must have access to the correct PPE, as required by law.
- All operations must comply with the Occupational Health and Safety Act (OHSA).

### **2.9.7 Waste management**

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

- No processing area or waste pile may be established within 100 m of the edge of any river channel or other water bodies.
- Regular vehicle maintenance may only take place within the service bay area of the off-site workshop. If emergency repairs are needed on equipment unable to move to the workshop, drip trays must be present. All waste products must be disposed of in a 200 l closed container/bin to be removed from the emergency service area to the workshop in order to ensure proper disposal.
- Any effluents containing oil, grease or other industrial substances must be collected in a suitable receptacle and removed from the site, either for resale or for appropriate disposal at a recognised facility.
- Spills must be cleaned up immediately to the satisfaction of the Regional Manager by removing the spillage and the polluted soil and disposing of it at a recognised facility. Proof hereof should be filed.

- Suitable covered receptacles should be available at all times and conveniently placed for waste disposal.
- Non-biodegradable refuse, such as glass bottles, plastic bags, metal scrap, etc., should be stored in a container with a closable lid at a collecting point, collected on a regular basis and disposed of at a recognised landfill site. Specific precautions should be taken to prevent refuse from being dumped on or in the vicinity of the mine area.
- Biodegradable refuse generated should be handled as indicated above.

### **2.9.8 Management of access roads**

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

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

### **2.9.9 Topsoil handling**

The risk of topsoil loss can be reduced to low by implementing the following mitigation measures:

- Where applicable, the first 300 mm of topsoil should be removed in strips and stored along the boundary of the mining area. Stockpiling of topsoil must be done to protect it from erosion, which includes mixing it with overburden or other material. The topsoil must be used to cover the rehabilitated area and improve the establishment of natural vegetation.
- The temporary topsoil stockpiles of each removed strip must be kept weed free.
- Topsoil stockpiles must be placed on a levelled area and measures should be implemented to safeguard the piles from being washed away in the event of heavy rain/storm water.
- Topsoil heaps should not exceed 1.5 m in order to preserve micro-organisms in the topsoil, which can be lost due to compaction and lack of oxygen.
- Should natural vegetation not establish on the heaps within 6 months of stockpiling, it must be planted with an indigenous grass species.
- Storm and runoff water should be diverted around the stockpile area and access roads to prevent erosion.

### **2.9.10 Protection of fauna and flora**

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

- The site manager must ensure that no fauna is caught, killed, harmed, sold or played with.
- Workers must be instructed to report any animals that may be trapped in the working area.
- No snares may be set or nests raided for eggs or young.
- No plants or trees may be removed without the approval of the ECO.

### **2.10 Motivation where no alternative sites were considered**

Jaments (Pty) Ltd identified a growing need for coal resources as power demand increased. In this light, the applicant identified the proposed area as the preferred and only viable site alternative due to its immediate availability, which is supported by data reviewed in the CPR and demonstrates the availability of coal resources in the area. The area is also surrounded by many active mining activities and the closest being the Phalandwa Colliery. The establishment of a proposed coal mine in this underutilized area was determined to be the most viable option.

Various project alternatives were considered during the planning phase of the project and the preferred alternatives proved to be:

- Open cast coal mining has been identified as the most effective method of producing the desired coal product.
- Using temporary infrastructure will reduce environmental impact and reduce closure objectives for infrastructure decommissioning.
- To avoid the construction of new roads, it is recommended that the existing farm road connected to the R555 National road on the west side of the project area be used as an accessroad.

### **2.11 Statement motivating the alternative development location within overall site**

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

The most cost-effective method of producing the desired coal product has been identified as open cast mining. The proposed method generates residual (overburden) waste that must be disposed of. Because of the proposed coal mine's remote location, the potential environmental impacts associated with open cast mining are deemed insignificant. It is proposed that all mining-related infrastructure be contained within the mining area's boundaries. Because there will be no permanent infrastructure on site, the layout/position of the temporary infrastructure will

be determined by the mining progress and the mine Layout Plan.

## **2.12 Process undertaken to identify, assess and rank impacts and risk of site activities**

Full description of the process undertaken to identify, assess and rank the impacts and risks the activity will impose on the preferred site (In respect of the final site layout plan) through the life of the activity, including (i) a description of all environmental issues and risks that were identified during the environmental impact assessment process and (ii) an assessment of the significance of each issue and risk and an indication of the extent to which the issue and risk could be avoided or addressed by the adoption of mitigation measures.

During the impact assessment process, several potential impacts were identified of each main activity in each phase. An initial significance rating was determined for each potential impact, should the mitigation measures proposed in this document not be implemented on-site. The impact assessment process continued to identify mitigation measures to address the impact that the proposed mining activity may have on the surrounding environment. A significance rating was again determined for each impact using a relevant methodology. The impact ratings listed in the following section was determined for each impact after bringing the proposed mitigation measures into consideration and therefore represents the final layout/activity proposal.

### **2.13 Assessment of each identified potentially significant impact and risk**

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

| Unit Number | Activity                                           | Aspect | Impact                 | Significance Rating Before Mitigation Measures |   |   |   |     |     |     |     |              | Mitigation Measures                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|-------------|----------------------------------------------------|--------|------------------------|------------------------------------------------|---|---|---|-----|-----|-----|-----|--------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|             |                                                    |        |                        | I                                              | F | D | E | P   | S   | C   | IS  | SIGNIFICANCE |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| 1,0         | Employment of workers and procurement of materials | Social | Creation of employment | 3                                              | 3 | 5 | 1 | 1,0 | 3,7 | 2,3 | 2,3 | Moderate     | <p>Emphasis to employ local individuals must be maximised, reducing the need for migrant labour;</p> <p>the mine should prioritise employment of the local community members and contracts must include employment targets as part of their contractual agreements;</p> <p>Employment requirements should be broadly publicised to ensure that job-seekers do not have unrealistic job expectations;</p> <p>Liaison structures with the local police and community policing forums must be established and development of informal settlements within the proposed mining areas to be</p> |

|     |                                                                         |             |                                                                                        |   |   |   |   |     |     |     |     |          |                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                    |
|-----|-------------------------------------------------------------------------|-------------|----------------------------------------------------------------------------------------|---|---|---|---|-----|-----|-----|-----|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------|
|     |                                                                         |             |                                                                                        |   |   |   |   |     |     |     |     |          |                                                                                                                                                                                                                                                                                                                                                                                                                 | communicated to the forums for potential monitoring and addressing |
| 2,0 | Site clearance and topsoil removal as a result of the proposed Project. | Air Quality | Dust generation emanating from the activities associated with the Mining Project areas | 4 | 4 | 4 | 2 | 1,0 | 4,0 | 3,0 | 3,0 | Moderate | <p>The area of disturbance must be restricted to the required footprint size;</p> <p>Ensure that only vegetation within the designated areas is removed;</p> <p>The drop heights used during the loading of the cleared soils into trucks should be minimised as far as possible; and</p> <p>Dirt roads to be wetted by a water browser and/or any applicable dust suppressant so as to reduce dust plumes.</p> |                                                                    |

| Unit Number | Activity | Aspect                            | Impact                                                                                                                                                                   | Significance Rating Before Mitigation Measures |   |   |   |     |     |     |     |              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Mitigation Measures |
|-------------|----------|-----------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------|---|---|---|-----|-----|-----|-----|--------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|
|             |          |                                   |                                                                                                                                                                          | I                                              | F | D | E | P   | S   | C   | IS  | SIGNIFICANCE | E                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                     |
|             |          | Topography and Visual Environment | <p>Topography changes and the disruption of surface water flow.</p> <p>Soil erosion and topsoil loss.</p> <p>Visual impact caused by vegetation and topsoil removal.</p> | 3                                              | 3 | 4 | 1 | 0,8 | 3,3 | 2,2 | 1,7 | Low          | <p>Ensure vegetation and topsoil is only be cleared when necessary and within the demarcated areas;</p> <p>Ensure topsoil stockpiles are vegetated as soon as possible; and</p> <p>Ensure topsoil stockpiles are contoured and have a steepness of less than 18° to prevent slope failure and erosion and aid in vegetation establishment.</p> <p>Topsoil stockpiles that will be kept for more than a year are to be vegetated to sustain ecological components and further prevent dust emissions and growth of alien vegetation.</p> |                     |
|             |          | Soil                              | Soil contamination and                                                                                                                                                   | 3                                              | 4 | 4 | 1 | 0,8 | 3,7 | 2,3 | 1,9 | Low          | Excavation and long-term stockpiling of soil should be limited within the                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                     |



|  |  |  |                                                                                                     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|--|--|--|-----------------------------------------------------------------------------------------------------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  |  |  | <p>degradation during soil stripping and management</p> <p>Soil erosion and generation of dust.</p> |  |  |  |  |  |  |  |  |  |  |  |  |  |  | <p>demarcated areas as far as practically possible;</p> <p>Ensure all stockpiles (especially topsoil) are clearly and permanently demarcated and located in defined no-go areas;</p> <p>Restrict the amount of mechanical handling, as each handling event increases that compaction level and the changes to the soil structure;</p> <p>Soil stripping should be done in line with a topsoil stripping plan;</p> <p>Where possible, separate stockpiling of different soil to obtain the highest post-mining land capability;</p> <p>Stockpiles should be revegetated to establish a vegetation cover as an erosion control measure. These stockpiles should also be kept alien vegetation free at all times to prevent loss of soil quality;</p> |
|--|--|--|-----------------------------------------------------------------------------------------------------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

|  |  |  |                  |   |   |   |   |     |     |     |     |          |                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |  |                                                                                                                                                |
|--|--|--|------------------|---|---|---|---|-----|-----|-----|-----|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|------------------------------------------------------------------------------------------------------------------------------------------------|
|  |  |  |                  |   |   |   |   |     |     |     |     |          |                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |  | and Temporary berms can be constructed, around stockpile areas whilst vegetation cover has not established to avoid soil loss through erosion. |
|  |  |  | Soil compaction. | 4 | 5 | 4 | 1 | 1,0 | 4,3 | 2,7 | 2,7 | Moderate | <p>If possible, vegetation clearance and commencement of mining related activities (construction of haul road), can be scheduled to coincide with low rainfall conditions when soil moisture is anticipated to be relatively low such that the soils are less prone to compaction;</p> <p>The movement of heavy vehicle should be limited to existing roads and be limited to areas where construction of haul road is to take place.</p> |  |  |                                                                                                                                                |

| Unit Number | Activity | Aspect | Impact                                         | Significance Rating Before Mitigation Measures |   |   |   |     |     |     |     |              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Mitigation Measures |
|-------------|----------|--------|------------------------------------------------|------------------------------------------------|---|---|---|-----|-----|-----|-----|--------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|
|             |          |        |                                                | I                                              | F | D | E | P   | S   | C   | IS  | SIGNIFICANCE | E                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                     |
|             |          |        | Loss of land capability and land use potential | 2                                              | 1 | 4 | 1 | 0,8 | 2,3 | 1,7 | 1,3 | Low          | <ul style="list-style-type: none"> <li>Any compacted soils must be ripped to alleviate compaction;</li> <li>Stored topsoil should be replaced (if any) and the footprint graded to a smooth surface;</li> <li>The landscape should be backfilled and reprofiled to mimic the natural topography for potential agricultural activities and grazing opportunities post mining. If possible, ensure a continuation of the pre mining surface drainage pattern;</li> <li>Slopes of the backfilled surface should change gradually since abrupt changes in slope gradient increase the susceptibility for erosion initiation;</li> <li>The soil fertility status to be determined by soil chemical analysis after levelling (before seeding/re-vegetation).</li> </ul> |                     |

|  |  |  |                                 |   |   |   |   |     |     |     |     |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |  |  |                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|--|--|--|---------------------------------|---|---|---|---|-----|-----|-----|-----|-----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  |  |  |                                 |   |   |   |   |     |     |     |     |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |  |  | <ul style="list-style-type: none"> <li>• Soil amelioration should be completed, if necessary, according to recommendations by a soil specialist, to correct the pH and nutrition status before revegetation; and</li> <li>• The footprint should be re-vegetated with a grass seed mixture as soon as possible, preferably in spring and early summer to stabilise the soil and prevent soil loss during the rainy season.</li> </ul> |
|  |  |  | Loss of vegetation communities. | 4 | 1 | 5 | 1 | 0,8 | 3,3 | 2,2 | 1,7 | Low | <ul style="list-style-type: none"> <li>• Ensure site clearing is restricted to the footprint of the designated areas to limit the degradation and destruction of natural habitats;</li> <li>• Vegetate open and exposed areas to prevent soil erosion and the establishment of alien invasive vegetation;</li> <li>• Restrict access and avoid areas of identified faunal and floral, that are adjacent to the mining activities;</li> <li>• Rescue and relocate important plant species</li> <li>• Restrict access and avoid sensitive landscapes, such as wetlands and</li> </ul> |  |  |                                                                                                                                                                                                                                                                                                                                                                                                                                       |

|  |  |                              |                                                              |   |   |   |   |     |     |     |     |          |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|--|--|------------------------------|--------------------------------------------------------------|---|---|---|---|-----|-----|-----|-----|----------|--|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  |  |                              |                                                              |   |   |   |   |     |     |     |     |          |  | ridges, that are adjacent to the mining operations; and                                                                                                                                                                                                                                                                                                                                                                                                                 |
|  |  |                              | Influx and establishment of alien invasive vegetation.       | 3 | 3 | 4 | 2 | 0,8 | 3,3 | 2,7 | 2,1 | Moderate |  | <ul style="list-style-type: none"> <li>Topsoil that will be used for rehabilitation must be stockpiled according to the Rehabilitation Plan. Compaction of stockpiled topsoil must be avoided to ensure the seed bank is viable.</li> </ul>                                                                                                                                                                                                                             |
|  |  | Wetlands and Aquatic Ecology | Sedimentation of wetland areas downstream of the stockpiles. | 3 | 3 | 4 | 1 | 0,8 | 3,3 | 2,2 | 1,7 | Low      |  | <ul style="list-style-type: none"> <li>Ensure soil management programme is implemented and maintained to minimise erosion and sedimentation;</li> <li>Active rehabilitation, re-sloping, and re-vegetation of disturbed areas immediately after construction;</li> <li>Implement and maintain alien vegetation management programme;</li> <li>Appropriate sanitary facilities must be provided for the duration of the construction activities and all waste</li> </ul> |

|  |  |  |                                                                   |   |   |   |   |     |     |     |     |          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                   |
|--|--|--|-------------------------------------------------------------------|---|---|---|---|-----|-----|-----|-----|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------|
|  |  |  |                                                                   |   |   |   |   |     |     |     |     |          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | must be removed to an appropriate waste facility. |
|  |  |  | Contamination of soils as a result of the ingress of hydrocarbons | 3 | 5 | 4 | 1 | 1,0 | 4,0 | 2,5 | 2,5 | Moderate | <ul style="list-style-type: none"> <li>• Ensure soil management programme is implemented and maintained to minimise erosion and sedimentation;</li> <li>• Active rehabilitation, re-sloping, and re-vegetation of disturbed areas immediately after construction;</li> <li>• Implement and maintain alien vegetation management programme;</li> <li>• Limit the footprint area of the construction activities to what is absolutely essential in order to minimise impacts as a result of vegetation clearing and compaction of soils;</li> <li>• All erosion noted within the construction footprint should be remedied immediately and included as part of an ongoing rehabilitation plan;</li> <li>• All delineated watercourses and their associated 100 m zones of regulation in terms of GN704 should be designated</li> </ul> |                                                   |

|  |  |  |  |  |  |  |  |  |  |  |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|--|--|--|--|--|--|--|--|--|--|--|--|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  |  |  |  |  |  |  |  |  |  |  |  | <p>as "No-Go" areas and be off limits to all unauthorised vehicles and personnel, with the exception of approved construction and operational areas unless authorised as part of the IWUL;</p> <ul style="list-style-type: none"> <li>• No unnecessary crossing of the watercourses should take place and wherever possible, existing infrastructure should be utilised;</li> <li>• Suitably designed culverts should be installed under road crossings where any watercourses are anticipated to be crossed;</li> <li>• The number of culverts installed should be suitable for the gradient, width and flow profiles of the watercourses being crossed so as to avoid upstream inundation, erosion and incision, and alterations to the natural channel;</li> <li>• Crossings should make use of existing roads wherever possible and should either utilise or be constructed down gradient of barriers associated with impoundments on the affected</li> </ul> |
|--|--|--|--|--|--|--|--|--|--|--|--|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

|  |  |  |                                                                        |   |   |   |   |     |     |     |     |          |                                                                                                                                                                                                     |  |  |  |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|--|--|--|------------------------------------------------------------------------|---|---|---|---|-----|-----|-----|-----|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|--|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  |  |  |                                                                        |   |   |   |   |     |     |     |     |          |                                                                                                                                                                                                     |  |  |  |  | <p>systems;</p> <ul style="list-style-type: none"> <li>• No material may be dumped or stockpiled within delineated watercourses;</li> <li>• No vehicles or heavy machinery may be allowed to drive indiscriminately within any delineated watercourses. All vehicles must remain on demarcated roads and within the construction footprint;</li> <li>• All vehicles must be regularly inspected for leaks;</li> <li>• Re-fuelling must take place on a sealed surface area away from wetlands to prevent ingress of hydrocarbons into topsoil;</li> <li>• All spills should be immediately cleaned up and treated accordingly; and.</li> </ul> |
|  |  |  | Loss of catchment yields and surface water recharge, potential loss of | 3 | 5 | 4 | 3 | 0,6 | 4,0 | 3,5 | 2,1 | Moderate | <ul style="list-style-type: none"> <li>• Ensure that as far as possible all infrastructures are placed outside of delineated watercourse areas and their associated zones of regulation;</li> </ul> |  |  |  |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |



|  |  |                                                                                                                                                                |  |  |  |  |  |  |  |  |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|--|--|----------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|--|--|--|--|--|--|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  |  | <p>biodiversity, impaired water quality, potential loss of instream integrity, potential impacts to freshwater resources further downstream of this point.</p> |  |  |  |  |  |  |  |  |  | <ul style="list-style-type: none"> <li>• Ensure that sound environmental management is in place during the planning phase;</li> <li>• Design of infrastructure should be environmentally and structurally sound and all possible precautions taken to prevent spillage and/or seepage to the surface and groundwater resources present;</li> <li>• It must be ensured that the design and construction of all infrastructures prevents failure.</li> </ul> |
|--|--|----------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|--|--|--|--|--|--|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

| Unite Number | Activity | Aspect | Impact                                                                                                                                                                                          | Significance Rating Before Mitigation Measures |   |   |   |     |     |     |     |              | Mitigation Measures                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|--------------|----------|--------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------|---|---|---|-----|-----|-----|-----|--------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|              |          |        |                                                                                                                                                                                                 | I                                              | F | D | E | P   | S   | C   | IS  | SIGNIFICANCE |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|              |          |        | Destruction of natural habitat and animal life within the development area and to maintain ecological connectivity to neighbouring sites and, where possible, to regional ecological corridors. | 4                                              | 5 | 4 | 1 | 1,0 | 4,3 | 2,7 | 2,7 | Moderate     | <ul style="list-style-type: none"> <li>• Environmental awareness training must include the prohibition of any harm or hindrance to any indigenous fauna species and the consequences of such actions.</li> <li>• Allow unhindered movement of fauna to allow them the opportunity to freely leave activity areas.</li> <li>• Ensure safe speed limits in the development area and no open fires.</li> <li>• Do not feed wild life and ensure that all food and food waste, including domestic waste, is placed in sealed containers and not exposed on site.</li> <li>• Ensure that the outside areas are kept clean and tidy and provide adequate waste removal services to prevent the attraction of rats and other alien scavenging species to the site.</li> <li>• Regularly (daily) inspect the haul</li> </ul> |

|  |  |       |                                                                                                                                                                                                                                |   |   |   |   |     |     |     |     |          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|--|--|-------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|---|---|---|-----|-----|-----|-----|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  |  |       |                                                                                                                                                                                                                                |   |   |   |   |     |     |     |     |          | road and clear coal spills and clear coal fines to reduce coal dust contamination to the neighbouring wetland areas.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|  |  | Flora | Loss of vegetation and/or declining species, alteration, and loss of microhabitats, altered vegetation cover, increased erosion and contamination of soil and groundwater due to localised destruction / removal of vegetation | 4 | 5 | 4 | 1 | 1,0 | 4,3 | 2,7 | 2,7 | Moderate | <ul style="list-style-type: none"> <li>• Keep the clearing of vegetation / impacts to vegetation for any activity to a minimum and locate such activities in already modified areas or secondary grassland.</li> <li>• No building of temporary infrastructure should be allowed in moist grasslands without a WUL.</li> <li>• Prevent spillage of hazardous material and other pollutants, contain, and treat any spillages immediately, strictly prohibit any pollution/littering according to the relevant EMPr</li> <li>• After any above ground activities within the site, the land must be cleared of rubbish, surplus materials, and equipment, and all parts of the land must be left in a condition as close as possible to that prior to the activity.</li> <li>• No off-road driving beyond designated areas may be permitted, especially not in natural vegetation.</li> <li>• Strict speed</li> </ul> |

|  |  |  |                                                           |   |   |   |   |     |     |     |     |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                      |
|--|--|--|-----------------------------------------------------------|---|---|---|---|-----|-----|-----|-----|-----|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|
|  |  |  | and vegetated topsoil.                                    |   |   |   |   |     |     |     |     |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | control measures must be implemented for any vehicles driving within the mining rights area to reduce dust. Refer to existing mine control measures. |
|  |  |  | The destruction or degradation of watercourse vegetation. | 1 | 1 | 4 | 2 | 0,6 | 2,0 | 2,0 | 1,2 | Low | <ul style="list-style-type: none"> <li>• There is zero tolerance of the destruction or collecting of any indigenous biodiversity or part thereof by anybody working for or on behalf of the mine.</li> <li>• Monitor the establishment of invasive species and remove as soon as detected, whenever possible before regenerative material can be formed</li> <li>• Monitor all sites disturbed by localised activities for colonisation by exotics or invasive plants and control these as they emerge. Monitoring should continue for at least two years after such activities cease.</li> </ul> |                                                                                                                                                      |

|  |  |  |  |  |  |  |  |  |  |  |  |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|--|--|--|--|--|--|--|--|--|--|--|--|--|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  |  |  |  |  |  |  |  |  |  |  |  |  | <p>soils within the moist grasslands. Should such species decrease or be replaced by terrestrial species, then it is likely that the hydrological regime on the site has changed.</p> <ul style="list-style-type: none"> <li>• If moist grasslands are found to become drier, the Crinum species must be relocated to suitable habitat.</li> <li>• Input of sediment due to any related mining activities should be prevented at all cost.</li> <li>• Pollution of the surface and groundwater. Mitigation for this potential impact includes: <ul style="list-style-type: none"> <li>o In the case of pollution of any surface or groundwater, the Regional Representative of the Department of Water Affairs must be informed immediately;</li> <li>o Store all litter carefully so it cannot be washed or blown into the water course;</li> <li>o Storage of potentially hazardous materials should be above any 100-year flood line or the functional wetland boundary (and its associated</li> </ul> </li> </ul> |
|--|--|--|--|--|--|--|--|--|--|--|--|--|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

|  |  |  |  |  |  |  |  |  |  |  |  |
|--|--|--|--|--|--|--|--|--|--|--|--|
|  |  |  |  |  |  |  |  |  |  |  |  |
|--|--|--|--|--|--|--|--|--|--|--|--|

buffer zone). These materials include fuel, oil, cement, bitumen etc.; o Surface water draining off contaminated areas containing oil and petrol would need to be channeled towards a sump which will separate these chemicals and oils; o No uncontrolled discharges of water from the mine to any surface water resources shall be permitted. Any discharge points need to be approved by the relevant authority.

| Unite Number | Activity | Aspect | Impact                     | Significance Rating Before Mitigation Measures |   |   |   |     |     |     |     | SIGNIFICANCE | Mitigation Measures                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|--------------|----------|--------|----------------------------|------------------------------------------------|---|---|---|-----|-----|-----|-----|--------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|              |          |        |                            | I                                              | F | D | E | P   | S   | C   | IS  |              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|              |          |        | Destruction of vegetation. | 4                                              | 5 | 4 | 1 | 1,0 | 4,3 | 2,7 | 2,7 | Moderate     | <p>An independent Environmental Control Officer (ECO) should be appointed to oversee construction activities and ensure the following:</p> <ul style="list-style-type: none"> <li>• Keep the development footprint in Medium categories as small as possible.</li> <li>• A temporary fence or demarcation must be erected around the construction area (include the actual footprint, as well as areas where material is stored).</li> <li>• Maintain site demarcations in position until the cessation of construction work.</li> <li>• Only remove vegetation where necessary and retain vegetation in place for as long as possible prior to removal.</li> <li>• Prohibit vehicular or pedestrian access into natural areas beyond the</li> </ul> |

|  |  |  |                                                                                               |   |   |   |   |     |     |     |     |          |                                                                                                                                                                                                                                                                                                                                     |  |  |  |  |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|--|--|--|-----------------------------------------------------------------------------------------------|---|---|---|---|-----|-----|-----|-----|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|--|--|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  |  |  |                                                                                               |   |   |   |   |     |     |     |     |          |                                                                                                                                                                                                                                                                                                                                     |  |  |  |  |  | demarcated boundary of the construction area.<br><ul style="list-style-type: none"> <li>• Formalise access roads and make use of existing roads and tracks where feasible, rather than creating new routes through naturally vegetated areas.</li> <li>• Implement a vegetation rehabilitation plan to ensure areas that can be rehabilitated post construction are adequately vegetated with indigenous grass species.</li> <li>• After construction, the land must be cleared of rubbish, surplus materials, and equipment, and all parts of the land must be left in a condition as close as possible to that prior to construction.</li> </ul> |
|  |  |  | Erosion and subsequent sedimentation or pollution of proximate moist grassland (watercourse). | 4 | 5 | 4 | 1 | 0,8 | 4,3 | 2,7 | 2,1 | Moderate | <ul style="list-style-type: none"> <li>• Make use of existing roads and tracks where feasible, rather than creating new routes through grassland areas.</li> <li>• Retain vegetation and soil in position for as long as possible, removing it immediately ahead of construction / earthworks in that area (DWAF, 2005).</li> </ul> |  |  |  |  |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |



|  |  |  |  |  |  |  |  |  |  |  |  |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|--|--|--|--|--|--|--|--|--|--|--|--|--|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  |  |  |  |  |  |  |  |  |  |  |  |  | <ul style="list-style-type: none"> <li>• Runoff from access roads must be managed to avoid erosion and pollution problems.</li> <li>• Ensure that runoff from compacted or sealed surfaces is slowed down and dispersed sufficiently to prevent accelerated erosion from being initiated (erosion management plan required)</li> <li>• Remove only the vegetation where essential for construction and do not allow any disturbance to the adjoining natural vegetation cover. The grassland can be removed as sods and re-established after construction is completed.</li> <li>• Colonisation of the disturbed areas by plants species from the surrounding natural vegetation must be monitored to ensure that vegetation cover is sufficient within one growing season. If not, then the areas need to be rehabilitated with a grass seed mix containing species that naturally occur within the study area.</li> </ul> |
|--|--|--|--|--|--|--|--|--|--|--|--|--|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

|  |  |  |                               |   |   |   |   |     |     |     |     |          |                                                                                                                                                                                                                                                                                                                                                                                                                 |  |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|--|--|--|-------------------------------|---|---|---|---|-----|-----|-----|-----|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  |  |  |                               |   |   |   |   |     |     |     |     |          |                                                                                                                                                                                                                                                                                                                                                                                                                 |  |  | <ul style="list-style-type: none"> <li>• Protect all areas susceptible to erosion and ensure that there is no undue soil erosion resultant from activities within and adjacent to the construction camp and work areas.</li> <li>• Prevent spillage of construction material, oils or other chemicals, strictly prohibit other pollution. Ensure there is a method statement in place to remedy any accidental spillages immediately.</li> <li>• After construction clear any temporarily impacted areas of all foreign materials, re-apply and/or loosen topsoil and landscape to surrounding level.</li> </ul> |
|  |  |  | Alien invasive plant species. | 3 | 5 | 5 | 1 | 1,0 | 4,3 | 2,7 | 2,7 | Moderate | <ul style="list-style-type: none"> <li>• Areas cleared of invasive to be monitored in the growing season (summer).</li> <li>• If re-sprouting or reseeding is noted, follow-up control to be initialised.</li> <li>• Cleared and denuded areas to be rehabilitated as soon as possible with indigenous grass species.</li> <li>• Monitor the establishment of invasive species and remove as soon as</li> </ul> |  |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |

|  |  |  |  |  |  |  |  |  |  |  |  |  |                                                                                                                                                                                                                                                                                                                                                                   |
|--|--|--|--|--|--|--|--|--|--|--|--|--|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  |  |  |  |  |  |  |  |  |  |  |  |  | <p>detected, whenever possible before regenerative material can be formed.</p> <ul style="list-style-type: none"> <li>• Monitor all sites disturbed by localised activities for colonisation by exotics or invasive plants and control these as they emerge.</li> <li>• Monitoring should continue for at least two years after such activities cease.</li> </ul> |
|--|--|--|--|--|--|--|--|--|--|--|--|--|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

| Unite Number | Activity | Aspect        | Impact                                              | Significance Rating Before Mitigation Measures |   |   |   |     |     |     |     |              | Mitigation Measures                                                                                                                                                                                                                                                                                                                                           |
|--------------|----------|---------------|-----------------------------------------------------|------------------------------------------------|---|---|---|-----|-----|-----|-----|--------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|              |          |               |                                                     | I                                              | F | D | E | P   | S   | C   | IS  | SIGNIFICANCE |                                                                                                                                                                                                                                                                                                                                                               |
|              |          | water courses | Siltation of surface water resources.               | 4                                              | 4 | 5 | 2 | 0,8 | 4,3 | 3,2 | 2,5 | Moderate     | <ul style="list-style-type: none"> <li>• Ensure site clearing is limited to the designated areas, and</li> <li>• Implement Storm water Management designs to prevent erosion and divert dirty water to the appropriate storage dams (PCDs).</li> </ul>                                                                                                        |
|              |          |               | Contamination of groundwater resources              | 4                                              | 5 | 5 | 3 | 1,0 | 4,7 | 3,8 | 3,8 | High         | <ul style="list-style-type: none"> <li>• Ensure that a storm water management plan is in place to separate clean and dirty water; and</li> <li>• Groundwater monitoring of the water quality and levels must take place quarterly, especially for the water supply boreholes to ensure a sustainable resource and identify impacts on local users.</li> </ul> |
|              |          | Noise         | Noise emanating from the construction machinery and | 4                                              | 5 | 4 | 2 | 1,0 | 4,3 | 3,2 | 3,2 | High         | <ul style="list-style-type: none"> <li>• Ensure site clearing activities are only undertaken during daylight hours;</li> <li>• Mining related machines and vehicles should be serviced on a regular basis to ensure noise</li> </ul>                                                                                                                          |

|     |                                      |                                    |                                                                           |   |   |   |   |     |     |     |     |          |                                                                                                                                                                                                                      |                                                                                                                                                                                                    |
|-----|--------------------------------------|------------------------------------|---------------------------------------------------------------------------|---|---|---|---|-----|-----|-----|-----|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|     |                                      |                                    | vehicles impacting on surrounding sensitive receptors.                    |   |   |   |   |     |     |     |     |          |                                                                                                                                                                                                                      | suppression mechanisms are effective (e.g. installed exhaust mufflers); and<br><ul style="list-style-type: none"> <li>• Ensure equipment and machinery is switched off when not in use.</li> </ul> |
| 3,0 | Stripping and stockpiling of topsoil | Air Quality                        | Dust generation emanating from the disturbance of soil.                   | 4 | 1 | 1 | 1 | 1,0 | 2,0 | 1,5 | 1,5 | Low      | <p>Ensure that dust suppressants are applied regularly</p> <p>Ensure that dust suppressants are applied to gravel or unpaved roads that are in use;</p> <p>Vehicles should obey speed limits</p>                     |                                                                                                                                                                                                    |
|     |                                      | Topography and Visual Environment. | Topographical change negative visual impact caused by vehicular activity. | 4 | 4 | 4 | 1 | 0,8 | 4,0 | 2,5 | 2,0 | Low      | <p>Ensure liaison with the local authorities for the maintenance and upkeep of roads; Ensure that dust suppressants are applied to gravel or unpaved roads that are in use; and Vehicles will obey speed limits.</p> |                                                                                                                                                                                                    |
|     |                                      | Noise pollution                    | Noise nuisance caused by machinery                                        | 3 | 5 | 4 | 1 | 1,0 | 4,0 | 2,5 | 2,5 | Moderate | <p>Avoid through preventative measures (e.g. communication with landowners and timing of activities).</p> <p>Control through implementation of</p>                                                                   |                                                                                                                                                                                                    |

|     |                                       |         |                                        |   |   |   |   |     |     |     |     |          |                                                                                                                                                                                                                                                                                                                                                                                                           |
|-----|---------------------------------------|---------|----------------------------------------|---|---|---|---|-----|-----|-----|-----|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|     |                                       |         |                                        |   |   |   |   |     |     |     |     |          | EMPr mitigation measures (e.g. noise abatement measures).                                                                                                                                                                                                                                                                                                                                                 |
|     |                                       | Traffic | The degradation of the road structures | 5 | 5 | 4 | 1 | 1,0 | 4,7 | 2,8 | 2,8 | Moderate | Adhere to the Mine's Traffic Management Plan; and<br><br>Gravel roads used must be graded and compacted regularly, should the roads remain unpaved.                                                                                                                                                                                                                                                       |
| 4,0 | development and operation of the mine | Soil    | Soil contamination and degradation.    | 4 | 5 | 5 | 2 | 0,8 | 4,7 | 3,3 | 2,7 | Moderate | In case whereby contractors bring on site mobile bowsers and lubricants, these are to be stored in an abandoned area when parked at the construction areas;<br><br>All potential hydrocarbon spillages and leaks must be cleaned up immediately and the soils remediated;<br><br>Spillage control kits will be readily available on site to contain the mobilisation of contaminants and clean up spills; |

|  |  |               |                                                                   |   |   |   |   |     |     |     |     |          |                                                                                                                                                                                                                                                                                                                                                                                                                  |
|--|--|---------------|-------------------------------------------------------------------|---|---|---|---|-----|-----|-----|-----|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  |  |               |                                                                   |   |   |   |   |     |     |     |     |          | <p>All vehicles and machinery to be serviced in a hard park area or at an off-site location;</p> <p>Storage of hydrocarbons must be managed according to the Hazardous Substances Act, 1973 (Act No. 15 of 1973); and</p> <p>Vehicles with leaks must have drip trays in place.</p>                                                                                                                              |
|  |  | Surface Water | Impacts on surface water resources because of hydrocarbon spills. | 3 | 3 | 4 | 2 | 0,8 | 3,3 | 2,7 | 2,1 | Moderate | <p>In case whereby contractors bring on site mobile bowsers and lubricants, these are to be stored in an abandoned area when parked at the construction areas;</p> <p>All potential hydrocarbon spillages and leaks must be cleaned up immediately and the soils remediated;</p> <p>Spillage control kits will be readily available on site to contain the mobilisation of contaminants and clean up spills;</p> |

|  |  |             |                           |   |   |   |   |     |     |     |     |      |  |  |  |                                                                                                                                                                                                                                                                                                                                                                                                 |
|--|--|-------------|---------------------------|---|---|---|---|-----|-----|-----|-----|------|--|--|--|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  |  |             |                           |   |   |   |   |     |     |     |     |      |  |  |  | <p>All vehicles and machinery to be serviced in a hard park area or at an off-site location;</p> <p>Storage of hydrocarbons must be managed according to the Hazardous Substances Act, 1973 (Act No. 15 of 1973); and</p> <p>Vehicles with leaks must have drip trays in place.</p>                                                                                                             |
|  |  | Groundwater | Groundwater contamination | 4 | 4 | 4 | 3 | 1,0 | 4,0 | 3,5 | 3,5 | High |  |  |  | <p>In case whereby contractors bring on site mobile bowsers and lubricants, these are to be stored in an abandoned area when parked at the construction areas;</p> <p>All potential hydrocarbon spillages and leaks must be cleaned up immediately and the soils remediated;</p> <p>Spillage control kits will be readily available on site to contain the mobilisation of contaminants and</p> |



|  |  |  |  |  |  |  |  |  |  |  |  |                                                                                                                                                                                                                                                                                                             |
|--|--|--|--|--|--|--|--|--|--|--|--|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  |  |  |  |  |  |  |  |  |  |  |  | <p>clean up spills;</p> <p>All vehicles and machinery to be serviced in a hard park area or at an off-site location;</p> <p>Storage of hydrocarbons must be managed according to the Hazardous Substances Act, 1973 (Act No. 15 of 1973); and</p> <p>Vehicles with leaks must have drip trays in place.</p> |
|--|--|--|--|--|--|--|--|--|--|--|--|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

| Unit Number | Activity          | Aspect | Impact                                                       | Significance Rating Before Mitigation Measures |   |   |   |     |     |     |     |              | Mitigation Measures                                                                                                                                                                                                                                                                                                                                                                                             |
|-------------|-------------------|--------|--------------------------------------------------------------|------------------------------------------------|---|---|---|-----|-----|-----|-----|--------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|             |                   |        |                                                              | I                                              | F | D | E | P   | S   | C   | IS  | SIGNIFICANCE |                                                                                                                                                                                                                                                                                                                                                                                                                 |
| 5,0         | Mining operations | Social | safety and security risks to landowners and lawful occupiers | 3                                              | 5 | 4 | 1 | 0,8 | 4,0 | 2,5 | 2,0 | Low          | <p>The area of disturbance must be restricted to the required footprint size;</p> <p>Ensure that only vegetation within the designated areas is removed;</p> <p>The drop heights used during the loading of the cleared soils into trucks should be minimised as far as possible; and</p> <p>Dirt roads to be wetted by a water browser and/or any applicable dust suppressant so as to reduce dust plumes.</p> |
|             |                   |        | interference with existing land uses<br>Crime and violence   | 3                                              | 4 | 4 | 1 | 0,6 | 3,7 | 2,3 | 1,4 | Low          | <p>Ensure vegetation and topsoil is only cleared when necessary and within the demarcated areas; Ensure topsoil stockpiles are vegetated as soon as possible; and ensure topsoil stockpiles</p>                                                                                                                                                                                                                 |

|     |                       |                                   |                                                          |   |   |   |   |     |     |     |     |          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                 |
|-----|-----------------------|-----------------------------------|----------------------------------------------------------|---|---|---|---|-----|-----|-----|-----|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|     |                       |                                   |                                                          |   |   |   |   |     |     |     |     |          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | are contoured and have a steepness of less than 18° to prevent slope failure and erosion and aid in vegetation establishment. Topsoil stockpiles that will be kept for more than a year are to be vegetated to sustain ecological components and further prevent dust emissions and growth of alien vegetation. |
| 6,0 | Drilling and Blasting | Air Quality                       | Fugitive dust generation emanating.                      | 4 | 2 | 1 | 1 | 0,8 | 2,3 | 1,7 | 1,3 | Low      | <ul style="list-style-type: none"> <li>• Ensure that the areas of disturbance are minimised and restricted to the required footprint areas; and</li> <li>• Ensure that dust suppressants are applied to exposed surfaces.</li> </ul>                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                 |
|     |                       | Topography and Visual Environment | Topography changes and disruption of surface water flow. | 4 | 2 | 5 | 3 | 0,8 | 3,7 | 3,3 | 2,7 | Moderate | <ul style="list-style-type: none"> <li>• Limit the footprint areas of the of the surface infrastructure, where possible, especially the width of the link road to be within the servitude;</li> <li>• Ensure that access and haul roads are contoured to limit erosion from surface runoff, preventing further alteration to the topography;</li> <li>• Establish vegetation, where possible, to aid in screening infrastructure;</li> <li>• Surface infrastructure should be</li> </ul> |                                                                                                                                                                                                                                                                                                                 |

|  |  |                 |                                                                                   |   |   |   |   |     |     |     |     |          |                                                                                                                                                                                                                          |  |  |                                                                                                                                                                                                                                       |
|--|--|-----------------|-----------------------------------------------------------------------------------|---|---|---|---|-----|-----|-----|-----|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  |  |                 |                                                                                   |   |   |   |   |     |     |     |     |          |                                                                                                                                                                                                                          |  |  | <p>painted natural hues so as to blend into the surrounding landscape; and</p> <ul style="list-style-type: none"> <li>• Limit construction activities at night and down lighting must be used to minimise light pollution.</li> </ul> |
|  |  | Soils           | Soil contamination and degradation.                                               | 2 | 5 | 4 | 1 | 0,8 | 3,7 | 2,3 | 1,9 | Low      | <ul style="list-style-type: none"> <li>• Ensure soils are stripped and stockpiled prior to the excavation of infrastructure areas; and</li> <li>• Implement Stormwater Management designs to prevent erosion.</li> </ul> |  |  |                                                                                                                                                                                                                                       |
|  |  | Fauna and Flora | Loss of vegetation communities.                                                   | 2 | 5 | 5 | 2 | 0,8 | 4,0 | 3,0 | 2,4 | Moderate | <ul style="list-style-type: none"> <li>• Vegetate open and exposed areas to prevent soil erosion and the establishment of alien invasive vegetation;</li> </ul>                                                          |  |  |                                                                                                                                                                                                                                       |
|  |  |                 | Influx and establishment of alien invasive vegetation.                            | 2 | 5 | 5 | 2 | 0,6 | 4,0 | 3,0 | 1,8 | Low      | <ul style="list-style-type: none"> <li>• Ensure a Storm Water Management Plan is implemented; and Alien invasive vegetation to be identified and removed throughout the LoM.</li> </ul>                                  |  |  |                                                                                                                                                                                                                                       |
|  |  | Fauna           | Destruction of natural habitat and animal life within the development area and to | 4 | 4 | 5 | 2 | 0,8 | 4,3 | 3,2 | 2,5 | Moderate | <ul style="list-style-type: none"> <li>• Environmental awareness training must include the prohibition of any harm or hindrance to any indigenous fauna species and the consequences of such actions.</li> </ul>         |  |  |                                                                                                                                                                                                                                       |

|  |  |       |                                                                                                               |   |   |   |   |     |     |     |     |          |                                                                                                                                                                                                                                                                 |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|--|--|-------|---------------------------------------------------------------------------------------------------------------|---|---|---|---|-----|-----|-----|-----|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  |  |       | maintain ecological connectivity to neighbouring sites and, where possible, to regional ecological corridors. |   |   |   |   |     |     |     |     |          |                                                                                                                                                                                                                                                                 |  | <ul style="list-style-type: none"> <li>• Allow unhindered movement of fauna to allow them the opportunity to freely leave activity areas.</li> <li>• Ensure safe speed limits in the development area and no open fires.</li> <li>• Do not feed wild life and ensure that all food and food waste, including domestic waste, is placed in sealed containers and not exposed on site.</li> <li>• Ensure that the outside areas are kept clean and tidy and provide adequate waste removal services to prevent the attraction of rats and other alien scavenging species to the site.</li> <li>• Regularly (daily) inspect the haul road and clear coal spills and clear coal fines to reduce coal dust contamination to the neighbouring wetland areas.</li> </ul> |
|  |  | Flora | Alien invasive plant species.                                                                                 | 4 | 4 | 5 | 2 | 0,8 | 4,3 | 3,2 | 2,5 | Moderate | <ul style="list-style-type: none"> <li>• Areas cleared of invasive to be monitored in the growing season (summer).</li> <li>• If re-sprouting or reseeding is noted, follow-up control to be initialised.</li> <li>• Cleared and denuded areas to be</li> </ul> |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |

|  |  |                              |                                                                                |   |   |   |   |     |     |     |     |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|--|--|------------------------------|--------------------------------------------------------------------------------|---|---|---|---|-----|-----|-----|-----|-----|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  |  |                              |                                                                                |   |   |   |   |     |     |     |     |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | rehabilitated as soon as possible with indigenous grass species.                                                                                                                                                                                                                                                                                                                                                                          |
|  |  |                              |                                                                                |   |   |   |   |     |     |     |     |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | <ul style="list-style-type: none"> <li>• Monitor the establishment of invasive species and remove as soon as detected, whenever possible before regenerative material can be formed.</li> <li>• Monitor all sites disturbed by localised activities for colonisation by exotics or invasive plants and control these as they emerge.</li> <li>• Monitoring should continue for at least two years after such activities cease.</li> </ul> |
|  |  | Wetlands and Aquatic Ecology | Contamination and sedimentation of the wetland systems and aquatic ecosystems. | 2 | 5 | 4 | 1 | 0,8 | 3,7 | 2,3 | 1,9 | Low | <ul style="list-style-type: none"> <li>• Ensure soil management programme is implemented and maintained to minimise erosion and sedimentation;</li> <li>• Active rehabilitation, re-sloping, and re-vegetation of disturbed areas immediately after construction;</li> <li>• Implement and maintain alien vegetation management programme;</li> <li>• Appropriate sanitary facilities must be provided for the duration of the construction activities and all waste</li> </ul> |                                                                                                                                                                                                                                                                                                                                                                                                                                           |

|  |  |               |                                       |   |   |   |   |     |     |     |     |          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |  |                                                   |
|--|--|---------------|---------------------------------------|---|---|---|---|-----|-----|-----|-----|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|---------------------------------------------------|
|  |  |               |                                       |   |   |   |   |     |     |     |     |          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |  | must be removed to an appropriate waste facility. |
|  |  | Surface Water | Siltation of surface water resources. | 4 | 4 | 5 | 2 | 0,8 | 4,3 | 3,2 | 2,5 | Moderate | <ul style="list-style-type: none"> <li>• Ensure soil management programme is implemented and maintained to minimise erosion and sedimentation;</li> <li>• Active rehabilitation, re-sloping, and re-vegetation of disturbed areas immediately after construction;</li> <li>• Implement and maintain alien vegetation management programme;</li> <li>• Limit the footprint area of the construction activities to what is absolutely essential in order to minimise impacts as a result of vegetation clearing and compaction of soils;</li> <li>• All erosion noted within the construction footprint to be remedied immediately and included as part of an ongoing rehabilitation plan;</li> <li>• All delineated watercourses and their associated 100 m zones of regulation in terms of GN704 must be designated as "No-Go" areas and be off limits to all</li> </ul> |  |  |                                                   |

|  |  |  |  |  |  |  |  |  |  |  |  |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|--|--|--|--|--|--|--|--|--|--|--|--|--|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  |  |  |  |  |  |  |  |  |  |  |  |  | <p>unauthorised vehicles and personnel, with the exception of approved construction and operational areas;</p> <ul style="list-style-type: none"> <li>• No unnecessary crossing of the watercourses to take place and wherever possible, existing infrastructure should be utilised;</li> <li>• Suitably designed culverts to be installed under road crossings where any watercourses are anticipated to be crossed;</li> <li>• The number of culverts installed must be suitable for the gradient, width and flow profiles of the watercourses being crossed so as to avoid upstream inundation, erosion and incision, and alterations to the natural channel;</li> <li>• Crossings to make use of existing roads wherever possible and should either utilise or be constructed down gradient of barriers associated with impoundments on the affected systems;</li> <li>• No material may be dumped or</li> </ul> |
|--|--|--|--|--|--|--|--|--|--|--|--|--|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|



| Unit Number | Activity | Aspect | Impact                  | Significance Rating Before Mitigation Measures |   |   |   |     |     |     |     |              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Mitigation Measures                        |
|-------------|----------|--------|-------------------------|------------------------------------------------|---|---|---|-----|-----|-----|-----|--------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------|
|             |          |        |                         | I                                              | F | D | E | P   | S   | C   | IS  | SIGNIFICANCE |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                            |
|             |          |        |                         |                                                |   |   |   |     |     |     |     |              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | stockpiled within delineated watercourses; |
|             |          | Noise  | Increased noise levels. | 4                                              | 2 | 3 | 1 | 0,8 | 3,0 | 2,0 | 1,6 | Low          | <ul style="list-style-type: none"> <li>Ensuring that all construction equipment operators receive proper training in the use of the equipment and that the equipment is serviced regularly.</li> <li>All blasting and piling driving, if required, should only occur during the day.</li> <li>An environmental noise monitoring survey should be conducted during the construction phase to assess the impact and recommend further actions if required.</li> <li>A public complaints and actions registry should be established to capture public perceptions and complaints regarding noise impacts,</li> </ul> |                                            |

|  |  |  |  |  |  |  |  |  |  |  |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|--|--|--|--|--|--|--|--|--|--|--|--|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  |  |  |  |  |  |  |  |  |  |  |  | <p>track investigation actions, and introduce corrective measures for continuous improvement.</p> <ul style="list-style-type: none"> <li>• Noise complaints should be reported through the community liaison officer and include an effective follow-up process.</li> <li>• Noise reduction techniques should be considered as additional mitigation measures to the project design. Selecting equipment with lower sound power levels. Installing silencers on fans.</li> <li>• Ensure construction activities are only undertaken during daylight hours;</li> <li>• All the diesel-powered equipment should be of high quality and well maintained.</li> </ul> <p>Equipment should be switched off when not in use.</p> <ul style="list-style-type: none"> <li>• It is recommended that noise measurement monitoring continues during construction and operation phases. This will assist in formulating mitigation measures should noise</li> </ul> |
|--|--|--|--|--|--|--|--|--|--|--|--|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

|     |                                                                               |             |                                                                               |   |   |   |   |     |     |     |     |          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|-----|-------------------------------------------------------------------------------|-------------|-------------------------------------------------------------------------------|---|---|---|---|-----|-----|-----|-----|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|     |                                                                               |             |                                                                               |   |   |   |   |     |     |     |     |          | complaints be received from surrounding residents or communities. Additional monitoring points should be included in the vicinity if required/requested.                                                                                                                                                                                                                                                                                                                    |
|     |                                                                               |             |                                                                               |   |   |   |   |     |     |     |     |          | <ul style="list-style-type: none"> <li>Regular maintenance schedules should include a check for noise emissions, e.g., the functional state of all intake and exhaust noise attenuators and effectiveness of enclosures in accordance with standard operating procedures; and</li> <li>Construction related machines and vehicles should be serviced on a regular basis to ensure noise suppression mechanisms are effective (e.g., installed exhaust mufflers).</li> </ul> |
| 7,0 | Construction of RoM Stockpile and associated Water Management Infrastructure. | Air Quality | Fugitive dust generation emanating the RoM Stockpile construction activities. | 4 | 4 | 5 | 2 | 0,8 | 4,3 | 3,2 | 2,5 | Moderate | <ul style="list-style-type: none"> <li>Ensure that the areas of disturbance are minimised and restricted to the required footprint areas;</li> <li>Public complaints and actions registry should be established to capture public perceptions and complaints regarding increased air quality impacts;</li> </ul>                                                                                                                                                            |

|  |  |                                   |                                                                                                                                                    |   |   |   |   |     |     |     |     |     |                                                                                                                                                                                                                                                                           |  |                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|--|--|-----------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|---|---|---|---|-----|-----|-----|-----|-----|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  |  |                                   |                                                                                                                                                    |   |   |   |   |     |     |     |     |     |                                                                                                                                                                                                                                                                           |  | <ul style="list-style-type: none"> <li>• Dust fallout monitoring must be conducted throughout the life of operation of Jaments (Pty) Ltd to confirm model predictions.</li> <li>• Reduce, control and manage the height of material drops (e.g., Transfer chute to RoM Stockpile); and</li> <li>• Increase moisture content of material by using water sprays prior to or during conveying, crushing, and screening material.</li> </ul> |
|  |  | Topography and Visual Environment | Topography changes and disruption of surface water flow.<br><br>Soil erosion and topsoil loss.<br><br>visual impact caused by stockpiling of coal. | 2 | 5 | 5 | 2 | 0,6 | 4,0 | 3,0 | 1,8 | Low | <ul style="list-style-type: none"> <li>• Ensure that the stockpile is constructed with the planned disturbed areas;</li> <li>• Operate, manage, and maintain the stockpile in line with the design plans, as-built plans and operating and maintenance manual.</li> </ul> |  |                                                                                                                                                                                                                                                                                                                                                                                                                                          |

|  |  |                 |                                |   |   |   |   |     |     |     |     |          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|--|--|-----------------|--------------------------------|---|---|---|---|-----|-----|-----|-----|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  |  | Soils           | Soil degradation.              | 4 | 4 | 5 | 2 | 0,8 | 4,3 | 3,2 | 2,5 | Moderate | <ul style="list-style-type: none"> <li>• Minimise topsoil stockpile heights as far as possible;</li> <li>• Ensure soils are stripped and stockpiled prior to the excavation of infrastructure foundations;</li> <li>• Ensure stockpiles are maintained in a fertile and erosion free state by sampling and analysing for macro nutrients and pH on an annual basis;</li> <li>• Traffic and access to the stockpiles will be restricted;</li> <li>• Ensure that the topsoil stockpiles are vegetated to prevent soil erosion and to reinstitute the ecological processes within the soil; and</li> <li>• Implement Storm water Management designs to prevent erosion.</li> </ul> |
|  |  | Fauna and Flora | Loss of vegetation communities | 2 | 5 | 5 | 2 | 0,6 | 4,0 | 3,0 | 1,8 | Low      | <p>Vegetate open and exposed areas to prevent soil erosion and the establishment of alien invasive vegetation;</p> <p>Ensure a Storm Water Management Plan is implemented; and</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |

|  |  |                              |                                                                                |   |   |   |   |     |     |     |     |          |                                                                                                                                                                                                                                                                                                                                       |  |                                                                            |
|--|--|------------------------------|--------------------------------------------------------------------------------|---|---|---|---|-----|-----|-----|-----|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|----------------------------------------------------------------------------|
|  |  |                              |                                                                                |   |   |   |   |     |     |     |     |          |                                                                                                                                                                                                                                                                                                                                       |  | Alien invasive vegetation to be identified and removed throughout the LoM. |
|  |  | Wetlands and Aquatic Ecology | Contamination and sedimentation of the wetland systems and aquatic ecosystems. | 2 | 5 | 4 | 1 | 0,8 | 3,7 | 2,3 | 1,9 | Low      | Ensure the statutory buffers are implemented from the wetlands systems and watercourses, unless otherwise stated in the IWUL;<br><br>Ensure a Storm Water Management Plan is implemented; and Implement a biannual Aquatic Monitoring Programme to monitor potential impacts and implement corrective actions, should it be required. |  |                                                                            |
|  |  | Surface Water                | Siltation of surface water resources.                                          | 4 | 4 | 5 | 2 | 0,8 | 4,3 | 3,2 | 2,5 | Moderate | Ensure that the topsoil stockpiles are vegetated to prevent soil erosion; Implement Storm water Management designs to prevent erosion and divert dirty water to the appropriate storage dams (PCDs); and The design, construction, operation and maintenance of water management                                                      |  |                                                                            |

|  |  |             |                                                                                               |   |   |   |   |     |     |     |     |      |                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                       |
|--|--|-------------|-----------------------------------------------------------------------------------------------|---|---|---|---|-----|-----|-----|-----|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------|
|  |  |             |                                                                                               |   |   |   |   |     |     |     |     |      |                                                                                                                                                                                                                                                                                                                                                                                                                                              | facilities must be in accordance with GN R 704 capacity requirements. |
|  |  | Noise       | Increase Noise Levels                                                                         | 2 | 2 | 2 | 2 | 0,8 | 2,0 | 2,0 | 1,6 | Low  | <p>Noise levels in the area are already well within 70dBA for the industrial areas during the day and 60 dBA at night as may be associated with mining. Therefore, it is expected that additional noise levels contributed by Jaments (Pty) Ltd will be insignificant.</p> <p>Trucks, machinery, and equipment will be regularly serviced to ensure acceptable noise levels are not exceeded. Silencers will be utilised where possible.</p> |                                                                       |
|  |  | Groundwater | Contamination of groundwater resources<br>Seepage through and runoff from the coal stockpile. | 4 | 4 | 5 | 2 | 1,0 | 4,3 | 3,2 | 3,2 | High | <ul style="list-style-type: none"> <li>A groundwater monitoring system must be implemented and test the water on a quarterly basis for changes in water quality and water levels. Should impacts be identified, management measures must be implemented based on the contaminant or water level change;</li> </ul>                                                                                                                           |                                                                       |

|      |                                                    |      |                                    |   |   |   |   |     |     |     |     |          |                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|------|----------------------------------------------------|------|------------------------------------|---|---|---|---|-----|-----|-----|-----|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|      |                                                    |      |                                    |   |   |   |   |     |     |     |     |          |                                                                                                                                                                                                             | <ul style="list-style-type: none"> <li>• Implement a Surface Water Management Plan to minimise the volume of dirty water produced, as well as the effectiveness of the containment of dirty water, thereby reducing the probability of contamination of groundwater from infiltration of dirty surface water;</li> <li>• Refine and update the conceptual and numerical models annually for the first four years and thereafter every five years based on groundwater monitoring results. This will help to better quantify impacts to water quantity and quality; and</li> <li>• All contaminant, waste and hazardous waste storage facilities and other contaminated water storage areas (PCD) must be lined to proactively prevent infiltration of contaminated seepage water.</li> </ul> |
| 10,0 | Storage, use and control of fuel and lubricants to | Soil | Soil contamination and degradation | 4 | 4 | 5 | 2 | 0,8 | 4,3 | 3,2 | 2,5 | Moderate | <ul style="list-style-type: none"> <li>• All potential hydrocarbon spillages and leaks must be cleaned up immediately and the soils remediated;</li> <li>• Spillage control kits will be readily</li> </ul> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |



|  |                                    |             |                           |   |   |   |   |     |     |     |     |      |                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|--|------------------------------------|-------------|---------------------------|---|---|---|---|-----|-----|-----|-----|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | be used for the mining activities. |             |                           |   |   |   |   |     |     |     |     |      |                                                                                                                                                                                                                                                                                                                                                                    | <p>available on site to contain the mobilisation of contaminants and clean up spills;</p> <ul style="list-style-type: none"> <li>• All vehicles and machinery to be serviced in a hard park area or at an off-site location;</li> <li>• Storage of hydrocarbons and explosives must be managed according to the Hazardous Substances Act, 1973 (Act No. 15 of 1973);</li> <li>• Hydrocarbons and explosives storage facilities must be in a hard park bunded facility; and</li> <li>• Vehicles with leaks must have drip trays in place.</li> </ul> |
|  |                                    | Groundwater | Groundwater contamination | 5 | 5 | 5 | 3 | 1,0 | 5,0 | 4,0 | 4,0 | High | <ul style="list-style-type: none"> <li>• All potential hydrocarbon leaks must be repaired immediately and spillages be cleaned up immediately and the soils remediated;</li> <li>• Spillage control kits will be readily available on site to contain the mobilisation of contaminants and clean up spills;</li> <li>• All vehicles and machinery to be</li> </ul> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |

|      |                                                                                |             |                                                                              |   |   |   |   |     |     |     |     |     |                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|------|--------------------------------------------------------------------------------|-------------|------------------------------------------------------------------------------|---|---|---|---|-----|-----|-----|-----|-----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|      |                                                                                |             |                                                                              |   |   |   |   |     |     |     |     |     |                                                                                                                                                                                                                                                                                                             | <p>serviced in a hard park area or at an off-site location;</p> <ul style="list-style-type: none"> <li>• Storage of hydrocarbons and explosives must be managed according to the Hazardous Substances Act, 1973 (Act No. 15 of 1973);</li> <li>• Hydrocarbons and explosives storage facilities must be in a hard park bunded facility; and</li> <li>• Vehicles with leaks must have drip trays in place; and</li> <li>• Groundwater monitoring of the water quality and levels must take place quarterly especially for the water supply boreholes to ensure a sustainable resource and identify impacts on local users.</li> </ul> |
| 11,0 | Operation of the RoM Stockpile and associated Water Management Infrastructure. | Air Quality | Fugitive dust generation emanating the RoM Stockpile operational activities. | 2 | 3 | 4 | 1 | 0,8 | 3,0 | 2,0 | 1,6 | Low | <ul style="list-style-type: none"> <li>• Ensure that the areas of disturbance are minimised and restricted to the required footprint areas;</li> <li>• Public complaints and actions registry should be established to capture public perceptions and complaints regarding increased air quality</li> </ul> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |

|  |  |                                   |                                                                                                   |   |   |   |   |     |     |     |     |          |  |  |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|--|--|-----------------------------------|---------------------------------------------------------------------------------------------------|---|---|---|---|-----|-----|-----|-----|----------|--|--|--|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  |  |                                   |                                                                                                   |   |   |   |   |     |     |     |     |          |  |  |  | <p>impacts;</p> <ul style="list-style-type: none"> <li>• Dust fallout monitoring must be conducted throughout the life of operation of Jaments (Pty) Ltd to confirm model predictions;</li> <li>• control and manage the height of material drops (e.g., Transfer chute to RoM Stockpile); and</li> <li>• Increase moisture content of material by using water sprays prior to or during conveying, crushing, and screening material.</li> </ul> |
|  |  | Topography and Visual Environment | Topography change and disruption of surface water flow;To minimise soil erosion and topsoil loss; | 4 | 4 | 5 | 2 | 0,8 | 4,3 | 3,2 | 2,5 | Moderate |  |  |  | <ul style="list-style-type: none"> <li>• Ensure that the stockpile is constructed within the proposed planned disturbed areas;</li> <li>• Operate, manage and maintain the stockpile in line with the design plans, as-built plans and operating and maintenance manual.</li> </ul>                                                                                                                                                              |

| Unit Number | Activity | Aspect          | Impact                          | Significance Rating Before Mitigation Measures |   |   |   |     |     |     |     |              | Mitigation Measures                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|-------------|----------|-----------------|---------------------------------|------------------------------------------------|---|---|---|-----|-----|-----|-----|--------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|             |          |                 |                                 | I                                              | F | D | E | P   | S   | C   | IS  | SIGNIFICANCE |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|             |          |                 | Soil degradation.               | 3                                              | 3 | 3 | 1 | 1,0 | 3,0 | 2,0 | 2,0 | Moderate     | <ul style="list-style-type: none"> <li>Minimise topsoil stockpile heights as far as possible;</li> <li>Ensure soils are stripped and stockpiled prior to the excavation of infrastructure foundations;</li> <li>Ensure stockpiles are maintained in a fertile and erosion free state by sampling and analysing for macro nutrients and pH on an annual basis;</li> <li>Traffic and access to the stockpiles will be restricted;</li> <li>Ensure that the topsoil stockpiles are vegetated to prevent soil erosion and to reinstitute the ecological processes within the soil; and</li> <li>Implement Storm water Management designs to prevent erosion.</li> </ul> |
|             |          | Fauna and Flora | Loss of vegetation communities. | 2                                              | 3 | 3 | 2 | 0,6 | 2,7 | 2,3 | 1,4 | Low          | <ul style="list-style-type: none"> <li>Vegetate open and exposed areas to prevent soil erosion and the establishment of alien invasive</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |

|  |  |                              |                                                                                           |   |   |   |   |     |     |     |     |          |                                                                                                                                                                                                                                                                                                                                                                                                          |  |  |  |  |                                                                                                                                                                                                        |
|--|--|------------------------------|-------------------------------------------------------------------------------------------|---|---|---|---|-----|-----|-----|-----|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|--|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  |  |                              | Influx and establishment of alien invasive vegetation.                                    |   |   |   |   |     |     |     |     |          |                                                                                                                                                                                                                                                                                                                                                                                                          |  |  |  |  | vegetation;<br><ul style="list-style-type: none"> <li>• Ensure a Storm Water Management Plan is implemented; and Alien invasive vegetation to be identified and removed throughout the LoM.</li> </ul> |
|  |  | Wetlands and Aquatic Ecology | Contamination and sedimentation of the downstream wetland systems and aquatic ecosystems. | 3 | 3 | 4 | 1 | 1,0 | 3,3 | 2,2 | 2,2 | Moderate | <ul style="list-style-type: none"> <li>• Ensure the statutory buffers are implemented from the wetlands systems and watercourses, unless otherwise stated in the IWUL;</li> <li>• Ensure a Storm Water Management Plan is implemented; and</li> <li>• Implement a biannual Aquatic Monitoring Programme to monitor potential impacts and implement corrective actions, should it be required.</li> </ul> |  |  |  |  |                                                                                                                                                                                                        |
|  |  | Surface Water                | Siltation of downstream surface water resources.                                          | 4 | 4 | 5 | 2 | 0,8 | 4,3 | 3,2 | 2,5 | Moderate | <ul style="list-style-type: none"> <li>• Ensure that the topsoil stockpiles are vegetated to prevent soil erosion;</li> <li>• Implement Stormwater Management designs to prevent erosion and divert dirty water to the appropriate storage dams (PCDs); and</li> <li>• The design, construction, operation and maintenance of water</li> </ul>                                                           |  |  |  |  |                                                                                                                                                                                                        |

|  |  |             |                                        |   |   |   |   |     |     |     |     |          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |  |                                                                                  |
|--|--|-------------|----------------------------------------|---|---|---|---|-----|-----|-----|-----|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|----------------------------------------------------------------------------------|
|  |  |             |                                        |   |   |   |   |     |     |     |     |          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |  | management facilities must be in accordance with GN R 704 capacity requirements. |
|  |  | Groundwater | Contamination of groundwater resources | 3 | 3 | 3 | 3 | 0,8 | 3,0 | 3,0 | 2,4 | Moderate | <ul style="list-style-type: none"> <li>• A groundwater monitoring system must be implemented and test the water on a quarterly basis for changes in water quality and water levels. Should impacts be identified, management measures must be implemented based on the contaminant or water level change;</li> <li>• Implement a Surface Water Management Plan to minimise the volume of dirty water produced, as well as the effectiveness of the containment of dirty water, thereby reducing the probability of contamination of groundwater from infiltration of dirty surface water;</li> <li>• Refine and update the conceptual and numerical models annually for the first four years and thereafter every five years based on groundwater monitoring results. This will help to better</li> </ul> |  |  |                                                                                  |

|      |                                      |      |                                                                            |   |   |   |   |     |     |     |     |          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                   |
|------|--------------------------------------|------|----------------------------------------------------------------------------|---|---|---|---|-----|-----|-----|-----|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|      |                                      |      |                                                                            |   |   |   |   |     |     |     |     |          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | quantify impacts to water quantity and quality; and                                                                                                                                                                                               |
|      |                                      |      |                                                                            |   |   |   |   |     |     |     |     |          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | <ul style="list-style-type: none"> <li>All contaminant, waste and hazardous waste storage facilities and other contaminated water storage areas (PCD) must be lined to proactively prevent infiltration of contaminated seepage water.</li> </ul> |
| 12,0 | Transportation of coal via R555 road | Soil | Soil contamination and degradation due to potential hydrocarbon spillages. | 3 | 5 | 4 | 1 | 0,8 | 4,0 | 2,5 | 2,0 | Moderate | <ul style="list-style-type: none"> <li>All potential hydrocarbon spillages and leaks must be cleaned up immediately and the soils remediated;</li> <li>Spillage control kits will be readily available on site to contain the mobilisation of contaminants and clean up spills;</li> <li>All vehicles and machinery to be serviced in a hard park area or at an off-site location;</li> <li>Storage of hydrocarbons must be managed according to the Hazardous Substances Act, 1973 (Act No. 15 of 1973); and</li> <li>Vehicles with leaks must have drip trays in place.</li> </ul> |                                                                                                                                                                                                                                                   |

|  |  |                                 |                                      |   |   |   |   |     |     |     |     |     |  |  |  |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|--|--|---------------------------------|--------------------------------------|---|---|---|---|-----|-----|-----|-----|-----|--|--|--|--|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  |  | Wetland and aquatic environment | Increased movement of heavy vehicles |   |   |   |   |     |     |     |     |     |  |  |  |  | <ul style="list-style-type: none"> <li>• Clean and dirty water separation systems to be implemented prior to the commencement of activities and to be maintained throughout the life of the proposed project;</li> <li>• Ensure that as far as possible all operational infrastructures are placed outside of wetland/riparian areas and their associated 32 or 100m zones of regulation respectively;</li> <li>• Limit the footprint area of the operational activities to what is absolutely essential in order to minimise impacts as a result of subsidence;</li> <li>• Ensure that no incision and canalisation of the wetland features present takes place as a result of the proposed operational activities;</li> <li>• All erosion noted within the operational footprint as a result of either subsidence or any potential surface activities should be remedied immediately and included as part of the ongoing rehabilitation plan;</li> <li>• Erosion berms should be installed on</li> </ul> |
|  |  |                                 |                                      | 2 | 5 | 4 | 1 | 0,8 | 3,7 | 2,3 | 1,9 | Low |  |  |  |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |



|  |  |  |  |  |  |  |  |  |  |  |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|--|--|--|--|--|--|--|--|--|--|--|--|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  |  |  |  |  |  |  |  |  |  |  |  | <p>roadways and downstream of stockpiles to prevent gully formation and siltation of the freshwater resources.</p> <ul style="list-style-type: none"> <li>• A suitable AIP control programme must be put in place so as to prevent further encroachment as a result of disturbance to the surrounding terrestrial zones;</li> <li>• All delineated watercourses should be designated as "No-Go" areas and be off limits to all unauthorised vehicles and personnel, with the exception of approved operational areas;</li> <li>• No material may be dumped or stockpiled within any watercourses in the vicinity of the proposed operational footprint;</li> <li>• No vehicles or heavy machinery may be allowed to drive indiscriminately within any delineated watercourses. All vehicles must remain on demarcated roads and within the operational area footprint;</li> <li>• All vehicles must be regularly</li> </ul> |
|--|--|--|--|--|--|--|--|--|--|--|--|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

|  |  |                               |                                                                        |   |   |   |   |     |     |     |     |          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|--|--|-------------------------------|------------------------------------------------------------------------|---|---|---|---|-----|-----|-----|-----|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  |  |                               |                                                                        |   |   |   |   |     |     |     |     |          | inspected for leaks;                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|  |  |                               |                                                                        |   |   |   |   |     |     |     |     |          | <ul style="list-style-type: none"> <li>• Re-fueling must take place on a sealed surface area away from wetlands to prevent ingress of hydrocarbons into topsoil;</li> <li>• All spills should be immediately cleaned up and treated accordingly;</li> <li>• Appropriate sanitary facilities must be provided for the duration of the operational activities and all waste must be removed to an appropriate waste facility;</li> <li>• Monitor all systems for erosion and incision;</li> <li>• Areas across watercourses where cross-sectional subsidence is observed should be rehabilitated in such a way as to maintain stream connectivity in a downstream direction.</li> </ul> |
|  |  | Surface water and groundwater | Contamination of surface water due to potential hydrocarbon spillages. | 4 | 4 | 5 | 2 | 0,8 | 4,3 | 3,2 | 2,5 | Moderate | <ul style="list-style-type: none"> <li>• All potential hydrocarbon spillages and leaks must be cleaned up immediately and the soils remediated;</li> <li>• Spillage control kits will be readily available on site to contain the mobilisation of contaminants and clean</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                   |

|      |                     |             |                                     |   |   |   |   |     |     |     |     |      |  |  |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|------|---------------------|-------------|-------------------------------------|---|---|---|---|-----|-----|-----|-----|------|--|--|--|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|      |                     |             |                                     |   |   |   |   |     |     |     |     |      |  |  |  | up spills;                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|      |                     |             |                                     |   |   |   |   |     |     |     |     |      |  |  |  | <ul style="list-style-type: none"> <li>• All vehicles and machinery to be serviced in a hard park area or at an off-site location;</li> <li>• Storage of hydrocarbons must be managed according to the Hazardous Substances Act, 1973 (Act No. 15 of 1973); and</li> <li>• Vehicles with leaks must have drip trays in place.</li> </ul>                                                                                                                                                                                                         |
| 13,0 | Vehicular activity. | Air Quality | Fugitive dust generation emanating. | 4 | 5 | 4 | 3 | 1,0 | 4,3 | 3,7 | 3,7 | High |  |  |  | <ul style="list-style-type: none"> <li>• Ensure the area of disturbance during the mining activities is restricted to the to the identified mining strips;</li> <li>• Ensure that dust suppressants are applied to gravel or unpaved roads that are in use;</li> <li>• Cover the road going trucks from the tip to KPS with a tarpaulin to prevent coal dust generation; and</li> <li>• Vehicles will obey speed limits. Maintenance equipment and heavy vehicle speeds should be reduced, where possible, to prevent dust emissions.</li> </ul> |

|  |                       |                                                         |   |   |   |   |     |     |     |     |          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|--|-----------------------|---------------------------------------------------------|---|---|---|---|-----|-----|-----|-----|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | Topography and Visual | Topography changes and disruption of surface water flow | 2 | 5 | 5 | 2 | 0,6 | 4,0 | 3,0 | 1,8 | Low      | <ul style="list-style-type: none"> <li>• Ensure that access and haul roads are contoured to limit erosion from surface runoff, preventing further alteration to the topography;</li> <li>• Ensure that dust suppressants are applied to gravel or unpaved roads that are in use; and</li> <li>• Vehicles will obey speed limits.</li> </ul>                                                                                                                                                                                                                                                                                         |
|  | Soil                  | Soil contamination and degradation.                     | 4 | 4 | 5 | 2 | 0,8 | 4,3 | 3,2 | 2,5 | Moderate | <ul style="list-style-type: none"> <li>• All potential hydrocarbon spillages and leaks must be cleaned up immediately and the soils remediated;</li> <li>• Spillage control kits will be readily available on site to contain the mobilisation of contaminants and clean up spills;</li> <li>• All vehicles and machinery to be serviced in a hard park area or at an off-site location;</li> <li>• Storage of hydrocarbons and explosives must be managed according to the Hazardous Substances Act, 1973 (Act No. 15 of 1973);</li> <li>• Hydrocarbons and explosives storage facilities must be in a hard park bunded</li> </ul> |

|  |                              |                                                                               |   |   |   |   |     |     |     |     |          |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|--|------------------------------|-------------------------------------------------------------------------------|---|---|---|---|-----|-----|-----|-----|----------|--|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  |                              |                                                                               |   |   |   |   |     |     |     |     |          |  | facility; and                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|  | Fauna and Flora              | Loss of biodiversity and minimise impacts on floral species                   | 4 | 4 | 5 | 2 | 0,8 | 4,3 | 3,2 | 2,5 | Moderate |  | <ul style="list-style-type: none"> <li>• Vehicles with leaks must have drip trays in place.</li> <li>• Ensure that dust suppressants are applied to gravel or unpaved roads that are in use;</li> <li>• Cover the road going trucks from the tip to KPS with a tarpaulin to prevent coal dust generation; and</li> <li>• Vehicles will obey speed limits.</li> </ul>                                                                                                                                                                           |
|  | Wetlands and Aquatic Ecology | Contamination and sedimentation of the wetland systems and aquatic ecosystems | 2 | 2 | 4 | 3 | 1,0 | 2,7 | 2,8 | 2,8 | Moderate |  | <ul style="list-style-type: none"> <li>• Ensure a Storm Water Management Plan is implemented;</li> <li>• Ensure that dust suppressants are applied to gravel or unpaved roads that are in use and exposed surfaces;</li> <li>• Cover the road going trucks from the tip to KPS with a tarpaulin to prevent coal dust generation;</li> <li>• Vehicles will obey speed limits; and</li> <li>• Implement a biannual Aquatic Monitoring Programme to monitor potential impacts and implement corrective actions, should it be required.</li> </ul> |

|  |               |                                                           |   |   |   |   |     |     |     |     |          |                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|--|---------------|-----------------------------------------------------------|---|---|---|---|-----|-----|-----|-----|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | Surface Water | Contamination and sedimentation of clean water resources. | 4 | 4 | 5 | 2 | 0,8 | 4,3 | 3,2 | 2,5 | Moderate | <ul style="list-style-type: none"> <li>• Ensure that dust suppressants are applied to gravel or unpaved roads that are in use and exposed surfaces;</li> <li>• Cover the road going trucks from the tip to KPS with a tarpaulin to prevent coal dust generation;</li> <li>• Vehicles will obey speed limits; and</li> <li>• Monitor surface water resources up and downstream of the Project area to identify potential contamination.</li> </ul> |
|--|---------------|-----------------------------------------------------------|---|---|---|---|-----|-----|-----|-----|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

| Unite Number | Activity | Aspect  | Impact                                                                                             | Significance Rating Before Mitigation Measures |   |   |   |     |     |     |     |              | Mitigation Measures                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|--------------|----------|---------|----------------------------------------------------------------------------------------------------|------------------------------------------------|---|---|---|-----|-----|-----|-----|--------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|              |          |         |                                                                                                    | I                                              | F | D | E | P   | S   | C   | IS  | SIGNIFICANCE |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|              |          | Noise   | noise emanating from mining and vehicular activities impacting on surrounding sensitive receptors. | 4                                              | 4 | 5 | 2 | 0,8 | 4,3 | 3,2 | 2,5 | Moderate     | <ul style="list-style-type: none"> <li>• Mining related machines and vehicles should be serviced on a regular basis to ensure noise suppression mechanisms are effective (e.g., installed exhaust mufflers); and</li> <li>• Ensure equipment and machinery is switched off when not in use.</li> <li>• The gravel roads must be graded and compacted on a regular basis and as when required, should the roads remain unpaved; and</li> <li>• Adhere to the set speed limit in accordance to the Traffic Management Plan.</li> </ul> |
|              |          | Traffic | Degradation of the road structures resulting in potential health and                               | 3                                              | 4 | 5 | 2 | 0,8 | 4,0 | 3,0 | 2,4 | Moderate     | <ul style="list-style-type: none"> <li>• The gravel roads must be graded and compacted on a regular basis and as when required, should the roads remain unpaved; and</li> <li>• Adhere to the set speed limit in</li> </ul>                                                                                                                                                                                                                                                                                                          |

|      |                         |                              |                                                             |   |   |   |   |     |     |     |     |          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                            |
|------|-------------------------|------------------------------|-------------------------------------------------------------|---|---|---|---|-----|-----|-----|-----|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------|
|      |                         |                              | safety risks and soil erosion.                              |   |   |   |   |     |     |     |     |          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | accordance to the Traffic Management Plan. |
| 14,0 | Dirty water management. | Wetlands and Aquatic Ecology | Contamination of the wetland systems and aquatic ecosystems | 4 | 4 | 5 | 2 | 0,8 | 4,3 | 3,2 | 2,5 | Moderate | <ul style="list-style-type: none"> <li>• Ensure a Storm Water Management Plan is implemented;</li> <li>• Ensure that no incision and canalisation of the watercourses;</li> <li>• Dirty water from the infrastructure areas must be diverted by channels and berms and separated from clean water. The dirty water must be stored in the existing PCDs;</li> <li>• No waste and/or contaminated material may be dumped or stockpiled within any watercourses;</li> <li>• The operation and maintenance of the PCD must be in accordance with the NWA Regulations set out in GN R704 and must have a minimum freeboard of 0.8 m and be able to contain a 1:50 year, 24-hour storm event; and</li> <li>• Implement a biannual Aquatic Monitoring Programme to monitor potential impacts and implement</li> </ul> |                                            |



|  |  |  |                                         |   |   |   |   |     |     |     |     |          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |  |  |                                            |
|--|--|--|-----------------------------------------|---|---|---|---|-----|-----|-----|-----|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--------------------------------------------|
|  |  |  |                                         |   |   |   |   |     |     |     |     |          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |  |  | corrective actions, should it be required. |
|  |  |  | Contamination of clean water resources. | 4 | 4 | 5 | 2 | 0,8 | 4,3 | 3,2 | 2,5 | Moderate | <ul style="list-style-type: none"> <li>• Continue with water quality monitoring at the existing sample at the current monitoring locations and frequency. Increase monitoring frequency for those monitoring points that show constant non-compliances;</li> <li>• The water levels in the Surface Main PCD and the Main Underground dams must be constantly monitoring and recorded for evaluation of additional future capacity and/or treatment requirements;</li> <li>• Pipelines used for dewatering activities need to be sized based on the dewatering rates and volumes;</li> <li>• The operation and maintenance of the existing PCD must be in accordance with the NWA Regulations set out in GN R704 and must have a minimum freeboard of 0.8 m and be able to contain a 1:50 year, 24-hour</li> </ul> |  |  |                                            |

|  |  |             |                            |   |   |   |   |     |     |     |     |          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                           |
|--|--|-------------|----------------------------|---|---|---|---|-----|-----|-----|-----|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  |  |             |                            |   |   |   |   |     |     |     |     |          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | storm event;<br><ul style="list-style-type: none"> <li>• Monitor the dirty water management facilities on a monthly basis to identify potential leaks and implement management measures to rectify potential issues; and</li> <li>• Monitor surface water resources up and downstream of the Project area to identify potential contamination.</li> </ul> |
|  |  | Groundwater | Groundwater contamination. | 4 | 4 | 5 | 2 | 0,8 | 4,3 | 3,2 | 2,5 | Moderate | <ul style="list-style-type: none"> <li>• Ensure that pipelines and diversion channels and berms are monitored for potential leaks and structure failures;</li> <li>• Potential leaks and spills must be contained and cleaned up immediately, as well as the leakage location repaired;</li> <li>• The mine should supply the users with an alternative source of water in case the boreholes are dewatered;;</li> <li>• Monitor and control the potential decant of dirty water from the workings</li> <li>• Monitor the borehole water quality and if the quality deteriorates, it is recommended to start pumping to contain the plume;</li> </ul> |                                                                                                                                                                                                                                                                                                                                                           |



|  |  |               |                                         |   |   |   |   |     |     |     |     |          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|--|--|---------------|-----------------------------------------|---|---|---|---|-----|-----|-----|-----|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  |  | Surface Water | Contamination of clean water resources. | 4 | 4 | 5 | 2 | 0,8 | 4,3 | 3,2 | 2,5 | Moderate | <ul style="list-style-type: none"> <li>• The sewer waster collected from the workings must be disposed of at a licensed sewage treatment facility;</li> <li>• Monitor surface water resources up and downstream of the Project area to identify potential contamination;</li> <li>• Ensure that a storm water management plan is in place to separate clean and dirty water; and</li> <li>• Waste must be separated at source and stored in appropriately designated areas for disposal at a licensed facility or by a reputable contractor.</li> </ul> |
|  |  |               |                                         |   |   |   |   |     |     |     |     |          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |

## 2.14 Summary of baseline reports

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

| List of studies undertaken            | Recommendations of specialist reports                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Specialist recommendations included in the <b>BASIC ASSESSMENT</b> report<br>Mark with an X where applicable | Reference to applicable report section<br>Where specialist recommendations have been included |
|---------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|
| <b>Baseline Hydrogeological study</b> | <p>Surface water quality monitoring is to be conducted monthly during the construction and operational phases of the project;</p> <ul style="list-style-type: none"> <li>• The designing of the infrastructures will take into consideration the slope types identified around the mining permit to effectively manage water.</li> <li>• The area falls on weathered aquifer, wastewater will be properly diverted from seepage, as the aquifer is weathered, and contamination is highly likely.</li> <li>• Proper storm water management is recommended to prevent the risk of water resources contamination.</li> <li>• The study area falls on a fractured aquifer system, the mine planning will take into consideration the fracture zones in the Vryheid formation, drilling activities will not contact the fractures as that is where most groundwater</li> </ul> |                                                                                                              |                                                                                               |

| List of studies undertaken | Recommendations of specialist reports                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Specialist recommendations included in the <b>BASIC ASSESSMENT</b> report<br>Mark with an X where applicable | Reference to applicable report section<br>Where specialist recommendations have been included |
|----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|
|                            | <p>in the area is found and to prevent possible groundwater pollution from residual explosive material used.</p> <ul style="list-style-type: none"> <li>• The numerical model will be recalibrated as soon as more hydrogeological data such as monitoring holes are made available. This would enhance model predictions and certainty.</li> <li>• There will be regular testing or monitoring of surrounding soil, water resources to detect any change in chemistry so that remedial measures are implemented in time.</li> <li>• The monitoring process throughout the existence of the project, the chemical and physical parameters of the water samples will be tested and compared with the SANS241: 2015</li> <li>• There will be soil, water resources and land pollution mitigation measures on site.</li> <li>• Wastewater source will be identified, and mitigation measures put in place to prevent groundwater contamination.</li> <li>• The stockpile, there will be regular monitoring of any heavy metal which could be exposed, which could result in leaching during rainfall.</li> </ul> |                                                                                                              |                                                                                               |

| List of studies undertaken | Recommendations of specialist reports                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Specialist recommendations included in the <b>BASIC ASSESSMENT</b> report<br>Mark with an X where applicable | Reference to applicable report section<br>Where specialist recommendations have been included |
|----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|
|                            | <ul style="list-style-type: none"> <li>• Proper and competent structure of the tailings dam will be built, to contain liquid, or solid waste and to prevent such waste from entering the outside environment.</li> <li>• it is recommended that to protect the wetlands onsite, there will be fencing to prevent encroachment of activities which will harm the waterbodies.</li> <li>• It is recommended that compliance of relevant legislations be ensured, NEMA Act 107 of 1998, NWA Act 36 of 1998, NEM: waste Management Act 58 of 2008.</li> <li>• Regular dust monitoring will take place weekly, to detect any change in dust being produced, so that mitigation measures are implemented early.</li> <li>• t is recommended that during the existence of the project there will also be regular maintenance of the mobile ablutions, to avoid leakage of waste into the ground.</li> <li>• There will be boreholes in and around the permit area, to monitor the groundwater quality and quantity.</li> <li>• Prior to the mining operations, Jaments (Pty) Ltd Mining will conduct tests</li> </ul> |                                                                                                              |                                                                                               |

| List of studies undertaken  | Recommendations of specialist reports                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Specialist recommendations included in the <b>BASIC ASSESSMENT</b> report<br>Mark with an X where applicable | Reference to applicable report section<br>Where specialist recommendations have been included |
|-----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|
|                             | <p>on the soil and groundwater, to trace the residues of any chemicals used during the cultivation process, and to implement measures to lower those effects.</p> <ul style="list-style-type: none"> <li>• Jaments (Pty) Ltd will drill monitoring boreholes, at higher elevation and lower elevation.</li> <li>• The surface water bodies identified should be fenced during the existence of the mining operation.</li> </ul>                                                                                                                                                                                                                                                                       |                                                                                                              |                                                                                               |
| <b>Base Hydrology study</b> | <ul style="list-style-type: none"> <li>• Drilling of well-constructed boreholes that will be monitored monthly, during the project's construction and operational phases.</li> <li>• An independent ECO is to be appointed during construction. The mine's internal Environmental officers will be conversant with best practices in accordance with rehabilitation during decommissioning and an audit is to be performed before and after rehabilitation.</li> <li>• Where mining infrastructure, such as haul roads, are required across natural watercourses, new storm water infrastructure, such as pipes and culverts could replace the hydraulic function currently offered by the</li> </ul> |                                                                                                              |                                                                                               |



| List of studies undertaken | Recommendations of specialist reports                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Specialist recommendations included in the <b>BASIC ASSESSMENT</b> report<br>Mark with an X where applicable | Reference to applicable report section<br>Where specialist recommendations have been included |
|----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|
|                            | <p>natural water courses. This infrastructure should be designed for both hydraulic performance and environmental functionality.</p> <ul style="list-style-type: none"> <li>• Around operating areas, temporary erosion control measures (e.g., sediment nets, berms, etc.) must be used.</li> <li>• No dirty water should be released into the ecosystem. Excess water in the mine water circuit must be dealt with properly in accordance with the DWS.</li> </ul>                                                                                                                                           |                                                                                                              |                                                                                               |
| <b>Soil study</b>          | <ul style="list-style-type: none"> <li>• The proposed mining land should be returned to its origin as before mining activities and the rehabilitation performance assessment in the proposed land must be done progressively (annually) during the operational phase by a soil specialist.</li> <li>• Final surface rehabilitation of all disturbed areas during mining activities. Rehabilitation of unnecessary water management facilities once appropriate to do so.</li> <li>• Specialists should be used to evaluate the erosion and other possible impacts during the entire mining process.</li> </ul> |                                                                                                              |                                                                                               |

| List of studies undertaken | Recommendations of specialist reports                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Specialist recommendations included in the <b>BASIC ASSESSMENT</b> report<br>Mark with an X where applicable | Reference to applicable report section<br>Where specialist recommendations have been included |
|----------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|
|                            | <ul style="list-style-type: none"> <li>• Limit impacts to the footprints to keep physical impacts as small as possible. Areas for road, site lay-out should be minimized, dust generation.</li> <li>• Ensure all stockpiles (especially topsoil) are clearly and permanently demarcated and located in defined no-go areas.</li> <li>• Stockpile height should be restricted; a maximum height of 1,5 m is therefore proposed.</li> <li>• Stockpiles should also be always kept free of alien vegetation to prevent loss of soil quality.</li> <li>• The recovered soils should be re-used to rehabilitate the mine footprint following mine closure.</li> </ul> |                                                                                                              |                                                                                               |

## **2.15 Environmental impact statement**

### **2.15.1 Summary of the key findings of the basic assessment**

The key findings of the basic assessment are as follows:

- The project entails the establishment of a coal mine on a natural vegetation cover. Therefore, natural vegetation has to be disturbed by mining activities.
- The existing roads to the proposed coal mine proposed mine will be used to gain access to the site, the project area is accessible using the gravel road that extends from the R555.
- The applicant's off-site workshop will be used for servicing vehicles, thereby reducing the risk of hazardous spills and contamination at the mining site.
- Due to the remote setting of the coal proposed mine, the majority of potential impacts can be contained within the boundaries, provided that mitigation measures proposed in this document is implemented on-site.
- The mining operation will have a temporary visual impact on the surrounding environment. Upon closure of the proposed mining area the visual impact on the proposed mining area will be mitigated and addressed.
- There are water bodies above 500m boundary of the proposed project area, no mining activities will be conducted within the identified water bodies.

### **2.15.2 Final site map**

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

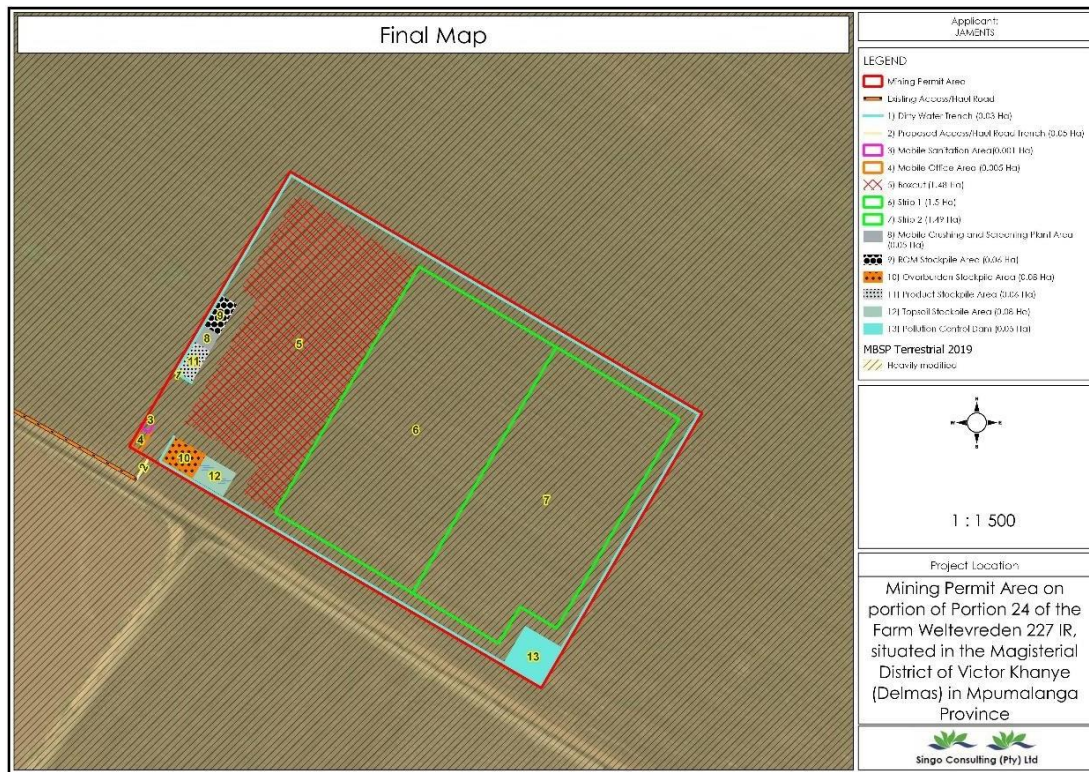


Figure 40: Map indicating site activities (Singo Consulting (Pty) Ltd,2023)

### 2.15.3 Positive and negative impacts of the proposed activity and alternatives

The positive impacts associated with the project include:

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

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

|                                                                                                 |            |
|-------------------------------------------------------------------------------------------------|------------|
| Visual intrusion associated with the establishment of the mining area                           | Medium     |
| Visual intrusion associated with the excavation activities                                      | Medium     |
| Visual intrusion associated with the stockpiled material and vehicles transporting the material | Low-medium |
| Dust nuisance caused by blasting activities                                                     | Low-medium |
| Dust nuisance due to the crushing activities                                                    | Low-medium |

|                                                     |            |
|-----------------------------------------------------|------------|
| Noise nuisance generated by excavation equipment    | Low-medium |
| Noise nuisance generated by the crushing activities | Low-medium |
| Degradation of access roads                         | Low-medium |

## 2.16 Proposed impact management objectives and the impact management outcomes for inclusion in the EMPr

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

| Management objectives       | Role                                                                                                                    | Management outcomes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|-----------------------------|-------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Dust handling               | Site Manager to ensure compliance with EMP guidelines. Compliance to be monitored by the Environmental Control Officer. | <ul style="list-style-type: none"> <li>• Control dust liberation into the surrounding environment by using water spraying and/or other dust allaying agents.</li> <li>• Limit speed on the access roads to 40km/h to prevent the generation of excess dust.</li> <li>• Spray roads with water or an environmentally friendly dust-allaying agent that contains no PCB's (e.g. DAS products) if dust is generated above acceptable limits.</li> <li>• Assess effectiveness of dust suppression equipment.</li> <li>• Ensure the crusher plant has operational water sprayer to alleviate dust generation from the conveyor belts.</li> </ul> |
| Noise handling              | Site Manager to ensure compliance with EMP guidelines. Compliance to be monitored by the Environmental Control Officer. | <ul style="list-style-type: none"> <li>• Ensure that employees and staff conduct themselves in an acceptable manner while on site.</li> <li>• No loud music may be permitted at the mining area.</li> <li>• Ensure that all mining vehicles are equipped with silencers and maintained in a road worthy condition in terms of the Road Transport Act.</li> <li>• Plan the type, duration and timing of the blasting procedures with due cognizance of other land users and structures in the vicinity.</li> <li>• Notify surrounding land owners in writing prior to blasting.</li> </ul>                                                   |
| Management of weed/ invader | Site Manager to ensure compliance with EMP guidelines.                                                                  | <ul style="list-style-type: none"> <li>• Implement a weed and invader plant control management plan.</li> <li>• Control declared invader or exotic species on the</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                |

| <b>Management objectives</b>          | <b>Role</b>                                                                                                                                                                                | <b>Management outcomes</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|---------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| plants                                | Compliance to be monitored by the Environmental Control Officer.                                                                                                                           | <p>rehabilitated areas.</p> <ul style="list-style-type: none"> <li>• Keep the temporary topsoil stockpiles free of weeds.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Surface and storm water handling      | Site Manager to ensure compliance with EMP guidelines. Compliance to be monitored by the Environmental Control Officer.                                                                    | <ul style="list-style-type: none"> <li>• Divert storm water around topsoil heaps, stockpile areas and access roads to prevent erosion and material loss.</li> <li>• Divert runoff water around stockpile areas with trenches and contour structures to prevent erosion of work areas.</li> <li>• Conduct mining in accordance with the Best Practice Guideline for small scale mining that relates to storm water management, erosion and sediment control and waste management, developed by the Department of Water and Sanitation (DWS), and any other conditions which that Department may impose.</li> </ul>                                                                                                                                                  |
| Management of health and safety risks | Site Manager to ensure compliance with EMP guidelines. Compliance to be monitored by the Environmental Control Officer. Blasting contractor to comply with national blasting requirements. | <ul style="list-style-type: none"> <li>• Plan the type, duration and timing of the blasting procedures with due cognizance of other land users and structures in the vicinity.</li> <li>• Inform the surrounding landowners and communities of any blasting event.</li> <li>• Use noise mufflers and/or soft explosives during blasting, limit fly rock.</li> <li>• Give audible warning of a pending blast at least 3 minutes in advance of the blast.</li> <li>• Remove all fly rock (of diameter 150 mm and larger) which falls beyond the working area, with the rock spill.</li> <li>• Ensure that workers have access to the correct PPE as required by law.</li> <li>• Ensure all operations comply with the Occupational Health and Safety Act.</li> </ul> |
| Waste management                      | Site Manager to ensure compliance with EMP guidelines.                                                                                                                                     | <ul style="list-style-type: none"> <li>• Ensure no waste pile is established within 100 m of the edge of any river channel or other water bodies.</li> <li>• Ensure regular vehicle maintenance take place</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |

| Management objectives      | Role                                                                                                                    | Management outcomes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|----------------------------|-------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                            | Compliance to be monitored by the Environmental Control Officer.                                                        | <p>within the service bay area of the off-site workshop. If emergency repairs are needed on site, ensure drip trays is present. Ensure all waste products are disposed of in a 200 l closed container/bin inside the emergency service area.</p> <ul style="list-style-type: none"> <li>• Collect effluents containing oil, grease or other industrial substances in a suitable receptacle and remove from site, for resale or appropriate disposal at a recognised facility.</li> <li>• Clean spills immediately to the satisfaction of the Regional Manager by removing the spillage and polluted soil and disposing thereof at a recognised facility. File proof.</li> <li>• Ensure availability of suitable covered, conveniently placed receptacles at all times for waste disposal.</li> <li>• Store non-biodegradable refuse such as glass bottles, plastic bags, metal scrap, etc., in a container with a closable lid at a collecting point. Collection should take place on a regular basis and disposed of at the recognised landfill site at Middleburg. Prevent refuse from being dumped on or in the vicinity of the mine area.</li> <li>• Biodegradable refuse to be handled as indicated above.</li> </ul> |
| Management of access roads | Site Manager to ensure compliance with EMP guidelines. Compliance to be monitored by the Environmental Control Officer. | <ul style="list-style-type: none"> <li>• Divert storm water around access roads to prevent erosion.</li> <li>• Erosion of access road: Restrict vehicular movement to existing access routes to prevent crisscrossing of tracks through undisturbed areas.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Topsoil handling           | Site Manager to ensure compliance with EMP guidelines. Compliance to be monitored by the                                | <ul style="list-style-type: none"> <li>• Remove the first 300 mm of topsoil in strips and store at stockpile area.</li> <li>• Keep the temporary topsoil stockpiles free of weeds.</li> <li>• Place topsoil stockpiles on a levelled area and implement measures to safeguard the piles from</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |

| Management objectives | Role                                                                                                                    | Management outcomes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|-----------------------|-------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                       | Environmental Control Officer.                                                                                          | <p>being washed away in the event of heavy rains/storm water.</p> <ul style="list-style-type: none"> <li>• Topsoil heaps should not exceed 1.5 m in order to preserve micro-organisms within the topsoil, which can be lost due to compaction and lack of oxygen.</li> <li>• Seed the stockpiled topsoil heaps if vegetation does not re-establish within 6 months of stockpiling.</li> <li>• Divert storm- and runoff water around the stockpile area and access roads to prevent erosion.</li> </ul> |
| Fauna and flora       | Site Manager to ensure compliance with EMP guidelines. Compliance to be monitored by the Environmental Control Officer. | <ul style="list-style-type: none"> <li>• Ensure no fauna is caught, killed, harmed, sold or played with.</li> <li>• Instruct workers to report any animals that may be trapped in the working area. Ensure no snares are set or nests raided for eggs or young.</li> <li>• Do not remove plants/trees without ECO approval.</li> </ul>                                                                                                                                                                 |

### 2.17 Aspects for inclusion as conditions of authorisation

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

The management objectives listed in this report (3.4) should be considered for inclusion in the environmental authorisation.

### 2.18 Description of any assumptions, uncertainties and gaps in knowledge

Which relate to the assessment and mitigation measures proposed.

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

### 2.19 Reasoned opinion as to whether the proposed activity should be authorised

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



## 2.20 Period for which the Environmental Authorisation is required

The applicant requests of the Environmental Authorisation to be valid for a two-year period with an option to renew for three (3) periods of which each may not exceed one year in terms of Section 27(8)a of the Mineral and Petroleum Resources Development Act (MPRDA), 2002 (Act No. 28 of 2002) as amended.

## 2.21 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 the Basic Assessment Report and the Environmental Management Programme report.

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

## 2.22 Financial provision

State the amount required to manage and rehabilitate the environment.

### CALCULATION OF THE QUANTUM

Applicant: **Jaments (Pty) Ltd**  
Evaluator: **Mazithi Mangcu**

DMRE Ref.: **MP 30/5/1/1/3/13702 MP**  
Date: **08/03/2023**

| No.                | Description                                                                                          | Unit       | A           | B           | C                         | D                  | E=A*B*C*D         |                  |
|--------------------|------------------------------------------------------------------------------------------------------|------------|-------------|-------------|---------------------------|--------------------|-------------------|------------------|
|                    |                                                                                                      |            | Quantity    | Master Rate | Multiplication factor     | Weighting factor 1 | Amount (Rands)    |                  |
| 1                  | Dismantling of processing plant and related structures (including overland conveyors and powerlines) | m3         | 0           | 19          | 1                         | 1                  | 0                 |                  |
| 2 (A)              | Demolition of steel buildings and structures                                                         | m2         | 0           | 271         | 1                         | 1                  | 0                 |                  |
| 2(B)               | Demolition of reinforced concrete buildings and structures                                           | m2         | 0           | 400         | 1                         | 1                  | 0                 |                  |
| 3                  | Rehabilitation of access roads                                                                       | m2         | 0           | 49          | 1                         | 1                  | 0                 |                  |
| 4 (A)              | Demolition and rehabilitation of electrified railway lines                                           | m          | 0           | 471         | 1                         | 1                  | 0                 |                  |
| 4 (A)              | Demolition and rehabilitation of non-electrified railway lines                                       | m          | 0           | 257         | 1                         | 1                  | 0                 |                  |
| 5                  | Demolition of housing and/or administration facilities                                               | m2         | 0           | 542         | 1                         | 1                  | 0                 |                  |
| 6                  | Opencast rehabilitation including final voids and ramps                                              | ha         | 5           | 284292      | 0.3                       | 1                  | 426438            |                  |
| 7                  | Sealing of shafts adits and inclines                                                                 | m3         | 0           | 146         | 1                         | 1                  | 0                 |                  |
| 8 (A)              | Rehabilitation of overburden and spoils                                                              | ha         | 0.32        | 189528      | 0.05                      | 1                  | 3032.448          |                  |
| 8 (B)              | Rehabilitation of processing waste deposits and evaporation ponds (non-polluting potential)          | ha         | 0           | 236054      | 1                         | 1                  | 0                 |                  |
| 8 (C)              | Rehabilitation of processing waste deposits and evaporation ponds (polluting potential)              | ha         |             | 685612      | 1                         | 1                  | 0                 |                  |
| 9                  | Rehabilitation of subsided areas                                                                     | ha         | 0           | 158701      | 1                         | 1                  | 0                 |                  |
| 10                 | General surface rehabilitation                                                                       | ha         | 5           | 150138      | 0.3                       | 1                  | 225207            |                  |
| 11                 | River diversions                                                                                     | ha         | 0           | 150138      | 1                         | 1                  | 0                 |                  |
| 12                 | Fencing                                                                                              | m          | 0           | 171         | 1                         | 1                  | 0                 |                  |
| 13                 | Water management                                                                                     | ha         | 0.1         | 57087       | 0.04                      | 1                  | 228.348           |                  |
| 14                 | 2 to 3 years of maintenance and aftercare                                                            | ha         | 5           | 19980       | 0.6                       | 1                  | 59940             |                  |
| 15 (A)             | Specialist study                                                                                     | Sum        | 0           |             |                           | 1                  | 0                 |                  |
| 15 (B)             | Specialist study                                                                                     | Sum        |             |             |                           | 1                  | 0                 |                  |
| <b>Sub Total 1</b> |                                                                                                      |            |             |             |                           |                    | <b>714845.796</b> |                  |
| 1                  | Preliminary and General                                                                              |            | 85781.49552 |             | <b>weighting factor 2</b> |                    | 85781.49552       |                  |
| 2                  | Contingencies                                                                                        |            |             |             | 1                         |                    | 85781.49552       |                  |
| <b>Subtotal 2</b>  |                                                                                                      |            |             |             |                           |                    | <b>71484.5796</b> |                  |
| <b>Subtotal 2</b>  |                                                                                                      |            |             |             |                           |                    | <b>872111.87</b>  |                  |
| Sign Date          | Mazithi Mangcu                                                                                       | 08/03/2023 |             |             |                           |                    | <b>VAT (15%)</b>  | <b>130816.78</b> |
| <b>Grand Total</b> |                                                                                                      |            |             |             |                           |                    | <b>1002929</b>    |                  |

**Table 12:** Financial provision

**2.22.1 Explain how the aforesaid amount was derived**

The financial provision amount was derived from the financial calculator/ quantum from DMRE with specifications as according to the Government Notice 24 in Government Gazette 42956

dated 17 January 2020. The annual amount required to manage and rehabilitate the environment was estimated to be **R 1 002 929. 00**.

#### **2.22.2 Confirm that this amount can be provided from operating expenditure**

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

The mining operation will be self-funded through income generated by sales of the coal mined. Bridging finance, will be supplied where needed by potential investors.

#### **2.23 Specific information required by the Competent Authority**

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

No specific information was required.

##### **2.23.1 Impact on the socio-economic conditions of any directly affected person**

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

The proposed coal proposed mine will be established on a natural vegetation cover. Upon closure, the land will be rehabilitated to its original state.

The dust and noise impacts that may emanate from the mining area during the operational phase could have a negative impact on the surrounding community if the mitigation measures proposed in this document are not implemented and managed on-site.

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

##### **2.23.2 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)(i)(vi) and (vii) of the Act, attach the investigation report as and confirm that the applicable mitigation is reflected herein.

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

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

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

- Establishment of a coal mine 100 m away from the residential area or any form of development vs. establishment of a coal mine in an un-utilised area (preferred alternative)
- Open cast mining (preferred alternative) vs. underground mining
- Temporary Infrastructure (preferred alternative) vs. permanent Infrastructure
- Access onto provincial road (preferred alternative) vs. access onto national road

## PART B

### ENVIRONMENTAL MANAGEMENT PROGRAMME REPORT

#### **3 Environmental management programme**

##### **3.1 Details of the EAP**

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

Refer to section 1 of Part A and Appendix 2.

##### **3.2 Description of the aspects of the activity**

Confirm that the requirements to describe the aspects of the activity that are covered by the draft environmental management programme is already included in Part A, 1.2, herein, as required.

The aspects of the activity that are covered by the environmental management programme has been described and included in Part A, 1.2.

##### **3.3 Composite map**

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

As mentioned in Part A, section 2.2 (Figure 3) this map has been compiled and is attached as Appendix 2.

##### **3.4 Description of impact management objectives, including management statements**

###### **3.4.1 Determination of closure objectives**

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

The closure objectives are aimed at re-instating the landform, land use and vegetation units to the same as before mining operations took place unless a specific, reasonable alternative land use is requested by the landowner. As such, the intended end use for the disturbed Mining Permit area and the closure objectives will be defined in consultation with the relevant landowner. Proof of such consultation will be submitted together with the Application for Closure Certificate. The overall aim of the rehabilitation plan is to rehabilitate the environment to a condition as close as possible to that which existed prior to mining. This shall be achieved with a number of specific objectives

1. Making the area safe, i.e. decommission mining activities to ensure that the environment is safe for people and animals. This entails refilling the excavations.

2. Recreating a free draining landform. This entails earthworks infilling, reshaping, levelling, etc. to recreate as close as possible the original topography and to ensure a free draining landscape.
3. Re-vegetation. This involves either reseeding or allowing natural succession depending on the area, climate etc.
4. Storm water management and erosion control. Management of storm-water and prevention of erosion during rehabilitation (e.g. cut off drains, berms etc. and erosion control where required)

### **3.5 Volume and rate of water use required for the operation**

It is estimated that the mining activities will require approximately 18 000L of water per day for dust suppression purposes.

### **3.6 Has a water use licence has been applied for?**

No, a Water Use License Application (WULA) will be lodged to the Department of Water and Sanitation (DWS) upon issuing of the proposed Mining Permit application by the Department of Mineral Resources and Energy (DMRE).

### 3.7 Impacts to be mitigated in their respective phases

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

| Activities                                                                                                                                                                                                                                                                                                                                                                                       | Phase                                                                                                                                                                | Size and scale of disturbance                          | Mitigation measures                                                                          | Compliance with standards                                                                                                                                                               | Time period for implementation                                                                                                                                                                                                                                                                                                                                 |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------|----------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>E.g. for prospecting – drill site, site camp, ablution, facilities, accommodation, equipment storage, sample storage, site office, access route, etc.</p> <p>E.g. for mining – excavations, blasting, stockpiles, discard dumps/dams, loading, hauling and transport. Water supply dams and boreholes, accommodation, offices, ablution, stores, workshops, processing plant, storm water</p> | <p>Of operation in which activity will take place. 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 recommendations herein will remedy the cause of pollution or degradation</p> | <p>Description of how each recommendation 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. 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> |

| Activities                                                     | Phase                                  | Size and scale of disturbance | Mitigation measures                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Compliance with standards                                                                                                                                                                                  | Time period for implementation                                                              |
|----------------------------------------------------------------|----------------------------------------|-------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|
| control, berms, roads, pipelines, power lines, conveyors, etc. |                                        |                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                            | upon cessation of mining, bulk sampling or alluvial diamond prospecting as the case may be. |
| Stripping and stockpiling of topsoil                           | Site establishment/ construction phase | 4.84ha                        | <p><b>Visual mitigation</b></p> <ul style="list-style-type: none"> <li>• The site must be neat and kept in good condition at all times.</li> <li>• Upon closure, the site must be rehabilitated and sloped to ensure that visual impact on the aesthetic value of the area is minimal.</li> </ul> <p><b>Dust handling</b></p> <ul style="list-style-type: none"> <li>• Dust liberation into the surrounding environment must be effectively controlled by the use of, inter alia, water spraying and/or other dust-allaying agents.</li> <li>• The site manager must ensure continuous assessment of all dust suppression equipment to confirm its effectiveness.</li> </ul> | <ul style="list-style-type: none"> <li>• Dust and Noise: NEMAQA, 2004</li> <li>• Regulation 6(1)</li> <li>• Weeds: CARA, 1983</li> <li>• Storm Water: NWA, 1998</li> <li>• Waste: NEM: WA, 2008</li> </ul> | Throughout the site establishment phase.                                                    |



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

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

| Activities | Phase | Size and scale of disturbance | Mitigation measures                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Compliance with standards | Time period for implementation |
|------------|-------|-------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|--------------------------------|
|            |       |                               | <p>stockpiles must be kept free of weeds.</p> <p><b>Storm water handling</b></p> <ul style="list-style-type: none"> <li>• Storm water must be diverted around the topsoil heaps, stockpile areas and access roads to prevent erosion and material loss.</li> <li>• Runoff water must be diverted around the stockpile areas with trenches and contour structures to prevent erosion of the work areas.</li> </ul> <p><b>Waste management</b></p> <ul style="list-style-type: none"> <li>• No processing area or waste pile may be established within 100 m of the edge of any river channel or other water bodies.</li> <li>• Regular vehicle maintenance may only take place in the service bay area of the off-site workshop. If emergency repairs are needed on equipment not able to move to the workshop, drip trays must be</li> </ul> |                           |                                |

| Activities | Phase | Size and scale of disturbance | Mitigation measures                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Compliance with standards | Time period for implementation |
|------------|-------|-------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|--------------------------------|
|            |       |                               | <p>present. All waste products must be disposed of in a 200 l closed container/bin to be removed from the emergency service area to the workshop to ensure proper disposal.</p> <ul style="list-style-type: none"> <li>• Any effluents containing oil, grease or other industrial substances must be collected in a suitable receptacle and removed from the site, for resale or appropriate disposal at a recognised facility.</li> <li>• Spills must be cleaned immediately to the satisfaction of the Regional Manager by removing the spillage and the polluted soil and disposing it at a recognised facility. Proof must be filed.</li> <li>• Suitable covered receptacles must be available at all times and conveniently placed for waste disposal.</li> <li>• Non-biodegradable refuse, such as</li> </ul> |                           |                                |

| Activities | Phase             | Size and scale of disturbance | Mitigation measures                                                                                                                                                                                                                                                                                                                                                                                                                                  | Compliance with standards                                                                                                                                                                                        | Time period for implementation       |
|------------|-------------------|-------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|
|            |                   |                               | <p>glass bottles, plastic bags, metal scrap, etc., must be stored in a container with a closable lid at a collecting point and collected on a regular basis and disposed of at a recognised landfill site. Specific precautions must be taken to prevent refuse from being dumped on or in the vicinity of the mine area.</p> <ul style="list-style-type: none"> <li>• Biodegradable refuse generated must be handled as indicated above.</li> </ul> |                                                                                                                                                                                                                  |                                      |
| Blasting   | Operational phase | 3.9ha                         | <p><b>Management of Health and Safety Risks</b></p> <ul style="list-style-type: none"> <li>• The type, duration and timing of the blasting procedures must be planned with due cognizance of other land users and structures in the vicinity,</li> <li>• The surrounding landowners and communities must be informed in</li> </ul>                                                                                                                   | <p><b>Health and safety</b></p> <ul style="list-style-type: none"> <li>• MHSA, 1996</li> <li>• OHSA, 1993</li> <li>• OHSAS 18001</li> </ul> <p><b>Dust and noise</b></p> <p>NEMAQA, 2004<br/>Regulation 6(1)</p> | Applicable with each blasting event. |

| Activities | Phase | Size and scale of disturbance | Mitigation measures                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Compliance with standards | Time period for implementation |
|------------|-------|-------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|--------------------------------|
|            |       |                               | <p>writing ahead of any blasting event</p> <ul style="list-style-type: none"> <li>• Measures to limit fly rock must be taken</li> <li>• Audible warning of a pending blast must be given at least 3 minutes before the blast</li> <li>• All fly rock (of diameter 150mm and larger) which falls beyond the working area, together with the rock spill must be collected and removed,</li> <li>• Workers must have access to the correct PPE as required by law.</li> <li>• All operations must comply with the OHSA.</li> </ul> <p><b>Dust handling</b></p> <ul style="list-style-type: none"> <li>• Dust liberation into the surrounding environment must be effectively controlled by the use of, inter alia, water spraying and/or other dust-allaying agents.</li> <li>• Speed on the access roads must be</li> </ul> |                           |                                |

| Activities | Phase | Size and scale of disturbance | Mitigation measures                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Compliance with standards | Time period for implementation |
|------------|-------|-------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|--------------------------------|
|            |       |                               | <p>limited to 40km/h to prevent the generation of excess dust.</p> <p><b>Noise handling</b></p> <ul style="list-style-type: none"> <li>• The applicant must ensure that staff conduct themselves in an acceptable manner while on site, both during work hours and after hours.</li> <li>• No loud music permitted at the mining area.</li> <li>• All mining vehicles must be equipped with silencers and maintained in a road worthy condition in terms of the Road Transport Act.</li> <li>• The type, duration and timing of the blasting procedures must be planned with due cognizance of other land users and structures in the vicinity. Surrounding land owners must be notified in writing prior to blasting.</li> </ul> |                           |                                |

| Activities | Phase             | Size and scale of disturbance | Mitigation measures                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Compliance with standards                                                                                                                                                                                                                                               | Time period for implementation   |
|------------|-------------------|-------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|
| Excavation | Operational phase | 4.47 ha                       | <p><b>Visual mitigation</b></p> <ul style="list-style-type: none"> <li>• The site needs to have a neat appearance and be kept in good condition at all times.</li> <li>• Upon closure the site needs to be rehabilitated and sloped to ensure that the visual impact on the aesthetic value of the area is kept to a minimum.</li> </ul> <p><b>Dust handling</b></p> <ul style="list-style-type: none"> <li>• Dust liberation into the surrounding environment must be effectively controlled by the use of, inter alia, water spraying and/or other dust-allaying agents.</li> <li>• The site manager must ensure continuous assessment of all dust suppression equipment to confirm its effectiveness.</li> <li>• Speed on the access roads must be limited to 40km/h to prevent the generation of excess dust.</li> </ul> | <p><b>Dust and noise</b><br/>NEM: AQA, 2004<br/>Regulation 6(1)</p> <p><b>Health and safety</b><br/>MHSA, 1996<br/>OHSA, 1993<br/>OHSAS 18001</p> <p><b>Fauna and flora</b><br/>NEM:BA, 2004</p> <p><b>Waste</b><br/>NEMWA, 2008</p> <p><b>Weeds</b><br/>CARA, 1983</p> | Throughout the operational phase |



| Activities | Phase | Size and scale of disturbance | Mitigation measures                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Compliance with standards | Time period for implementation |
|------------|-------|-------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|--------------------------------|
|            |       |                               | <ul style="list-style-type: none"> <li>• Roads must be sprayed with water or an environmentally friendly dust-allaying agent that contains no PCBs (e.g. DAS products) if dust is generated above acceptable limits.</li> </ul> <p><b>Noise handling</b></p> <ul style="list-style-type: none"> <li>• The applicant must ensure that staff conduct themselves in an acceptable manner while on site, both during work hours and after hours.</li> <li>• No loud music permitted at the mining area.</li> <li>• All mining vehicles must be equipped with silencers and maintained in a road worthy condition in terms of the Road Transport Act.</li> </ul> <p><b>Management of health and safety risks</b></p> <ul style="list-style-type: none"> <li>• Workers must have access to the</li> </ul> |                           |                                |

| Activities | Phase | Size and scale of disturbance | Mitigation measures                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Compliance with standards | Time period for implementation |
|------------|-------|-------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|--------------------------------|
|            |       |                               | <p>correct PPE as required by law.</p> <ul style="list-style-type: none"> <li>• All operations must comply with the OHSA.</li> </ul> <p><b>Protection of fauna and flora</b></p> <ul style="list-style-type: none"> <li>• The site manager should ensure that no fauna is caught, killed, harmed, sold or played with.</li> <li>• Workers should be instructed to report any animals that may be trapped in the working area.</li> <li>• No snares may be set, or nests raided for eggs or young.</li> <li>• No plants or trees may be removed without the approval of the ECO.</li> </ul> <p><b>Waste management</b></p> <ul style="list-style-type: none"> <li>• No processing area or waste pile may be established within 100 m of the edge of any river channel or other water bodies.</li> <li>• Regular vehicle maintenance may only take place within the service bay area of the off-site workshop. If</li> </ul> |                           |                                |

| Activities | Phase | Size and scale of disturbance | Mitigation measures                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Compliance with standards | Time period for implementation |
|------------|-------|-------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|--------------------------------|
|            |       |                               | <p>emergency repairs are needed on equipment not able to move to the workshop, drip trays must be present. All waste products must be disposed of in a 200 L closed container/bin to be removed from the emergency service area to the workshop in order to ensure proper disposal.</p> <ul style="list-style-type: none"> <li>• Any effluents containing oil, grease or other industrial substances must be collected in a suitable receptacle and removed from site, for resale/ appropriate disposal at a recognised facility.</li> <li>• Spills must be cleaned up immediately to the satisfaction of the Regional Manager by removing the spillage and polluted soil and disposing it at a recognised facility. Proof must be filed.</li> </ul> |                           |                                |

| Activities | Phase | Size and scale of disturbance | Mitigation measures                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Compliance with standards | Time period for implementation |
|------------|-------|-------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|--------------------------------|
|            |       |                               | <ul style="list-style-type: none"> <li>• Suitable covered receptacles must be available at all times and conveniently placed for waste disposal.</li> <li>• Non-biodegradable refuse such as glass bottles, plastic bags, metal scrap, etc., should be stored in a container with a closable lid at a collecting point and collected on a regular basis and disposed of at a recognised landfill site. Specific precautions should be taken to prevent refuse from being dumped on or in the vicinity of the mine area.</li> <li>• Biodegradable refuse generated must be handled as indicated above.</li> </ul> <p><b>Management of weed/invader plants</b></p> <ul style="list-style-type: none"> <li>• A weed and invader plant control management plan must be</li> </ul> |                           |                                |

| Activities | Phase             | Size and scale of disturbance | Mitigation measures                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Compliance with standards | Time period for implementation |
|------------|-------------------|-------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|--------------------------------|
|            |                   |                               | <p>implemented at the site to ensure eradication of all listed invader plants in terms of CORA (Act No 43 1983).</p> <ul style="list-style-type: none"> <li>• Management must take responsibility to control declared invader or exotic species on the rehabilitated areas. The following control methods can be used: <ul style="list-style-type: none"> <li>○ The plants can be uprooted, felled or cut off and can be destroyed completely.</li> <li>○ The plants can be treated with an herbicide that is registered for use in connection therewith and in accordance with the directions for the use of such an herbicide.</li> <li>○ The temporary topsoil stockpiles need to be kept free of weeds.</li> </ul> </li> </ul> |                           |                                |
| Crushing   | Operational phase | 0.05 ha                       | <b>Dust handling</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | <b>Dust and noise</b>     | Throughout the                 |

| Activities | Phase | Size and scale of disturbance | Mitigation measures                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Compliance with standards                                | Time period for implementation |
|------------|-------|-------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------|--------------------------------|
|            |       |                               | <ul style="list-style-type: none"> <li>• Dust liberation into the surrounding environment must be effectively controlled by using, inter alia, water spraying and/or other dust-allaying agents.</li> <li>• The site manager must ensure continuous assessment of all dust suppression equipment to confirm its effectiveness.</li> <li>• Speed on the access roads must be limited to 40km/h to prevent excess dust generation.</li> <li>• The crusher plant must have operational water sprayers to alleviate dust generation from conveyor belts.</li> </ul> <p>Noise handling</p> <ul style="list-style-type: none"> <li>• The applicant must ensure that staff conduct themselves in an acceptable manner while on site, during work hours and after hours.</li> <li>• No loud music permitted at the</li> </ul> | <p>NEMAQA 2004</p> <p><b>Waste</b></p> <p>NEMWA 2008</p> | <p>operational phase</p>       |

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

| Activities | Phase | Size and scale of disturbance | Mitigation measures                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Compliance with standards | Time period for implementation |
|------------|-------|-------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|--------------------------------|
|            |       |                               | <p>or other industrial substances must be collected in a suitable receptacle and removed from site, either for resale or appropriate disposal at a recognised facility.</p> <ul style="list-style-type: none"> <li>• Spills must be cleaned up immediately to the satisfaction of the Regional Manager by removing spillage and polluted soil and by disposing it at a recognised facility. Proof must be filed.</li> <li>• Suitable covered receptacles must be available at all times and conveniently placed for the disposal of waste.</li> <li>• Non-biodegradable refuse such as glass bottles, plastic bags, metal scrap, etc., should be stored in a container with a closable lid at a collecting point and collected on a regular basis and disposed of at a recognised landfill site. Specific</li> </ul> |                           |                                |



| Activities                   | Phase             | Size and scale of disturbance | Mitigation measures                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Compliance with standards                                                                                                                                                        | Time period for implementation |
|------------------------------|-------------------|-------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|
|                              |                   |                               | <p>precautions must be taken to prevent refuse from being dumped on or in the vicinity of the mine area.</p> <ul style="list-style-type: none"> <li>• Biodegradable refuse generated must be handled as indicated above.</li> </ul>                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                  |                                |
| Stockpiling and transporting | Operational phase | 0.36 ha                       | <p><b>Visual mitigation</b></p> <ul style="list-style-type: none"> <li>• The site must be neat and be kept in good condition at all times.</li> <li>• Upon closure, the site must be rehabilitated and sloped to ensure that the visual impact on the aesthetic value of the area is minimal.</li> </ul> <p><b>Storm water handling</b></p> <ul style="list-style-type: none"> <li>• Storm water must be diverted around the stockpile areas and access roads to prevent erosion and material loss.</li> <li>• Runoff water must be diverted around the stockpile areas with</li> </ul> | <p><b>Storm water</b><br/>NWA, 1998</p> <p><b>Weeds</b><br/>CARA, 1983</p> <p><b>Dust and noise</b><br/>NEMAQA, 2004<br/>Regulation 6(1)</p> <p><b>Waste</b><br/>NEMWA, 2008</p> | Throughout operational phase   |

| Activities | Phase | Size and scale of disturbance | Mitigation measures                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Compliance with standards | Time period for implementation |
|------------|-------|-------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|--------------------------------|
|            |       |                               | <p>trenches and contour structures to prevent erosion of work areas.</p> <ul style="list-style-type: none"> <li>• Mining must be conducted in accordance with the Best Practice Guideline for small scale mining that relates to storm water management, erosion and sediment control and waste management, developed by the DWS, and any other conditions that the DWS may impose:</li> <li>• Clean water (e.g. rainwater) must be kept clean and be routed to a natural watercourse by a system separate from the dirty water system. Prevent clean water from running or spilling into dirty water systems.</li> <li>• Dirty water must be collected and contained in a system separate from the clean water system.</li> <li>• Dirty water must be prevented from</li> </ul> |                           |                                |

| Activities | Phase | Size and scale of disturbance | Mitigation measures                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Compliance with standards | Time period for implementation |
|------------|-------|-------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|--------------------------------|
|            |       |                               | <p>spilling/seeping into clean water systems.</p> <ul style="list-style-type: none"> <li>• The storm water management plan must apply for the entire life cycle of the mine and over different hydrological cycles (rainfall patterns).</li> <li>• The statutory requirements of various regulatory agencies and the interests of stakeholders must be considered and incorporated into the storm water management plan.</li> </ul> <p><b>Management of weed/invader plants</b></p> <ul style="list-style-type: none"> <li>• A weed and invader plant control management plan must be implemented at the site to ensure eradication of all listed invader plants in terms of CORA (Act No 43 1983).</li> <li>• Management must take</li> </ul> |                           |                                |

| Activities | Phase | Size and scale of disturbance | Mitigation measures                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Compliance with standards | Time period for implementation |
|------------|-------|-------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|--------------------------------|
|            |       |                               | <p>responsibility to control declared invader or exotic species on the rehabilitated areas. The following control methods can be used:</p> <ul style="list-style-type: none"> <li>○ The plants can be uprooted, felled or cut off and can be destroyed completely.</li> <li>○ The plants can be treated with an herbicide that is registered for use in connection therewith and in accordance with the directions for the use of such an herbicide.</li> </ul> <ul style="list-style-type: none"> <li>● The temporary stockpile area must be kept free of weeds.</li> </ul> <p><b>Dust handling</b></p> <ul style="list-style-type: none"> <li>● Dust liberation into the surrounding environment must be effectively controlled by the use of, inter alia, water spraying and/or other dust-allaying agents.</li> <li>● The site manager must ensure</li> </ul> |                           |                                |

| Activities | Phase | Size and scale of disturbance | Mitigation measures                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Compliance with standards | Time period for implementation |
|------------|-------|-------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|--------------------------------|
|            |       |                               | <p>continuous assessment of all dust suppression equipment to confirm its effectiveness.</p> <ul style="list-style-type: none"> <li>• Speed on the access roads must be limited to 40km/h to prevent excess dust generation.</li> <li>• Roads must be sprayed with water or an environmentally-friendly dust-allaying agent that contains no PCBs (e.g. DAS products) if dust is generated above acceptable limits.</li> </ul> <p>Management of access roads</p> <ul style="list-style-type: none"> <li>• Storm water should be diverted around the access roads to prevent erosion.</li> <li>• Vehicular movement must be restricted to existing access routes to prevent crisscrossing of tracks through undisturbed areas.</li> <li>• Rutting and erosion of the access road caused as a result of the</li> </ul> |                           |                                |

| Activities | Phase | Size and scale of disturbance | Mitigation measures                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Compliance with standards | Time period for implementation |
|------------|-------|-------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|--------------------------------|
|            |       |                               | <p>mining activities must be repaired by the applicant.</p> <p><b>Noise handling</b></p> <ul style="list-style-type: none"> <li>• The applicant must ensure that staff conduct themselves in an acceptable manner while on site, both during work hours and after hours.</li> <li>• No loud music permitted at the mining area.</li> <li>• All mining vehicles must be equipped with silencers and kept roadworthy in terms of the Road Transport Act.</li> </ul> <p><b>Waste management</b></p> <ul style="list-style-type: none"> <li>• No processing area or waste pile may be established within 100 m of the edge of any river channel or other water bodies.</li> <li>• Regular vehicle maintenance may only take place in the service bay area of the off-site workshop. If</li> </ul> |                           |                                |

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

| Activities                                    | Phase                 | Size and scale of disturbance | Mitigation measures                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Compliance with standards                                                                             | Time period for implementation |
|-----------------------------------------------|-----------------------|-------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|--------------------------------|
|                                               |                       |                               | <p>be available at all times and conveniently placed for waste disposal.</p> <ul style="list-style-type: none"> <li>• Non-biodegradable refuse such as glass bottles, plastic bags, metal scrap, etc., should be stored in a container with a closable lid at a collecting point and collected on a regular basis and disposed of at a recognised landfill site. Specific precautions should be taken to prevent refuse from being dumped on or in the vicinity of the mine area.</li> <li>• Biodegradable refuse generated must be handled as indicated above.</li> </ul> |                                                                                                       |                                |
| Sloping and landscaping during rehabilitation | Decommissioning phase | 5 ha                          | <p><b>Storm water handling</b></p> <ul style="list-style-type: none"> <li>• Storm water must be diverted around the rehabilitated area to prevent erosion and loss of reinstated material.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                      | <p><b>Storm water</b><br/>NWA, 1998</p> <p><b>Health and safety</b><br/>MHSA, 1996<br/>OHSA, 1993</p> | Upon cessation of mining       |



| Activities | Phase | Size and scale of disturbance | Mitigation measures                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Compliance with standards                                                                                               | Time period for implementation |
|------------|-------|-------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|--------------------------------|
|            |       |                               | <p><b>Management of health and safety risks</b></p> <ul style="list-style-type: none"> <li>• Excavations have to be rehabilitated as stipulated in the closure plan to ensure the site is safe upon closure.</li> <li>• Workers must have access to the correct PPE as required by law.</li> <li>• All operations must comply with the OHSA.</li> </ul> <p><b>Dust handling</b></p> <ul style="list-style-type: none"> <li>• Dust liberation into the surrounding environment must be effectively controlled by the use of, inter alia, water spraying and/or other dust-allaying agents.</li> <li>• The site manager must ensure continuous assessment of all dust suppression equipment to confirm its effectiveness.</li> <li>• Speed on the access roads must be limited to 40km/h to prevent</li> </ul> | <p>OHSAS 18001</p> <p><b>Dust and noise</b><br/>NEMAQA 2004,<br/>Regulation 6(1)</p> <p><b>Waste</b><br/>NEMWA 2008</p> |                                |

| Activities | Phase | Size and scale of disturbance | Mitigation measures                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Compliance with standards | Time period for implementation |
|------------|-------|-------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|--------------------------------|
|            |       |                               | <p>excess dust generation.</p> <ul style="list-style-type: none"> <li>• Roads must be sprayed with water or an environmentally friendly dust-allaying agent that contains no PCBs (e.g. DAS products) if dust is generated above acceptable limits.</li> </ul> <p><b>Noise handling</b></p> <ul style="list-style-type: none"> <li>• The applicant must ensure that staff conduct themselves in an acceptable manner while on site, both during work hours and after hours.</li> <li>• No loud music permitted at the mining area.</li> <li>• All mining vehicles must be equipped with silencers and kept roadworthy in terms of the Road Transport Act.</li> </ul> <p><b>Waste management</b></p> <ul style="list-style-type: none"> <li>• Waste material of any description, including receptacles, scrap,</li> </ul> |                           |                                |

| Activities | Phase | Size and scale of disturbance | Mitigation measures                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Compliance with standards | Time period for implementation |
|------------|-------|-------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|--------------------------------|
|            |       |                               | <p>rubble and tyres, will be removed entirely from the mining area and disposed of at a recognised landfill facility. It will not be permitted to be buried/burned on site</p> <ul style="list-style-type: none"> <li>• Any effluents containing oil, grease or other industrial substances must be collected in a suitable receptacle and removed from site, for resale/ appropriate disposal at a recognised facility.</li> <li>• Spills must be cleaned up immediately to the satisfaction of the Regional Manager by removing the spillage together with the polluted soil and disposing of it at a recognised facility. Proof should be filed.</li> <li>• Suitable covered receptacles must be available at all times and conveniently placed for waste disposal.</li> </ul> |                           |                                |

| Activities                                                | Phase                 | Size and scale of disturbance | Mitigation measures                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Compliance with standards                                                                                                                                                | Time period for implementation |
|-----------------------------------------------------------|-----------------------|-------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|
|                                                           |                       |                               | <ul style="list-style-type: none"> <li>• Non-biodegradable refuse, like glass bottles, plastic bags, metal scrap, etc., should be stored in a container with a closable lid at a collecting point and collected on a regular basis and disposed of at a recognised landfill site. Specific precautions should be taken to prevent refuse from being dumped on or in the vicinity of the mine area.</li> <li>• Biodegradable refuse generated must be handled as indicated above.</li> </ul> |                                                                                                                                                                          |                                |
| Replacing of topsoil and rehabilitation of disturbed area | Decommissioning phase | 5 ha                          | <p><b>Rehabilitation of excavated area</b></p> <ul style="list-style-type: none"> <li>• Rocks and coarse material removed from the excavation must be dumped into the excavation.</li> <li>• No waste will be permitted to be deposited in the excavations.</li> <li>• Once overburden, rocks and coarse natural materials have</li> </ul>                                                                                                                                                  | <p><b>Rehabilitation</b><br/>MPRDA, 2008</p> <p><b>Health and safety</b><br/>MHSA, 1996<br/>OHSA, 1993<br/>OHSAS 18001</p> <p><b>Dust and noise</b><br/>NEMAQA, 2004</p> | Upon cessation of mining       |

| Activities | Phase | Size and scale of disturbance | Mitigation measures                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Compliance with standards                                                                     | Time period for implementation |
|------------|-------|-------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|--------------------------------|
|            |       |                               | <p>been added to the excavation and were profiled with acceptable contours and erosion control measures, the topsoil previously stored will be returned to its original depth over the area.</p> <ul style="list-style-type: none"> <li>• The area will be fertilised if necessary to allow vegetation to establish rapidly. The site will be seeded with a local or adapted indigenous seed mix in order to propagate the locally or regionally occurring flora, should natural vegetation not re-establish within 6 months from site closure.</li> <li>• If a reasonable assessment indicates that the re-establishment of vegetation is unacceptably slow, the Regional Manager may require that the soil be analysed and any deleterious effects on the soil arising from the mining</li> </ul> | <p>Regulation 6(1)</p> <p><b>Weeds</b><br/>CARA, 1983</p> <p><b>Waste</b><br/>NEMWA, 2008</p> |                                |

| Activities | Phase | Size and scale of disturbance | Mitigation measures                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Compliance with standards | Time period for implementation |
|------------|-------|-------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|--------------------------------|
|            |       |                               | <p>operation be corrected and the area seeded with a vegetation seed mix to his or her specification.</p> <p><b>Rehabilitation of plant area</b></p> <ul style="list-style-type: none"> <li>• The compacted areas will be ripped and the topsoil returned over the area.</li> <li>• Coarse natural material used for the construction of ramps will be removed and dumped into the excavations.</li> <li>• Stockpiles will be removed during the decommissioning phase, the area ripped and topsoil returned to original depth to provide a growth medium.</li> <li>• On completion of operations, all structures or objects will be dealt with in accordance with Section 44 of the MPRDA 2002 (Act 28 of 2002): <ul style="list-style-type: none"> <li>○ Where sites have been</li> </ul> </li> </ul> |                           |                                |

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

| Activities | Phase | Size and scale of disturbance | Mitigation measures                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Compliance with standards | Time period for implementation |
|------------|-------|-------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|--------------------------------|
|            |       |                               | <p>due to hauling and dumping operations, will be scarified to a depth of at least 300 mm and graded to an even surface condition. The previously stored topsoil will be returned to its original depth over the area.</p> <ul style="list-style-type: none"> <li>○ Prior to replacing the topsoil, the overburden material that was removed from these areas will be replaced in the same order as it originally occurred.</li> <li>○ The area will then be fertilised if necessary to allow vegetation to establish rapidly. The site will be seeded with a local, adapted indigenous seed mix if natural vegetation does not re-establish within 6 months after site closure.</li> <li>○ If a reasonable assessment</li> </ul> |                           |                                |



| Activities | Phase | Size and scale of disturbance | Mitigation measures                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Compliance with standards | Time period for implementation |
|------------|-------|-------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|--------------------------------|
|            |       |                               | <p>indicates that the re-establishment of vegetation is unacceptably slow, the Regional Manager may require that the soil be analysed and any deleterious effects on the soil arising from the mining operation be corrected and the area be seeded with a seed mix to their specification.</p> <p><b>Final rehabilitation</b></p> <ul style="list-style-type: none"> <li>• Rehabilitation of the surface area will entail landscaping, levelling, top dressing, land preparation, seeding (if required) and maintenance, and weed/alien clearing.</li> <li>• All infrastructure, equipment, plant, temporary housing and other items used during the mining period will be removed from the site (section</li> </ul> |                           |                                |

| Activities | Phase | Size and scale of disturbance | Mitigation measures                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Compliance with standards | Time period for implementation |
|------------|-------|-------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|--------------------------------|
|            |       |                               | <p>44 of the MPRDA).</p> <ul style="list-style-type: none"> <li>• Waste material of any description, including receptacles, scrap, rubble and tyres, will be removed entirely from the mining area and disposed of at a recognised landfill facility. It will not be permitted to be buried/burned on site.</li> <li>• Weed/alien clearing will be done in a sporadic manner during the life of the mining activities. Species regarded as Category 1 weeds according to CORA, 1983 – Act 43; Regulations 15 &amp; 16 (as amended in March 2001) must be eradicated from the site.</li> <li>• Final rehabilitation will be completed within a period specified by the Regional Manager.</li> </ul> |                           |                                |

### 3.8 Impact management outcomes

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

| Activity                                                                                                                                                                                                                                                                                            | Potential impact                                                                                                                       | Aspects affected                                  | Phase                                                                                                                    | Mitigation type                                                                                                                                                                                                | Standard to be achieved                                                                                                                 |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|
| Whether listed or not. E.g. excavations, blasting, stockpiles, discard dumps/ dams, loading, hauling, transport, water supply dams and boreholes, accommodation, offices, ablution, stores, workshops, processing plant, storm water control, berms, roads, pipelines, power lines, conveyors, etc. | E.g. dust, noise, drainage, surface disturbance, fly rock, surface water contamination, groundwater contamination, air pollution, etc. |                                                   | In which impact is anticipated. E.g. construction, commissioning, operational decommissioning, closure and post-closure. | 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. | Impact avoided, noise levels, dust levels, rehabilitation standards, end-use objectives, etc.                                           |
| <b>Topsoil stripping and stockpiling</b>                                                                                                                                                                                                                                                            | Visual intrusion associated with the establishment of the                                                                              | The visual impact may affect the residents of the | <b>Site establishment/ construction</b>                                                                                  | Control: Implementation of proper                                                                                                                                                                              | <ul style="list-style-type: none"> <li>Impact on the surrounding environment mitigated until rehabilitation standards can be</li> </ul> |

| Activity | Potential impact                                                          | Aspects affected                                                                                                                                    | Phase        | Mitigation type                 | Standard to be achieved                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|----------|---------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|--------------|---------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|          | mining area.                                                              | immediate area.                                                                                                                                     | <b>phase</b> | housekeeping                    | implemented.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|          | Dust nuisance caused by soil disturbance.                                 | Dust will be contained within property boundaries and therefore affect only the landowner.                                                          |              | Control: Dust suppression       | <ul style="list-style-type: none"> <li>Fallout dust levels has to comply with the acceptable dust fall rate published for non-residential areas in the National Dust Control Regulations 2013 – <math>600 &lt; \text{Dust Fall} &lt; 1200 \text{ mg/m}^2/\text{day}</math>.</li> <li>Gravimetric dust levels have to comply with the standard published in the NIOSH guidelines – particulates <math>&gt;1/10^{\text{th}}</math> of the occupational exposure limit. NEMAQA 2004, Regulation 6(1)</li> </ul> |
|          | Noise nuisance caused by machinery stripping and stockpiling the topsoil. | The noise impact should be contained within property boundaries, but might have a periodic impact on the closest residents of the Delmas community. |              | Control: Noise control measures | <ul style="list-style-type: none"> <li>Noise levels on the site must be managed and needs to comply with the standards stipulated in NEMAQA, 2004 Regulation 6(1) as well as the <i>noise standards of SANS 10103:2008</i></li> <li>Employees working in areas with noise levels of more than 82dBA need to be issue with hearing protection.</li> </ul>                                                                                                                                                     |

| Activity        | Potential impact                                                      | Aspects affected                                                               | Phase                    | Mitigation type                                           | Standard to be achieved                                                                                                                                                                                                                                                           |
|-----------------|-----------------------------------------------------------------------|--------------------------------------------------------------------------------|--------------------------|-----------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                 | Infestation of the topsoil heaps by weeds and invader plants          | Biodiversity                                                                   |                          | Control and remedy:<br>Implementation of weed control     | <ul style="list-style-type: none"> <li>The impact must be avoided through the eradication of Category 1 weeds/ invader plants in terms of CARA, 1993 as well as the implementation of the mitigation measures in this document.</li> </ul>                                        |
|                 | Loss of topsoil due to incorrect storm water management.              | Loss of topsoil will affect the rehabilitation of the mining area.             |                          | Control: Storm water management                           | <ul style="list-style-type: none"> <li>The impact must be avoided through the implementation of storm water management.</li> </ul>                                                                                                                                                |
|                 | Contamination of area with hydrocarbons or hazardous waste materials. | Contamination may cause surface or ground water contamination if not addressed |                          | Control and remedy:<br>Implementation of waste management | <ul style="list-style-type: none"> <li>The impact must be avoided through the implementation of the mitigation measures stipulated in this document.</li> <li>Should spillage occur, the area needs to be cleaned in accordance with the standards of the NEMWA, 2008.</li> </ul> |
| <b>Blasting</b> | Health and safety risk posed by blasting activities                   | Impact might affect the employees working on site.                             | <b>Operational phase</b> | Control: Health and safety monitoring management          | <ul style="list-style-type: none"> <li>Impact must be avoided through compliance with the MHSA, 1996, OHSAS, 1993 and OHSAS 18001</li> <li>Fallout dust levels must comply with the acceptable dust fall rate</li> </ul>                                                          |

| Activity          | Potential impact                                           | Aspects affected                                                                                                  | Phase                    | Mitigation type                   | Standard to be achieved                                                                                                                                                                                                                                                                                                                            |
|-------------------|------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|--------------------------|-----------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                   |                                                            |                                                                                                                   |                          |                                   | published for non-residential areas in the National Dust Control Regulations 2013 – 600 < Dust Fall < 1 200 mg/m <sup>2</sup> /day.                                                                                                                                                                                                                |
|                   | Dust nuisance caused by blasting activities                | Dependent on the blast, the impact might affect the surrounding community. Blasting will only occur twice a year. |                          | Control: Dust suppression         | Gravimetric dust levels have to comply with the standard published in the NIOSH guidelines particulates >1/10 <sup>th</sup> of the occupational exposure limit. NEMAQA, 2004 Regulation 6(1)                                                                                                                                                       |
|                   | Noise nuisance caused by blasting activities               | Dependent on the blast, the impact might affect the surrounding community. Blasting will only occur twice a year. |                          | Control: Noise control measure    | <ul style="list-style-type: none"> <li>Noise levels on the site has to be managed and need to comply with the standards stipulated in NEMAQA, 2004 Regulation 6(1) as well as the noise standards of SANS 10103:2008</li> <li>Employees working in areas with noise levels of more than 82dBA need to be issue with hearing protection.</li> </ul> |
| <b>Excavation</b> | Visual intrusion associated with the excavation activities | The visual impact may affect the                                                                                  | <b>Operational phase</b> | Control: Implementation of proper | <ul style="list-style-type: none"> <li>Impact on the surrounding environment mitigated until rehabilitation standards can be</li> </ul>                                                                                                                                                                                                            |

| Activity | Potential impact                                 | Aspects affected                                                                                                                                             | Phase | Mitigation type                               | Standard to be achieved                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|----------|--------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|-----------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|          | Dust nuisance due to excavation activities.      | residents of the immediate area.<br><br>Dust will be contained within the property boundaries and will therefore affect only the landowner.                  |       | housekeeping<br><br>Control: Dust suppression | implemented.<br><br><ul style="list-style-type: none"> <li>• Fallout dust levels must comply with the acceptable dust fall rate published for non-residential areas, as per National Dust Control</li> <li>• Regulations 2013 – 600 &lt; Dust Fall &lt; 1 200 mg/m<sup>2</sup>/day.</li> <li>• Gravimetric dust levels must comply with the standard published in the NIOSH guidelines –Particulates &gt;1/10<sup>th</sup> of the occupational exposure limit.</li> <li>• NEMAQA, 2004 Regulation 6(1).</li> </ul> |
|          | Noise nuisance generated by excavation equipment | The noise impact must be contained within the boundaries of the property, but might have a periodic impact on the closest residents of the Delmas community. |       | Control: Noise control measures               | <ul style="list-style-type: none"> <li>• Noise levels on the site has to be managed and need to comply with the standards stipulated in NEMAQA, 2004 Regulation 6(1) as well as the noise standards of SANS 10103:2008.</li> <li>• Employees working in areas with noise levels of more than 82dBA need to be issue with hearing protection.</li> </ul>                                                                                                                                                            |

| Activity          | Potential impact                                                      | Aspects affected                                                                | Phase                    | Mitigation type                                                  | Standard to be achieved                                                                                                                                                                                                                                                                     |
|-------------------|-----------------------------------------------------------------------|---------------------------------------------------------------------------------|--------------------------|------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                   | Unsafe working conditions for employees.                              | Impact might affect employees                                                   |                          | Control: Health and safety monitoring and management             | <ul style="list-style-type: none"> <li>• Impact must be avoided through compliance with the MHSA, 1996, OHSA, 1993 and OHSAS 18001</li> </ul>                                                                                                                                               |
| <b>Excavation</b> | Negative impact on the fauna and flora of the area.                   | Biodiversity                                                                    | <b>Operational phase</b> | Control: Protection of fauna and flora through operational phase | <ul style="list-style-type: none"> <li>• The impact must be avoided through implementation of the mitigation measures stipulated in this document.</li> <li>• NEMBA, 2004.</li> </ul>                                                                                                       |
|                   | Contamination of area with hydrocarbons or hazardous waste materials. | Contamination may cause surface or ground water contamination if not addressed. |                          | Control: Implementation of waste management                      | <ul style="list-style-type: none"> <li>• The impact should be avoided through the implementation the mitigation measures stipulated in this document.</li> <li>• Should spillage however occur the area needs to be cleaned in accordance with the standards of the NEMWA, 2008.</li> </ul> |
|                   | Weed and invader plant infestation of the area.                       | Biodiversity                                                                    |                          | Control: Implementation of weed control                          | <ul style="list-style-type: none"> <li>• The impact should be avoided through the eradication of Category 1 weeds/invader plants in terms of CARA, 1993 as well as the implementation of the mitigation measures in this document.</li> </ul>                                               |



| Activity        | Potential impact                                    | Aspects affected                                                                                                                                                   | Phase                    | Mitigation type                 | Standard to be achieved                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|-----------------|-----------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|---------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Crushing</b> | Dust nuisance due to the crushing activities        | Dust will be contained within the property boundaries and will therefore affect only the landowner.                                                                | <b>Operational phase</b> | Control: Dust suppression       | <ul style="list-style-type: none"> <li>• Fallout dust levels has to comply with the acceptable dust fall rate published for non-residential areas in the National Dust Control Regulations 2013 – 600 &lt; Dust Fall &lt; 1 200 mg/m<sup>2</sup>/day.</li> <li>• Gravimetric dust levels have to comply with the standard published in the NIOSH guidelines – Particulates &gt;1/10<sup>th</sup> of the occupational exposure limit.</li> <li>• NEMAQA, 2004 Regulation 6(1).</li> </ul> |
|                 | Noise nuisance generated by the crushing activities | The noise impact should be contained within the boundaries of the property, but might have a periodic impact on the closest residents of the Middleburg community. |                          | Control: Noise control measures | <ul style="list-style-type: none"> <li>• Noise levels on the site has to be managed and need to comply with the standards stipulated in NEMAQA, 2004 Regulation 6(1) as well as the <i>noise standards of SANS 10103:2008</i>.</li> <li>• Employees working in areas with noise levels of more than 82dBA need to be issue with hearing protection.</li> </ul>                                                                                                                           |
|                 | Contamination of                                    | Contamination                                                                                                                                                      |                          | Control:                        | <ul style="list-style-type: none"> <li>• The impact should be avoided</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                         |

| Activity                            | Potential impact                                                                  | Aspects affected                                                                                    | Phase                    | Mitigation type                                    | Standard to be achieved                                                                                                                                                                                                                                                                                                                        |
|-------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|--------------------------|----------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                     | area with hydrocarbons or hazardous waste materials.                              | may cause surface or ground water contamination if not addressed.                                   |                          | Implementation of waste management                 | <p>through the implementation the mitigation measures stipulated in this document.</p> <ul style="list-style-type: none"> <li>• Should spillage however occur the area needs to be cleaned in accordance with the standards of the NEMWA, 2008.</li> </ul>                                                                                     |
|                                     | Loss of material due to ineffective storm water handling.                         | Impact will affect income of applicant.                                                             |                          | Control: Storm water control measures              | <ul style="list-style-type: none"> <li>• The impact should be avoided through the implementation of storm water management.</li> </ul>                                                                                                                                                                                                         |
|                                     | Weed and invader plant infestation of the area due to the disturbance of the soil | Biodiversity                                                                                        |                          | Control and remedy: Implementation of weed control | <ul style="list-style-type: none"> <li>• The impact should be avoided through the eradication of Category 1 weeds/invader plants in terms of CARA, 1993 as well as the implementation of the mitigation measures in this document.</li> </ul>                                                                                                  |
| <b>Stockpiling and transporting</b> | Dust nuisance from stockpiled material and vehicles transporting the material.    | Dust will be contained within the property boundaries and will therefore affect only the landowner. | <b>Operational phase</b> | Control: Dust suppression                          | <ul style="list-style-type: none"> <li>• Fallout dust levels has to comply with the acceptable dust fall rate published for non-residential areas in the National Dust Control Regulations 2013 – 600 &lt; Dust Fall &lt; 1 200 mg/m<sup>2</sup>/day.</li> <li>• Gravimetric dust levels have to comply with the standard published</li> </ul> |

| Activity                                             | Potential impact                                                     | Aspects affected                                                                                                                       | Phase                        | Mitigation type                                     | Standard to be achieved                                                                                                                                                                                                                                                                                                                                        |
|------------------------------------------------------|----------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|------------------------------|-----------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                      |                                                                      |                                                                                                                                        |                              |                                                     | <p>in the NIOSH guidelines – Particulates &gt;1/10<sup>th</sup> of the occupational exposure limit.</p> <ul style="list-style-type: none"> <li>• NEMAQA, 2004 Regulation 6(1).</li> </ul>                                                                                                                                                                      |
|                                                      | Degradation of access roads.                                         | All road users will be affected.                                                                                                       |                              | Control and remedy: Road management                 | <ul style="list-style-type: none"> <li>• The impact should be avoided through the implementation of the mitigation measures proposed in this document.</li> </ul>                                                                                                                                                                                              |
|                                                      | Noise nuisance caused by vehicles.                                   | The noise impact should be contained within the boundaries of the property, but might have a periodic impact on the closest residents. |                              | Control: Noise management monitoring and management | <ul style="list-style-type: none"> <li>• Noise levels on the site has to be managed and need to comply with the standards stipulated in NEMAQA, 2004 Regulation 6(1) as well as the <i>noise standards of SANS 10103:2008</i>.</li> <li>• Employees working in areas with noise levels of more than 82dBA need to be issue with hearing protection.</li> </ul> |
| <b>Sloping and landscaping during rehabilitation</b> | Contamination of area with hydrocarbons or hazardous waste materials | Contamination may cause surface or ground water contamination if not addressed.                                                        | <b>Decommissioning phase</b> | Control: Implementation of waste management         | <ul style="list-style-type: none"> <li>• The impact should be avoided through the implementation the mitigation measures stipulated in this document.</li> <li>• Should spillage however occur the area needs to be cleaned in accordance with the standards of</li> </ul>                                                                                     |

| Activity | Potential impact                                                | Aspects affected                                                                                    | Phase | Mitigation type                                       | Standard to be achieved                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|----------|-----------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|-------|-------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|          |                                                                 |                                                                                                     |       |                                                       | the NEM:WA, 2008.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|          | Soil erosion                                                    | Biodiversity                                                                                        |       | Control: Soil management                              | <ul style="list-style-type: none"> <li>• The impact should be avoided through the implementation the mitigation measures stipulated in this document.</li> <li>• CARA, 1993</li> </ul>                                                                                                                                                                                                                                                                                                                 |
|          | Health and safety risk posed by un-sloped areas                 | Impact will affect employees and residents of the property                                          |       | Control: Health and safety monitoring and management. | <ul style="list-style-type: none"> <li>• The impact should be avoided through compliance with the standards of the MHSA, 1996, OHSA, 1993 and OHSAS 18001</li> </ul>                                                                                                                                                                                                                                                                                                                                   |
|          | Dust nuisance caused during sloping and landscaping activities. | Dust will be contained within the property boundaries and will therefore affect only the landowner. |       | Control: Dust suppression                             | <ul style="list-style-type: none"> <li>• Fallout dust levels has to comply with the acceptable dust fall rate published for non-residential areas in the National Dust Control Regulations 2013 – <math>600 &lt; \text{Dust Fall} &lt; 1200 \text{ mg/m}^2/\text{day}</math>.</li> <li>• Gravimetric dust levels have to comply with the standard published in the NIOSH guidelines – Particulates <math>&gt;1/10</math> of the occupational exposure limit. NEM:AQA, 2004 Regulation 6(1).</li> </ul> |
|          | Noise nuisance caused by machinery.                             | The noise impact should be contained within                                                         |       | Control: Noise monitoring                             | <ul style="list-style-type: none"> <li>• Noise levels on the site has to be managed and need to comply with the standards stipulated in NEM:</li> </ul>                                                                                                                                                                                                                                                                                                                                                |

| Activity                                                         | Potential impact                                                      | Aspects affected                                                                                                       | Phase                        | Mitigation type                    | Standard to be achieved                                                                                                                                                                                                                                                                      |
|------------------------------------------------------------------|-----------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------|------------------------------|------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                  |                                                                       | the boundaries of the property, but might have a periodic impact on the closest residents of the Middleburg community. |                              |                                    | <p>AQA, 2004 Regulation 6(1) as well as the <i>noise standards of SANS 10103:2008</i>.</p> <ul style="list-style-type: none"> <li>• Employees working in areas with noise levels of more than 82dBA need to be issue with hearing protection.</li> </ul>                                     |
|                                                                  | Contamination of area with hydrocarbons or hazardous waste materials. | Contamination may cause surface or ground water contamination if not addressed.                                        |                              | Control: Waste management          | <ul style="list-style-type: none"> <li>• The impact should be avoided through the implementation the mitigation measures stipulated in this document.</li> <li>• Should spillage however occur the area needs to be cleaned in accordance with the standards of the NEM:WA, 2008.</li> </ul> |
| <b>Replacing of topsoil and rehabilitation of disturbed area</b> | Loss of reinstated topsoil due to the absence of vegetation           | Biodiversity and soil management                                                                                       | <b>Decommissioning phase</b> | Control: Soil management           | <ul style="list-style-type: none"> <li>• The impact should be avoided through the implementation the mitigation measures stipulated in this document.</li> <li>• CARA, 1993</li> </ul>                                                                                                       |
|                                                                  | Infestation of the area by weed and invader plants.                   | Biodiversity and soil management                                                                                       |                              | Control and remedy: Implementation | <ul style="list-style-type: none"> <li>• The impact should be avoided through the eradication of Category 1 weeds/invader plants in terms of</li> </ul>                                                                                                                                      |

| Activity | Potential impact | Aspects affected | Phase | Mitigation type | Standard to be achieved                                                               |
|----------|------------------|------------------|-------|-----------------|---------------------------------------------------------------------------------------|
|          |                  |                  |       | of weed control | CARA, 1993 as well as the implementation of the mitigation measures in this document. |

### 3.9 Impact management actions

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

| Activity                                                                                                                                                                                                                                                                                        | Potential impact                                                                                                                       | Mitigation type                                                                                                                                                                                                                                                                                                                                                     | Time period for implementation                                                                                                                                                                                                                                                                                                                                                                                                                         | Compliance with standards                                                                                                                                                                                                       |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Whether listed or not, e.g. excavations, blasting, stockpiles, discard dumps/dams, loading, hauling, transport, water supply dams, boreholes, accommodation, offices, ablution, stores, workshops, processing plant, storm water control, berms, roads, pipelines, power lines, conveyors, etc. | E.g. dust, noise, drainage, surface disturbance, fly rock, surface water contamination, groundwater contamination, air pollution, etc. | Modify, remedy, control or stop through, e.g. noise control measures, storm water control, dust control, rehabilitation, design measures, blasting controls, avoidance, relocation, alternative activity, etc. E.g. Modify through alternative method, control through noise control, control through management and monitoring, and remedy through rehabilitation. | Describe the time period when the measures in the environmental management programme must be implemented. Measures must be implemented when required. With regard to Rehabilitation specifically this must take place at the earliest opportunity. With regard to Rehabilitation therefore state either – Upon cessation of the individual activity or upon the cessation of mining, bulk sampling or alluvial diamond prospecting as the case may be. | A description of how each of the recommendations in 2.11.6 read with 2.12 and 2.15.2 herein will comply with any prescribed environmental management standards or practices that have been identified by Competent Authorities. |

| Activity                                 | Potential impact                                                       | Mitigation type                                | Time period for implementation                                                                                                                                                                                                                                                         | Compliance with standards                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|------------------------------------------|------------------------------------------------------------------------|------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Topsoil stripping and stockpiling</b> | Visual intrusion associated with the establishment of the mining area. | Control: Implementation of proper housekeeping | To be implemented daily throughout the site establishment / construction phase: <ul style="list-style-type: none"> <li>• Daily compliance monitoring by site management.</li> <li>• Quarterly compliance monitoring of site by an</li> <li>• Environmental Control Officer.</li> </ul> | Impact on the surrounding environment must be mitigated until rehabilitation standards can be implemented in terms of the MRDA.                                                                                                                                                                                                                                                                                                                                             |
|                                          | Dust nuisance caused by the disturbance of soil.                       | Control: Dust suppression                      | To be implemented daily throughout the site establishment / construction phase: <ul style="list-style-type: none"> <li>• Daily compliance monitoring by site management.</li> <li>• Quarterly compliance monitoring of site by an</li> <li>• Environmental Control Officer.</li> </ul> | <ul style="list-style-type: none"> <li>• Fallout dust levels has to comply with the acceptable dust fall rate published for non-residential areas in the National Dust Control Regulations 2013 – 600 &lt; Dust Fall &lt; 1 200 mg/m<sup>2</sup>/day.</li> <li>• Gravimetric dust levels have to comply with the standard published in the NIOSH guidelines – Particulates &gt;1/10<sup>th</sup> of the occupational exposure limit NEMAQA, 2004 Regulation 6(1)</li> </ul> |



| Activity | Potential impact                                                          | Mitigation type                                    | Time period for implementation                                                                                                                                                                                                                                                                  | Compliance with standards                                                                                                                                                                                                                                                                                                                                        |
|----------|---------------------------------------------------------------------------|----------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|          | Noise nuisance caused by machinery stripping and stockpiling the topsoil. | Control: Noise control measures                    | To be implemented daily throughout the site establishment / construction phase: <ul style="list-style-type: none"> <li>• Daily compliance monitoring by site management.</li> <li>• Quarterly compliance monitoring of site by an</li> <li>• Environmental Control Officer.</li> </ul>          | <ul style="list-style-type: none"> <li>• Noise levels on the site has to be managed and need to comply with the standards stipulated in NEM: AQA, 2004 Regulation 6(1) as well as the <i>noise standards of SANS 10103:2008</i>.</li> <li>• Employees working in areas with noise levels of more than 82dBA need to be issue with hearing protection.</li> </ul> |
|          | Infestation of the topsoil heaps by weeds and invader plants              | Control and remedy: Implementation of weed control | To be implemented when necessary throughout the site establishment / construction phase: <ul style="list-style-type: none"> <li>• Daily compliance monitoring by site management.</li> <li>• Quarterly compliance monitoring of site by an</li> <li>• Environmental Control Officer.</li> </ul> | <ul style="list-style-type: none"> <li>• The impact should be avoided through the eradication of Category 1 weeds/invader plants in terms of CARA, 1993 as well as the implementation of the mitigation measures in this document.</li> </ul>                                                                                                                    |
|          | Loss of topsoil due to incorrect storm water management.                  | Control: Storm water management                    | To be implemented daily throughout the site establishment / construction phase:                                                                                                                                                                                                                 | <ul style="list-style-type: none"> <li>• The impact should be avoided through the implementation of storm water management.</li> </ul>                                                                                                                                                                                                                           |

| Activity        | Potential impact                                                     | Mitigation type                                           | Time period for implementation                                                                                                                                                                                                                                                                | Compliance with standards                                                                                                                                                                                                                                                                       |
|-----------------|----------------------------------------------------------------------|-----------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                 |                                                                      |                                                           | <ul style="list-style-type: none"> <li>• Daily compliance monitoring by site management.</li> <li>• Quarterly compliance monitoring of site by an Environmental Control officer</li> </ul>                                                                                                    |                                                                                                                                                                                                                                                                                                 |
|                 | Contamination of area with hydrocarbons or hazardous waste materials | Control and remedy:<br>Implementation of waste management | <p>To be implemented daily throughout the site establishment / construction phase:</p> <ul style="list-style-type: none"> <li>• Daily compliance monitoring by site management.</li> <li>• Quarterly compliance monitoring of site by an</li> <li>• Environmental Control Officer.</li> </ul> | <ul style="list-style-type: none"> <li>• The impact should be avoided through the implementation of the mitigation measures stipulated in this document.</li> <li>• Should spillage however occur the area needs to be cleaned in accordance with the standards of the NEM:WA, 2008.</li> </ul> |
| <b>Blasting</b> | Health and safety risk posed by blasting activities                  | Control: Health and safety monitoring and management      | <p>To be implemented when necessary throughout the operational phase:</p> <ul style="list-style-type: none"> <li>• Daily compliance monitoring by site management.</li> <li>• Quarterly compliance monitoring of site by an</li> <li>• Environmental Control Officer.</li> </ul>              | <ul style="list-style-type: none"> <li>• The impact should be avoided through compliance with the standards of the MHSA, 1996, OHSWA, 1993 and OHSAS 18001</li> </ul>                                                                                                                           |

| Activity | Potential impact                             | Mitigation type                 | Time period for implementation                                                                                                                                                                                                                                          | Compliance with standards                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|----------|----------------------------------------------|---------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|          | Dust nuisance caused by blasting activities  | Control: Dust suppression       | <p>To be implemented daily throughout the operational phase:</p> <ul style="list-style-type: none"> <li>• Daily compliance monitoring by site management.</li> <li>• Quarterly compliance monitoring of site by an</li> <li>• Environmental Control Officer.</li> </ul> | <ul style="list-style-type: none"> <li>• Fallout dust levels has to comply with the acceptable dust fall rate published for non-residential areas in the National Dust Control Regulations 2013 – 600 &lt; Dust Fall &lt; 1 200 mg/m<sup>2</sup>/day.</li> <li>• Gravimetric dust levels have to comply with the standard published in the NIOSH guidelines – Particulates &gt;1/10<sup>th</sup> of the occupational exposure limit.</li> <li>• NEMAQA, 2004 Regulation 6(1)</li> </ul> |
|          | Noise nuisance caused by blasting activities | Control: Noise control measures | <p>To be implemented daily throughout the operational phase:</p> <ul style="list-style-type: none"> <li>• Daily compliance monitoring by site management.</li> <li>• Quarterly compliance monitoring of site by an</li> <li>• Environmental Control Officer.</li> </ul> | <ul style="list-style-type: none"> <li>• Noise levels on the site has to be managed and need to comply with the standards stipulated in NEM: AQA, 2004 Regulation 6(1) as well as the noise standards of SANS 10103:2008.</li> <li>• Employees working in areas with noise levels of more than 82dBA need to be issue with hearing protection.</li> </ul>                                                                                                                               |

| Activity          | Potential impact                                           | Mitigation type                                | Time period for implementation                                                                                                                                                                                                                                   | Compliance with standards                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|-------------------|------------------------------------------------------------|------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Excavation</b> | Visual intrusion associated with the excavation activities | Control: Implementation of proper housekeeping | To be implemented daily throughout the operational phase: <ul style="list-style-type: none"> <li>• Daily compliance monitoring by site management.</li> <li>• Quarterly compliance monitoring of site by an</li> <li>• Environmental Control Officer.</li> </ul> | <ul style="list-style-type: none"> <li>• Impact on the surrounding environment mitigated until rehabilitation standards can be implemented.</li> </ul>                                                                                                                                                                                                                                                                                                                                   |
|                   | Dust nuisance due to excavation activities.                | Control: Dust suppression                      | To be implemented daily throughout the operational phase: <ul style="list-style-type: none"> <li>• Daily compliance monitoring by site management.</li> <li>• Quarterly compliance monitoring of site by an</li> <li>• Environmental Control Officer.</li> </ul> | <ul style="list-style-type: none"> <li>• Fallout dust levels has to comply with the acceptable dust fall rate published for non-residential areas in the National Dust Control Regulations 2013 – 600 &lt; Dust Fall &lt; 1 200 mg/m<sup>2</sup>/day</li> <li>• Gravimetric dust levels have to comply with the standard published in the NIOSH guidelines – Particulates &gt;1/10<sup>th</sup> of the occupational exposure limit.</li> <li>• NEM:AQA, 2004 Regulation 6(1).</li> </ul> |

| Activity | Potential impact                                    | Mitigation type                                                  | Time period for implementation                                                                                                                                                                                                                                   | Compliance with standards                                                                                                                                                                                                                                                                                                                                        |
|----------|-----------------------------------------------------|------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|          | Noise nuisance generated by excavation equipment.   | Control: Noise control measures                                  | To be implemented daily throughout the operational phase: <ul style="list-style-type: none"> <li>• Daily compliance monitoring by site management.</li> <li>• Quarterly compliance monitoring of site by an</li> <li>• Environmental Control Officer.</li> </ul> | <ul style="list-style-type: none"> <li>• Noise levels on the site has to be managed and need to comply with the standards stipulated in NEM: AQA, 2004 Regulation 6(1) as well as the <i>noise standards of SANS 10103:2008</i>.</li> <li>• Employees working in areas with noise levels of more than 82dBA need to be issue with hearing protection.</li> </ul> |
|          | Unsafe working conditions for employees.            | Control: Health and safety monitoring and management             | To be daily throughout the operational phase: <ul style="list-style-type: none"> <li>• Daily compliance monitoring by site management.</li> <li>• Quarterly compliance monitoring of site by an</li> <li>• Environmental Control Officer.</li> </ul>             | <ul style="list-style-type: none"> <li>• The impact should be avoided through compliance with the standards of the MHSa, 1996, OHSa, 1993 and OHSAS 18001</li> </ul>                                                                                                                                                                                             |
|          | Negative impact on the fauna and flora of the area. | Control: Protection of fauna and flora through operational phase | To be daily throughout the operational phase: <ul style="list-style-type: none"> <li>• Daily compliance monitoring by site management.</li> <li>• Quarterly compliance monitoring of site by an</li> </ul>                                                       | <ul style="list-style-type: none"> <li>• The impact should be avoided through the implementation of the mitigation measures stipulated in this document.</li> <li>• NEM:BA, 2004.</li> </ul>                                                                                                                                                                     |

| Activity        | Potential impact                                                      | Mitigation type                             | Time period for implementation                                                                                                                                                                                                                                                                                                                             | Compliance with standards                                                                                                                                                                                                                                                                    |
|-----------------|-----------------------------------------------------------------------|---------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                 | Contamination of area with hydrocarbons or hazardous waste materials. | Control: Implementation of waste management | <ul style="list-style-type: none"> <li>• Environmental Control Officer.</li> </ul> <p>To be implemented daily throughout the operational phase:</p> <ul style="list-style-type: none"> <li>• Daily compliance monitoring by site management.</li> <li>• Quarterly compliance monitoring of site by an</li> <li>• Environmental Control Officer.</li> </ul> | <ul style="list-style-type: none"> <li>• The impact should be avoided through the implementation the mitigation measures stipulated in this document.</li> <li>• Should spillage however occur the area needs to be cleaned in accordance with the standards of the NEM:WA, 2008.</li> </ul> |
|                 | Weed and invader plant infestation of the area.                       | Control: implementation of weed control     | <p>To be implemented when necessary throughout the operational phase:</p> <ul style="list-style-type: none"> <li>• Daily compliance monitoring by site management.</li> <li>• Quarterly compliance monitoring of site by an</li> <li>• Environmental Control Officer.</li> </ul>                                                                           | <ul style="list-style-type: none"> <li>• The impact should be avoided through the eradication of Category 1 weeds/invader plants in terms of CARA, 1993 as well as the implementation of the mitigation measures in this document.</li> </ul>                                                |
| <b>Crushing</b> | Dust nuisance due to the crushing activities                          | Control: Dust suppression                   | <p>To be implemented daily throughout the operational phase:</p> <ul style="list-style-type: none"> <li>• Daily compliance monitoring</li> </ul>                                                                                                                                                                                                           | <ul style="list-style-type: none"> <li>• Fallout dust levels has to comply with the acceptable dust fall rate published for non-residential areas in the National Dust</li> </ul>                                                                                                            |

| Activity | Potential impact                                                      | Mitigation type                             | Time period for implementation                                                                                                                                                                                                                                   | Compliance with standards                                                                                                                                                                                                                                                                                                                                        |
|----------|-----------------------------------------------------------------------|---------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|          |                                                                       |                                             | by site management. <ul style="list-style-type: none"> <li>• Quarterly compliance monitoring of site by an</li> <li>• Environmental Control Officer.</li> </ul>                                                                                                  | Control Regulations 2013 – 600 < Dust Fall < 1 200 mg/m <sup>2</sup> /day. <ul style="list-style-type: none"> <li>• Gravimetric dust levels have to comply with the standard published in the NIOSH guidelines – Particulates &gt;1/10<sup>th</sup> of the occupational exposure limit.</li> <li>• NEM:AQA, 2004 Regulation 6(1).</li> </ul>                     |
|          | Noise nuisance generated by the crushing activities.                  | Control: Noise control measures             | To be implemented daily throughout the operational phase: <ul style="list-style-type: none"> <li>• Daily compliance monitoring by site management.</li> <li>• Quarterly compliance monitoring of site by an</li> <li>• Environmental Control Officer.</li> </ul> | <ul style="list-style-type: none"> <li>• Noise levels on the site has to be managed and need to comply with the standards stipulated in NEM: AQA, 2004 Regulation 6(1) as well as the <i>noise standards of SANS 10103:2008</i>.</li> <li>• Employees working in areas with noise levels of more than 82dBA need to be issue with hearing protection.</li> </ul> |
|          | Contamination of area with hydrocarbons or hazardous waste materials. | Control: Implementation of waste management | To be implemented daily throughout the operational phase: <ul style="list-style-type: none"> <li>• Daily compliance monitoring by site management.</li> </ul>                                                                                                    | <ul style="list-style-type: none"> <li>• The impact should be avoided through the implementation the mitigation measures stipulated in this document.</li> <li>• Should spillage however occur</li> </ul>                                                                                                                                                        |

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



| Activity | Potential impact                                                               | Mitigation type                     | Time period for implementation                                                                                                                                                                                                                                   | Compliance with standards                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|----------|--------------------------------------------------------------------------------|-------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|          | the area due to the disturbance of the soil                                    | control                             | operational phase: <ul style="list-style-type: none"> <li>• Daily compliance monitoring by site management.</li> <li>• Quarterly compliance monitoring of site by an</li> <li>• Environmental Control Officer.</li> </ul>                                        | Category 1 weeds/invaser plants in terms of CARA, 1993 as well as the implementation of the mitigation measures in this document.                                                                                                                                                                                                                                                                                                                                                         |
|          | Dust nuisance from stockpiled material and vehicles transporting the material. | Control: Dust suppression           | To be implemented daily throughout the operational phase: <ul style="list-style-type: none"> <li>• Daily compliance monitoring by site management.</li> <li>• Quarterly compliance monitoring of site by an</li> <li>• Environmental Control Officer.</li> </ul> | <ul style="list-style-type: none"> <li>• Fallout dust levels has to comply with the acceptable dust fall rate published for non-residential areas in the National Dust Control Regulations 2013 – 600 &lt; Dust Fall &lt; 1 200 mg/m<sup>2</sup>/day.</li> <li>• Gravimetric dust levels have to comply with the standard published in the NIOSH guidelines – Particulates &gt;1/10<sup>th</sup> of the occupational exposure limit.</li> <li>• NEM:AQA, 2004 Regulation 6(1).</li> </ul> |
|          | Degradation of access roads                                                    | Control and remedy: Road management | To be implemented when necessary throughout the operational phase: <ul style="list-style-type: none"> <li>• Daily compliance monitoring</li> </ul>                                                                                                               | <ul style="list-style-type: none"> <li>• The impact should be avoided through the implementation of the mitigation measures proposed in this document.</li> </ul>                                                                                                                                                                                                                                                                                                                         |

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

| Activity                                             | Potential impact                                                | Mitigation type                                       | Time period for implementation                                                                                                                                                                                                                     | Compliance with standards                                                                                                                                                                                                                                                                                                            |
|------------------------------------------------------|-----------------------------------------------------------------|-------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Sloping and landscaping during rehabilitation</b> | Soil erosion                                                    | Control: Soil management                              | To be implemented throughout the rehabilitation / closure phase: <ul style="list-style-type: none"> <li>• Daily compliance monitoring by site management.</li> <li>• Compliance monitoring of site by an Environmental Control Officer.</li> </ul> | <ul style="list-style-type: none"> <li>• The impact should be avoided through the implementation the mitigation measures stipulated in this document.</li> <li>• CARA, 1993</li> </ul>                                                                                                                                               |
|                                                      | Health and safety risk posed by un-sloped areas                 | Control: Health and safety monitoring and management. | To be implemented throughout the rehabilitation / closure phase: <ul style="list-style-type: none"> <li>• Daily compliance monitoring by site management.</li> <li>• Compliance monitoring of site by an Environmental Control Officer.</li> </ul> | <ul style="list-style-type: none"> <li>• The impact should be avoided through compliance with the standards of the MHSA, 1996, OHSA, 1993 and OHSAS 18001</li> </ul>                                                                                                                                                                 |
|                                                      | Dust nuisance caused during sloping and landscaping activities. | Control: Dust suppression                             | To be implemented throughout the rehabilitation / closure phase: <ul style="list-style-type: none"> <li>• Daily compliance monitoring by site management.</li> <li>• Compliance monitoring of site by an Environmental Control Officer.</li> </ul> | <ul style="list-style-type: none"> <li>• Fallout dust levels has to comply with the acceptable dust fall rate published for non-residential areas in the National Dust Control Regulations 2013 – 600 &lt; Dust Fall &lt; 1 200 mg/m<sup>2</sup>/day.</li> <li>• Gravimetric dust levels have to comply with the standard</li> </ul> |

| Activity | Potential impact                                                             | Mitigation type                   | Time period for implementation                                                                                                                                                                                                                            | Compliance with standards                                                                                                                                                                                                                                                                                                                                        |
|----------|------------------------------------------------------------------------------|-----------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|          |                                                                              |                                   |                                                                                                                                                                                                                                                           | <p>published in the NIOSH guidelines – Particulates &gt;1/10<sup>th</sup> of the occupational exposure limit.</p> <ul style="list-style-type: none"> <li>• NEM:AQA, 2004 Regulation 6(1).</li> </ul>                                                                                                                                                             |
|          | <p>Noise nuisance caused by machinery.</p>                                   | <p>Control: Noise monitoring</p>  | <p>To be implemented throughout the rehabilitation / closure phase:</p> <ul style="list-style-type: none"> <li>• Daily compliance monitoring by site management.</li> <li>• Compliance monitoring of site by an Environmental Control Officer.</li> </ul> | <ul style="list-style-type: none"> <li>• Noise levels on the site has to be managed and need to comply with the standards stipulated in NEM: AQA, 2004 Regulation 6(1) as well as the <i>noise standards of SANS 10103:2008</i>.</li> <li>• Employees working in areas with noise levels of more than 82dBA need to be issue with hearing protection.</li> </ul> |
|          | <p>Contamination of area with hydrocarbons or hazardous waste materials.</p> | <p>Controls: Waste management</p> | <p>To be implemented throughout the rehabilitation / closure phase:</p> <ul style="list-style-type: none"> <li>• Daily compliance monitoring by site management.</li> <li>• Compliance monitoring of site by an Environmental Control Officer.</li> </ul> | <ul style="list-style-type: none"> <li>• The impact must be avoided through implementation of mitigation measures stipulated in this document.</li> <li>• Should spillage however occur the area needs to be cleaned in accordance with the standards of the NEMWA, 2008.</li> </ul>                                                                             |

| Activity                                                         | Potential impact                                            | Mitigation type                                    | Time period for implementation                                                                                                                                                                                                                     | Compliance with standards                                                                                                                                                                                                                     |
|------------------------------------------------------------------|-------------------------------------------------------------|----------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Replacing of topsoil and rehabilitation of disturbed area</b> | Loss of reinstated topsoil due to the absence of vegetation | Control: Soil management                           | To be implemented throughout the rehabilitation / closure phase: <ul style="list-style-type: none"> <li>• Daily compliance monitoring by site management.</li> <li>• Compliance monitoring of site by an Environmental Control Officer.</li> </ul> | <ul style="list-style-type: none"> <li>• The impact should be avoided through the implementation the mitigation measures stipulated in this document.</li> <li>• CARA, 1993</li> </ul>                                                        |
|                                                                  | Infestation of the area by weed and invader plants.         | Control and remedy: Implementation of weed control | To be implemented throughout the rehabilitation / closure phase: <ul style="list-style-type: none"> <li>• Daily compliance monitoring by site management.</li> <li>• Compliance monitoring of site by an Environmental Control Officer.</li> </ul> | <ul style="list-style-type: none"> <li>• The impact should be avoided through the eradication of Category 1 weeds/invader plants in terms of CARA, 1993 as well as the implementation of the mitigation measures in this document.</li> </ul> |

## **4 Determination of the amount of financial provision**

### **4.1 Closure objectives and the extent to which they have been aligned to the baseline environment described under the Regulation**

The closure objectives are aimed at re-instating the landform, land use and vegetation units to the same as before mining operations take place unless a specific, reasonable alternative land use is requested by the landowner. As such, the intended end use for the disturbed Mining Permit area and the closure objectives will be defined in consultation with the relevant landowner. Proof of such consultation will be submitted together with the Application for Closure Certificate. The overall aim of the rehabilitation plan is to rehabilitate the environment to a condition as close as possible to that which existed prior to mining. This shall be achieved with a number of specific objectives.

- Making the area safe, i.e. decommission mining activities to ensure that the environment is safe for people and animals. This entails refilling the excavations.
- Recreating a free draining landform. This entails earthworks infilling, reshaping, levelling, etc. to recreate as close as possible the original topography and to ensure a free draining landscape.
- Re-vegetation. This involves either reseeding or allowing natural succession depending on the area, climate etc.
- Storm water management and erosion control. Management of storm water and prevention of erosion during rehabilitation (e.g. cut off drains, berms etc. and erosion control where required).

### **4.2 Confirm specifically that the environmental objectives in relation to**

The Public Participation Process (PPP) is a requirement of several pieces of the South African legislation and aims to ensure that all relevant Interested and Affected Parties (I&APs) are consulted, involved and their opinions are taken into account and a record included in the reports submitted to Authorities. The process ensures that all stakeholders are provided this opportunity as part of a transparent process which allows for a robust and comprehensive environmental study.

The PPP which forms part of the Mining Permit application needs to be managed sensitively and according to best practices in order to ensure and promote:

- ❖ Compliance with national legislation.
- ❖ Establish and manage relationships with key stakeholder groups.
- ❖ Encourage involvement and participation in the environmental study and

authorization / approval process.

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

- ❖ Introduce the proposed project.
- ❖ Explain the environmental authorizations required.
- ❖ Explain the environmental studies already completed and yet to be undertaken (where applicable).
- ❖ Determine and record issues, concerns, suggestions and objections to the project.
- ❖ Provide opportunity for input and gathering of local knowledge.
- ❖ Establish and formalize lines of communication between the I&APs and the project team.
- ❖ Identify all significant issues for the project.
- ❖ Identify possible mitigation measures or environmental management plans to minimise and/or prevent negative environmental impacts and maximise and/or promote positive environmental impacts associated with the project.

Landowners and I&APs were consulted and are provided an opportunity to comment on this draft Basic Assessment Report, EMPr including all decommissioning, closure and rehabilitation plans. Their comments have been included in this draft BAR and EMPr for consideration by the DMRE as part of their decision-making.

#### **4.3 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**

##### **4.3.1 Integrated Rehabilitation and Closure Plan**

The main aim in developing this rehabilitation plan is to mitigate the impacts caused by the mining activities and to restore land back to a satisfactory standard. It is best practice to develop the rehabilitation plan as early as possible so as to ensure the optimal management of rehabilitation issues that may arise. It is important that the project's closure plan is defined and understood before starting the process and is complementary to the rehabilitation goals. Rehabilitation and closure objectives need to be tailored to the project and be aligned with the EMPr.

The overall rehabilitation objectives for this project are as follows:

Maintain and minimize impacts to the ecosystem within the study area.

- ❖ Re-establishment of the pre-developed land capability to allow for a suitable post-mining land use.

- ❖ Prevent soil, surface water and groundwater contamination.
- ❖ Comply with the relevant local and national regulatory requirements.
- ❖ Maintain and monitor the rehabilitated areas.

Successful rehabilitation must be sustainable, requires an understanding of the basic baseline environment and project management to ensure that the rehabilitation program is a success.

#### **4.3.1.1 Phase 1: Making Safe**

The Mining activity will result in an opencast. The purpose of rehabilitation will be to ensure the site becomes safe for humans and animals. The opencast will be filled with overburden. The overburden will be loaded, trucked and placed into the proposed mine, and the topography in the area adjacent to the proposed mine shaped to ensure that a free draining topography results.

Once the proposed mine has been backfilled, 300mm thick topsoil or soft overburden in place of soil will be spread on rehabilitated areas. Once placed, the “growth medium” should then be fertilized, ripped and revegetated. A small topsoil stockpile should be left for remedial work.

The following actions are required to meet the objectives of this phase:

- ❖ Remove all the facilities and equipment from the site.
- ❖ Inert waste with a salvage value to individuals such as scrap metal, building materials, etc. will be removed and disposed of at a proper facility.
- ❖ The company contracted to supply fuel will be requested to remove all fuel storage and reticulation facilities.
- ❖ Those sections of haul road where a lot of Coal spillage has occurred, will be picked up and the waste material taken back to the discard dump.
- ❖ Remove or control residual hazardous materials. Identify any potential toxic overburden or exposed strata and manage them so as to prevent environmental damage.
- ❖ Access roads around the site should be ripped for all areas except those needed to access the facilities for inspection after closure. Roads that can and will be used by other users post closure should, however, be left provided this is agreed upon by all parties concerned. For the rehabilitation of roads, a cost has been allocated to rip the area, add 300 mm topsoil and vegetate.
- ❖ Negotiations will take place with land owners to establish which sections of haul road they will require. The extra portions not required will be left and the remainder



ripped. This would normally mean that the edges or verges are ripped and the center portion remains. They will be responsible for maintaining the roads after closure.

#### **4.3.1.2 Phase 2: Landform Design, Erosion Control and Revegetation**

Landform, erosion control and re-vegetation are important parts of the rehabilitation process. Landform and land use are closely interrelated, and the landform should be returned as closely as possible to the original landform. Community expectations, compatibility with local land use practices and regional infrastructure, or the need to replace natural ecosystems and faunal habitats all support returning the land as closely as possible to its original appearance and productive capacity.

This requires the following:

- ❖ Deep rip compacted surfaces to encourage infiltration, allow plant root growth and key the topsoil to the subsoil, unless subsurface conditions dictate otherwise.
- ❖ Reinstate natural drainage patterns disrupted by mining wherever possible.
- ❖ Characterize the topsoil and retain it for use in rehabilitation. It is preferable to reuse the topsoil immediately rather than storing it in stockpiles. Only discard if it is physically or chemically undesirable, or if it contains high levels of weed seeds or plant pathogens.
- ❖ If topsoil is unsuitable or absent, identify and test alternative substrates, e.g. overburden that may be a suitable substitute after addition of soil improving substances.
- ❖ Lime and superphosphate are applied to the surface.
- ❖ These ameliorants are then incorporated by deep ripping, which penetrates 100 mm through the soil into the underlying overburden material.
- ❖ Fertilizer is applied as part of seedbed preparation.
- ❖ Consider spreading the cleared vegetation on disturbed areas.
- ❖ Re-vegetate the area with plant species consistent with the post mining land use.
- ❖ The site is then mulched together with an indigenous grass seed mix. This is to stimulate the long term establishment of indigenous vegetation and to reduce erosion during early plant growth.

#### **4.3.1.3 Phase 3: Monitoring and Maintenance**

The post-operational monitoring and management period following decommissioning of mining activities must be implemented by a suitable qualified independent party for a minimum of one (1) year unless otherwise specified by the Competent Authority.

Maintenance will specifically focus on annual fertilising the rehabilitated area (where required), control of all other alien plants and general maintenance, including rehabilitation of cracks, subsidence and erosion gullies. Continuous erosion monitoring of rehabilitated areas and slopes should be undertaken and zones with excessive erosion should be identified. The cause of the erosion should be identified, and rectified. Zones with erosion will need to be repaired with topsoil.

The monitoring activities during this period will include but not be limited to:

- ❖ Biodiversity monitoring.
- ❖ Re-vegetation of disturbed areas where required.

Provision must be made to monitor any unforeseen impact that may arise as a result of the proposed mining activities and incorporated into post closure monitoring and management. The small-scale mine shall continue to monitor and manage rehabilitation areas until the vegetation is self-sustaining and meets the requirements of the landowner or land manager, until their management can be integrated into the management of the surrounding area.

#### **4.3.1.4 Post-Closure Monitoring and Maintenance**

Prior to decommissioning and rehabilitation activities, a monitoring programme shall be developed and submitted to the relevant authority for approval, as a part of the Final Rehabilitation Plan. The programme is to include proposed monitoring during and after the closure of the trench site and related activities.

It is recommended that the post-closure monitoring include the following:

- ❖ Confirmation that any waste, wastewater or other pollutants that is generated as a result of decommissioning will be managed appropriately, as per the detailed requirements set out in the Final Rehabilitation Plan.
- ❖ Confirmation that all de-contaminated sites are free of residual pollution after decommissioning.
- ❖ Confirmation that acceptable cover has been achieved in areas where natural vegetation is being re-established. 'Acceptable cover' means re-establishment of pioneer grass communities over the disturbed areas at a density similar to

surrounding undisturbed areas, non-eroding and free of invasive alien plants.

- ❖ Confirmation that the Mining Permit site is safe and is not resulting in a pollution hazard.

Annual environmental reports will be submitted to the Designated Authority and other relevant Departments for at least one-year post-decommissioning. The frequency and duration of this reporting period may be increased to include longer term monitoring, at intervals to be agreed with the Designated Authority.

The monitoring reports shall include a list of any remedial action necessary to ensure that infrastructure that has not been removed remains safe and pollution free and that rehabilitation of project sites are in a stable, weed and free condition.

#### **4.4 Explain why it can be confirmed that the rehabilitation plan is compatible with the closure objectives**

The rehabilitation plan is compatible with the closure objectives in that it seeks to ensure that negative impacts on the receiving environment that could not be prevented or mitigated during mining are rehabilitated. The use of indigenous species during re-vegetation will ensure that ecosystem restoration is initiated and prevent invasion by alien species. The appropriate disposal of waste will ensure that land is usable, in alignment with surrounding land uses and that no hazardous materials are left on-site post-mining.

##### **4.4.1 Rehabilitation of the excavated area**

- Rocks and coarse material removed from the excavation must be dumped into the excavation.
- No waste will be permitted to be deposited in the excavations.
- Once overburden, rocks and coarse natural materials has been added to the excavation and was profiled with acceptable contours and erosion control measures, the topsoil previously stored will be returned to its original depth over the area.
- The area will be fertilised if necessary to allow vegetation to establish rapidly. The site will be seeded with a local or adapted indigenous seed mix in order to propagate the locally or regionally occurring flora, should natural vegetation not re-establish within 6 months from site closure.
- If a reasonable assessment indicates that the re-establishment of vegetation is unacceptably slow, the Regional Manager may require that the soil be analysed and any deleterious effects on the soil arising from the mining operation be corrected

and the area be seeded with a vegetation seed mix to their specification.

#### **4.4.2 Rehabilitation of plant area**

- The compacted areas will be ripped and the topsoil returned over the area.
- Coarse natural material used for the construction of ramps will be removed and dumped into the excavations.
- Stockpiles will be removed during the decommissioning phase, the area ripped, and the topsoil returned to its original depth to provide a growth medium.
- On completion of operations, all structures or objects will be dealt with in accordance with Section 44 of the MPRDA, 2002 (Act 28 of 2002):
  - Where sites have been rendered devoid of vegetation/grass or soils have been compacted owing to traffic, the surface will be scarified or ripped.
  - The site will be seeded with a vegetation seed mix adapted to reflect the local indigenous flora if natural vegetation does not re-establish within 6 months of the closure of the site.
- Photographs of the mining area and office sites, before and during the mining operation and after rehabilitation, will be taken at selected fixed points and kept on record for the information of the Regional Manager.
- On completion of mining operations, the surface of these areas, if compacted due to hauling and dumping operations, will be scarified to a depth of at least 300 mm and graded to an even surface condition and the previously stored topsoil will be returned to its original depth over the area.
- Prior to replacing the topsoil, the overburden material that was removed from these areas will be replaced in the same order as it originally occurred.
- The area shall then be fertilised if necessary to allow vegetation to establish rapidly. The site will be seeded with a local, adapted indigenous seed mix if natural vegetation does not re-establish within 6 months after site closure.
- If a reasonable assessment indicates that the re-establishment of vegetation is unacceptably slow, the Regional Manager may require that the soil be analysed and any deleterious effects on the soil arising from the mining operation be corrected and the area be seeded with a seed mix to their specification.

#### 4.4.3 Final rehabilitation

- Rehabilitation of the surface area will entail landscaping, levelling, top dressing, land preparation, seeding (if required), maintenance, and weed/ alien clearing.
- All infrastructures, equipment, plant, temporary housing and other items used during the mining period will be removed from the site (section 44 of the MPRDA).
- Waste material of any description, including receptacles, scrap, rubble and tyres, will be removed entirely from the mining area and disposed of at a recognised landfill facility. It will not be permitted to be buried/burned on site.
- Weed/alien clearing will be done in a sporadic manner during the life of the mining activities.
- Species considered Category 1 weeds as per CARA, 1983 – Act 43, Regulations 15 & 16 (as amended in March 2001) must be eradicated from site.
- Final rehabilitation will be completed within a period specified by the Regional Manager.



Figure 41: A typical diagram of a Mine closure and Rehabilitation (adapted from online (Pinterest.com))

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

The calculation of the quantum for financial provision was according to Section B of the working manual.

**4.5.1 Mine type and saleable mineral by-product**

According to Tables B.12, B.13 and B.14:

|                             |      |
|-----------------------------|------|
| Mine type                   | Coal |
| Saleable mineral by-product | None |

**4.5.2 Risk ranking**

According to Tables B.12, B.13 and B.14:

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

**4.5.3 Environmental sensitivity of the mine area**

According to Table B.4:

|                                            |     |
|--------------------------------------------|-----|
| Environmental sensitivity of the mine area | Low |
|--------------------------------------------|-----|

**4.5.4 Level of information**

According to Step 4.2:

|                                |         |
|--------------------------------|---------|
| Level of information available | Limited |
|--------------------------------|---------|

**4.5.5 Identify closure components**

According to Table B.5 and site-specific conditions:

| <b>Component nr</b> | <b>Main description</b>                                                                               | <b>Applicability of closure components</b> |    |
|---------------------|-------------------------------------------------------------------------------------------------------|--------------------------------------------|----|
| 1                   | Dismantling of processing plant and related structures (including overland conveyors and power lines) |                                            | No |
| 2 (A)               | Demolition of steel buildings and structures                                                          |                                            | No |
| 2 (B)               | Demolition of reinforced concrete buildings and structures                                            |                                            | No |
| 3                   | Rehabilitation of access roads                                                                        |                                            | No |
| 4 (A)               | Demolition and rehabilitation of electrified railway lines                                            |                                            | No |
| 4 (B)               | Demolition and rehabilitation of non-electrified railway lines                                        |                                            | No |

|       |                                                                                                                     |     |    |
|-------|---------------------------------------------------------------------------------------------------------------------|-----|----|
| 5     | Demolition of housing and facilities                                                                                |     | No |
| 6     | Opencast rehabilitation including final voids and ramps                                                             | Yes |    |
| 7     | Sealing of shafts, adits and inclines                                                                               |     | No |
| 8 (A) | Rehabilitation of overburden and spoils                                                                             | Yes |    |
| 8 (B) | Rehabilitation of processing waste deposits and evaporation ponds (basic, salt-producing)                           |     | No |
| 8 (C) | Rehabilitation of processing waste deposits and evaporation ponds (acidic, metal-rich)                              |     | No |
| 9     | Rehabilitation of subsided areas                                                                                    |     | No |
| 10    | General surface rehabilitation, including grassing of all denuded areas                                             | Yes |    |
| 11    | River diversions                                                                                                    |     | No |
| 12    | Fencing                                                                                                             |     | No |
| 13    | Water management (Separating clean and dirty water, managing polluted water and managing the impact on groundwater) | Yes |    |
| 14    | 2 to 3 years of maintenance and aftercare                                                                           | Yes |    |

#### 4.5.6 Calculation of closure costs

#### CALCULATION OF THE QUANTUM

Applicant: **Jaments (Pty) Ltd**  
 Evaluator: **Mazithi Mangcu**

DMRE Ref.: **MP 30/5/1/1/3/13702 MP**  
 Date: **08/03/2023**

| No.                | Description                                                                                          | Unit | A        | B           | C                     | D                  | E=A*B*C*D         |
|--------------------|------------------------------------------------------------------------------------------------------|------|----------|-------------|-----------------------|--------------------|-------------------|
|                    |                                                                                                      |      | Quantity | Master Rate | Multiplication factor | Weighting factor 1 | Amount (Rands)    |
| 1                  | Dismantling of processing plant and related structures (including overland conveyors and powerlines) | m3   | 0        | 19          | 1                     | 1                  | 0                 |
| 2 (A)              | Demolition of steel buildings and structures                                                         | m2   | 0        | 271         | 1                     | 1                  | 0                 |
| 2(B)               | Demolition of reinforced concrete buildings and structures                                           | m2   | 0        | 400         | 1                     | 1                  | 0                 |
| 3                  | Rehabilitation of access roads                                                                       | m2   | 0        | 49          | 1                     | 1                  | 0                 |
| 4 (A)              | Demolition and rehabilitation of electrified railway lines                                           | m    | 0        | 471         | 1                     | 1                  | 0                 |
| 4 (A)              | Demolition and rehabilitation of non-electrified railway lines                                       | m    | 0        | 257         | 1                     | 1                  | 0                 |
| 5                  | Demolition of housing and/or administration facilities                                               | m2   | 0        | 542         | 1                     | 1                  | 0                 |
| 6                  | Opencast rehabilitation including final voids and ramps                                              | ha   | 5        | 284292      | 0.3                   | 1                  | 426438            |
| 7                  | Sealing of shafts adits and inclines                                                                 | m3   | 0        | 146         | 1                     | 1                  | 0                 |
| 8 (A)              | Rehabilitation of overburden and spoils                                                              | ha   | 0.32     | 189528      | 0.05                  | 1                  | 3032.448          |
| 8 (B)              | Rehabilitation of processing waste deposits and evaporation ponds (non-polluting potential)          | ha   | 0        | 236054      | 1                     | 1                  | 0                 |
| 8 ( C )            | Rehabilitation of processing waste deposits and evaporation ponds (polluting potential)              | ha   |          | 685612      | 1                     | 1                  | 0                 |
| 9                  | Rehabilitation of subsided areas                                                                     | ha   | 0        | 158701      | 1                     | 1                  | 0                 |
| 10                 | General surface rehabilitation                                                                       | ha   | 5        | 150138      | 0.3                   | 1                  | 225207            |
| 11                 | River diversions                                                                                     | ha   | 0        | 150138      | 1                     | 1                  | 0                 |
| 12                 | Fencing                                                                                              | m    | 0        | 171         | 1                     | 1                  | 0                 |
| 13                 | Water management                                                                                     | ha   | 0.1      | 57087       | 0.04                  | 1                  | 228.348           |
| 14                 | 2 to 3 years of maintenance and aftercare                                                            | ha   | 5        | 19980       | 0.6                   | 1                  | 59940             |
| 15 (A)             | Specialist study                                                                                     | Sum  | 0        |             |                       | 1                  | 0                 |
| 15 (B)             | Specialist study                                                                                     | Sum  |          |             |                       | 1                  | 0                 |
| <b>Sub Total 1</b> |                                                                                                      |      |          |             |                       |                    | <b>714845.796</b> |

|                    |                         |             |                           |                  |
|--------------------|-------------------------|-------------|---------------------------|------------------|
| 1                  | Preliminary and General | 85781.49552 | <b>weighting factor 2</b> | 85781.49552      |
|                    |                         |             | 1                         |                  |
| 2                  | Contingencies           | 71484.5796  |                           | 71484.5796       |
| <b>Subtotal 2</b>  |                         |             |                           | <b>872111.87</b> |
| <b>VAT (15%)</b>   |                         |             |                           | <b>130816.78</b> |
| <b>Grand Total</b> |                         |             |                           | <b>1002929</b>   |

Sign Date: **Mazithi Mangcu**  
 08/03/2023



The amount that will be necessary for the rehabilitation of damages caused by the operation, both sudden closures during the normal operation of the project and at final, planned closure gives a sum of **R 1 002 929. 00**.

**4.6 Confirm that the financial provision will be provided as determined**

The amount will be provided from the operating expenditure.

#### 4.7 Mechanisms for compliance monitoring against EMP

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

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

| Source activity                                                                                                                                                                                                                | Impacts required monitoring programme                                                                                                                                                                                           | Functional requirements for monitoring                                                                                                                                                                               | Roles and responsibilities for the execution of monitoring programmes                                                                                                                                                                                                                                                                                                                                                                                                                                  | Monitoring and reporting frequency and time periods for implementing impact management actions                                                                                                                                                                    |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>• Topsoil stripping and stockpiling</li> <li>• Blasting</li> <li>• Excavation</li> <li>• Crushing</li> <li>• Stockpiling and transporting</li> <li>• Sloping and landscaping</li> </ul> | <p><b>Dust monitoring</b></p> <ul style="list-style-type: none"> <li>• The dust generated by the mining activities should be continuously monitored and addressed by the implementation of dust suppression methods.</li> </ul> | <p><b>Dust handling and monitoring</b></p> <ul style="list-style-type: none"> <li>• Dust suppression equipment, like a water car and water dispenser. The applicant already has this equipment available.</li> </ul> | <p><b>Role</b></p> <ul style="list-style-type: none"> <li>• Site Manager to ensure compliance with EMPr guidelines.</li> <li>• Compliance to be monitored by the Environmental Control Officer.</li> </ul> <p><b>Responsibility</b></p> <ul style="list-style-type: none"> <li>• Control dust liberation into surrounding environment by using, e.g., water spraying and/or other dust-allaying agents.</li> <li>• Limit speed on access roads to 40km/h to prevent excess dust generation.</li> </ul> | <p>Throughout construction, operational and decommissioning phase</p> <ul style="list-style-type: none"> <li>• Daily compliance monitoring by site management.</li> <li>• Quarterly compliance monitoring of site by an Environmental Control Officer.</li> </ul> |

| Source activity                                                                                                                                                                                              | Impacts required monitoring programme                                                                                                                                                                          | Functional requirements for monitoring                                                                                                                                                                                                                | Roles and responsibilities for the execution of monitoring programmes                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Monitoring and reporting frequency and time periods for implementing impact management actions                                                                                                                                                                    |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| during rehabilitation                                                                                                                                                                                        |                                                                                                                                                                                                                |                                                                                                                                                                                                                                                       | <ul style="list-style-type: none"> <li>• Spray roads with water/environmentally-friendly dust allaying agent that contains no PCBs (e.g. DAS products) if dust is generated above acceptable limits.</li> <li>• Assess effectiveness of dust suppression equipment.</li> <li>• Re-vegetate all disturbed/exposed areas as soon as possible to prevent any dust source from being created.</li> <li>• Ensure the crusher is equipped with water sprayers.</li> </ul>                                                                        |                                                                                                                                                                                                                                                                   |
| <ul style="list-style-type: none"> <li>• Topsoil stripping and stockpiling</li> <li>• Blasting</li> <li>• Excavation</li> <li>• Crushing</li> <li>• Sloping and landscaping during rehabilitation</li> </ul> | <p><b>Noise monitoring</b></p> <ul style="list-style-type: none"> <li>• The noise generated by the mining activities should be continuously monitored, and any excessive noise should be addressed.</li> </ul> | <p><b>Noise handling and monitoring</b></p> <ul style="list-style-type: none"> <li>• Site manager to ensure that the vehicles are equipped with silencers and kept roadworthy.</li> <li>• Compliance with the appropriate legislation with</li> </ul> | <p><b>Role</b></p> <ul style="list-style-type: none"> <li>• Site Manager to ensure compliance with EMPr guidelines.</li> <li>• Compliance to be monitored by the Environmental Control Officer.</li> </ul> <p><b>Responsibility</b></p> <ul style="list-style-type: none"> <li>• Ensure that staff conduct themselves in an acceptable manner while on site.</li> <li>• No loud music permitted at mining area.</li> <li>• Ensure that all mining vehicles are equipped with silencers and kept roadworthy in terms of the Road</li> </ul> | <p>Throughout construction, operational and decommissioning phase</p> <ul style="list-style-type: none"> <li>• Daily compliance monitoring by site management.</li> <li>• Quarterly compliance monitoring of site by an Environmental Control Officer.</li> </ul> |

| Source activity                                                                                                                      | Impacts required monitoring programme                                                                                                                                                                                    | Functional requirements for monitoring                                                                                                                                      | Roles and responsibilities for the execution of monitoring programmes                                                                                                                                                                                                                                                                                                                                                                                                                   | Monitoring and reporting frequency and time periods for implementing impact management actions                                                                                                                                              |
|--------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                                                                      |                                                                                                                                                                                                                          | respect to noise will be mandatory.                                                                                                                                         | Transport Act.<br><ul style="list-style-type: none"> <li>Plan the type, duration and timing of the blasting procedures with due cognizance of other land users and structures in the vicinity.</li> <li>Notify surrounding land owners in writing prior blasting occasions.</li> <li>Use noise mufflers and/or soft explosives during blasting.</li> </ul>                                                                                                                              |                                                                                                                                                                                                                                             |
| <ul style="list-style-type: none"> <li>Topsoil stripping and stockpiling</li> <li>Excavation Stockpiling and transporting</li> </ul> | <b>Management of weed or invader plants</b><br><ul style="list-style-type: none"> <li>The presence of weed and/or invader plants should be continuously monitored, and any unwanted plants should be removed.</li> </ul> | <b>Management of weed or invader plants</b><br><ul style="list-style-type: none"> <li>Removal of weeds should be manually or by the use of an approved herbicide</li> </ul> | <b>Role</b><br><ul style="list-style-type: none"> <li>Site Manager to ensure compliance with EMPr guidelines.</li> <li>Compliance to be monitored by the Environmental Control Officer.</li> </ul> <b>Responsibility</b><br><ul style="list-style-type: none"> <li>Implement a weed and invader plant control management plan.</li> <li>Control declared invader or exotic species on the rehabilitated areas.</li> <li>Keep the temporary topsoil stockpiles free of weeds.</li> </ul> | Throughout operational and decommissioning phase<br><ul style="list-style-type: none"> <li>Daily compliance monitoring by site management.</li> <li>Quarterly compliance monitoring of site by an Environmental Control Officer.</li> </ul> |

| Source activity                                                                                                                           | Impacts required monitoring programme                                                                                                                                                        | Functional requirements for monitoring                                                                                                                                                            | Roles and responsibilities for the execution of monitoring programmes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Monitoring and reporting frequency and time periods for implementing impact management actions |
|-------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>• Stockpiling and transporting</li> <li>• Sloping and Landscaping during rehabilitation</li> </ul> | <p><b>Surface and storm water monitoring</b></p> <ul style="list-style-type: none"> <li>• The effectiveness of the storm water infrastructure needs to be continuously monitored.</li> </ul> | <p><b>Surface and storm water handling</b></p> <ul style="list-style-type: none"> <li>• Trenches and contours to be made to direct storm- and runoff water around the stockpile areas.</li> </ul> | <p><b>Role</b></p> <ul style="list-style-type: none"> <li>• Site Manager to ensure compliance with EMPr guidelines.</li> </ul> <p>Compliance to be monitored by the Environmental Control Officer.</p> <p><b>Responsibility</b></p> <ul style="list-style-type: none"> <li>• Divert storm water around topsoil heaps, stockpile areas and access roads to prevent erosion and material loss.</li> <li>• Divert runoff water around the stockpile areas with trenches and contour structures to prevent erosion of the work areas.</li> <li>• Conduct mining in accordance with the Best Practice Guideline for small scale mining that relates to storm water management, erosion and sediment control and waste management, developed by the DWS, and any other conditions the DWS may impose.</li> </ul> |                                                                                                |
| <ul style="list-style-type: none"> <li>• Blasting</li> <li>• Excavation</li> </ul>                                                        | <p><b>Management of health and safety</b></p>                                                                                                                                                | <p><b>Management of health and safety</b></p>                                                                                                                                                     | <p><b>Role</b></p> <ul style="list-style-type: none"> <li>• Site Manager to ensure compliance with EMPr</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | <p>Throughout construction, operational and</p>                                                |

| Source activity                                                                                 | Impacts required monitoring programme                                                                                  | Functional requirements for monitoring                                                                                                                                                                                                                                                    | Roles and responsibilities for the execution of monitoring programmes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Monitoring and reporting frequency and time periods for implementing impact management actions                                                                                                                      |
|-------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>Sloping and Landscaping during rehabilitation</li> </ul> | <ul style="list-style-type: none"> <li>All health and safety aspects need to be monitored on a daily basis.</li> </ul> | <p><b>risks</b></p> <ul style="list-style-type: none"> <li>Site manager to ensure that workers are equipped with required PPE while operating on site.</li> <li>The necessary warning signs must be present at the site to inform the public and workers of mining activities.</li> </ul> | <p>guidelines.</p> <ul style="list-style-type: none"> <li>Compliance to be monitored by the Environmental Control Officer.</li> </ul> <p><b>Responsibility</b></p> <ul style="list-style-type: none"> <li>Submit an application for approval of access onto the R392 to the Department of Roads and Public Works prior to the commencement of work.</li> <li>Inform the Traffic Department of each blast. If necessary, arrange for temporary road closure during a blast.</li> <li>Plan the type, duration and timing of the blasting procedures with due cognizance of other land users and structures in the vicinity.</li> <li>Inform the surrounding landowners and communities of any blasting event.</li> <li>Use noise mufflers and/or soft explosives during blasting.</li> <li>Limit fly rock.</li> <li>Give audible warning of a pending blast at least 3 minutes before the blast.</li> </ul> | <p>decommissioning phase</p> <ul style="list-style-type: none"> <li>Daily compliance monitoring by site management.</li> <li>Quarterly compliance monitoring of site by an Environmental Control Officer</li> </ul> |

| Source activity                                                                                                                                                          | Impacts required monitoring programme                                                                                                                                                                                                                          | Functional requirements for monitoring                                                                                                                                                                                                                                                                                       | Roles and responsibilities for the execution of monitoring programmes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Monitoring and reporting frequency and time periods for implementing impact management actions                                                                                                                                                                               |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                                                                                                          |                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                              | <ul style="list-style-type: none"> <li>• Remove all fly rock (diameter 150mm and larger) which falls beyond working area, together with the rock spill.</li> <li>• Ensure that workers have access to the correct PPE as required by law.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                              |
| <ul style="list-style-type: none"> <li>• Excavation</li> <li>• Crushing stockpiling and transporting</li> <li>• Sloping and landscaping during rehabilitation</li> </ul> | <p><b>Waste management</b></p> <ul style="list-style-type: none"> <li>• Management of waste should be a daily monitoring activity.</li> <li>• Hydrocarbon spills need to be cleaned immediately and the site manager should check compliance daily.</li> </ul> | <p><b>Waste management</b></p> <ul style="list-style-type: none"> <li>• Closed containers for the storage of general/hazardous waste until waste is removed to the appropriate landfill site.</li> <li>• Hydrocarbon spill kits to enable sufficient clean-up of contaminated areas.</li> <li>• Drip trays should</li> </ul> | <p><b>Role</b></p> <ul style="list-style-type: none"> <li>• Site Manager to ensure compliance with EMPr guidelines. Compliance to be monitored by the Environmental Control Officer.</li> </ul> <p><b>Responsibility</b></p> <ul style="list-style-type: none"> <li>• Ensure that vehicle repairs only take place in the service bay area and all waste products are disposed of in a 200 l closed container/bin inside the emergency service area.</li> <li>• Collect any effluents containing oil, grease or other industrial substances in a suitable receptacle and remove from site, for resale or appropriate disposal at a recognised facility.</li> <li>• Clean spills immediately to the satisfaction of the</li> </ul> | <p>Throughout construction, operational and decommissioning phase</p> <ul style="list-style-type: none"> <li>• Daily compliance monitoring by site management.</li> <li>• Quarterly compliance monitoring of site by an</li> <li>• Environmental Control Officer.</li> </ul> |



| Source activity | Impacts required monitoring programme | Functional requirements for monitoring                                                                                                                                                                                   | Roles and responsibilities for the execution of monitoring programmes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Monitoring and reporting frequency and time periods for implementing impact management actions |
|-----------------|---------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|
|                 |                                       | <p>be available to place underneath haul vehicles while the vehicles are parked at night.</p> <ul style="list-style-type: none"> <li>• Should a vehicle have a break down, it should be serviced immediately.</li> </ul> | <p>Regional Manager by removing the spillage and polluted soil and by disposing of them at a recognised facility.</p> <ul style="list-style-type: none"> <li>• Ensure availability of suitable covered, conveniently placed receptacles at all times for waste disposal.</li> <li>• Place all used oils, grease or hydraulic fluids therein and remove receptacles from site regularly for disposal at a registered/licensed hazardous disposal facility.</li> <li>• Store non-biodegradable refuse such as glass bottles, plastic bags, metal scrap, etc., in a container with a closable lid at a collecting point. Collection should take place regularly and disposed of at the recognised landfill site at Middleburg. Prevent refuse from being dumped on or in the vicinity of the mine area.</li> <li>• Biodegradable refuse to be handled as indicated above.</li> </ul> |                                                                                                |

| Source activity              | Impacts required monitoring programme                                                                                                                                                                                                                                                                                                         | Functional requirements for monitoring                                                                                                                                                                                                                            | Roles and responsibilities for the execution of monitoring programmes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Monitoring and reporting frequency and time periods for implementing impact management actions                                                                                                                                                                               |
|------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Stockpiling and transporting | <p><b>Management of access roads</b></p> <ul style="list-style-type: none"> <li>• Access road conditions must be continuously monitored.</li> <li>• Vehicles carrying materials has to be equipped with adequate tarpaulin type covers to ensure that material being transported will not leave the vehicle during transportation.</li> </ul> | <p><b>Management of access roads</b></p> <ul style="list-style-type: none"> <li>• Dust suppression equipment such as a water car and dispenser.</li> <li>• Trenches and contours to be made to direct storm- and runoff water around the access roads.</li> </ul> | <p><b>Role</b></p> <ul style="list-style-type: none"> <li>• Site Manager to ensure compliance with EMPr guidelines.</li> <li>• Compliance to be monitored by the Environmental Control Officer.</li> </ul> <p><b>Responsibility</b></p> <ul style="list-style-type: none"> <li>• Maintain newly constructed access roads (if applicable) to minimise dust, erosion or undue surface damage.</li> <li>• Divert storm water around access roads to prevent erosion.</li> <li>• Erosion of access road: Restrict vehicular movement to existing access routes to prevent crisscrossing of tracks through undisturbed areas.</li> <li>• Cover vehicles carrying materials with adequate tarpaulin type covers to ensure that material being transported does leave the vehicle during transportation.</li> <li>• Ensure vehicles entering and using the public road system from the site does not exceed the</li> </ul> | <p>Throughout construction, operational and decommissioning phase</p> <ul style="list-style-type: none"> <li>• Daily compliance monitoring by site management.</li> <li>• Quarterly compliance monitoring of site by an</li> <li>• Environmental Control Officer.</li> </ul> |

| Source activity                   | Impacts required monitoring programme                                                                                                                                               | Functional requirements for monitoring                                                                                                                                  | Roles and responsibilities for the execution of monitoring programmes                                                                                                                                                                                                                                                         | Monitoring and reporting frequency and time periods for implementing impact management actions                                                                                                     |
|-----------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                   |                                                                                                                                                                                     |                                                                                                                                                                         | permissible legal limits on gross vehicle mass and individual axle loads as prescribed in terms of the National Road Traffic Act (Act No 93 of 1996).                                                                                                                                                                         |                                                                                                                                                                                                    |
| Topsoil stripping and stockpiling | <b>Topsoil handling</b> <ul style="list-style-type: none"> <li>• When topsoil has been removed from any area the topsoil heaps need to be continuously protected against</li> </ul> | <b>Topsoil handling</b> <ul style="list-style-type: none"> <li>• Excavating equipment to remove the first 300mm of topsoil from the proposed work areas. The</li> </ul> | <b>Role</b> <ul style="list-style-type: none"> <li>• Site Manager to ensure compliance with EMPr guidelines.</li> <li>• Compliance to be monitored by the Environmental Control Officer.</li> </ul> <b>Responsibility</b> <ul style="list-style-type: none"> <li>• Remove the first 300mm of topsoil in strips and</li> </ul> | Throughout construction, operational and decommissioning phase <ul style="list-style-type: none"> <li>• Daily compliance monitoring by site management.</li> <li>• Quarterly compliance</li> </ul> |

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

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

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

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

It is proposed that the performance assessment/environmental audit report be quarterly submitted to DMR.

**4.9 Environmental Awareness Plan**

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

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

**Dept. of Water Affairs**

Mr Masala Mulaudzi (Acting Chief Director: Mpumalanga)  
 Private Bag X11259  
 NELSPRUIT  
 1200  
 Tel: (013) 759 7300  
 Fax: (013) 759 7525

Cell: 082 327 5886

Prorom Building

c/o Brown & Paul Kruger Streets

NELSPRUIT

1200

MulaudziM@dws.gov.za

**Dept. of Mineral Resources & Energy**

Mpumalanga

Saveways Crescent Centre, Mandela Drive, Emalahleni, 1035

Private Bag X7279, EMALAHLENI, 1035(013) 653 0500 (013) 690 3288

Secretary

Ms L Maphopha

[Lydia.Maphopha@dmr.gov.za](mailto:Lydia.Maphopha@dmr.gov.za)

**4.9.1.1 Fire and explosion control measures**

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

- Fire extinguishers must be placed around the mine at accessible locations and needs to be frequently inspected and maintained in working condition.
- An alarm must be activated to alert all employees and contractors.
- Identify the type of fire and the appropriate extinguishing material. E.g., water for a grass fire and mono ammonium phosphate based fire extinguisher for chemical and electrical fires.
- In the event of a small fire, the fire extinguishers placed around the mine should be used to contain and extinguish the fire.
- In the event of a large fire, the fire department will be notified.
- All staff will receive training in response to a fire emergency on site, including evacuation procedures.
- A Fire Association should be set up with the mine and surrounding land owners to facilitate communication during fire events and assist in fighting fires, where necessary. If such an association exists, the mine will join it.
- If possible, surrounding drains, such as storm water drains must be covered and/or protected to prevent any contaminated water from entering the drains.

- In case of a chemical or petroleum fire, run-off from the area must be contained as far as possible using the most appropriate measures, e.g. spill absorbent cushions, sand or a physical barrier.
- Contaminated run-off must be diverted into an oil sump, or cleaned up.

Control measures include:

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

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

The procedure to be followed includes:

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

#### **4.9.1.2 Chemical spills**

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

The following procedure applies to a chemical spill:

- The incident must be reported to the SHE officer immediately.
- The SHE officer will assess the situation from the information provided, and set up an investigation team. Included in this team could be the General Mine Manager, SHE Officer, the employee who reported the incident and an individual responsible for the incident.
- When investigating the incident, priority must be given to safety.

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

#### **4.9.1.3 Flooding**

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

The procedure for flooding is as follows:

- During operations, DWS's flood warning system must be reviewed annually.
- The use of emergency pumps must occur if the water floods the proposed mine.
- Mine management must be made aware of any such event so they can take appropriate action to ensure minimal production losses.
- The Pollution Control Dam should have a 0.8m freeboard and an overflow or outlet to ensure that no damage occurs to the facilities.
- All contaminated water must be contained on site, as far as possible and discharges to the environment must only occur if absolutely necessary in an extreme flood event.



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

### **5.1 Training (educational needs)**

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

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

### **5.2 Outsourced specialist skills**

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

### **5.3 Review and updating of training manual and course layout**

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

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

- Initially when the plan is developed,
- Whenever the employee's responsibilities or designated action under the plan change, and whenever the plan or mining processes has changed.

- At least annually employee meetings are to be held to train employees of the contents of the EP&RP and revise the plan as appropriate.
- Drills will be conducted and full participation encouraged.
- All training must be documented in writing and copies sent to GM.

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

#### **5.4 Records**

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

- Types and categories of incoming and outgoing waste
- Quantities of each waste type and category
- Transporter details
- Safe disposal certificate must always be returned and filed at waste disposal site
- Training records for all employees working on the hazardous waste facility
- All records must be computerised or legible paper trails and cross-referenced, waste tracking easily accessed
- Records must be kept in a database on site for 3 years or more

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

#### **5.5 Environmental awareness notice boards**

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

# 5 SMALL ACTS WITH BIG IMPACTS TO DO ON SITE

1

## SMOKING AND FIRE

Do not kill or injure any animals found on site. Call your supervisor or contractor's manager to remove the animals.



2

## PETROL, OIL AND DIESEL

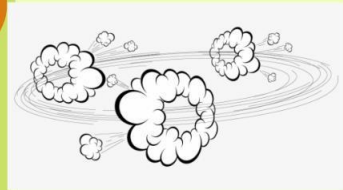
Only work with petrol, oil and diesel in marked areas.  
Report any oil spillages  
Use a drip tray under vehicles.



3

## DUST

Use water to make ground and soil wet



4

## TOILETS

Use toilets provided  
Report full or leaking toilets



5

## RUBBISH

Empty the bins regularly  
Do not litter  
Separate your trash



Figure 42: Environmental awareness poster (Singo Consulting (Pty) Ltd, 2023)

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

#### **5.5.1 Site management**

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

#### **5.5.2 Water management and erosion**

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

#### **5.5.3 Waste management**

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

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

- Never mix general waste with hazardous waste
- Use only sealed, non-leaking containers
- Keep all containers closed and store only in approved areas
- Always put drip trays under vehicles and machinery
- Empty drip trays after rain
- Stop leaks and spills, if safe
- Keep spilled liquids moving away

- Immediately report the spill to the site manager/supervision
- Locate spill kit/supplies and use to clean-up, if safe
- Place spill clean-up wastes in proper containers
- Label containers and move to approved storage area

#### **5.5.5 Discoveries**

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

#### **5.5.6 Air quality**

- Wear protection when working in very dusty areas
- Implement dust control measures:
  - Sweep paved roads
  - Water all roads and work areas
  - Minimise handling of material
  - Obey speed limit and cover trucks

#### **5.5.7 Driving and noise**

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

#### **5.5.8 Vegetation and animal life**

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

### **5.5.9 Fire management**

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

### **5.6 Specific information required by the Competent Authority**

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

The applicant undertakes to annually review and update the financial provision calculation, upon which it will be submitted to DMRE for review and approved as sufficient to cover the environmental liability at the time and for closure of the mine at that time.

## 6 Undertaking

The EAP herewith confirms

- the correctness of the information provided in the reports
- the inclusion of comments and inputs from stakeholders and I&APs
- the inclusion of inputs and recommendations from the specialist reports where relevant
- that the information provided by the EAP to I&APs and any response of the EAP to comments or inputs made by I&APs are correctly reflected herein

---

**Signature of the Environmental Assessment Practitioner**

Singo Consulting (Pty) Ltd

---

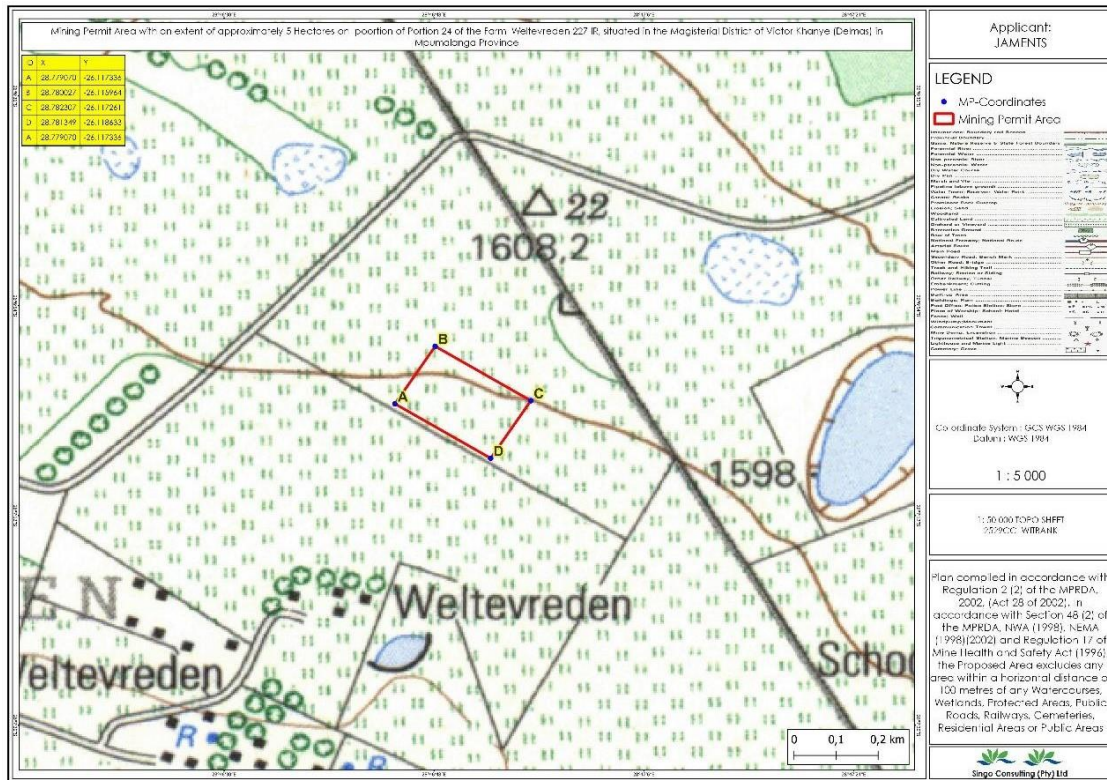
**Name of company**

---

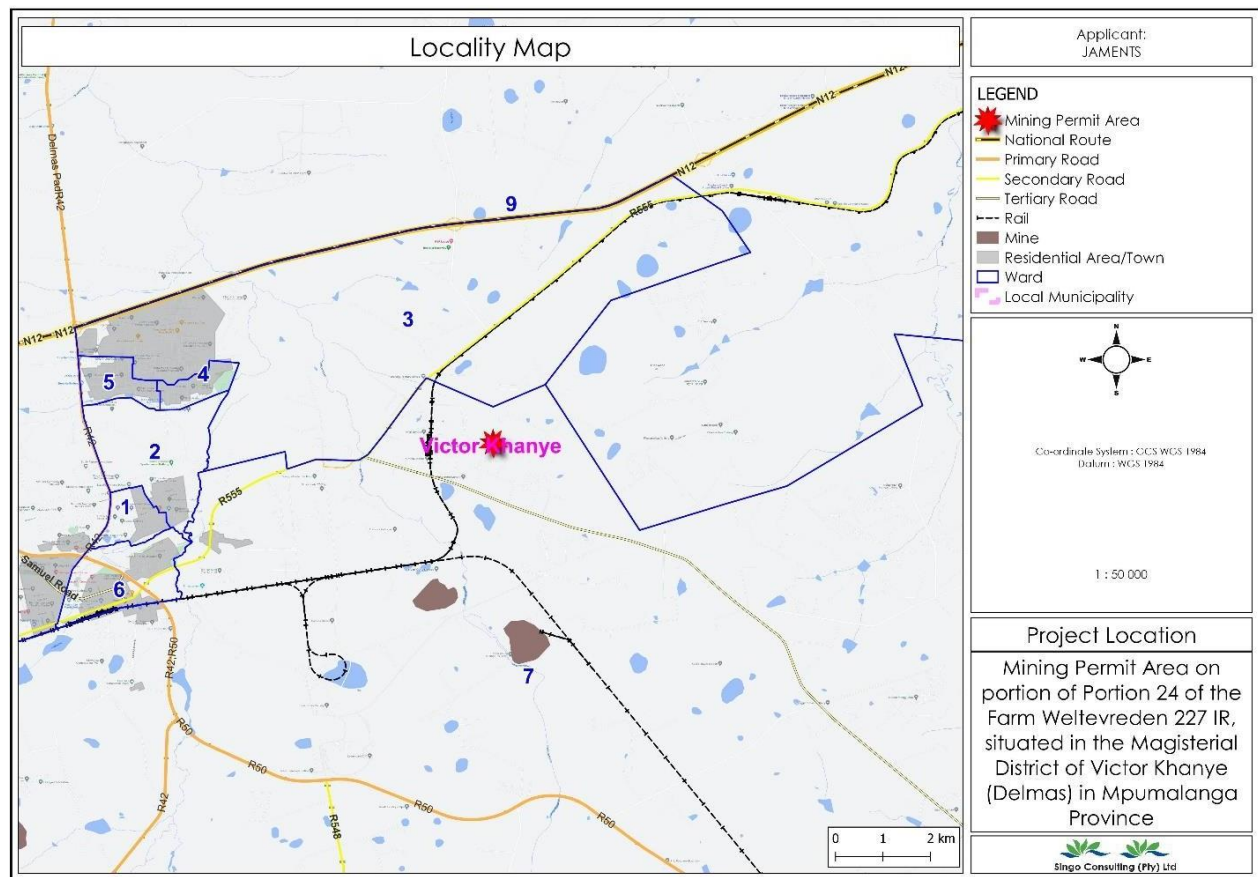
**Date**

**-END-**

## Appendix 1: Project maps

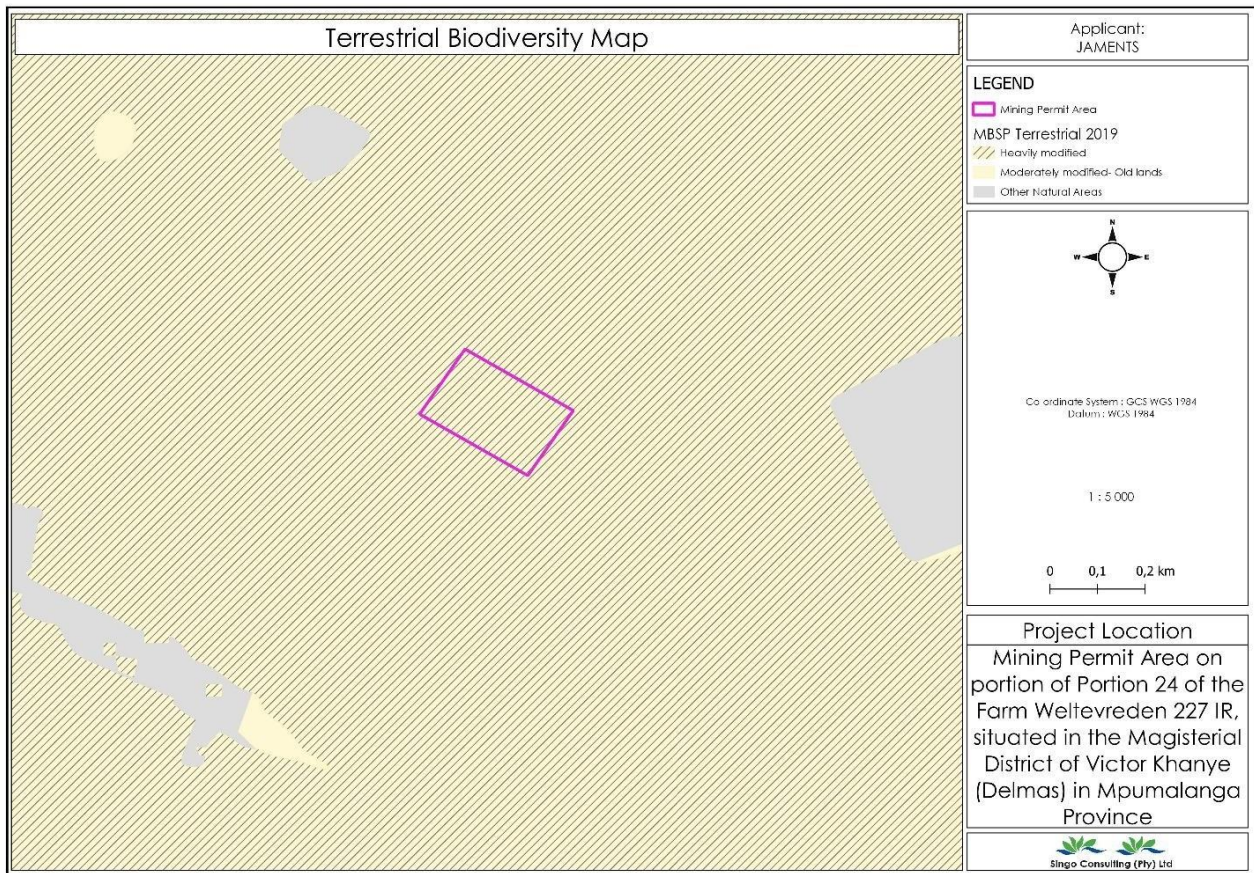
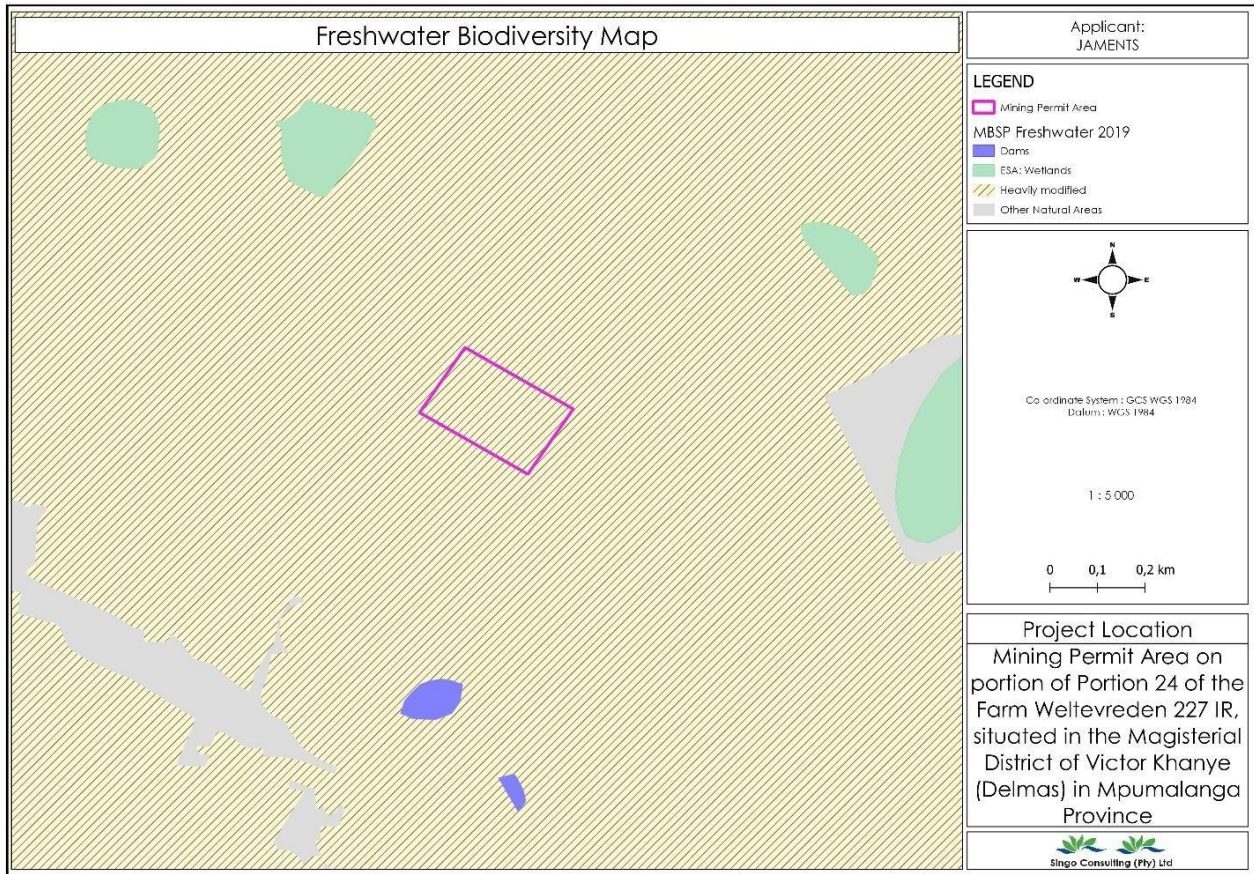


Regulation map

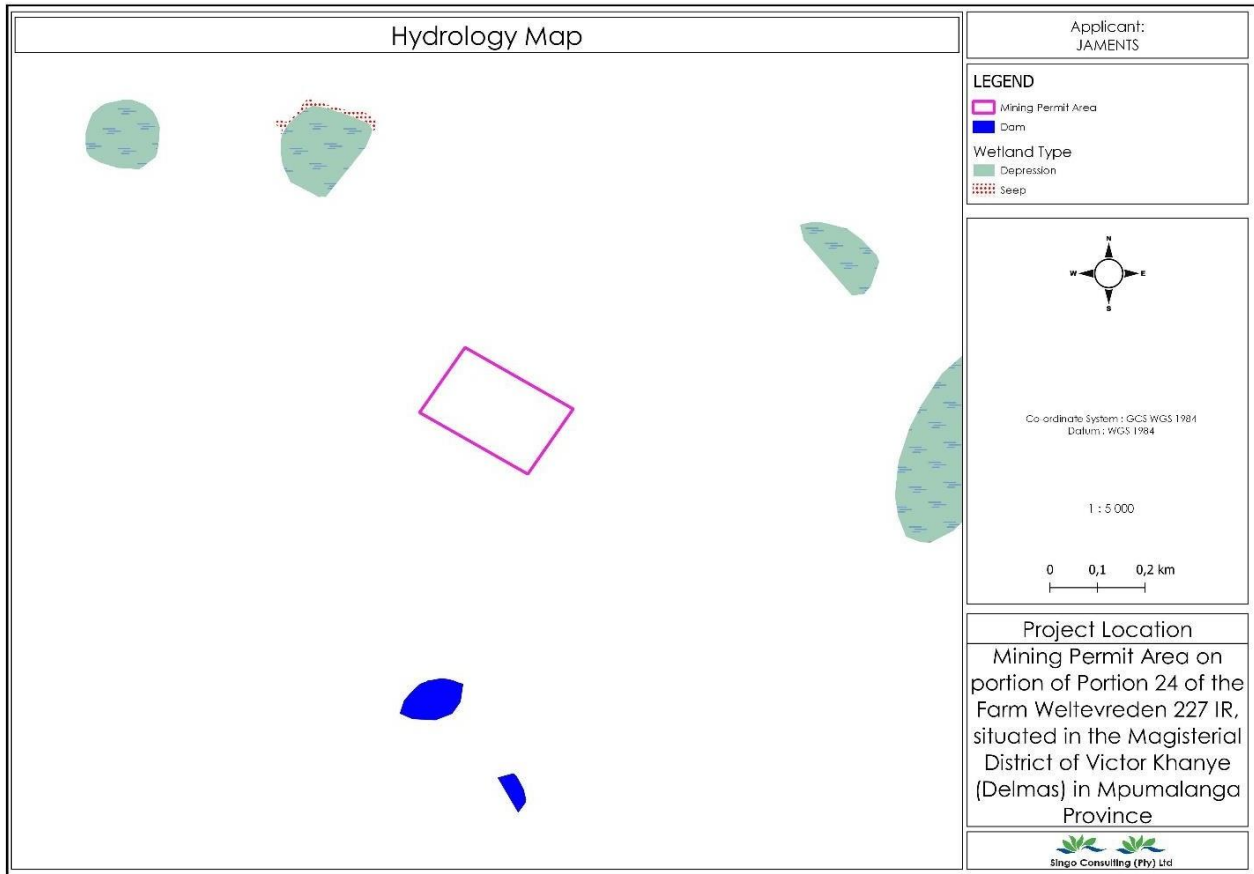


Locality map

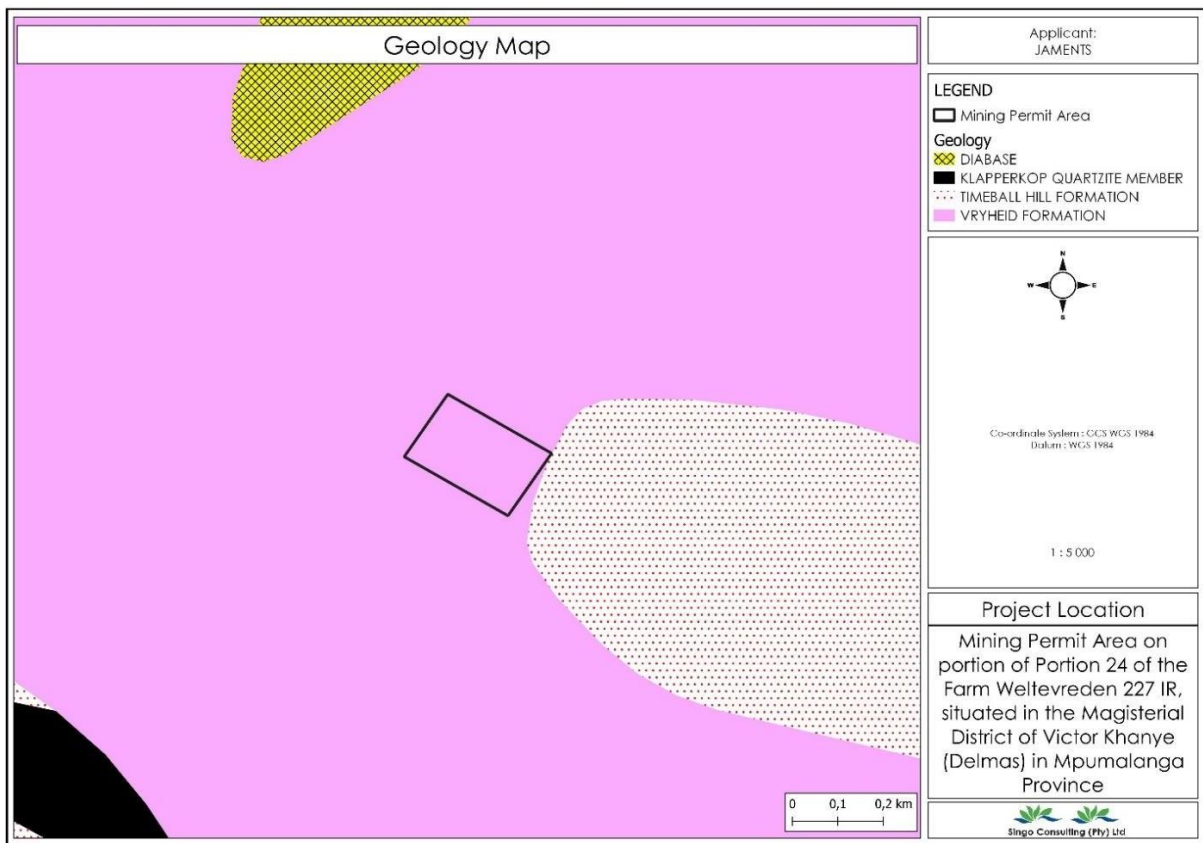




Biodiversity maps



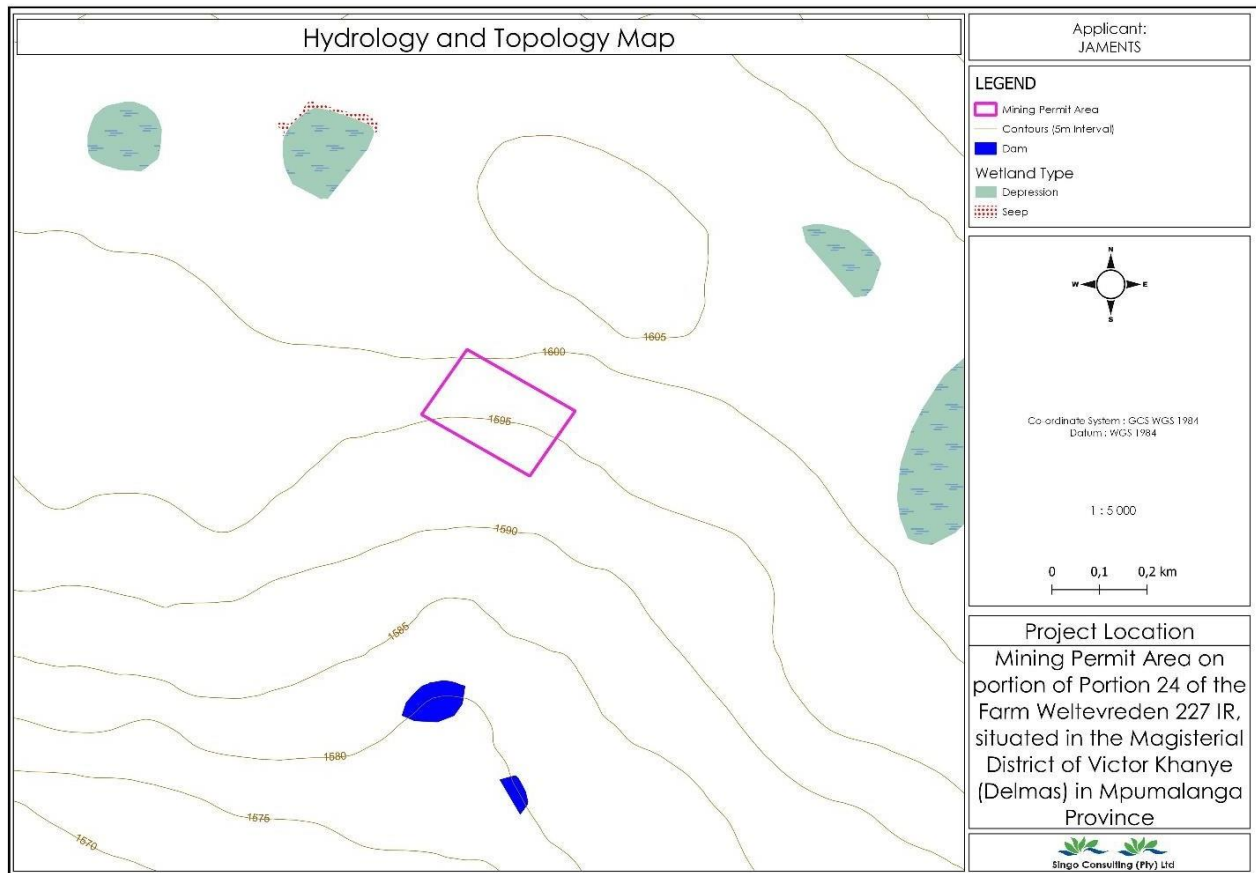
Hydrological buffer map



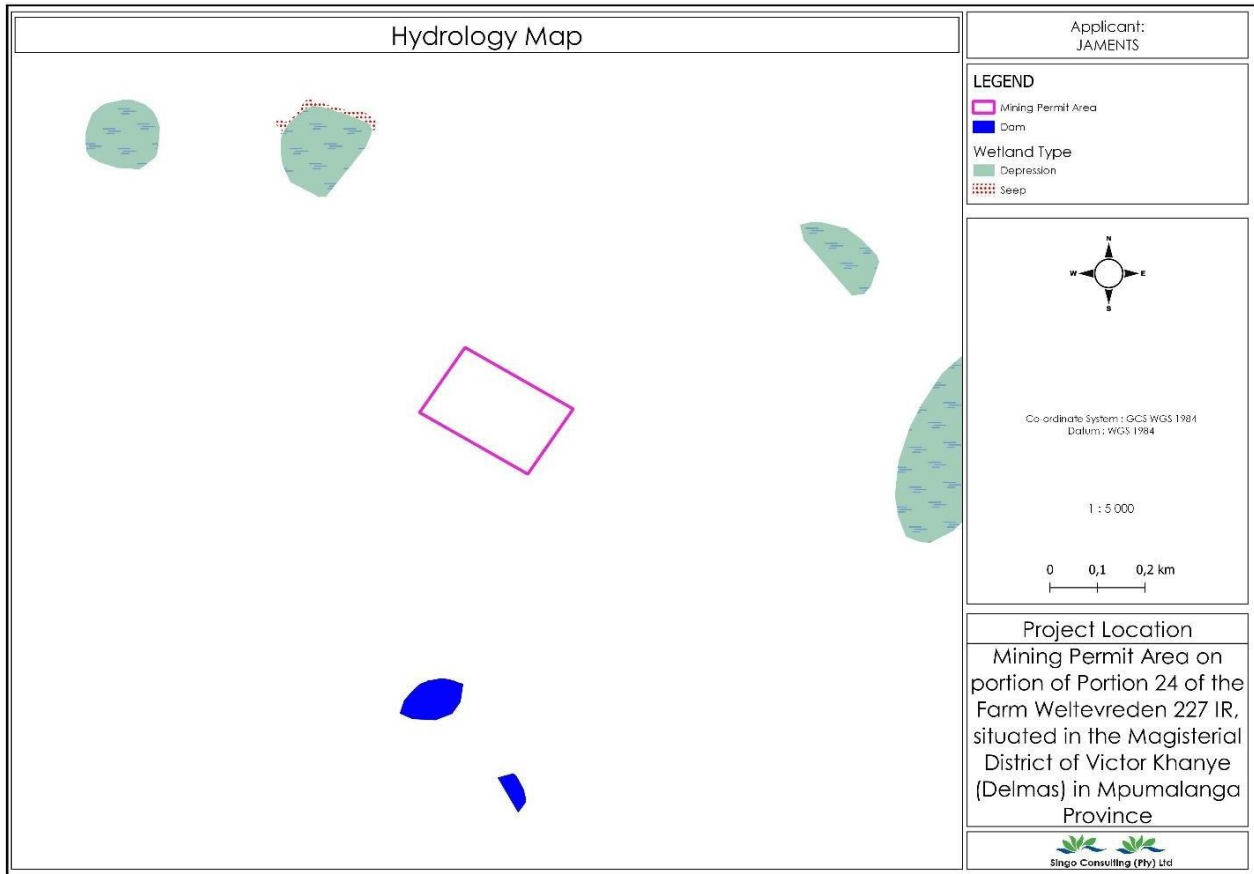
Geology map



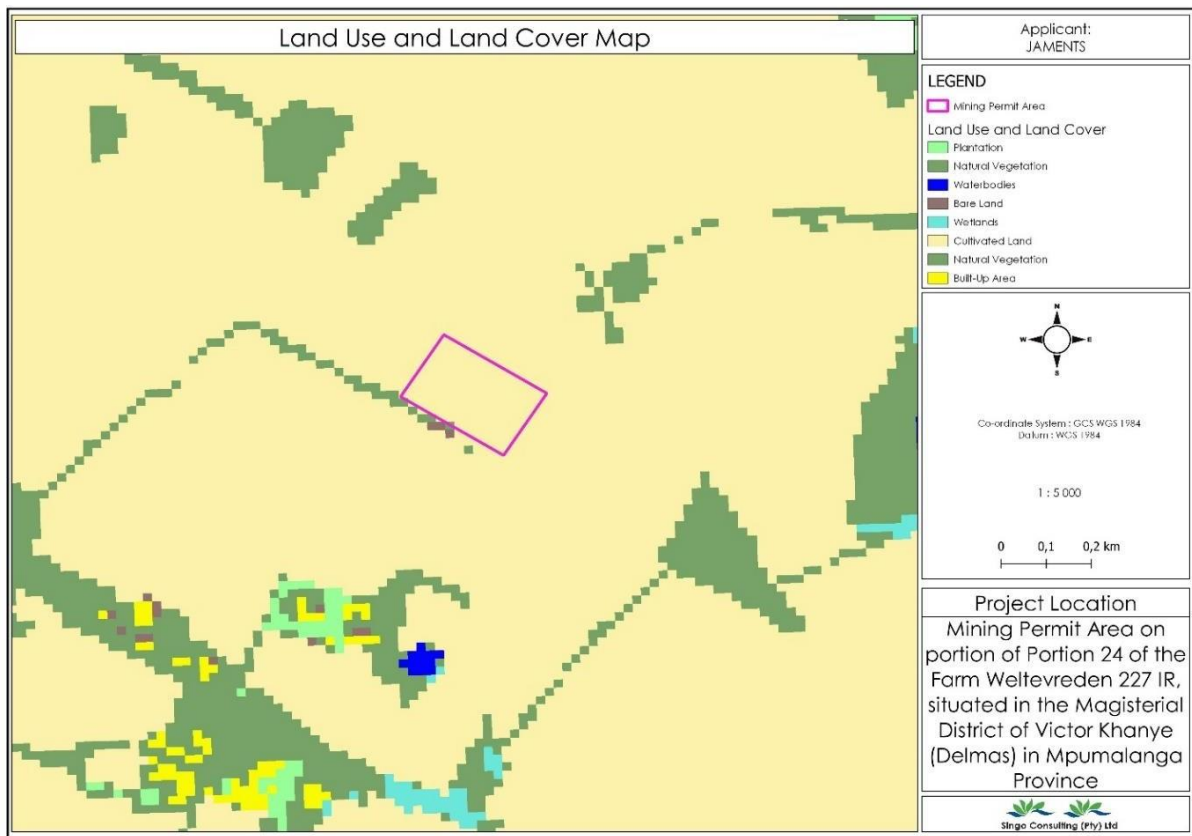
Satellite view map



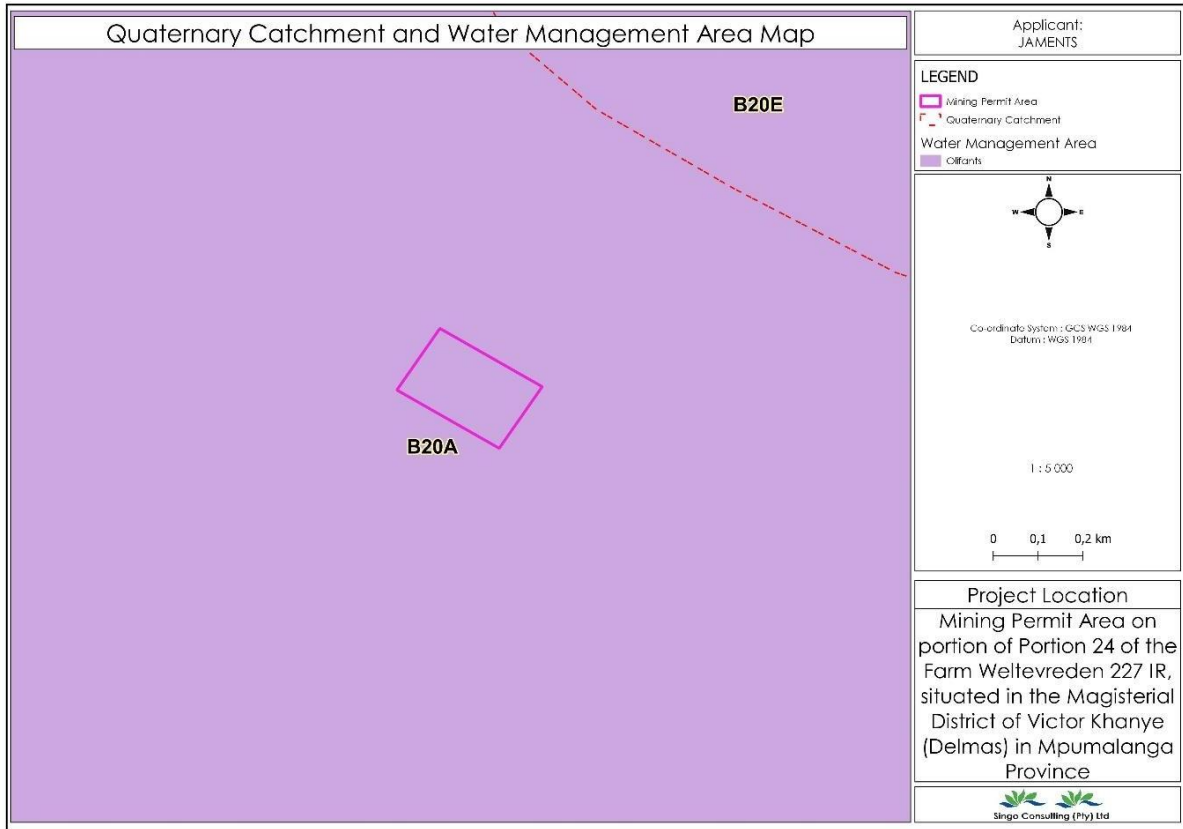
Hydrology and topology map



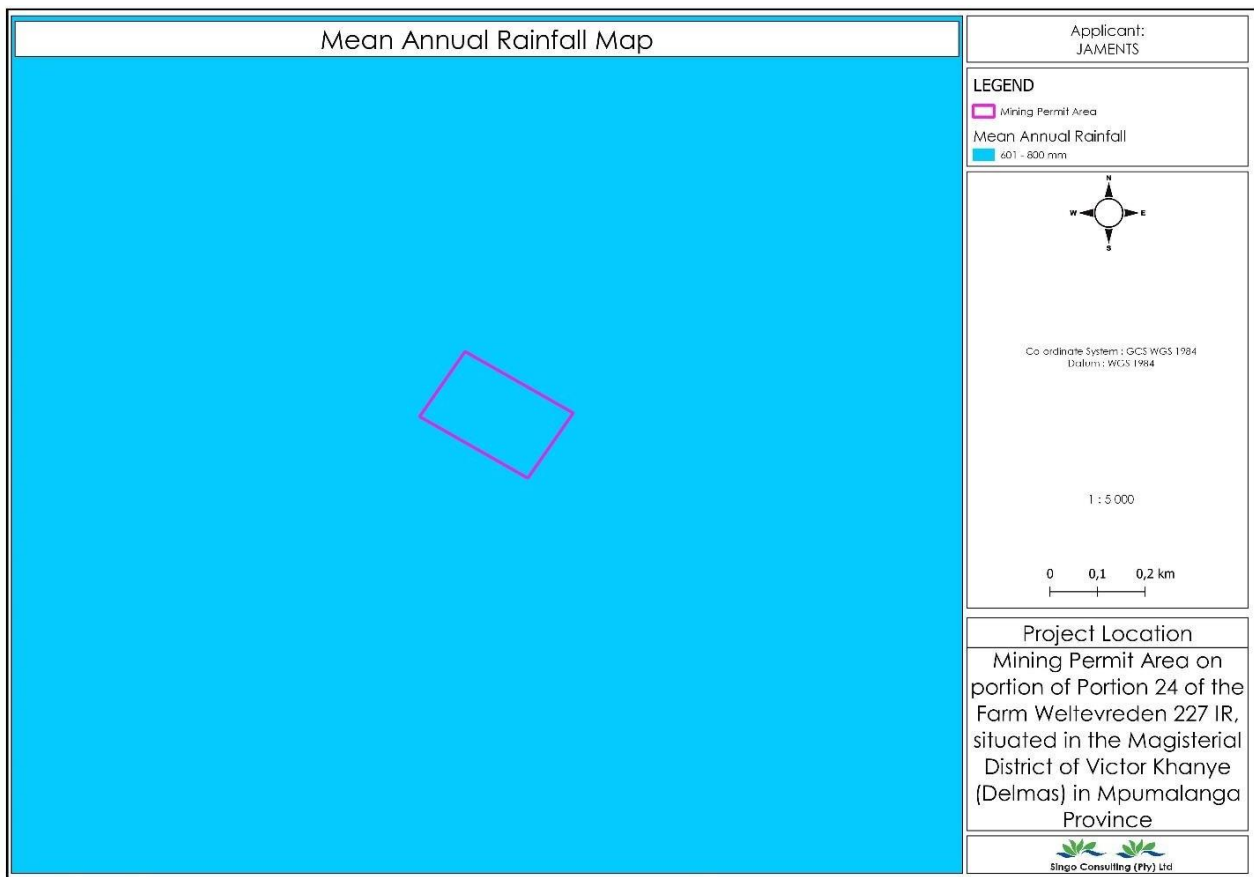
Hydrological map



Land use and land cover



Quaternary catchment and water management area



Mean annual rainfall



Soil classes

## **Appendix 2: EAPs CV and qualification**

Due to POPI act sensitive information will not be shared, this information will only be made available to the competent authority.

### Appendix 3: Supporting impact assessment

#### Environmental impact statement

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

| Type of impact                                                       |  | Likelihood                                      | Significance       |
|----------------------------------------------------------------------|--|-------------------------------------------------|--------------------|
| <b>Site establishment/ construction phase</b>                        |  | Duration: Planning phase                        |                    |
| <b>Topsoil stripping and stockpiling</b>                             |  |                                                 |                    |
| Visual intrusion associated with mining area establishment           |  | Possible                                        | Medium concern     |
| Dust nuisance caused by soil disturbance                             |  | Low possibility                                 | Low concern        |
| Noise nuisance caused by machinery stripping and stockpiling topsoil |  | Low possibility                                 | Low concern        |
| Infestation of topsoil heaps by weeds and invader plants             |  | Low possibility                                 | Low concern        |
| Loss of topsoil due to incorrect storm water management              |  | Low possibility                                 | Low concern        |
| Area contamination with hydrocarbon/hazardous waste                  |  | Low possibility                                 | Low concern        |
| <b>Operational phase</b>                                             |  | Duration: Operational phase; minimum of 3 years |                    |
| <b>Blasting</b>                                                      |  |                                                 |                    |
| Health and safety risk posed by blasting activities                  |  | Low possibility                                 | Low concern        |
| Dust nuisance caused by blasting activities                          |  | Definite                                        | Low-medium concern |
| Noise nuisance caused by blasting activities                         |  | Definite                                        | Low-medium concern |
| <b>Excavation</b>                                                    |  |                                                 |                    |
| Visual intrusion associated with the excavation activities           |  | Definite                                        | Medium concern     |
| Dust nuisance due to excavation activities                           |  | Low possibility                                 | Low concern        |



|                                                     |                 |                    |
|-----------------------------------------------------|-----------------|--------------------|
| Noise nuisance generated by excavation equipment    | Low possibility | Low-medium concern |
| Unsafe working conditions for employees             | Low possibility | Low concern        |
| Negative impact on the fauna and flora of the area  | Low possibility | Low concern        |
| Area contamination with hydrocarbon/hazardous waste | Low possibility | Low concern        |
| Weed and invader plant infestation of the area      | Low possibility | Low concern        |

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



## BACKGROUND INFORMATION DOCUMENT (BID)

Mining Permit and Environmental Authorization application for Coal, on portion of portion 24 of the farm Weltevreden 227 IR, situated in the Magisterial District of Delmas in Mpumalanga Province.

DMRE REF: MP 30/5/1/1/3/13702 MP



Office 870, 5 Balalaika Street, Tasbet Park Ext 2, eMalaheni, 1040

**EAP: Dr Kenneth Singo**

Tel No.: +27 13 6920 041

Fax No.: +27 86 5144 103

Email: [kenneth@singoconsulting.co.za](mailto:kenneth@singoconsulting.co.za)

**Envir. Tech.: Ms Mazithi Mangcu**

Cell No.: +27 74 884 1000

Email: [mazithi@singoconsulting.co.za](mailto:mazithi@singoconsulting.co.za)



**Physical Address:** Pentagon House 5 Neven Street, Model Park, eMalaheni, 1035

**Contact person:** Mr Given Bongani Simelane

**Tel No.:** +27 13 591 2120

**Email:** [admin@jaments.co.za](mailto:admin@jaments.co.za)

2023

## INTRODUCTION AND THE PURPOSE OF THIS DOCUMENT

**Singo Consulting (Pty) Ltd** has been appointed as an independent Environmental Consultant by **Jaments (Pty) Ltd**, to conduct Environmental Impact Assessment (EIA), Compile a Basic Assessment Report (BAR) and an Environmental Management Programme report (EMPr) and undertake Public Participation Process (PPP). This is done for processes of acquiring Environmental Authorization for the proposed mining permit application for **Coal, portion of portion 24** of the farm **Weltevreden 227 IR, situated in the Magisterial District of Delmas in Mpumalanga Province**.

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

Results of the EIA, both negative and positive will be submitted and made available to the relevant Departments such as the Department of Mineral Resources and Energy and if requested, Department of Forestry, Fisheries and Environment, Department of Water and Sanitation, landowner and other interested stakeholders. This Background Information Document therefore requests and invite I&APs to comment on the environmental, physical, social and economic impacts associated with the proposed mining permit activities. Be assured that your comments are of great value as they ensure that relevant issues are taken into consideration. Attached at the end of this document is a registration form, kindly complete it and send it back to **Ms Mazithi Mangcu** through given means of communication also attached there.

## PROJECT DESCRIPTION

Mining Permit Application has been submitted for the extraction of **Coal**, resource on the property mentioned above. This mining permit Area, as seen in Figure 1, is situated approximately 9 km East of Botleng and 10 km SouthEast of Delmas. Mining activities will be undertaken over a period of two (2) years. This project will entail an open cast method of excavation. The mine design will be according to the dimension of the applied mineral deposit within the project area, but overall mining activities will be limited to an area of 5 Ha as per mining permit requirements. The topsoil will be stockpiled elsewhere on site preferably next to the farm boundary and will be used during rehabilitation period. Once a box cut has been made, the overburden and mineral resources where necessary will be loosened by blasting. The loosened material will then be loaded onto trucks by excavators. A haul road will be situated at the side of the open cast, forming a ramp up which trucks can drive, carrying ore and waste rock. Waste rock will be piled up at the surface, near the edge of the open cast (waste dump). The waste dump will be tiered and stepped, to minimize degradation. All the activities will be guided by the project's EMPr such that the project does not impact the environment negatively.

## REGULATORY FRAMEWORK

Therefore, EIA through BAR & EMPr process to be undertaken will be conducted in accordance with the National Environmental Management Act (Act 107 of 1998) and Environmental Impact Assessment regulations as amended (April 2017). The activity is to extract the existence and occurrence of the applied mineral; therefore, this will be conducted in accordance with Mineral and Petroleum Resources Development Act, (Act 28 of 2002). Other regulatory guidelines to be followed includes National Water Act, 1998 (Act 36 of 1998), National Air Quality Standards (GN 1210: 2009) and National Dust Control Regulations (GN 827: 2013) as amended. These all will accurately be followed to ensure that identified impacts are assessed and mitigated according to their significance so that the protection of the receiving environment and populations is met.



Figure 1: Regulation 2.2 map of the proposed project area(-26.117336, 28.779070)

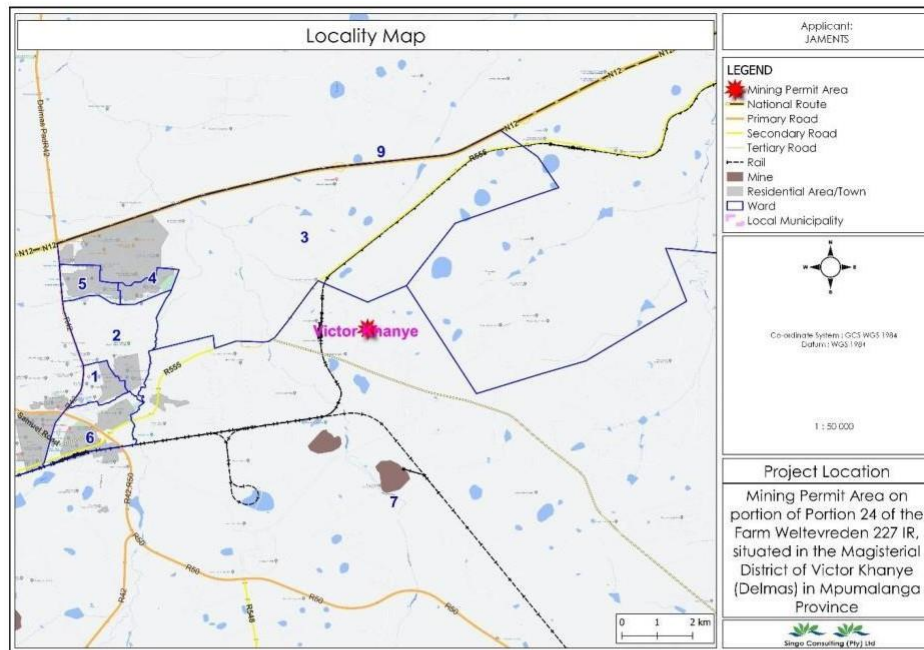


Figure 2: Locality map of the project area

## BASIC AND ENVIRONMENTAL IMPACT ASSESSMENT PROCESSES

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

## PUBLIC PARTICIPATION PROCESS

Public Participation remains a cornerstone of the Environmental Impact Assessment process. It ensures provision of relevant and enough information with openness and transparency. The PPP presents to I&APs, an opportunity to understand what the project is about, and affords them an opportunity to make valuable contributions towards the EIA process. I&AP can be any person, group of persons or organization interested in or affected by the proposed activity, and any organ of state that may have jurisdiction over any aspect of the activity. The key objective of PPP is to afford the I&APs with an opportunity to comment and provide valuable inputs during the planning phase of the project.

For this specific proposed project, I&APs will be given a period of 30 days to comment and raise issues/concerns with regards to this BID.

**Please note the following:**

- A notice will be published in the local paper (**03<sup>rd</sup> of March 2023**).
- A2 site notices will be placed around the **farm boundary, local library notices board and identified public spaces**.
- The Draft BAR & EMPr will be made available at **Delmas Local Municipality & Delmas Public Library**.
- The draft BAR & EMPr will be available for review from the **15<sup>th</sup> of March 2023 to the 17<sup>th</sup> of April 2023**.
- Electronic copies of the DBAR and EMPr will be made available upon request via emails, Dropbox link, Google drive, We Transfer, etc. from Singo Consulting (Pty) Ltd using the contact details of the Environmental Technician below.



|                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                    |
|------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <br><b>Singo Consulting (Pty) Ltd</b> | <b>Office No 870, 5 Balalaika Street</b><br><b>Tasbet Park Ext 2,</b><br><b>eMalaheni,</b><br><b>1040</b><br><b>Cell: +27 74 884 1000</b><br><b>Tel: +27 13 692 0041</b><br><b>Fax: +27 86 5144 103</b><br><b>Email: <a href="mailto:mazithi@singoconsulting.co.za">mazithi@singoconsulting.co.za</a></b><br><b>: <a href="mailto:admin@singoconsulting.co.za">admin@singoconsulting.co.za</a></b> |
|------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

**REGISTRATION & COMMENT SHEET**

**Mining Permit and Environmental Authorization application for Coal, portion of portion 24 of the farm Weltevreden 227 IR, situated in the Magisterial District of Delmas in Mpumalanga Province (DMRE Ref: MP 30/5/1/1/3/13702 MP).**

Attention: **Ms Mazithi Mangcu**

Email: [mazithi@singoconsulting.co.za](mailto:mazithi@singoconsulting.co.za)

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

## Appendix 5: Landowner notification letter



02 March 2023

Attention: **T B T Boerdery (Pty) Ltd.**

**PROPOSED MINING PERMIT APPLICATION FOR COAL MINERAL ON PORTION OF PORTION 24 OF THE FARM WELTEVREDEN 227 IR, SITUATED WITHIN MAGISTERIAL DISTRICT OF DELMAS, MPUMALANGA PROVINCE DMRE REF: MP 30/5/1/1/3/13702 MP.**

**Singo Consulting (Pty) Ltd** on behalf of **Jaments (Pty) Ltd** wishes to inform you about a Mining Permit Application for the above-mentioned mineral on the above mentioned property. Jaments (Pty) Ltd has applied for Mining Permit together with the Environmental Authorization (EA) in terms of the Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002) (MPRDA). This proposed farm is situated in the Magisterial District of Delmas, Mpumalanga Province.

**Singo Consulting (Pty) Ltd** has been appointed as an independent **Environmental Assessment Practitioner (EAP)**. We are conducting a Basic Assessment process, if you have any comment(s) concerning the proposed project or terms and conditions you want to lay down, kindly fill the comment form below and register your comments and forward back to the Environmental Technician using the contact details provided below by no later than 30-days upon the receipt of this letter.

You have been identified as the landowner of the portion of portion 24 of the farm Weltevreden 227 IR (kindly refer to attached WinDeed results on the following page). Your comments are critical in decision making at the Department of Mineral Resources and Energy (DMRE) concerning the proposed project.

Should you have any queries regarding the proposed project, please do not hesitate to contact the Environmental Assessment Practitioner (EAP) Dr Kenneth Singo and the Environmental Technician (Envir. Tech) Miss Mazithi Mangcu using the contact details provided below.

Kind Regards.



**EAP and Envir. Tech Contact Details:**



**Physical Address.:** Office 870, 5 Balalaka Street,  
Tasbet Park Ext. 2, eMalahleni (Witbank), 1040

**EAP.:** Dr Kenneth Singo

**Email:** kenneth@singoconsulting.co.za/  
admin@singoconsulting.co.za

**Tel No.:** +27 13 6920 041

**Fax No.:** +27 86 51 44 103

**Envir. Tech.:** Miss Mazithi Mangcu

**Cell No.:** +27 74 884 1000

**Email:** mazithi@singoconsulting.co.za

**Applicant's Contact Details:**



**Physical Address:** Pentagon House 5 Neven Street,  
Model Park, eMalahleni, 1035

**Contact person:** Mr Given Bongani Simelane

**Tel No.:** +27 13 591 2120

**Email:** admin@jaments.co.za



**Deeds Office Property - List**  
IR, 227, MPUMALANGA

Lexis® WinDeed

Any personal information obtained from this search will only be used as per the Terms and Conditions agreed to and in accordance with applicable data protection laws including the Protection of Personal Information Act, 2013 (POPI), and shall not be used for marketing purposes.

**SEARCH CRITERIA**

|                   |                  |                       |              |
|-------------------|------------------|-----------------------|--------------|
| Search Date       | 2023/02/20 17:03 | Farm Number           | 227          |
| Reference         | -                | Registration Division | IR           |
| Report Print Date | 2023/02/20 19:32 | Portion Number        | -            |
| Farm Name         | -                | Remaining Extent      | NO           |
| Deeds Office      | Mpumalanga       | Search Source         | Deeds Office |

**PORTION LIST**

| Portion | Owner                                       | Title Deed   | Registration Date | Purchase Price (R) |
|---------|---------------------------------------------|--------------|-------------------|--------------------|
| 0       | *** NO LONGER EXISTS - SEE ENDORSEMENTS *** | -            | -                 | -                  |
| 1       | AFGRI OPERATIONS LTD                        | T16478/1979  | -                 | -                  |
| 2       | GRO AFRICA PROP PTY LTD                     | T10175/2013  | -                 | -                  |
| 3       | TRANSNET LTD                                | T446/1915    | -                 | -                  |
| 4       | TRUTER BOERDERY TRUST                       | T53749/1999  | -                 | -                  |
| 5       | TRUTER BOERDERY TRUST                       | T5105/2019   | -                 | -                  |
| 6       | GEYER HEIN RENIER                           | T66036/1989  | -                 | -                  |
| 7       | EXXARO COAL PTY LTD                         | T9659/2002   | -                 | -                  |
| 8       | TRANSNET LTD                                | T5099/1918   | -                 | -                  |
| 9       | STUART MINERALS PTY LTD                     | T106015/2002 | -                 | -                  |
| 10      | GRO AFRICA PROP PTY LTD                     | T10175/2013  | -                 | -                  |
| 11      | OMNIA GROUP PTY LTD                         | T4899/2010   | -                 | -                  |
| 13      | INTER-WASTE PTY LTD                         | T10887/2013  | -                 | -                  |
| 14      | *** NO LONGER EXISTS - SEE ENDORSEMENTS *** | -            | -                 | -                  |
| 15      | *** NO LONGER EXISTS - SEE ENDORSEMENTS *** | -            | -                 | -                  |
| 16      | INTER-WASTE PTY LTD                         | T10887/2013  | -                 | -                  |
| 17      | INTER-WASTE PTY LTD                         | T10887/2013  | -                 | -                  |
| 18      | *** NO LONGER EXISTS - SEE ENDORSEMENTS *** | -            | -                 | -                  |
| 19      | *** NO LONGER EXISTS - SEE ENDORSEMENTS *** | -            | -                 | -                  |

**DISCLAIMER**

This report contains information provided to LNRM by content providers and LNRM cannot control the accuracy of the data nor the timely accessibility. LNRM will not be held liable for any claims based on reliance of the search information provided. This report is subject to the terms and conditions of LexisNexis Risk Management Agreement. LexisNexis Risk Management (Pty) Ltd is a registered credit bureau (NCRCB26).



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

Page 1 of 2





| PORTION LIST |                                             |             |                   |                    |
|--------------|---------------------------------------------|-------------|-------------------|--------------------|
| Portion      | Owner                                       | Title Deed  | Registration Date | Purchase Price (R) |
| 20           | INTER-WASTE PTY LTD                         | T12824/2013 | -                 | -                  |
| 21           | INTER-WASTE PTY LTD                         | T12777/2013 | -                 | -                  |
| 22           | BERG ZAGRYA CATHARINA                       | T29403/1978 | -                 | -                  |
| 23           | BERG ZAGRYA CATHARINA                       | T29403/1978 | -                 | -                  |
| 24           | T B T BOERDERY PTY LTD                      | T3216/2020  | -                 | -                  |
| 25           | *** NO LONGER EXISTS - SEE ENDORSEMENTS *** | -           | -                 | -                  |
| 26           | INTER-WASTE PTY LTD                         | T12824/2013 | -                 | -                  |
| 27           | INTER-WASTE PTY LTD                         | T12777/2013 | -                 | -                  |
| 28           | INTER-WASTE PTY LTD                         | T7129/2019  | -                 | -                  |
| 29           | STUART COAL PTY LTD                         | T2140/2020  | -                 | -                  |
| 30           | TRUTER BOERDERY TRUST                       | T53748/1999 | -                 | -                  |
| 31           | TRANSNET LTD                                | T30399/1966 | -                 | -                  |
| 32           | *** NO LONGER EXISTS - SEE ENDORSEMENTS *** | -           | -                 | -                  |
| 34           | *** NO LONGER EXISTS - SEE ENDORSEMENTS *** | -           | -                 | -                  |
| 35           | PHILBOS PTY LTD                             | T47947/1981 | -                 | -                  |
| 36           | TRANSNET LTD                                | T83473/1994 | -                 | -                  |
| 37           | TRANSNET LTD                                | T39719/1994 | -                 | -                  |
| 38           | TRANSNET LTD                                | T72026/1994 | -                 | -                  |
| 39           | TRANSNET LTD                                | T40637/1994 | -                 | -                  |
| 40           | TRANSNET LTD                                | T70591/1994 | -                 | -                  |
| 41           | INTER-WASTE PTY LTD                         | T13894/2013 | -                 | -                  |
| 42           | TRANSNET LTD                                | T48913/1996 | -                 | -                  |
| 43           | TRANSNET LTD                                | T48913/1996 | -                 | -                  |
| 45           | SOUTHERN PROTEINS PTY LTD                   | T941/2019   | -                 | -                  |
| 46           | OMNIA GROUP PTY LTD                         | T7530/2015  | -                 | -                  |
| 47           | AFGRI GRAIN SILO COMPANY PTY LTD            | T7501/2020  | -                 | -                  |
| 48           | AFGRI OPERATIONS LTD                        | T7529/2015  | -                 | -                  |

**DISCLAIMER**

This report contains information provided to LNRM by content providers and LNRM cannot control the accuracy of the data nor the timely accessibility. LNRM will not be held liable for any claims based on reliance of the search information provided. This report is subject to the terms and conditions of LexisNexis Risk Management Agreement. LexisNexis Risk Management (Pty) Ltd is a registered credit bureau (NCRB26).



I, \_\_\_\_\_ herewith acknowledge receipt of:

One (1) copy of the letter entitled: PROPOSED MINING PERMIT APPLICATION FOR COAL MINERAL ON PORTION OF PORTION 24 OF THE FARM WELTEVREDEN 227 IR, SITUATED WITHIN MAGESTRIAL DISTRICT OF DELMAS, MPUMALANGA PROVINCE. DMRE REF: MP 30/5/1/1/3/13702 MP.

**Please comment and return to:**

|                   |                                                                                               |
|-------------------|-----------------------------------------------------------------------------------------------|
| Physical address: | Office No. 870,<br>5 Balalaika Street,<br>Tasbet Park Ext 2,<br>Witbank<br>1040               |
| Postal address    | P/Bag X7297<br>Postnet Suite 87<br>Highveld Mall<br>Witbank<br>1040                           |
| Tel No:           | +27 13 6920 041                                                                               |
| Cell No:          | +27 74 884 1000                                                                               |
| Fax No:           | +27 86 5144 103                                                                               |
| Email:            | admin@singoconsulting.co.za<br>kenneth@singoconsulting.co.za<br>mazithi@singoconsulting.co.za |

**Personal Details:**

|                                                                                                                               |  |                |  |                |  |
|-------------------------------------------------------------------------------------------------------------------------------|--|----------------|--|----------------|--|
| <b>Full Names and Surname:</b>                                                                                                |  |                |  |                |  |
| <b>Contact Details:</b>                                                                                                       |  |                |  |                |  |
| <b>Tel(w):</b>                                                                                                                |  | <b>Tel(h):</b> |  | <b>Fax No:</b> |  |
| <b>Email:</b>                                                                                                                 |  |                |  |                |  |
| <b>Physical Address:</b>                                                                                                      |  |                |  |                |  |
| <b>Postal Address:</b>                                                                                                        |  |                |  |                |  |
| Preferred method of communication: fax <input type="checkbox"/> e-mail <input type="checkbox"/> post <input type="checkbox"/> |  |                |  |                |  |



|                                                                                                                               |  |
|-------------------------------------------------------------------------------------------------------------------------------|--|
| Preferred telephonic communication: cell <input type="checkbox"/> home <input type="checkbox"/> work <input type="checkbox"/> |  |
| Organisation/Representative:                                                                                                  |  |
| Farm name, number and subdivision or Street Address (if applicable):                                                          |  |

1. What is your interest in the proposed project? E.g. Property Owner/ Lessee/ Tenant?  
Please provide details of the property.

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

2. Do you have grounds for concerns in respect to this application? **Please tick the appropriate box and substantiate.**

YES
  NO



3. Categorized issues of concerns: **Please "X" the appropriate box**

|                                           |                                   |
|-------------------------------------------|-----------------------------------|
| Air quality                               | Noise                             |
| Archaeology                               | Soil                              |
| Surface water                             | Employment                        |
| Groundwater                               | Security                          |
| Ecology                                   | Visual                            |
| Land use and Planning<br>Waste management | Quality of life<br>Property value |
| Economy                                   | Nuisance                          |

4. If yes, please list and elaborate further.

---

---

---

---

---

---

---

---

---

---

---

5. Are there, in your opinion, any other interested/ or affected parties that should be contacted in relation to this application? Please "X" appropriate box.

YES

NO





6. If yes, please provide their contact details:

|                 |         |               |  |
|-----------------|---------|---------------|--|
| Name:           |         | Organization: |  |
| Contact details |         |               |  |
| Address:        |         |               |  |
| Tel No:         | Fax No: | Cell No:      |  |
| Email address:  |         |               |  |

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

**THANK YOU**



## Appendix 6: Stakeholder's Consultation

### Mazithi, Mangcu

**From:** Mazithi, Mangcu <mazithi@singoconsulting.co.za>  
**Sent:** Friday, 03 March 2023 09:27  
**To:**  
**Cc:**  
**Subject:** INVITATION TO REGISTER & COMMENT FOR JAMENTS (PTY) LTD, MINING PERMIT APPLICATION ON PORTION OF PORTION 24 OF THE FARM WELTEVREDEN 227 IR WITH DMRE REF: MP 30/5/1/1/3/13702 MP  
**Attachments:** REG 2.2.pdf; Mining Permit Area.kml; Background Information Document.pdf

Good day,

Receive warm greetings from Singo Consulting (Pty) Ltd.

**Singo Consulting (Pty) Ltd** has been appointed as an independent Environmental Assessment Practitioner by **Jaments (Pty) Ltd** to manage the Environmental Authorisation process by conducting an Environmental Impact Assessment, Public Participation Process (PPP), and to compile a Basic Assessment Report & Environmental Management Programme report (BAR & EMPr) for the **Mining Permit Application** for the purpose of extracting **Coal** on **portion of portion 24 of the farm Weltevreden 227 IR**, situated under **Victor Khanye (Delmas)** District Municipality in **Mpumalanga** Province with **DMRE Ref: MP 30/5/1/1/3/13702 MP**.

May you kindly find the attached **Regulation map 2.2, KML** and **Background Information Document (BID)** for detailed information about the proposed project. A **Registration and Comment Form** is included for you to register as an interested and Affected Party and raise your comments and concerns. Kindly complete this form so we can address the comments in the **Basic Assessment Report and Environmental Management Programme report** that will be shared with you to review for **30 calendar days** commencing on the **15<sup>th</sup> of March 2023 to the 17<sup>th</sup> of April 2023 (excluding public holidays)**. If you know anyone who might be interested or affected by this project, kindly forward this email to that person.

Should you need any clarity in relation to this project, please do not hesitate to contact me using the contact details provided below.

Kind regards

**Mazithi, Mangcu** Environmental Technician Intern N.Dip. Environmental Management  
+27 74 884 1000 +27 13 692 0041  
mazithi@singoconsulting.co.za  
+27 86 514 4103  
www.singoconsulting.co.za  
Singo Consulting (Pty) Ltd  
Office 870, 5 Balalaika Street,  
Tasbet Park Ext 2,  
Witbank, 1040  
Protect & manage the best remaining environment  
Operation Hi Teka Hinkwaswo

## Appendix 7: Stakeholder's Consultation

### Mazithi, Mangcu

---

**From:** Mazithi, Mangcu <mazithi@singoconsulting.co.za>  
**Sent:** Friday, 03 March 2023 09:29  
**To:**   
**Cc:**   
**Subject:** REQUEST FOR SENSITIVITY MAPS  
**Attachments:** REG 2.2.pdf; Mining Permit Area.kml

Good day, Phumla

Receive warm greetings from Singo Consulting (Pty) Ltd.

I am kindly requesting sensitivity maps for **portion of portion 24** of the farm **Weltevreden 227 IR**, situated under the Magisterial District of Victor Khanye (Delmas) in Mpumalanga Province.

Should you need any clarify please do not hesitate to contact me.

Your assistance will be highly appreciated.

Kind regards

**Mazithi, Mangcu** Environmental Technician Intern N.Dip: Environmental Management *Operation Hi Teka Hinkwaswo*

+27 74 884 1000 +27 13 692 0041  
mazithi@singoconsulting.co.za  
+27 86 514 4103  
www.singoconsulting.co.za

Singo Consulting (Pty) Ltd

Office 870, 5 Balalaika Street,  
Tasbet Park Ext 2,  
Witbank, 1040

Protect & manage the best remaining environment

## Appendix 8: Stakeholder's Consultation

### Mazithi, Mangcu

---

**From:** Mazithi, Mangcu <mazithi@singoconsulting.co.za>  
**Sent:** Friday, 03 March 2023 09:29  
**To:**  
**Cc:**  
**Subject:** INVITATION TO REGISTER & COMMENT FOR JAMENTS (PTY) LTD, MINING PERMIT APPLICATION ON PORTION OF PORTION 24 OF THE FARM WELTEVREDEN 227 IR WITH DMRE REF: MP 30/5/1/1/3/13702 MP  
**Attachments:** REG 2.2.pdf; Mining Permit Area.kml; Background Information Document.pdf

Good day,

Receive warm greetings from Singo Consulting (Pty) Ltd.

**Singo Consulting (Pty) Ltd** has been appointed as an independent Environmental Assessment Practitioner by **Jaments (Pty) Ltd** to manage the Environmental Authorisation process by conducting an Environmental Impact Assessment, Public Participation Process (PPP), and to compile a Basic Assessment Report & Environmental Management Programme report (BAR & EMP) for the **Mining Permit Application** for the purpose of extracting **Coal** on **portion of portion 24 of the farm Weltevrede 227 IR**, situated under **Victor Khanye (Delmas)** District Municipality in **Mpumalanga** Province with **DMRE Ref: MP 30/5/1/1/3/13702 MP**.

May you kindly find the attached **Regulation map 2.2, KML** and **Background Information Document (BID)** for detailed information about the proposed project. A **Registration and Comment Form** is included for you to register as an Interested and Affected Party and raise your comments and concerns. Kindly complete this form so we can address the comments in the **Basic Assessment Report and Environmental Management Programme report** that will be shared with you to review for **30 calendar days** commencing on the **15<sup>th</sup> of March 2023 to the 17<sup>th</sup> of April 2023 (excluding public holidays)**. If you know anyone who might be interested or affected by this project, kindly forward this email to that person.

Should you need any clarity in relation to this project, please do not hesitate to contact me using the contact details provided below.

Kind regards

**Mazithi, Mangcu** Environmental Technician Intern N.Dip. Environmental Management  
+27 74 884 1000 +27 13 692 0041  
mazithi@singoconsulting.co.za  
+27 86 514 4103  
www.singoconsulting.co.za  
Singo Consulting (Pty) Ltd  
Operation Hi Teka Hinkwaswo  
Office 870, 5 Balalaika Street,  
Tasbet Park Ext 2,  
Witbank, 1040  
Protect & manage the best remaining environment

## Appendix 9: Stakeholder's Consultation

### Mazithi, Mangcu

---

**From:** Mazithi, Mangcu <mazithi@singoconsulting.co.za>  
**Sent:** Friday, 03 March 2023 09:29  
**To:**   
**Cc:**   
**Subject:** INVITATION TO REGISTER & COMMENT FOR JAMENTS (PTY) LTD, MINING PERMIT APPLICATION ON PORTION OF PORTION 24 OF THE FARM WELTEVREDEN 227 IR WITH DMRE REF: MP 30/5/1/1/3/13702 MP  
**Attachments:** REG 2.2.pdf; Mining Permit Area.kml; Background Information Document.pdf

Good day,

Receive warm greetings from Singo Consulting (Pty) Ltd.

**Singo Consulting (Pty) Ltd** has been appointed as an independent Environmental Assessment Practitioner by **Jaments (Pty) Ltd** to manage the Environmental Authorisation process by conducting an Environmental Impact Assessment, Public Participation Process (PPP), and to compile a Basic Assessment Report & Environmental Management Programme report (BAR & EMP) for the **Mining Permit Application** for the purpose of extracting **Coal** on **portion of portion 24 of the farm Weltevrede 227 IR**, situated under **Victor Khanye (Delmas)** District Municipality in **Mpumalanga** Province with **DMRE Ref: MP 30/5/1/1/3/13702 MP**.

May you kindly find the attached **Regulation map 2.2, KML** and **Background Information Document (BID)** for detailed information about the proposed project. A **Registration and Comment Form** is included for you to register as an Interested and Affected Party and raise your comments and concerns. Kindly complete this form so we can address the comments in the **Basic Assessment Report and Environmental Management Programme report** that will be shared with you to review for **30 calendar days** commencing on the **15<sup>th</sup> of March 2023 to the 17<sup>th</sup> of April 2023 (excluding public holidays)**. If you know anyone who might be interested or affected by this project, kindly forward this email to that person.

Should you need any clarity in relation to this project, please do not hesitate to contact me using the contact details provided below.

Kind regards

**Mazithi, Mangcu** Environmental Technician Intern N.Dip. Environmental Management  
+27 74 884 1000 +27 13 692 0041  
mazithi@singoconsulting.co.za  
+27 86 514 4103  
www.singoconsulting.co.za  
Operation Hi Teka Hinkwaswo  
Singo Consulting (Pty) Ltd  
Office 870, 5 Balalaika Street,  
Tasbet Park Ext 2,  
Witbank, 1040  
Protect & manage the best remaining environment

## Appendix 10: Stakeholder's Consultation

### Mazithi, Mangcu

**From:** Mazithi, Mangcu <mazithi@singoconsulting.co.za>  
**Sent:** Friday, 03 March 2023 09:30  
**To:**  
**Cc:**  
**Subject:** INVITATION TO REGISTER & COMMENT FOR JAMENTS (PTY) LTD, MINING PERMIT APPLICATION ON PORTION OF PORTION 24 OF THE FARM WELTEVREDEN 227 IR WITH DMRE REF: MP 30/5/1/1/3/13702 MP  
**Attachments:** REG 2.2.pdf; Mining Permit Area.kml; Background Information Document.pdf

Good day,

Receive warm greetings from Singo Consulting (Pty) Ltd.

**Singo Consulting (Pty) Ltd** has been appointed as an independent Environmental Assessment Practitioner by **Jaments (Pty) Ltd** to manage the Environmental Authorisation process by conducting an Environmental Impact Assessment, Public Participation Process (PPP), and to compile a Basic Assessment Report & Environmental Management Programme report (BAR & EMP) for the **Mining Permit Application** for the purpose of extracting **Coal on portion of portion 24 of the farm Weltevreden 227 IR**, situated under **Victor Khanye (Delmas) District Municipality** in **Mpumalanga Province** with **DMRE Ref: MP 30/5/1/1/3/13702 MP**.

May you kindly find the attached **Regulation map 2.2, KML** and **Background Information Document (BID)** for detailed information about the proposed project. A **Registration and Comment Form** is included for you to register as an Interested and Affected Party and raise your comments and concerns. Kindly complete this form so we can address the comments in the **Basic Assessment Report and Environmental Management Programme report** that will be shared with you to review for **30 calendar days** commencing on the **15<sup>th</sup> of March 2023 to 17<sup>th</sup> of April 2022 (excluding public holidays)**. If you know anyone who might be interested or affected by this project, kindly forward this email to that person.

Should you need any clarity in relation to this project, please do not hesitate to contact me using the contact details provided below.

Kind regards

**Mazithi, Mangcu** Environmental Technician Intern N.Dip. Environmental Management  
+27 74 884 1000 +27 13 692 0041  
mazithi@singoconsulting.co.za  
+27 86 514 4103  
www.singoconsulting.co.za  
Singo Consulting (Pty) Ltd  
Office 870, 5 Balalaika Street,  
Tasbet Park Ext 2,  
Witbank, 1040  
Protect & manage the best remaining environment  
Operation Hi Teka Hinkwaswo

## Appendix 11: Stakeholder's Consultation

### Mazithi, Mangcu

**From:** Mazithi, Mangcu <mazithi@singoconsulting.co.za>  
**Sent:** Friday, 03 March 2023 09:31  
**To:**  
**Cc:**  
**Subject:** INVITATION TO REGISTER & COMMENT FOR JAMENTS (PTY) LTD, MINING PERMIT APPLICATION ON PORTION OF PORTION 24 OF THE FARM WELTEVREDEN 227 IR WITH DMRE REF: MP 30/5/1/1/3/13702 MP.  
**Attachments:** REG 2.2.pdf; Mining Permit Area.kml; Background Information Document.pdf

Good day,

Receive warm greetings from Singo Consulting (Pty) Ltd.

**Singo Consulting (Pty) Ltd** has been appointed as an independent Environmental Assessment Practitioner by **Jaments (Pty) Ltd** to manage the Environmental Authorisation process by conducting an Environmental Impact Assessment, Public Participation Process (PPP), and to compile a Basic Assessment Report & Environmental Management Programme report (BAR & EMP) for the **Mining Permit Application** for the purpose of extracting **Coal** on **portion of portion 24 of the farm Weltevreden 227 IR**, situated under **Victor Khanye (Delmas)** District Municipality in **Mpumalanga** Province with **DMRE Ref: MP 30/5/1/1/3/13702 MP**.

May you kindly find the attached **Regulation map 2.2, KML** and **Background Information Document (BID)** for detailed information about the proposed project. A **Registration and Comment Form** is included for you to register as an interested and Affected Party and raise your comments and concerns. Kindly complete this form so we can address the comments in the **Basic Assessment Report and Environmental Management Programme report** that will be shared with you to review for **30 calendar days** commencing on the **15<sup>th</sup> of March 2023 to 17<sup>th</sup> of April 2023 (excluding public holidays)**. If you know anyone who might be interested or affected by this project, kindly forward this email to that person.

Should you need any clarity in relation to this project, please do not hesitate to contact me using the contact details provided below.

Kind regards

**Mazithi, Mangcu** Environmental Technician Intern N.Dip. Environmental Management  
+27 74 884 1000 +27 13 692 0041  
mazithi@singoconsulting.co.za  
+27 86 514 4103  
www.singoconsulting.co.za  
Singo Consulting (Pty) Ltd  
Operation Hi Teka Hinkwaswo  
Office 870, 5 Balalaika Street,  
Tasbet Park Ext 2,  
Witbank, 1040  
Protect & manage the best remaining environment

## Appendix 12: Stakeholder's Consultation

### Mazithi, Mangcu

**From:** Mazithi, Mangcu <mazithi@singoconsulting.co.za>  
**Sent:** Friday, 03 March 2023 09:31  
**To:**  
**Cc:**  
**Subject:** INVITATION TO REGISTER & COMMENT FOR JAMENTS (PTY) LTD, MINING PERMIT APPLICATION ON PORTION OF PORTION 24 OF THE FARM WELTEVREDEN 227 IR WITH DMRE REF: MP 30/5/1/1/3/13702 MP  
**Attachments:** REG 2.2.pdf; Mining Permit Area.kml; Background Information Document.pdf

Good day,

Receive warm greetings from Singo Consulting (Pty) Ltd.

**Singo Consulting (Pty) Ltd** has been appointed as an independent Environmental Assessment Practitioner by **Jaments (Pty) Ltd** to manage the Environmental Authorisation process by conducting an Environmental Impact Assessment, Public Participation Process (PPP), and to compile a Basic Assessment Report & Environmental Management Programme report (BAR & EMPr) for the **Mining Permit Application** for the purpose of extracting **Coal** on **portion of portion 24 of the farm Weltevreden 227 IR**, situated under **Victor Khanye (Delmas)** District Municipality in **Mpumalanga** Province with **DMRE Ref: MP 30/5/1/1/3/13702 MP**.

May you kindly find the attached **Regulation map 2.2, KML** and **Background Information Document (BID)** for detailed information about the proposed project. A **Registration and Comment Form** is included for you to register as an interested and Affected Party and raise your comments and concerns. Kindly complete this form so we can address the comments in the **Basic Assessment Report and Environmental Management Programme report** that will be shared with you to review for **30 calendar days** commencing on the **15<sup>th</sup> of March 2023 to 17<sup>th</sup> of April 2023 (excluding public holidays)**. If you know anyone who might be interested or affected by this project, kindly forward this email to that person.

Should you need any clarity in relation to this project, please do not hesitate to contact me using the contact details provided below.

Kind regards

**Mazithi, Mangcu** Environmental Technician Intern N.Dip. Environmental Management  
+27 74 884 1000 +27 13 692 0041  
mazithi@singoconsulting.co.za  
+27 86 514 4103  
www.singoconsulting.co.za  
Singo Consulting (Pty) Ltd  
Office 870, 5 Balalaika Street,  
Tasbet Park Ext 2,  
Witbank, 1040  
Protect & manage the best remaining environment  
Operation Hi Teka Hinkwaswo



## Appendix 13: Stakeholder's Consultation

### Mazithi, Mangcu

**From:** Mazithi, Mangcu <mazithi@singoconsulting.co.za>  
**Sent:** Friday, 03 March 2023 09:36  
**To:**  
**Cc:**  
**Subject:** INVITATION TO REGISTER & COMMENT FOR JAMENTS (PTY) LTD, MINING PERMIT APPLICATION ON PORTION OF PORTION 24 OF THE FARM WELTEVREDEN 227 IR WITH DMRE REF: MP 30/5/1/1/3/13702 MP  
**Attachments:** REG 2.2.pdf; Mining Permit Area.kml; Background Information Document.pdf

Good day,

Receive warm greetings from Singo Consulting (Pty) Ltd.

**Singo Consulting (Pty) Ltd** has been appointed as an independent Environmental Assessment Practitioner by **Jaments (Pty) Ltd** to manage the Environmental Authorisation process by conducting an Environmental Impact Assessment, Public Participation Process (PPP), and to compile a Basic Assessment Report & Environmental Management Programme report (BAR & EMPr) for the **Mining Permit Application** for the purpose of extracting **Coal** on **portion of portion 24 of the farm Weltevreden 227 IR**, situated under **Victor Khanye (Delmas)** District Municipality in **Mpumalanga** Province with **DMRE Ref: MP 30/5/1/1/3/13702 MP**.

May you kindly find the attached **Regulation map 2.2, KML** and **Background Information Document (BID)** for detailed information about the proposed project. A **Registration and Comment Form** is included for you to register as an interested and Affected Party and raise your comments and concerns. Kindly complete this form so we can address the comments in the **Basic Assessment Report and Environmental Management Programme report** that will be shared with you to review for **30 calendar days** commencing on the **15<sup>th</sup> of March 2023 to 17<sup>th</sup> of April 2023 (excluding public holidays)**. If you know anyone who might be interested or affected by this project, kindly forward this email to that person.

Should you need any clarity in relation to this project, please do not hesitate to contact me using the contact details provided below.

Kind regards

**Mazithi, Mangcu** Environmental Technician Intern N.Dip. Environmental Management  
+27 74 884 1000 +27 13 692 0041  
mazithi@singoconsulting.co.za  
+27 86 514 4103  
www.singoconsulting.co.za  
Singo Consulting (Pty) Ltd  
Operation Hi Teka Hinkwaswo  
Office 870, 5 Balalaika Street,  
Tasbet Park Ext 2,  
Witbank, 1040  
Protect & manage the best remaining environment

## Appendix 14: Adjacent landowner engagement

### Mazithi, Mangcu

---

**From:** Mazithi, Mangcu <mazithi@singoconsulting.co.za>  
**Sent:** Friday, 03 March 2023 11:05  
**To:**  
**Cc:**  
**Subject:** INVITATION TO REGISTER & COMMENT FOR JAMENTS (PTY) LTD, MINING PERMIT APPLICATION ON PORTION OF PORTION 24 OF THE FARM WELTEVREDEN 227 IR WITH DMRE REF: MP 30/5/1/1/3/13702 MP  
**Attachments:** REG 2.2.pdf; Mining Permit Area.kml; Background Information Document.pdf

Good day Ms Maphaha

Receive warm greetings from Singo Consulting (Pty) Ltd.

This email is in response to our in-person consultation on Thursday, 02<sup>nd</sup> of March 2023.

Singo Consulting (Pty) Ltd on behalf of **Jaments (Pty) Ltd**, hereby wish to inform you that it has submitted an **application for a Mining Permit (MP) together with an Environmental Authorization (EA)** to the **Mpumalanga Department of Mineral Resources and Energy (DMRE)** for the purpose of extracting **Coal**, on **Portion of Portion 24** of the farm **Weltevreden 227 IR**, which is situated under the Magisterial District of **Victor Khanye (Delmas)** in **Mpumalanga Province with DMRE Ref.: MP 30/5/1/1/3/13702 MP**.

As an **adjacent landowner**, you are hereby invited to participate freely and submit any questions or information you feel may contribute to the process. All comments received will be recorded and addressed as part of the Environmental Impact Assessment process. Kindly complete the **Comment form** attached at the end of the **Background Information Document (BID)** and revert to this email. This opportunity is being offered to you so you can:

- **Register as an I&AP and to respond to the environmental compliance process;**
- **Raise issues of concerns and provide suggestions for enhanced benefits;**
- **Contribute to local knowledge;**
- **Comment on the draft Basic Assessment Report (BAR) & Environmental Management Programme Report (EMPr)**

May you kindly find the attached **Regulation map 2.2, KML and Background Information Document (BID)** for detailed information about the proposed project. A **Registration and Comment Form** is included for you to register as an Interested and Affected Party and raise your comments and concerns. Kindly complete this form so we can address the comments in the **Basic Assessment Report and Environmental Management Programme report** that will be shared with you to review for **30 calendar days** commencing on the **15<sup>th</sup> of March 2023 to the 17<sup>th</sup> of April 2023 (excluding public holidays)**. If you know anyone who might be interested or affected by this project, kindly forward this email to that person.

Should you need any clarity in relation to this project, please do not hesitate to contact me using the contact details provided below.

Kind regards

## Appendix 15: Stakeholder's consultation

### Mazithi, Mangcu

**From:** Mazithi, Mangcu <mazithi@singoconsulting.co.za>  
**Sent:** Friday, 03 March 2023 09:28  
**To:**  
**Cc:**  
**Subject:** INVITATION TO REGISTER & COMMENT FOR JAMENTS (PTY) LTD, MINING PERMIT APPLICATION ON PORTION OF PORTION 24 OF THE FARM WELTEVREDEN 227 IR WITH DMRE REF: MP 30/5/1/1/3/13702 MP  
**Attachments:** REG 2.2.pdf; Mining Permit Area.kml; Background Information Document.pdf

Good day,

Receive warm greetings from Singo Consulting (Pty) Ltd.

**Singo Consulting (Pty) Ltd** has been appointed as an independent Environmental Assessment Practitioner by **Jaments (Pty) Ltd** to manage the Environmental Authorisation process by conducting an Environmental Impact Assessment, Public Participation Process (PPP), and to compile a Basic Assessment Report & Environmental Management Programme report (BAR & EMP) for the **Mining Permit Application** for the purpose of extracting **Coal on portion of portion 24 of the farm Weltevrede 227 IR**, situated under **Victor Khanye (Delmas)** District Municipality in **Mpumalanga** Province with **DMRE Ref: MP 30/5/1/1/3/13702 MP**.

May you kindly find the attached **Regulation map 2.2, KML** and **Background Information Document (BID)** for detailed information about the proposed project. A **Registration and Comment Form** is included for you to register as an Interested and Affected Party and raise your comments and concerns. Kindly complete this form so we can address the comments in the **Basic Assessment Report and Environmental Management Programme report** that will be shared with you to review for **30 calendar days** commencing on the **15<sup>th</sup> of March 2023 to the 17<sup>th</sup> of April 2023 (excluding public holidays)**. If you know anyone who might be interested or affected by this project, kindly forward this email to that person.

Should you need any clarity in relation to this project, please do not hesitate to contact me using the contact details provided below.

Kind regards

**Mazithi, Mangcu** Environmental Technician Intern N.Dip. Environmental Management  
+27 74 884 1000 +27 13 692 0041  
mazithi@singoconsulting.co.za  
+27 86 514 4103  
www.singoconsulting.co.za  
Singo Consulting (Pty) Ltd  
Office 870, 5 Balalaika Street,  
Tasbet Park Ext 2,  
Witbank, 1040  
Protect & manage the best remaining environment  
Operation Hi Teka Hinkwaswo

## Portion of Portion 24 of the farm Weltevreden 227 IR with DMRE Ref.: MP 30/5/1/1/3/13702 MP.

[Add new comment](#) [Subscribe to: This post](#) 6 reads

| CaseHeader                                                                                                                                                                                                                                                             | LocationInfo                                 | Admin           | Images       |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------|-----------------|--------------|
| <b>Status:</b> DRAFT                                                                                                                                                                                                                                                   |                                              |                 |              |
| <b>HeritageAuthority(s):</b> SAHRA<br>MPHRA                                                                                                                                                                                                                            |                                              |                 |              |
| <b>Case Type:</b> Section 38 (8) - Statutory Comment Required                                                                                                                                                                                                          |                                              |                 |              |
| <b>Development Type:</b> Mining                                                                                                                                                                                                                                        |                                              |                 |              |
| <b>ProposalDescription:</b><br>Mining Permit and Environmental Authorization application for Coal, portion of portion 24 of the farm Weltevreden 227 IR, situated in the Magisterial District of Delmas in Mpumalanga Province with DMRE Ref.: MP 30/5/1/1/3/13702 MP. |                                              |                 |              |
| <b>ApplicationDate:</b> Tuesday, March 7, 2023 - 10:04                                                                                                                                                                                                                 |                                              |                 |              |
| <b>CaseID:</b> 20833                                                                                                                                                                                                                                                   |                                              |                 |              |
| <b>Applicants:</b> Jaments (Pty) Ltd                                                                                                                                                                                                                                   |                                              |                 |              |
| <b>OtherReferences:</b>                                                                                                                                                                                                                                                |                                              |                 |              |
| CaseReference                                                                                                                                                                                                                                                          | Department                                   | ApplicationType | DeadlineDate |
| MP 30/5/1/1/3/13702 MP                                                                                                                                                                                                                                                 | Department of Mineral Resources - Mpumalanga | Mining Permit   | 17/04/2023   |
| <b>ReferenceList:</b>                                                                                                                                                                                                                                                  |                                              |                 |              |

## Appendix 17: Stakeholder's consultation

### Mazithi, Mangcu

---

**From:** Mazithi, Mangcu <mazithi@singoconsulting.co.za>  
**Sent:** Friday, 03 March 2023 09:30  
**To:**   
**Cc:**  
**Subject:** INVITATION TO REGISTER & COMMENT FOR JAMENTS (PTY) LTD, MINING PERMIT APPLICATION ON PORTION OF PORTION 24 OF THE FARM WELTEVREDEN 227 IR WITH DMRE REF: MP 30/5/1/1/3/13702 MP  
**Attachments:** REG 2.2.pdf; Mining Permit Area.kml; Background Information Document.pdf

Good day,

Receive warm greetings from Singo Consulting (Pty) Ltd.

**Singo Consulting (Pty) Ltd** has been appointed as an independent Environmental Assessment Practitioner by **Jaments (Pty) Ltd** to manage the Environmental Authorisation process by conducting an Environmental Impact Assessment, Public Participation Process (PPP), and to compile a Basic Assessment Report & Environmental Management Programme report (BAR & EMP) for the **Mining Permit Application** for the purpose of extracting **Coal** on **portion of portion 24 of the farm Weltevrede 227 IR**, situated under **Victor Khanye (Delmas)** District Municipality in **Mpumalanga** Province with **DMRE Ref: MP 30/5/1/1/3/13702 MP**.

May you kindly find the attached **Regulation map 2.2, KML** and **Background Information Document (BID)** for detailed information about the proposed project. A **Registration and Comment Form** is included for you to register as an Interested and Affected Party and raise your comments and concerns. Kindly complete this form so we can address the comments in the **Basic Assessment Report and Environmental Management Programme report** that will be shared with you to review for **30 calendar days** commencing on the **15<sup>th</sup> of March 2023 to the 17<sup>th</sup> of April 2023 (excluding public holidays)**. If you know anyone who might be interested or affected by this project, kindly forward this email to that person.

Should you need any clarity in relation to this project, please do not hesitate to contact me using the contact details provided below.

Kind regards

**Mazithi, Mangcu** Environmental Technician Intern N.Dip. Environmental Management *Operation Hi Teka Hinkwaswo*

+27 74 884 1000 +27 13 692 0041  
mazithi@singoconsulting.co.za  
+27 86 514 4103  
www.singoconsulting.co.za

Singo Consulting (Pty) Ltd

Office 870, 5 Balalaika Street,  
Tasbet Park Ext 2,  
Witbank, 1040

Protect & manage the best remaining environment

## Appendix 18: Landowner engagement

### Mazithi, Mangcu

**From:** Mazithi, Mangcu <mazithi@singoconsulting.co.za>  
**Sent:** Monday, 06 March 2023 09:59  
**To:**  
**Cc:**  
**Subject:** LANDOWNER ENGAGEMENT FOR A MINING PERMIT APPLICATION ON PORTION OF PORTION 24 OF THE FARM WELTEVREDEN 227 IR WITH DMRE REF: MP 30/5/1/1/3/13702 MP.  
**Attachments:** REG 2.2.pdf; LN Letter.pdf; Mining Permit Area.kml; Background Information Document.pdf

Good day,

Receive warm greetings from Singo Consulting (Pty) Ltd.

**Singo Consulting (Pty) Ltd** has been appointed as an independent Environmental Assessment Practitioner by **Jaments (Pty) Ltd** to manage the Environmental Authorisation process by conducting an Environmental Impact Assessment, Public Participation Process (PPP), and to compile a Basic Assessment Report & Environmental Management Programme report (BAR & EMPr) for the **Mining Permit Application** for the purpose of extracting **Coal** on **portion of portion 24 of the farm Weltevreden 227 IR**, situated under **Victor Khanye (Delmas)** District Municipality in **Mpumalanga** Province with **DMRE Ref: MP 30/5/1/1/3/13702 MP**.

May you kindly find the attached **Regulation map 2.2, Landowner notification letter, KML and Background Information Document (BID)** for detailed information about the proposed project. A **Registration and Comment Form** is included for you to register as an Interested and Affected Party and raise your comments and concerns. Kindly complete this form so we can address the comments in the **Basic Assessment Report and Environmental Management Programme report** that will be shared with you to review for **30 calendar days** commencing on the **15<sup>th</sup> of March 2023 to 17<sup>th</sup> of April 2023 (excluding public holidays)**. If you know anyone who might be interested or affected by this project, kindly forward this email to that person.

Should you need any clarity in relation to this project, please do not hesitate to contact me using the contact details provided below.

Kind regards

**Mazithi, Mangcu** Environmental Technician Intern *N.Dip: Environmental Management* Operation Hi Toka Hinkwaswo  
+27 74 884 1000 +27 13 692 0041  
mazithi@singoconsulting.co.za  
+27 86 514 4103  
www.singoconsulting.co.za  
Singo Consulting (Pty) Ltd  
Office 870, 5 Balalaika Street,  
Tasbet Park Ext 2,  
Witbank, 1040  
Protect & manage the best remaining environment

## Appendix 14: Screening Report

## **Appendix 15: Baseline studies**