PROPOSED RIETKOL MINING OPERATION

SOCIAL IMPACT ASSESSMENT REPORT

Social Impact Assessment includes the processes of analyzing, monitoring and managing the intended and unintended social consequences, both positive and negative, of planned interventions and any social change process invoked by those interventions.

08 Sep 2021

DIPHORORO DEVELOPMENT (Pty) Ltd

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REGULATED COMPLIANCE

In terms of the NEMA 2014 EIA Regulations contained in GN R982 of 04 December 2014 (as amended in 2017) all specialist studies must comply with Appendix 6 of the NEMA 2014 EIA Regulations (GN R982 of 04 December 2014). Table 1-1 show the requirements as indicated above.

Table 1-1: Legal Requirements for All Specialist Studies Conducted

LEGAL REQUIREMENT		RELEVANT SECTION IN SPECIALIST STUDY
(1)	A specialist report prepared in terms of these Regulations must contain-	
	details of-	
	the specialist who prepared the report; and	Chapter 2
	the expertise of that specialist to compile a specialist report including a curriculum vitae	Chapter 2
	a declaration that the specialist is independent in a form as may be specified by the competent authority;	Appendix A
	an indication of the scope of, and the purpose for which, the report was prepared;	Chapter 3
(cA)	an indication of the quality and age of base data used for the specialist report;	Chapter 4.3
(cB)	a description of existing impacts on the site, cumulative impacts of the proposed development and levels of acceptable change;	Chapter 7
	the duration, date and season of the site investigation and the relevance of the season to the outcome of the assessment;	Not applicable on the Social Environment
	a description of the methodology adopted in preparing the report or carrying out the specialised process inclusive of equipment and modelling used;	Chapter 4
	details of an assessment of the specific identified sensitivity of the site related to the proposed activity or activities and its associated structures and infrastructure, inclusive of a site plan identifying site alternatives;	Chapter 4 & 7
	an identification of any areas to be avoided, including buffers;	Chapter 7
	a map superimposing the activity including the associated structures and infrastructure on the environmental sensitivities of the site including areas to be avoided, including buffers;	Chapter 7.1
	a description of any assumptions made and any uncertainties or gaps in knowledge;	Chapter 4
	a description of the findings and potential implications of such findings on the impact of the proposed activity or activities	Chapter 7
	any mitigation measures for inclusion in the EMPr;	Chapter 7
	any conditions for inclusion in the environmental authorisation;	Chapter 9
	any monitoring requirements for inclusion in the EMPr or environmental authorisation;	Chapter 9
	a reasoned opinion	Chapter 10
	whether the proposed activity, activities or portions thereof should be authorised;	Chapter 10
	regarding the acceptability of the proposed activity or activities; and	Chapter 10
	if the opinion is that the proposed activity, activities or portions thereof should be authorised, any avoidance, management and mitigation measures that should be included in the EMPr, and where applicable, the closure plan;	Chapter 7, 9 & 10
	a description of any consultation process that was undertaken during the course of preparing the specialist report;	Chapter 4
	a summary and copies of any comments received during any consultation process and where applicable all responses thereto; and	Public Participation CRR
	any other information requested by the competent authority.	None

1 INTRODUCTION

Consol Glass (Pty) Limited (Consol) was the holder of a prospecting right over portions of Olifantsfontein 196 IR and Rietkol 237 IR. Consol commenced with an internal restructuring process of its mining interests in terms of the Mineral and Petroleum Resources Development Act (MPRDA), 2002 (Act 28 of 2002) in 2013. The restructure included the establishment of Apex Silica Mining (Pty) Ltd (Apex Silica) and Nhlabathi Minerals (Pty) Ltd (Nhlabathi). Following the restructuring process, Consol gave consent to Nhlabathi to apply for a Mining Right over the area to which it held the prospecting right for the Rietkol Mining Operation (referred to as the Rietkol Project).

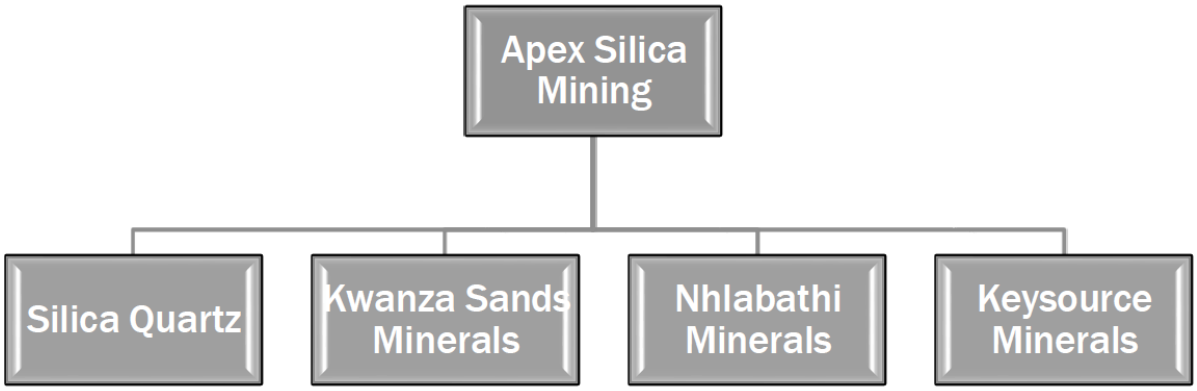

Figure 1-1: Company Structure

Nhlabathi applied for a Mining Right to mine silica in February 2018 and commenced with the Environmental Impact Assessment (EIA) process as contemplated in the National Environmental Management Act 107 of 1998 (NEMA) and Government Notice (GN) No. R. 982-986 of 4 December 2014: NEMA: EIA Regulations, as amended, for the Rietkol Project.

Several specialist studies were conducted within the Mining Right Application (MRA) area in support of the EIA process, and a comprehensive Public Participation process was initiated. The Final Scoping Report was submitted on 3 April 2018 and accepted by the Department of Mineral Resources and Energy (DMRE) on 26 April 2018. However, the MRA was rejected by the DMRE Mpumalanga Mine Economics Directorate on the basis that the MRA formed part of another right granted in terms of the MPRDA. This decision resulted in a delay in the EIA process, ultimately causing the application for Environmental Authorisation to lapse.

After research by DMRE officials and Nhlabathi employees, it was established that the prior right on which basis the MRA was rejected, was the prospecting right registered over the properties held by Consol. Consol submitted a letter to the DMRE on 8 June 2018 granting Nhlabathi the consent to proceed with the MRA to remedy the situation. As a result, the DMRE withdrew the refusal letter by issuing an acceptance letter on 12 September 2018. Nhlabathi could, therefore, continue with the EIA process. However, on 31 August 2018, Mineral Resources and Energy Minister Gwede Mantashe closed the Mpumalanga DMRE Office until further notice, with the result that DMRE accepted no new applications for Environmental Authorisation. The DMRE Office was only re-opened for business on 5 August 2019. Following the re-opening of the DMRE Office, Nhlabathi has re-initiated the MRA process and applied for a Mining Right over the same farm portions in early 2020. The DMRE accepted the MRA on 21 January 2021, and Nhlabathi has since re-initiated the EIA process with Jacana Environmentals cc (Jacana) appointed as the independent Environmental Assessment Practitioner (EAP).

Consol has appointed Jacana to apply for Integrated Environmental and Water Use Authorisation for the Rietkol Project in terms of the National Environmental Management Act (NEMA), 1998 (Act 107 of 1998), the 2014 Environment Impact Assessment (EIA) regulations, the National Environmental Management: Waste Act (NEMWA), 2008 (Act 59 of 2008) and the National Water Act (NWA), 1998 (Act 36 of 1998), as amended. The integrated application for Environmental Authorisation (EA) and the Waste Management Licence (WML) was submitted to the DMRE on 18 March 2021, the Competent Authority (CA), for any mining and related activities.

As part of the Environmental Impact Assessment, a Social Impact Specialist Study was commissioned. This report contains the Social Impact Assessment (SIA) for the proposed project area and is compiled to satisfy the requirements for the following legal processes:

- The Mining Right Application (MRA) to the DMR in terms of the MPRDA;
- The Integrated Environmental Authorisation Application to the DMR in terms of the NEMA and the 2014 Environmental Impact Assessment (EIA) regulations;
- The Waste Management License Application to DMR in terms of the NEMWA and its regulations; and
- The Integrated Water Use License Application (IWULA) to the Department of Water and Sanitation (DWS) in terms of the NWA.

2 SPECIALIST DETAILS AND EXPERTISE

Social Scientist	Diphororo Development (Pty) Ltd
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2.1 Lizinda Dickson

Lizinda Dickson has 23 years of practice and experience in Social and Socio-Economic Impact Assessments for various mining, agricultural, and sport and water sector projects. Her qualifications include a Masters' Degree in Environmental Management & Analysis (in progress). Other diplomas include Database management, ArcGIS 8 and PlanetGIS. She has conducted studies for institutions and companies such as Anglo Platinum, Impala Platinum, Xstrata, Coal of Africa, Optimum Coal, BHP Billiton, Target Holdings, Platinum Australia, Chromex, Barrick SA, Department of Human Settlement, Department of Water Affairs, Department of Environmental Affairs, various District Municipalities and Local Municipalities. Lizinda's expertise range from Environmental Aspects, Land use, Spatial Planning, Socio-economic Assessment and Management, GIS mapping, Risk assessments, Resettlement Management, complex Stakeholder and Community Engagement strategies to overall project management of complex projects.

Lizinda Dickson compiled the Socio-economic Impact Assessment. The assessment is based on independent research and analysis of the proposed project and the specialist has no business, financial, personal or other interest in the activity proceeding other than remuneration for work performed as defined under “independent” in Chapter 1 of the Environmental Impact Assessment Regulations, 2014 (as amended in 2017).

Please refer to her CV attached as Annexure B.

2.2 Carien Joubert

Carien Joubert has 35 years of practice and experience in Social and Socio-Economic Impact Assessments. She is a specialist in Social and Behaviour Sciences primarily where Social Change occurs. Carien has a unique understanding of various cultures and social behaviours and has valuable experience in the mining industry addressing complex social impact and management issues. Her expertise in these fields ranges from various successful projects implemented across the mining, water, and development sectors. Carien is a very charismatic woman, and her skill in strategy development and planning serves her with excellent situational cognizance on the overall project implementation.

Carien Joubert co-authored the Socio-economic Impact Assessment. The assessment is based on independent research and analysis of the proposed project, and the specialist has no business, financial, personal or other interest in the activity proceeding other than remuneration for work performed as defined under “independent” in Chapter 1 of the Environmental Impact Assessment Regulations, 2014 (as amended in 2017).

Please refer to her CV attached as Annexure B.

3 PROJECT DESCRIPTION

3.1 Project Locality

The Rietkol Project is located in Wards 8 and 9 of the Victor Khanye Local Municipality within the Nkangala District Municipality of Mpumalanga Province. Delmas/Botleng are approximately 6 km east and Eloff 4 km south of the MRA area. The Rietkol Project is located strategically close to major roads in the area, including the N12 (to the north-west), R50 (to the north-east) and R555 (to the south). The Springs/Durban Transnet Freight Rail (TFR) railway line is situated to the south, alongside the R555.

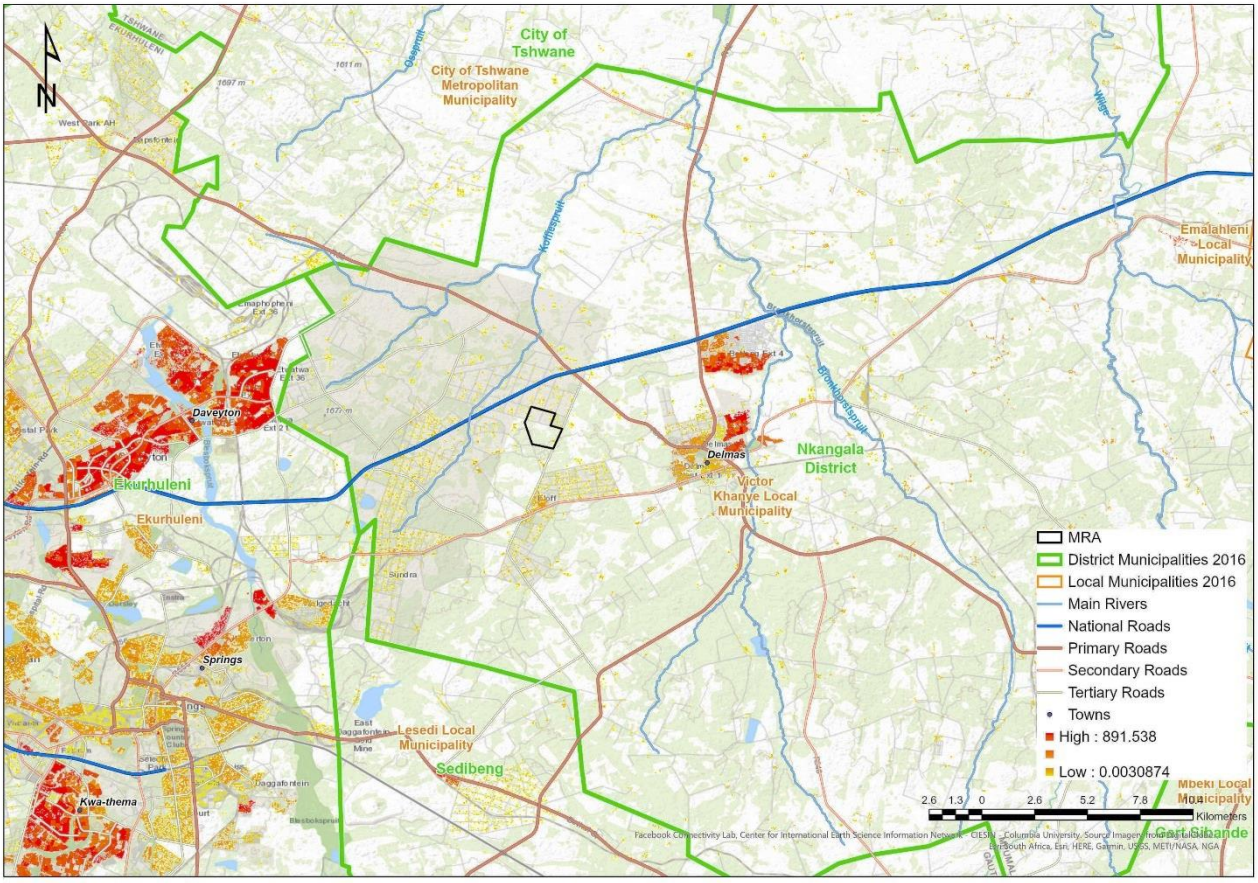


Figure 3-1: Institutional Map

The Rietkol MRA covers an area of 221 ha consisting of:

- 16 Modder East Agricultural Holdings (AHs) on the farm Olifantsfontein 196 IR, each approximately 4.1 ha in extent;
- Portion 71 of the farm Rietkol 237 IR; and
- A portion of Remaining Extent (RE) of portion 31 of the farm Rietkol 237 IR.

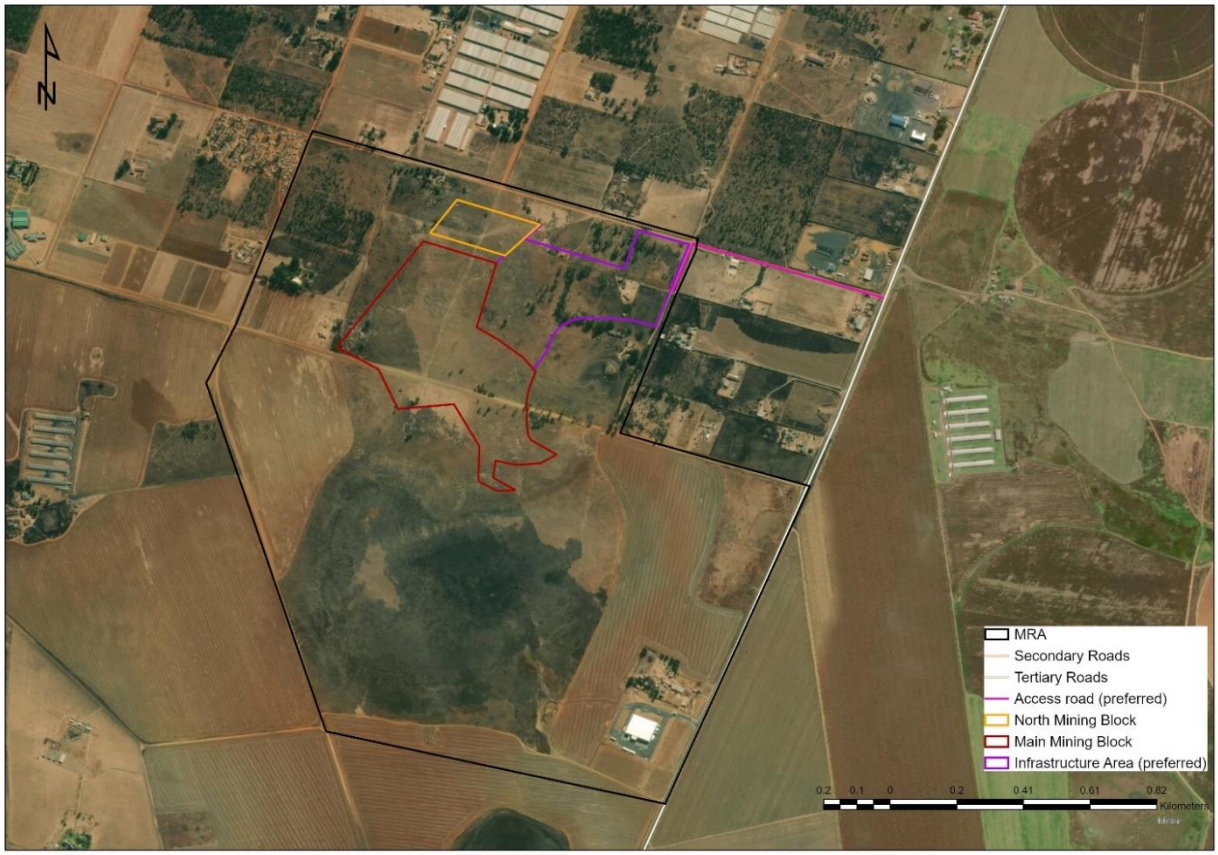


Figure 3-2: Rietkol Project Layout

Landownership of the properties affected by the proposed Rietkol Project is presented in the figure below indicating the main landowners in a 1km radius surrounding the proposed project area. Land use is mixed between agriculture, light industrial and commercial use.

Table 3-1: Proposed Project Area Landowners Table

PROPERTY NAME	PORTION DESCRIPTION	REGISTERED LANDOWNER	TITLE DEED NUMBER
Modder East Orchards AH	Holding 209	Consol Glass (Pty) Ltd	T11927/2019
Modder East Orchards AH	Holding 210	Consol Glass (Pty) Ltd	T8896/2019
Modder East Orchards AH	Holding 211	Willem Christoffel Meyer	T1558/2019
Modder East Orchards AH	Holding 212	Consol Glass (Pty) Ltd	T1558/2020
Modder East Orchards AH	Holding 213	Johanna Elizabeth van der Walt	T171746/2005
Modder East Orchards AH	Holding 214	Consol Glass (Pty) Ltd	T5414/2018
Modder East Orchards AH	Holding 215	Veizaj Sokol	T13546/2008
Modder East Orchards AH	Holding 216	Bheki & Lorraine Mthethwa	T116099/2006
Modder East Orchards AH	Holding 217	Consol Glass (Pty) Ltd	T2918/2019
Modder East Orchards AH	Holding 218	Consol Glass (Pty) Ltd	T7171/2019
Modder East Orchards AH	Holding 219	Consol Glass (Pty) Ltd	T7171/2019
Modder East Orchards AH	Holding 220	Consol Glass (Pty) Ltd	T2918/2019
Modder East Orchards AH	Holding 221	Consol Glass (Pty) Ltd	T2918/2019
Modder East Orchards AH	Holding 222	Consol Glass (Pty) Ltd	Pending
Modder East Orchards AH	Holding 223	Consol Glass (Pty) Ltd	T2918/2019
Modder East Orchards AH	Holding 224	Consol Glass (Pty) Ltd	Pending
RIETKOL 237 IR	Portion 31	Rossouw Christiaan Le Cordeur	T16617/1993
RIETKOL 237 IR	Portion 71	Rossouw Pluimvee-Eiers (Pty) Ltd	T1885/2018

3.2 Open Pit Mining

Silica will be mined through an opencast bench mining method. The benches will be mined at a width of 30m and a height of 5m. The final mining depth will be between 30 and 50 mbs. Mining will commence in the northern portion of the MRA area and will progress in a south-easterly direction. Drilling and blasting of the rock face will be conducted on a predetermined schedule following projected volumes of production and will be undertaken by blast professionals and the required safety procedures applied.

The mining method will include:

- Vegetation and topsoil will be stripped ahead of mining. At least one cut (30m) should already be stripped and available for drilling between the active topsoil stripping operation and the open void;
- The topsoil will be loaded onto dump trucks by excavators and hauled to areas that require rehabilitation;
- Drilling operations will commence in the front of the advancing pit after the topsoil has been removed;
- The blasted RoM will be stockpiled with excavators; and
- Thereafter RoM will be transported to the crushing plant using haul trucks with a loading capacity of approximately 40 tons.

Access ramps will be located along the eastern pit limit and are laid out within the orebody to minimize the mining of waste. The North Block will be mined for the first 3 years of Life of Mine (LOM) in a northern direction, commencing from Block S04. Block S04 is the deepest, and the ore body floor slopes up to the outcrop in Block S01. The ore from Block S04 will be used as a strategic stockpile in readiness for plant start-up.

Once Block S04 has been mined out, a void exists to dump the tailings from the washing plant from about YR2 onwards. Since it is the deepest portion of the block, the water will not negatively impact the mining operation of S03, S02 and S01. The void created by mining the North Block will accommodate tailings for the first 16 years of mining.

Once the North block has been mined out, mining in the Main Mining Block will commence in YR4, in a southernly direction up to Block 14 in YR20. The barrier between North Block and the Main Mining Block is 30m.

Various machinery and vehicles will be used in the pit and transport the RoM to the crushing plant. The equipment includes excavators, front-end loaders, and ADT’s.

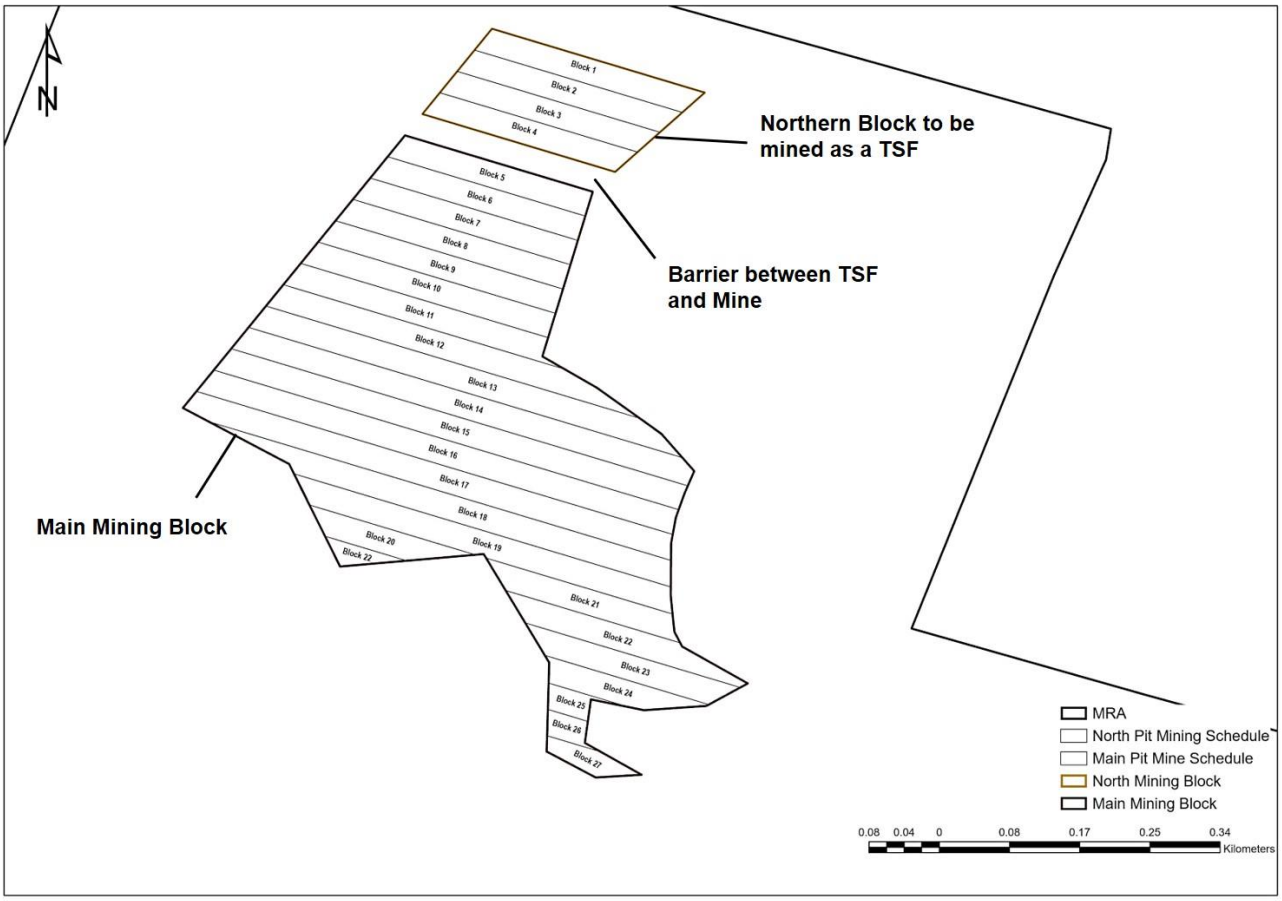


Figure 3-3: Plan view of the mining blocks

Slimes will be pumped into the North Block and will form part of the rehabilitation process. As most of the material mined is processed and removed from the site as product, backfilling of the Main Block to a free-draining state will not be possible. Therefore, the final rehabilitation plan allows for the backfilling of all the remaining material and building rubble into the pit area, sloping the high-wall areas, and establishing a recreational area within the Main Block final void area per the agreement with the stakeholders and authorities.

At the end of LOM, all infrastructure that has a beneficial post-mining use will be retained. The remaining infrastructure and buildings will be demolished, and building rubble will be placed in the pit. The cleared areas will be ripped and levelled before topsoil is placed and the area is re-vegetated. Inert reject material will be placed in the open pit area, and the sides of the pit will be sloped and revegetated.

3.3 The Processing Plant

The processing plant comprises of crushing, screening, washing and drying operations. Amber and flint sand will not go through the dryer plant.

- **Crushing**: RoM is fed to the crushing plant by tipping it into a feed chute feeding a grizzly screen which screens the RoM before the oversize material is crushed. The crushed RoM is fed via conveyor to a screen. The oversize material is fed with a conveyor to a jaw crusher which crushes the material to the desired size. River sand product is stockpiled (undersize) while the oversize together with a recycle stream and the

crushed product is discharged into a chute. The final crushing plant screen consists of varying screening panels to yield different grades of material which are used as feed stocks for the various wash plant products.

- **Wash Plant**: Various products are produced in the wash plant using crusher feed stock. Depending on the category and quality requirement, additional crushing, screening, and hydro-sizing equipment are employed.

- **Screening Process**: A vibratory feeder feeds the feedstock onto a conveyor, which discharges the material onto a grizzly screen that cuts the desired size. The material from the grizzly screen is wet screened on the main screen. The oversize from the first screen is discharged onto the dewatering screen containing a mixture of screening panels (arranged in increasing aperture size in the direction of flow). The oversize material from the second screen is fed to a vertical shaft impactor from where the material is further crushed, which is then recycled and recombined with the raw feed. The slurries collected underneath the first screen and the front section of the dewatering screen gravitate into a pot in which slimes overflow to the thickener pot. The underflow is pumped, dewatered, and stacked with a separator on the product stockpile. The overflow from the separator returns to the pot below the screens. The material collected in the collection pan at the rear section of the dewatering screen gravitates into another pot. Slimes are removed in the overflow to the thickener pot, and the underflow is pumped to a separator, dewatered, and stacked onto the Filter Product stockpile. Finally, the overflow from this separator returns to a pot. All the overflows from the various pots in the screening and hydro-sizing plants combine into a pot from where it is pumped to the thickener.

- **Screening with Hydro-sizing Process**: Feedstock is fed onto a conveyor with a vibratory feeder that combines with the recycled oversize material from the dewatering float glass screen onto a single conveyor. This feeds the vertical side impactor (VSI) that crushes the -40mm feed to 100% passing 5mm. The crushed material from the VSI is fed onto the main screen consisting of only 1mm screening panels, and the oversize from the screen is discharged onto the dewatering screen, which consists of 1mm panels in the front and 4 rows of panels with 5mm apertures at the rear section of the screen. The material screened out in the main and dewatering screens is collected and discharged into a pot. This pot is pumped to a dewatering cyclone where the solids are dewatered in preparation for further washing. The cyclone overflow is returned to the pot under the main screen, and the overflow from this pot is gravity fed to the thickener. The cyclone underflow comprises the feed to the primary classifier where an upward flow of water achieves the D50 cut size of 665µm. The underflow of the cyclone gravity feeds to a pot from where the underflow is dewatered with a separator and stacked as a filter product. The overflow of the separator is returned to another pot and the overflow from this pot gravitates to the thickener pot. The overflow from the first classifier gravitates into a secondary classifier of which the D50 cut size is 75µm. The underflow of this classifier is fed into a pot from where the underflow is pumped to and dewatered with a separator and stacked as the final product. The overflow of the separator is returned to a pot, and the overflow from the pot gravitates to the thickener return pot. Finally, the overflow from the secondary classifier flows into a pot, the underflow of which is pumped to a dedicated separator, dewatered, and stacked onto the chemical sand product stockpile. The separators overflow is returned to the pot, and the overflow from this pot feeds into the tailings facility (open pit).

- **Dryer Plant**: After being dried in the respective stockpiles to a moisture content of 5%, amber and float glass filter products are fed with a tunnel conveyor into a silo from which it is fed to driers with vibratory feeders. The energy required to dry the material to the desired moisture content of less than 1% is obtained

by combusting a heavy hydrocarbon fuel blend. The combusted fuel (flue gas) heats the filter sand, thereby evaporating the moisture associated with the sand. Flue gas exits the drier, and entrained dust is removed in a dust suppression system before the gas is discharged into the atmosphere. According to product specifications, the dried filter product is discharged from the drier onto conveyors and is stockpiled in the dry sand shed before being sized in the screening plant. Material that is not fed through the driers is placed on drying beds adjacent to the plant. Water run-off from the drying beds is collected in a sump and channelled to the process water dam located to the southwest of the plant for re-use in the plant. The dried filter sand is fed using a conveyor to the dry screening plant, where it is sized into fractions through vibratory screens following product specifications.

3.4 Project Infrastructure

Currently, little infrastructure exists to service the planned mining activities, and most of the infrastructure requirements will be established as part of the planned mining operation. The infrastructure components and layout are presented in Figure 3-4.

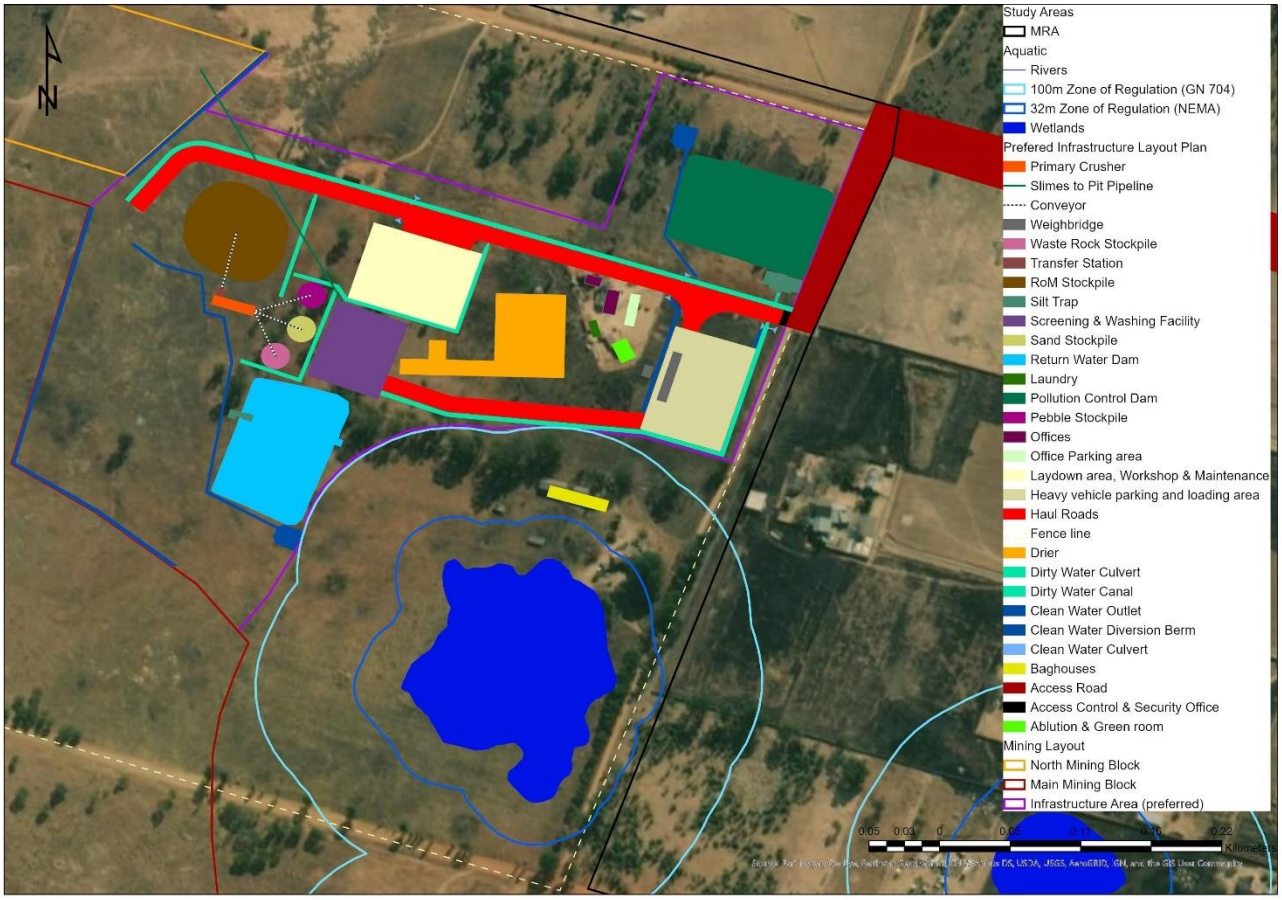


Figure 3-4: Roads and Transport

3.4.1 Roads and Transport

- Mine traffic: The vehicle traffic related to the mine includes:
  - Transport of staff to and from work working on a three (3) shift rotation per day;
  - Routine maintenance of equipment, site vehicles and production equipment;

- Transport of fuel and on-site refuelling;

- Management and visitor transport and supervision activities; and
- Transport of final product to the markets, estimated at approximately 36 trucks (one-way) per day, at highest production levels (worst-case scenario).
- Product will be transported from Monday through to Sunday during daylight hours

Table 3-2: Transport Trips

Type of vehicle	**Estimated Vehicle Movements (round trips)**		
	Per day	**Per month**	**Per annum**
Product Transport			
Tippers (40 ton)	54	1620	19440
33-ton tipper and flatbed vehicles	4	120	1440
Flatbed Trucks	10	300	3600
Tankers	4	96	1152
Light vehicle traffic	16	350	4200
Busses	12	360	4320
Deliveries	3 trips per week	12	120
Other (Customers, etc)	2	44	528
Total	**101 - 103**	**2 902**	**34 800**

Access to the site will be gained via the N12 and the R50. From the R50, access to the site will be via Provincial Road D1550, a paved secondary provincial road. This road will be upgraded to handle the additional traffic associated with the proposed mining project. From the D1550, the mine will be accessed via an existing gravel road turning off the D1550 just north of AH 276. Similarly, this gravel road will be upgraded to carry the additional traffic load. Formal access will be constructed to the pit and the infrastructure as the development progresses.

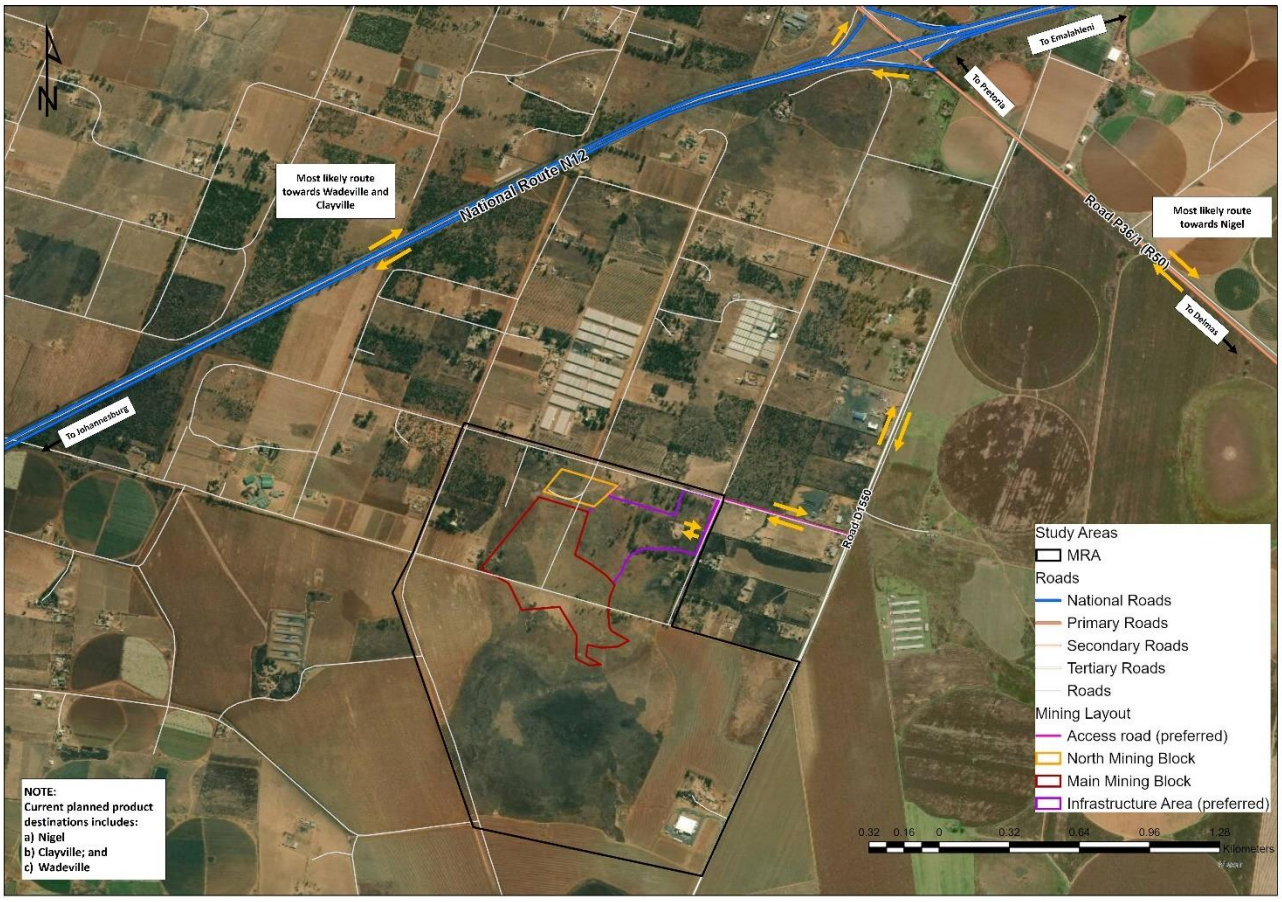


Figure 3-5: Site access and product transport routes

3.4.2 Bulk Electricity

An 11 kV electricity supply line is located on the northern boundary of the MRA area, and discussions with Eskom is underway to connect to this supply line. Generators will be installed to supplement Eskom power where required.

3.4.3 Bulk Water

- Potable water will be used in the change houses and the offices. The potable water demand has been calculated at between 150 and 200 litres/person/day. At full production, a peak demand of 20 m^3/day of potable water will be required.

- Limited water is consumed during processing, and all processing water will be recycled. However, there will be a loss of approximately 20% through moisture in the product and evaporation. Water for processing and dust suppression will be obtained from the open pit (groundwater influx) and the existing boreholes within the MRA area.

3.4.4 Stormwater management

The overall objective of storm water management at the MRA area will be to isolate contaminated areas from clean runoff, thereby minimising contaminated runoff and preventing pollution of water resources. Process water will be recycled for reuse in the process plant. Except for limited chemicals used in the thickener plant, no other chemicals are added during the beneficiation process. The material mined is inert and poses a low water quality risk. Only the workshop area where maintenance of vehicles and machinery takes place has been identified as a dirty water area. Run-off from the site will be managed to limit siltation of the surrounding water

sources.

3.4.5 Waste Management

- **Mine Residue:** Tailings will be backfilled into the open pits, and no surface tailings facilities are planned. The void created by mining the North Block will be utilized to dump tailings for the first 16 years of mining. From YR17 onwards, the tailings will be dumped into the Main Block. A berm of 2m will separate the tailings disposal area from the active mining operations to the south.

- **Non-Mining Waste**:
  - Sewage: The only sewage expected to be generated on the mine is from the ablution facilities and washrooms at the infrastructure area. The wastewater and greywater originating from the change houses and laundry will drain into a modular calcamite septic tank system that will need to be emptied twice a week. The wastewater flows are based on 150 people, at 70ℓ/person/day as per SABS 1993. The septic tank will need a capacity of 42 000 ℓ. It is recommended to install a 44 500 ℓ modular calcamite tank to allow additional storage.
  - General and hazardous waste: Upon approval of the project, the mine will appoint a dedicated approved and registered waste contractor to manage the non-mining waste generation and safe disposal. These could include domestic waste, hazardous waste, fluorescent tubes, glass and plastics, chemicals, medical waste, scrap metal, building rubble and used tyres. The different waste streams will be segregated and disposed of in appropriate designated receptacles. All waste will be disposed off-site at approved landfill sites. No landfill site will be established on the Rietkol Project site.

3.5 Social and Human Resource Aspects

3.5.1 Human Resources and Development

It is envisaged that the Rietkol Project will employ 100 people at full production. The nature of the operations requires employees who are all skilled to operate safely and effectively. Due to the nature of the operations, a Mine Manager and Government Certificated Engineer will be appointed.

Table 3-3: Employee Numbers (MWP, 2019)

Year	YR 01	YR 02	YR 03	YR 04 onwards
Employees	96	100	100	100
Construction contractors	100	50	50	
Total	196	150	150	100

The Rietkol Project will create a peak of approximately 100 temporary job opportunities at authorisation and commencement of construction. Within the first year of mining, there is an opportunity to create approximately 100 permanent positions once production reaches a steady state. In addition, about 40 - 50 workers will be employed by support consultants. Nhlabathi will employ people from the local community as a priority, provided sufficient skills are available within the surrounding communities.

Consol Glass is currently receiving quantities of glass sand from an existing mine in the Delmas area, where the available product will be in short supply in the next decade. About 30% of the output of the three processing units in Gauteng at Wadeville, Clayville and Nigel, depend on glass sand. In practical terms, a reasonable possibility exists that some employment opportunities can be lost if the Rietkol Project does not go ahead. It is estimated that about 550 people currently employed by the glass-making industry will probably have to be laid off if additional glass sand resources are not secured. Thus, the Rietkol Project can sustain approximately 550 existing employment opportunities within the glass-making industry in addition to the direct employment opportunities.

As part of the Social and Labour Plan (SLP), Nhlabathi plans to implement a comprehensive workforce development plan through adult basic education and training, core business training, artisan training, learnerships, bursaries and internships programmes. These will be supported by career-path planning and mentorship.

3.5.2 Local procurement and SMME opportunities

Local communities will be enabled and provided with opportunities to participate in contracts and other new businesses that would become available during the construction and operational phases.

3.5.3 Community Development

Nhlabathi is committed to optimising opportunities in the local communities through the implementation of the SLP. To further support local communities, Nhlabathi proposes a Local Economic Development (LED) project and support to small business development. Nhlabathi proposes the implementation of a school infrastructure and support project over the first 5 years of mining. The proposed projects and the SLP budget must however still be approved by the DMR, and SLP implementation will only commence once the DMRE has decided on the granting of the Mining Right.

Furthermore, Nhlabathi is committed to supporting business initiatives by providing opportunities, assistance, and support to SMME’s and new HDSA business ventures. Various 100% black-owned and operated SMME companies are earmarked for further development at the Rietkol Project through the Enterprise Development Programme.

3.5.4 Downstream socio-economic benefits

Most of the silica is earmarked for the domestic market, including the glass-making industry. The glass-making industry is a significant contributor to the national GDP and employment and provides further economic opportunities downstream of the mine and factories, including the bottling and container glass industries (wine, soda, and beer) and building and float glass industries.

3.6 Development Alternatives Considered

The following alternatives were considered as part of the Social Impact Assessment:

- Site Location Alternatives: No site location alternatives have been considered as mining can only be undertaken in areas where economically mineable resources occur. The Rietkol resource was established through extensive prospecting and geological modelling over many years.

- Technology Alternatives - Mining methodology: The orebody or resource always dictates the selection of a mining method. The silica resource at the Rietkol Project is shallow, with various outcrops occurring on the proposed mining footprint. Mining will take place to a depth of 30 m with potential resource up to 50 mbs and opencast mining is, therefore, the only viable mining methodology.

- Technology Alternatives - Mine residue disposal methodology: The mine schedule allows for mining in North Block to be mined within a short time. Slimes (tailings) will be pumped into the mined-out void. The alternative is to construct surface tailings facilities within the infrastructure area. The in-pit disposal of tailings material is more environmentally friendly. Thus, in-pit disposal of the mine residue (tailings) is deemed positive in terms of groundwater quality management, visual impact (no residual surface tailings dams) and the general biodiversity of the area. Backfilling of the North Block also allows for full rehabilitation of this area back to grazing capability. Surface tailings facilities were therefore not considered further.

- Design or Layout Alternatives - Surface infrastructure layout and placement: Infrastructure to support the Rietkol Project has been laid out and engineered to best suit the topography and mining pit layouts, as well as the relatively small footprint of the MRA area. The initial infrastructure layout was informed by aquatic resources (wetlands), land use and capability, heritage resources, and existing infrastructure. The total area of disturbance of the initial layout amounts to approximately 26.6 hectares (ha). Following baseline studies, an alternative option for the infrastructure layout and placement was proposed to avoid placement of new infrastructure development within the 100m buffer of the hillslope seep wetland to the south and reduce the infrastructure footprint and associated dirty water management areas. The total area of disturbance of the preferred layout alternative amounts to approximately 25 hectares (ha).

- The access road from D1550 to infrastructure area: Two alternative access routes are available from the D1550 to the mine infrastructure area. The southern access road is a wide gravel road that will require minimum upgrading and, from an economic perspective, is thus the more viable option. The southern access road passes through the hillslope wetlands to the east of the MRA area, as well as between the southern depression and the northern artificial hillslope seep situated to the south of the infrastructure area. The ecological impact assessment indicated that it is highly likely that the Giant Bullfrog will occur within and around the non-cultivated areas of the large wetland in the southern portion of the MRA area and the hillslope wetlands to the north and east of this depression wetland. The proposed mining activities will result in increased traffic frequency, which will inevitably result in a higher risk of the Giant Bullfrog mortality rates associated with vehicles. Thus, where possible, the roads between the large wetland systems should not be used for heavy traffic movement, particularly during peak breeding seasons or following events of high rainfall when bullfrogs emerge from aestivation (Scientific Aquatic Services (SAS), 2018). From a biodiversity perspective and the potential impact on the protected Giant Bullfrog, the southern access route is not considered viable. The northern access route is thus considered the preferred option.

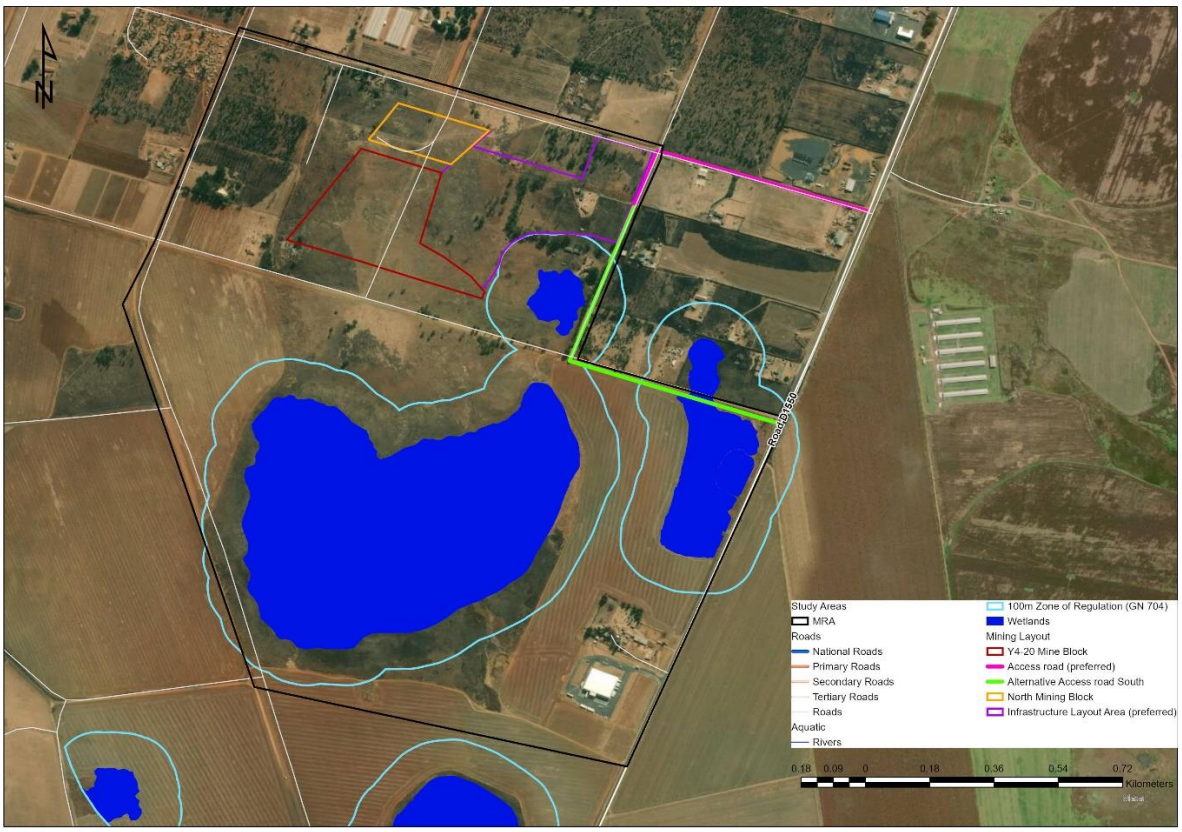


Figure 3-6: Alternative options for mine access

- The alternative not to proceed with the development (No-Go Option) is also considered. The main consequence of this option is the loss of opportunity to develop a high-quality mineral resource with an estimated LOM of 20 years which has the potential for increased economic benefits on local, provincial, and national level in terms of employment and the contribution to the GDP. Furthermore, most of the silica is earmarked for the domestic market, including the glass-making industry. The glass-making industry contributes to the national GDP and provides further economic opportunities downstream of the mine and factories. Other socio-economic benefits that will be lost include the skills development opportunities, community development projects proposed in the SLP and local procurement and SMME opportunities.

No alternative site locations have been considered as mining can only be undertaken in areas where economically mineable resources occur. The relatively small size of the MRA area and the occurrence of wetlands further limit the potential for alternative sites.

In terms of the analysis of alternatives as noted in the Scoping Report, the preferred infrastructure layout has been selected to have the least environmental impact and is presented in the figure below.

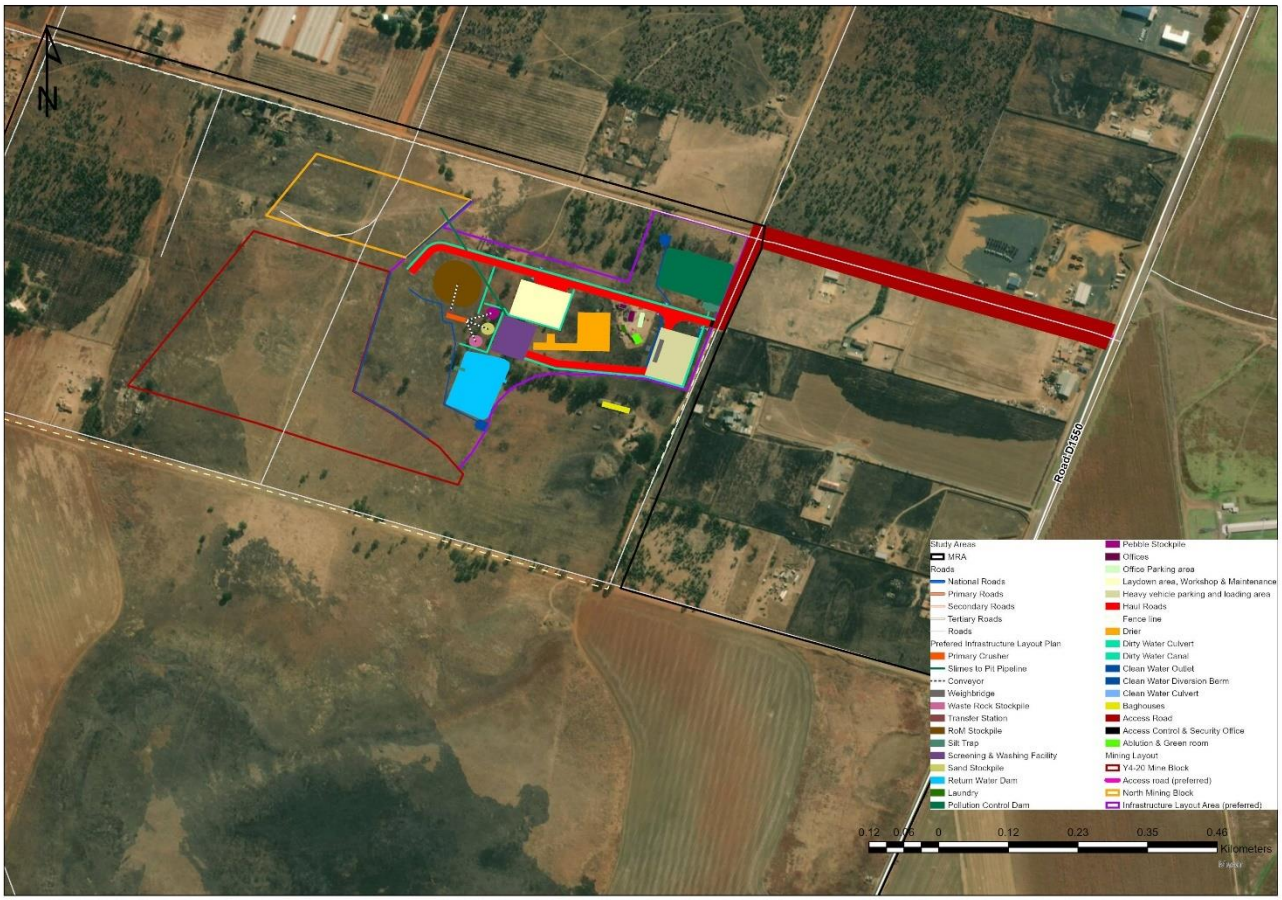


Figure 3-7: Preferred Infrastructure Layout Plan

4 METHODOLOGY

4.1 Study Scope of Work

The overall objective of the SIA is to identify and analyze the potential impacts of the proposed project, gather sustainable development opportunities, and mitigate the negative impacts. The purpose of the SIA is to:

- Engage relevant stakeholders (as far as possible);
- Provide a detailed description and analysis of the socio-economic baseline situation;
- Provide an assessment to identify both positive and negative socio-economic impacts;
- Propose mitigation and management methods;
- Provide an assessment based on collected baseline data to identify positive and negative socio-economic impacts at both local and national level;
- Propose management methods to optimize positive impacts and mitigate negative impacts from the project throughout the project lifetime; and
- Develop Social Management Plans for implementation.

The scope of the study included:

- **Scoping Phase**: The scoping phase focused on desk-based information obtained from a variety of policies, plans, statistics, reports, case studies and guidelines, and any existing or previous studies conducted in the

social environment. During this phase, initial and potential issues and impacts were identified, and a plan of study was compiled. This phase aimed to understand the socio-economic context and possible receptor communities in the study area and propose an approach to address the identified issues. The process involved the compilation of the Social baseline report that was included in the Scoping Report.

- **Impact Assessment Phase**: The SIA phase involved further research through a literature review and primary research based on surveys and interviews with key stakeholders and communities. The data collection conducted is detailed under the methodology below. The spatial scope was considered, and a definition of the potential area of influence was determined and linked to potential issues and impacts. The duration of construction and the operational design life of the proposed project were also considered. Drawing on the data collected, both primary and secondary, professional judgement was applied to undertake the SIA.
-

4.2 Study Zone Delineation

The SIA was conducted based on evaluating social networks, livelihoods and land use activities in three study zones. By utilising satellite imagery, aerial photography, and landowners' data, these aspects have been mapped in the various study areas. The study areas include a) the MRA area, b) an area located within 500m around the MRA area, and c) an area located between 500m and 1km around the MRA area. Apart from these immediate study areas, the SIA also considered the provincial and regional social environment. The figure below indicates the study areas:

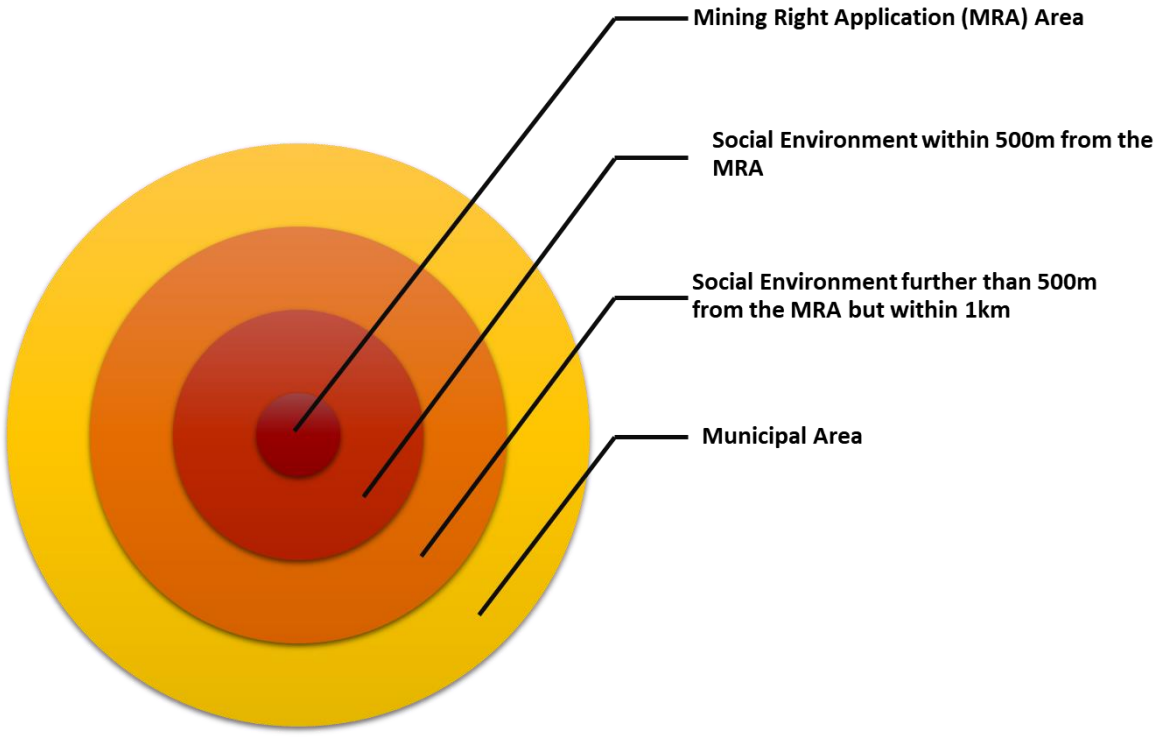


Figure 4-1: Study Zone Delineation

The thematic map below indicates the delineation of the study areas:

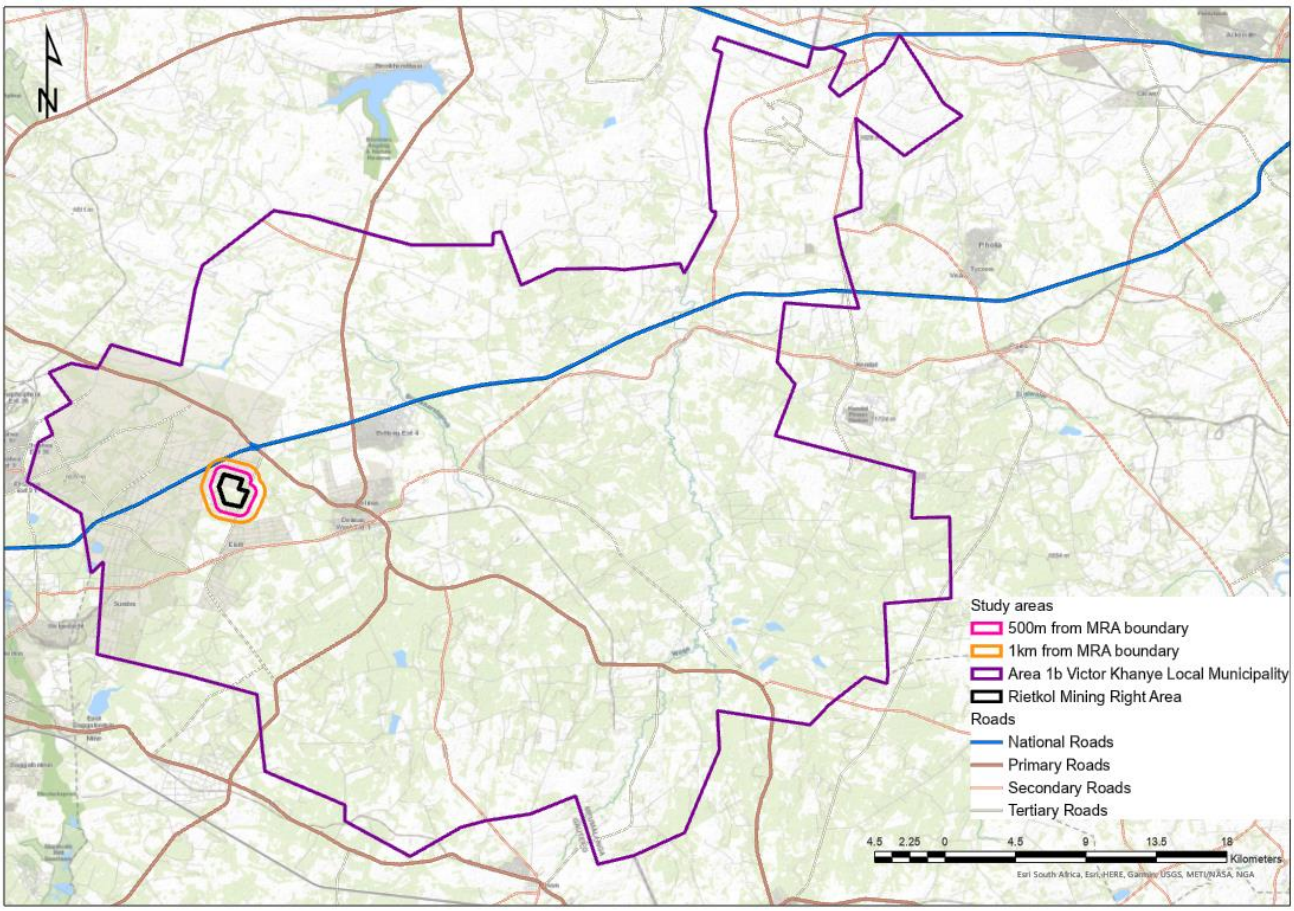


Figure 4-2: Study Areas Thematic Map

4.3 Sensitive Receptors

Available information, orthophotos and satellite imagery were utilised to identify sensitive receptors. The following sensitive receptors have been included in the SIA:

- Residential areas (towns, rural & labour houses)
- Agricultural residences and infrastructure
- Labour tenants or land occupants
- Existing mining activities and Power Stations
- Surface water and boreholes
- Heritage resources

The figure below indicates the sensitive receptors identified.

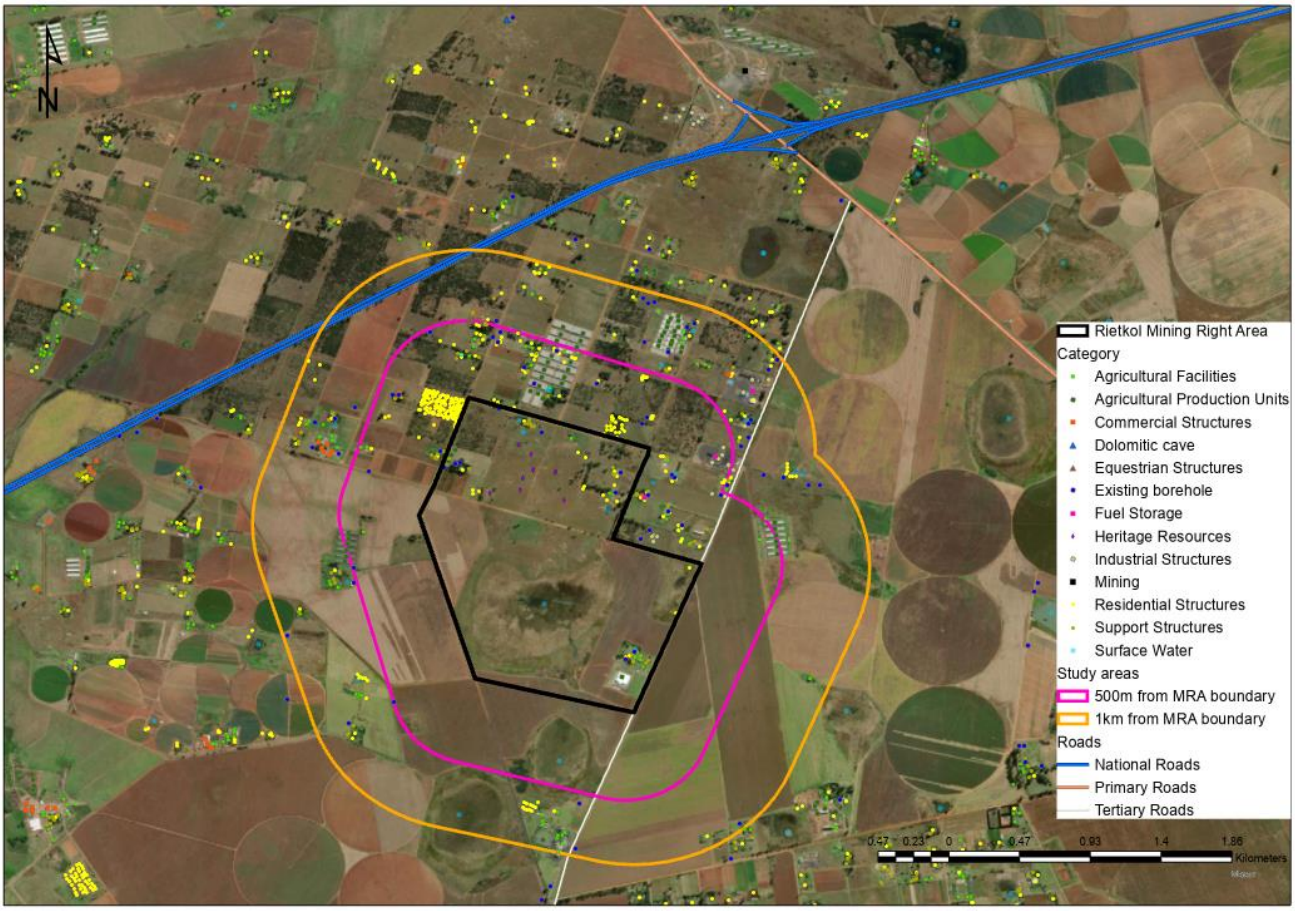


Figure 4-3: Sensitive Receptors

4.4 Data Collection

The data collection in support of the impact assessment included the following activities:

4.4.1 Review of Socio-economic and Planning Documents and Data

To document the socio-economic context of the study area, several important documents or sources of information were reviewed, referenced, and used to inform this SIA:

- Mpumalanga Provincial Growth and Economic Development Strategies
- Mpumalanga Tourism Growth Strategy / Master Plan
- Mpumalanga Provincial and District Spatial Development Frameworks
- District and Local Integrated Development Plans
- Census 2011 or ,the Community Survey 2016 data, where available. Census data for 2016 is not available electronically up to ward level from Statistics South Africa.
- Other Socio-economic Assessment (SEA) for similar projects
- Maps and available orthophotos and satellite imagery of the proposed project area and surrounding environment

4.4.2 Literature Review

A literature review has been undertaken and focused on best practices derived from case studies sourced from academic journals and studies available on the internet or the media. See references for a list. Additional

documents such as planning documents, which substantiate the baseline profile or provide context to the project, have been referred to where relevant. This provided a conceptual framework for designing the empirical data collection and interpretation.

4.4.3 Field Research and Interviews

A complete house-to-house survey was done on the land occupants/settlements near the MRA area in 2018 and again in 2021 (see Appendix C for the survey form). A total of 63 households were surveyed that reside on agricultural holdings 152. In 2018 a survey was conducted on tenants that resided on Holdings 226, 227 and 230, these tenants have subsequently moved away and are therefore no longer included under the settlement analysis.

A Socio-economic Assessment Questionnaire (see Appendix D for the questionnaire) was compiled and distributed amongst landowners within a 1km radius around the MRA area. Landowners were requested to complete the questionnaire and return it to the specialist. The figure below indicates the surveys received from landowners.

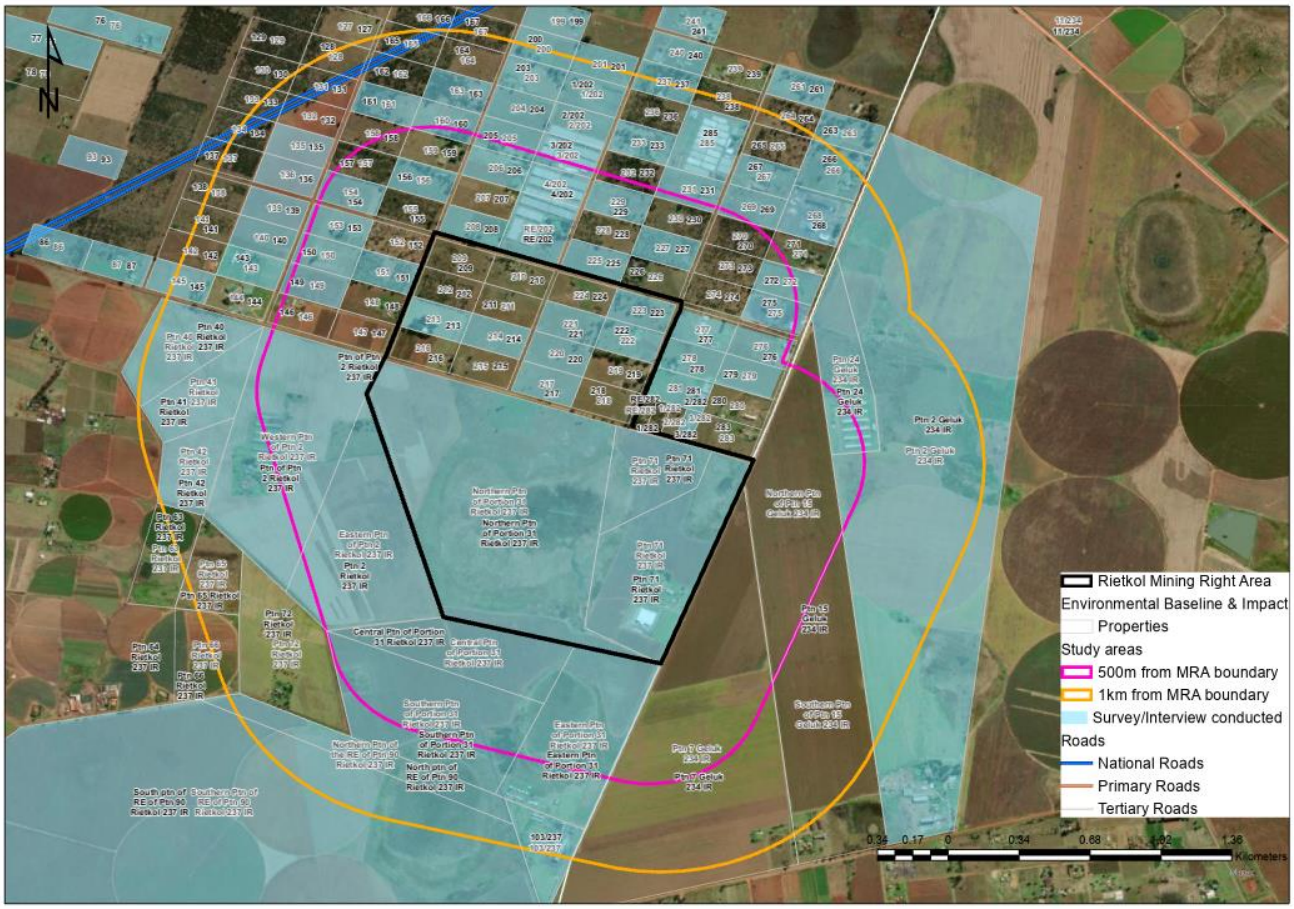


Figure 4-4: Social Surveys

4.4.4 Site Visits and Observations

Direct observation, such as site visits or photographic records, are descriptive records developed by outside or participant-observers. It captures free-form impressions, going beyond the limitations of previously defined

categories, and interactions are observed in a natural setting. Site visits were undertaken in March 2016 – August 2016, and again in May 2021. Observations were also made whilst on-site or into the broader study area, and these have supplemented the other findings.

4.4.5 Sensitivity Mapping (Interaction between Environmental and Socio-economic Impacts)

The specialist impact assessments that have a potential direct impact on the health and well-being and livelihoods of the sensitive receptors in the area were considered during the social sensitivity mapping exercise, namely the air quality, ambient noise, blasting and groundwater impact assessments.

The criteria used for the sensitivity mapping were determined in conjunction with the various specialists and are based on the following:

- Legal requirements and applicable standards and/or guidelines;
- Impact modelling results as presented in the specialist reports;
- Recommendations made by the specialists in respect of mitigation; and
- Experience of the specialists involved.

In respect of air quality and noise the worst case was assumed, i.e., without the implementation of any mitigation measures. For blasting it was assumed that the revised blasting design recommended in the specialist report will be implemented and refined as monitoring data becomes available.

To determine the potential socio-economic impact associated with the proposed Rietkol Project, the properties within the overall impact zone were classified into five categories, namely:

- Direct (land take) impact zone: These properties are directly impacted by the proposed infrastructure and mining layouts and need to be purchased to facilitate mining. Existing land use on these properties will cease.
- Combined high impact zone: These properties will have a high impact during some stage of the proposed mining in respect of air quality, noise, and blasting. If appropriate mitigation measures cannot be implemented to reduce the impacts below the acceptable standards, these properties will probably have to be purchased and existing land use will cease. Monitoring must be implemented to determine the impacts over the LOM and the need for land take.
- Combined moderate to high impact zone: These properties will have a high to moderate impact in respect of air quality, noise, and blasting. No sensitive receptors occur within these zones and existing land use will be able to continue. Monitoring must be implemented to determine the impacts over the LOM.
- Combined moderate impact zone: These properties will have a moderate impact in respect of air quality and noise, with the potential for some structural damages due to uncontrolled air blast events. Land use will be able to continue. In the event of any damage, compensation should be negotiated with the mine, which may lead to a financial impact on the mine.
- Low impact zone: No detrimental social or economic impacts are expected on properties within this zone and existing land use will be able to continue. Some nuisance impacts may be experienced.

Any properties situated outside the overall impact zone should not have any risks to its health and well-being and/or livelihoods. It is important to note that this risk classification doesn't consider potential nuisance impacts/risks as these are considered subjective and depend on individual perceptions which cannot be

scientifically substantiated at this moment. The predicted impacts should be confirmed with monitoring over the LOM and further impact modelling as appropriate.

The criteria used to determine the risk classification of individual properties are tabled below for individual aspects. If more than one aspect is applicable to a specific property, the higher risk classification was chosen.

Table 4-1: Criteria used for socio-economic risk classification of properties within impact zone

Air quality / Noise	Blasting	Risk classification
Property wholly or partially within high zone, with existing sensitive receptors within this zone	Property wholly or partially within exclusion zone, with existing sensitive receptors within this zone	High
Property wholly or partially within high zone, with no existing sensitive receptors within this zone	Property wholly or partially within exclusion zone, with no existing sensitive receptors within this zone	Moderate - High
Property wholly or partially within moderate zone, with existing residential sensitive receptors within this zone		Moderate
Property wholly or partially within moderate zone, with no existing residential sensitive receptors within this zone		Low
Property wholly or partially within low (nuisance) zone, with existing residential sensitive receptors within this zone		
Property wholly or partially within low (nuisance) zone, with no existing residential sensitive receptors within this zone		Insignificant

4.5 Social Impact Assessment and Mitigation

Social impact analysis is done to identify potential changes in the social environment triggered by specific drivers:

- Change in Land use, Cover and Ownership
- Resource Consumption & Ecosystem Services
- Potential Pollution (Air, Vibration, Noise, Water and Visual)
- Goods, Staff, and Transport
- Need of Human Resources and Recruitment

The change process in the Social Environment can typically be categorized as any of the following change processes:

- Demographic processes
- Socio-economic processes
- Geographic processes
- Institutional and legal processes
- Emancipatory and empowerment processes
- Socio-cultural processes
- Biophysical processes

The objectives of the mitigation measures are:

- To describe an action plan to achieve the mitigation measures identified during the impact assessment.
- To make recommendations on a monitoring programme to review the success of the mitigation measures and to provide information to the relevant decision-makers.

The potential significance of every social impact identified is determined by using a ranking scale, based on the terminology from the Department of Environmental Affairs and Tourism, 2006 (DEAT, 2006) guideline document.

The report serves to define and quantify possible impacts and its significance in a coherent and descriptive manner.

4.5.1 Types of Impacts

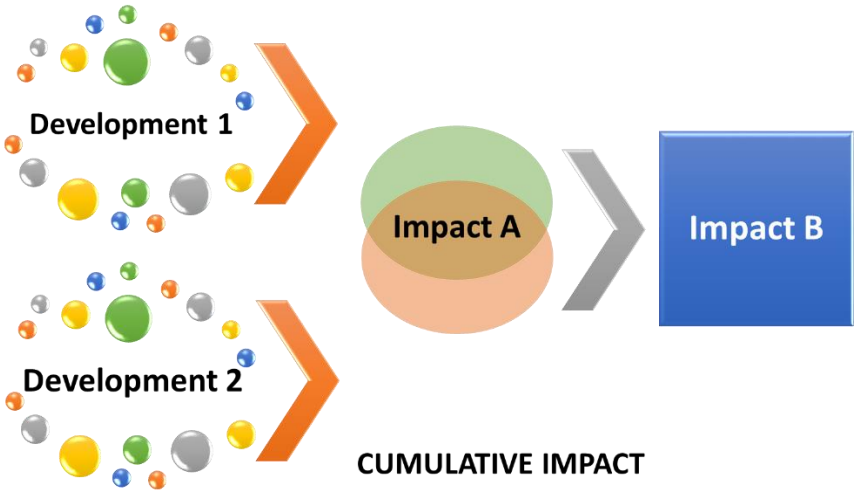
In addition to direct impacts that can be experienced as a direct result of a development, impacts can be divided into the following categories: indirect impacts, cumulative impacts and impact interactions (European Commission, 2001). All these categories of impacts need to be considered when conducting a SIA (or any other type of impact assessment for that matter). These categories of impacts will be explained further in the sections that follow.

4.5.1.1 Indirect impacts

Indirect impacts are impacts, which are not a direct result of the project, often produced away from or as a result of a complex pathway. It is sometimes also referred to as second or third level impacts, or secondary impacts (European Commission, 2001). Indirect/secondary impacts are caused by direct/primary impacts and often occur later than and/or further away from the occurrence of direct impacts (DEAT, 2006). An example of an indirect impact is the construction of a new road, resulting in improved access to facilities, with the indirect impact being an increase in school attendance because learners can get to school more easily. Human Rights Impacts are also indirect impacts.

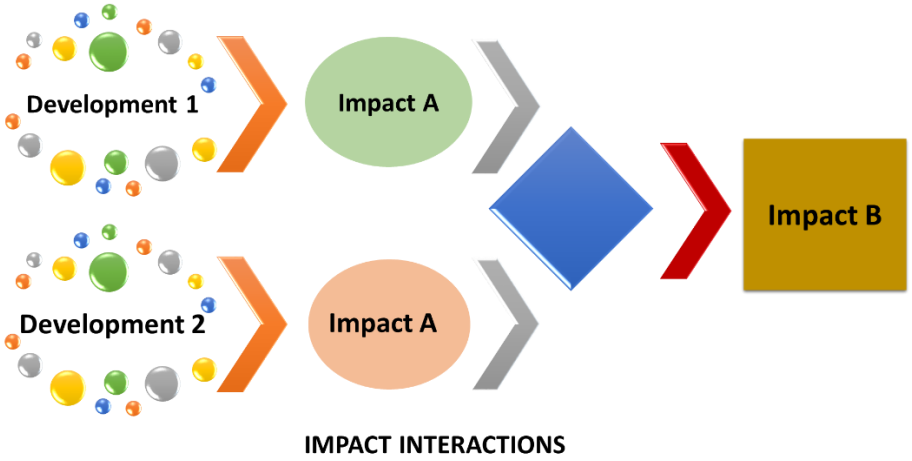
4.5.1.2 Cumulative impacts

Cumulative impacts are impacts that result from incremental changes caused by other past, present or reasonably foreseeable actions together with the project (European Commission, 2001). Cumulative impacts result from other impacts of other past, present or future developments. It reflects how the impacts of one project may affect and be affected by other projects and can be seen as the sum of the proposed action plus past and present activity in the same area (DEAT, 2006), for example the construction of several new facilities for the generation of power across the country, resulting in a significant increase in availability of electricity in Eskom's power grid (as opposed to the construction of one solar plant, for example, which will in isolation not have a significant impact on the grid).



4.5.1.3 Impact interactions

Impact interactions are the reactions between impacts, whether between the impacts of just one project or between the impacts of other projects in the area (European Commission, 2001). An impact interaction can for example be the construction of a new clinic in a community on the one hand, resulting in access to quality healthcare, and the installation of a sewage system in the area where there was none, on the other hand, resulting in access to proper sanitation. Both the impacts (access to quality healthcare and access to proper sanitation) will lead to people in the community being healthier and perhaps having a higher life expectancy as a result.



4.5.2 Assessing the Weight of Socio-economic Impacts

According to the EIA Regulations, 'significant impact means an impact that by its magnitude, duration, intensity or probability of occurrence may have a notable effect on one or more aspects of the environment'. In line with the Regulations, and based on the qualitative findings of the activities undertaken, each potentially significant impact has been assessed with regard to:

- the nature of the impact
- the extent of the impact
- the duration of the impact
- the intensity/magnitude of the impact
- the probability of the impact occurring
- the weight of significance

- the significance of the impact without mitigation
- the mitigation efficiency
- the significance of the impact with mitigation

4.5.2.1 Status of Impact (S)

The impacts are assessed as either having a:

- Negative effect (i.e. at a 'cost' to the environment),
- Positive effect (i.e. a 'benefit' to the environment), or
- Neutral effect on the environment.

4.5.2.2 Extent of the Impact (E)

CATEGORY	RATE	DESCRIPTOR
Site	1	Site of the proposed development
Local	2	Limited to site and/or immediate surrounds (500m zone of influence)
District	3	Local Municipal area
Region	4	District Municipal area
Provincial	5	Mpumalanga Province
National	6	South Africa
International	7	Beyond South African borders

4.5.2.3 Duration of the Impact (D)

The length that the impact will last for is described as either:

CATEGORY	RATE	DESCRIPTOR
Temporary	1	0 – 1 years
Short term	2	1 – 5 years
Medium term	3	5 – 15 years
Long term	4	Where the impact will cease after the operational life of the activity either because of natural process or by human intervention
Permanent	5	Where mitigation either by natural processes or by human intervention will not occur in such a way or in such a time span that the impact can be considered as transient

4.5.2.4 Intensity / Magnitude of the Impact (M)

The intensity or severity of the impacts is indicated as either:

CATEGORY	RATE	DESCRIPTOR
Insignificant	1	Where the impact affects the environment is such a way that natural, cultural and social functions and processes are not affected. Localised impact and a small percentage of the population is affected
Low	2	Where the impact affects the environment is such a way that natural, cultural and social functions and processes are affected to a limited extent
Medium	3	Where the affected environment is altered in terms of natural, cultural and social functions and processes continue albeit in a modified way
High	4	Where natural, cultural or social functions or processes are altered to the extent that they will temporarily or permanently cease
Very High	5	Where natural, cultural or social functions or processes are altered to the extent that they will permanently cease and it is not possible to mitigate or remedy the impact

4.5.2.5 Probability of Occurrence (P)

The likelihood of the impact actually occurring is indicated as either:

CATEGORY	RATE	DESCRIPTOR
Rare	1	Where the impact may occur in exceptional circumstances only

CATEGORY	RATE	DESCRIPTOR
Improbable	2	Where the possibility of the impact materialising is very low either because of design or historic experience
Probable	3	Where there is a distinct possibility that the impact will occur
Highly probable	4	Where it is most likely that the impact will occur
Definite	5	Where the impact will occur regardless of any prevention measures

4.5.2.6 Ranking, Weighting and Scaling

The weight of significance defines the level or limit at which point an impact changes from low to medium significance, or medium to high significance. The purpose of assigning such weights serves to highlight those aspects that are considered the most critical to the various stakeholders and ensure that the element of bias is taken into account. These weights are often determined by current societal values or alternatively by scientific evidence (norms, etc.) that define what would be acceptable or unacceptable to society and may be expressed in the form of legislated standards, guidelines or objectives.

The weighting factor provides a means whereby the impact assessor can successfully deal with the complexities that exist between the different impacts and associated aspect criteria.

Table 2: Description of assessment parameters with its respective weighting

SPATIAL EXTENT	DURATION	INTENSITY / SEVERITY	PROBABILITY	WEIGHTING FACTOR	SIGNIFICANCE RATING (SR - WOM) PRE-MITIGATION	MITIGATION EFFICIENCY (ME)	SIGNIFICANCE RATING (SR-WM) POST MITIGATION
Site (1)	Short term (1)	Insignificant (1)	Rare (1)	Low (1)	Low (0 – 19)	High (0.2)	Low (0 – 19)
Local (2)	Short to Medium term (2)	Minor (2)	Unlikely (2)	Low to Medium (2)	Low to Medium (20 – 39)	Medium to High (0.4)	Low to Medium (20 – 39)
District (3)							
Regional (4)	Medium term (3)	Medium (3)	Possible (3)	Medium (3)	Medium (40 – 59)	Medium (0.6)	Medium (40 – 59)
Provincial (5)	Long term (4)	High (4)	Likely (4)	Medium to High (4)	Medium to High (60 – 79)	Low to Medium (0.8)	Medium to High (60 – 79)
National (6)							
International (7)	Permanent (5)	Very high (5)	Almost certain (5)	High (5)	High (80 – 110)	Low (1.0)	High (80 – 110)

4.5.2.7 Significance of the Impact without Mitigation (SWOM)

Following the assignment of the necessary weights to the respective aspects, criteria are summed and multiplied by their assigned weightings, resulting in a value for each impact (prior to the implementation of mitigation measures).

Equation 1:

Significance Rating (WOM) = (Extent + Intensity + Duration + Probability) x Weighting Factor

4.5.2.8 Effect of Significance on Decision-makings

Significance is determined through a synthesis of impact characteristics as described in the above paragraphs. It provides an indication of the importance of the impact in terms of both tangible and intangible characteristics. The significance of the impact "without mitigation" is the prime determinant of the nature and degree of mitigation required. The table below will determine whether the significance rating will have an effect on decision making or not.

RATING		DESCRIPTOR
Negligible	0	The impact is non-existent or insignificant, is of no or little importance to decision making.
Low	1-19	The impact is limited in extent, even if the intensity is major; the probability of occurrence is low and the impact will not have a significant influence on decision making and is unlikely to require management intervention bearing significant costs.
Low to Medium	20 – 39	The impact is of importance, however, through the implementation of the correct mitigation measures such potential impacts can be reduced to acceptable levels. The impact and proposed mitigation measures can be considered in the decision-making process
Medium	40 – 59	The impact is significant to one or more affected stakeholder, and its intensity will be medium or high; but can be avoided or mitigated and therefore reduced to acceptable levels. The impact and mitigation proposed should have an influence on the decision.
Medium to High	60 -79	The impact is of major importance but through the implementation of the correct mitigation measures, the negative impacts will be reduced to acceptable levels.
High	80 – 110	The impact could render development options controversial or the entire project unacceptable if it cannot be reduced to acceptable levels; and/or the cost of management intervention will be a significant factor and must influence decision-making.

4.5.2.9 Mitigation and Mitigation Efficiency

"Mitigation" is a broad term that covers all components of the 'mitigation hierarchy' defined hereunder. It involves selecting and implementing measures, amongst others protecting the users of the environment from adverse impacts as a result of mining or any other land use. The aim is to prevent adverse impacts from occurring or, where this is unavoidable, to limit their significance to an acceptable level. Offsetting of impacts is considered to be the last option in the mitigation hierarchy for any project.

The mitigation hierarchy in general consists of the following in order of which impacts should be mitigated:

- **Avoid/prevent impact**: Can be done through utilising alternative sites, technology and scale of projects to prevent impacts. In some cases, if impacts are expected to be too high, the "no project" option should also be considered, especially where it is expected that the lower levels of mitigation will not be adequate to limit socio-economic impacts.
- **Minimise (reduce) impact**: Can be done through utilisation of alternatives that will ensure that impacts on the socio-economic environment and eco-services provision are reduced. Impact minimisation is considered an essential part of any development project.
- **Manage (restore) impact**: Applicable to aspects where impact avoidance and minimisation are unavoidable where an attempt to re-instate impacted aspects and return them to conditions which are similar to the pre-project conditions.
- **Offset (compensate) impact**: Compensating for latent or unavoidable negative impacts on the socio-economic environment. Offsetting should take place to address any impacts deemed to be unacceptable which cannot be mitigated through the other mechanisms in the mitigation hierarchy.

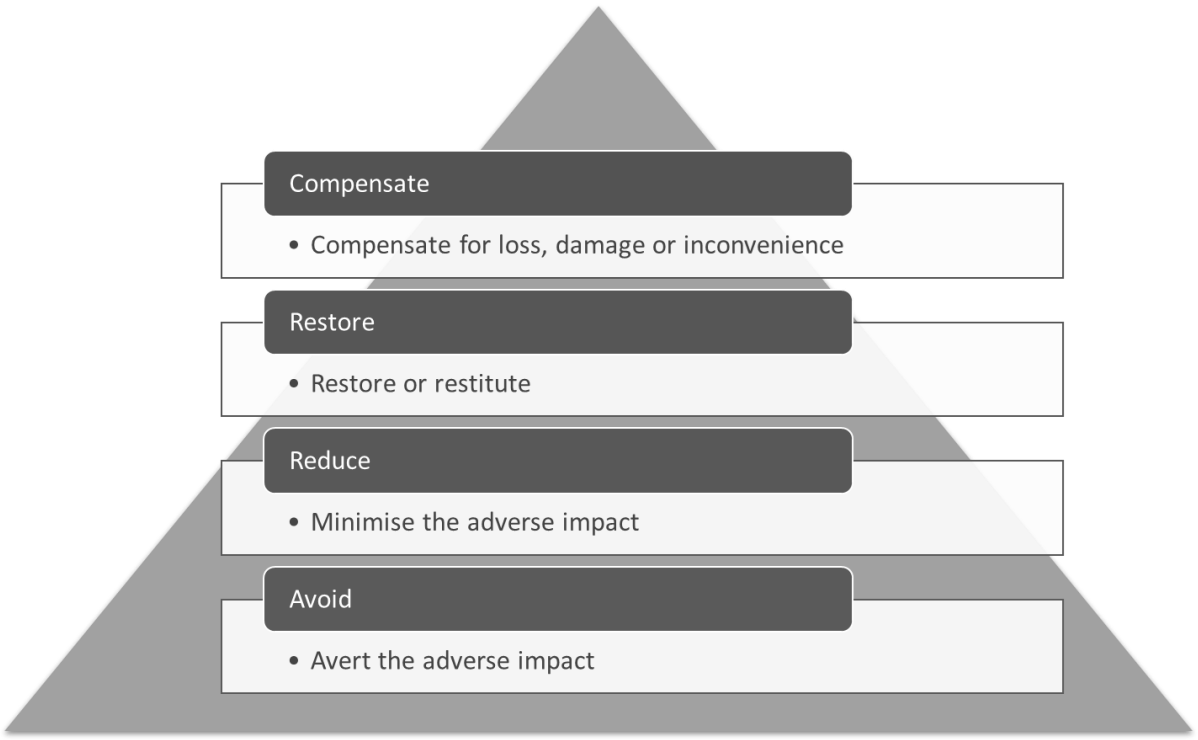


Figure 4-5: Mitigation Hierarchy

4.5.2.10 Mitigation Efficiency (ME)

The most effective means of deriving a quantitative value of mitigated impacts is to assign each significance rating value (WOM) a mitigation effectiveness (ME) rating. The allocation of such a rating is a measure of the efficiency and effectiveness, as identified through professional experience and empirical evidence of how effectively the proposed mitigation measures will manage the impact. Thus, the lower the assigned value the greater the effectiveness of the proposed mitigation measures and subsequently, the lower the impacts with mitigation.

Equation 2:

Significance Rating (WM) = Significance Rating (WOM) x Mitigation Efficiency (ME)

Mitigation Efficiency is rated out of 1 as follows:

CATEGORY	RATE	DESCRIPTOR
Not Efficient (Low)	1	Mitigation cannot make a difference to the impact
Low to Medium	0.8	Mitigation will minimize impact slightly
Medium	0.6	Mitigation will minimize impact to such an extent that it becomes within acceptable standards
Medium to High	0.4	Mitigation will minimize impact to such an extent that it is below acceptable standards
High	0.2	Mitigation will minimize impact to such an extent that it becomes insignificant

4.5.2.11 Significance Following Mitigation (SFM)

The significance of the impact after the mitigation measures are taken into consideration. The efficiency of the mitigation measure determines the significance of the impact. The level of impact is therefore seen in its entirety with all considerations taken into account.

4.6 Social Monitoring and Management Plans

As part of the Environmental Management Programme (EMPr) it is recommended that Social Monitoring and Management Plans be compiled which will serve as a mitigation policy and management plan for the impacts on the social environment.

4.7 Limitations and Assumptions

4.7.1 Assumptions

Strategic importance of the project and no-go option: It is assumed that the strategic importance of the project is supported by the national and provincial government and therefore their policies.

Technical suitability: It is assumed that the Rietkol Project as identified by Consol represents a technically suitable site, and the best possible location for the Silica mine based on the technical information available to them.

Fit with planning and policy requirements: Legislation and policies reflect societal norms and values. The legislative and policy context therefore plays an important role in identifying and assessing the potential Social Impacts associated with a proposed development. In this regard a key component of the SIA process is to assess the proposed development in terms of its fit with key planning and policy documents. As such, if the findings of the study indicate that the proposed development in its current format does not conform to the spatial principles and guidelines contained in the relevant legislation and planning documents, and there are no significant or unique opportunities created by the development, the development cannot be supported. However, the study recognizes the strategic importance of silica and the technical, spatial and land use constraints required for such facilities.

4.7.2 Limitations

Information available: This study was carried out with the information available to the specialists at the time of executing the study, within the available timeframe and budget. The sources consulted are not exhaustive and additional information, which might strengthen arguments or contradict information in this report, might exist. Information was requested from landowners on more than one occasion, and although a number of landowners responded, some did not provide the specialist with information on their land use activities and socio-economic situation. In these cases, land use was judged on available desktop and observation records, and socio-economic information was estimated (i.e., employees, income, wages, etc.).

Evidence-based Approach: The specialists did endeavor to take an evidence-based approach in the compilation of this report and did not intentionally exclude scientific information relevant to the assessment.

Socio-economic Sensitive Environments: Areas that might yield socio-economic sensitivities have been identified through a desktop study utilising available Mapping, Orthophotos and Google Earth™. The areas that have been marked are the sensitive areas visible to the socio-economic specialists at the time of the study, which are in close proximity to the proposed project location under investigation.

Demographic data: The demographic data used in the study is largely based on the 2011 Census and where available the Community Survey of 2016. Census data for 2016 is not yet available from Statistics South Africa up to municipal and ward level. While this data does provide useful information on the demographic profile of the affected area, the data are dated and should be treated with care. Where possible, reference is made to the latest demographic data contained in local Integrated Development Plans and other documents. With regard to

the settlements in proximity to the project, a household survey was conducted to ensure accurate and updated data.

Sense of Place: Assessment of the impact on sense of place is based on the specialist's opinion as sense of place is a very personal experience and is not easily measurable. Information from the visual impact assessment was utilized to determine the impact.

Decommissioning Impacts: Socio-economic impacts associated with the eventual decommissioning of the mine at the end of its life are briefly discussed but are not subject to detail assessment. This omission is motivated by the fact that predictions concerning the characteristics of the receiving socio-economic environment at the time of decommissioning are subject to a large margin of error, thus significantly reducing the accuracy of the impact assessment.

5 LEGISLATIVE, POLICY AND PLANNING ENVIRONMENT

5.1 Introduction

Section 6 provides an overview of the legislative, policy and planning environment affecting the Rietkol Project. For the purposes of meeting the objectives of the SIA the list below includes the legislation, policy and planning documents that were reviewed. Summaries of these legislations and policies are not necessarily included in this report where relevance is low.

- International Best Practice
    - Equator Principles
    - International Finance Corporation Standards
    - Project Classification
    - Human Rights
- South African Legislation
    - The Constitution, Act 108 of 1996
    - The National Environmental Management Act, Act 107 of 1998 (NEMA)
    - National Water Act, Act 36 of 1998 (NWA)
    - National Heritage Resources Act, Act 25 of 1999 (NHRA)
    - Conservation of Agricultural Resources Act, Act 43 of 1983
    - Mine Health and Safety Act, Act 29 of 1996
    - Land Use Planning Ordinance, Ordinance 15 of 1985
    - Town Planning and Townships Ordinance, Ordinance 15 of 1986
    - Spatial Planning and Land Use Management Act (SPLUMA), Act 13 of 2013
    - Special Economic Zones Act, Act 16 of 2014
    - Promotion of Access to Information Act, Act 2 of 2000
    - Promotion of Administrative Justice Act, Act 3 of 2000
    - Broad Based Black Economic Empowerment Act, Act 53 of 2003
    - Restitution of Land Rights Act, Act 3 of 1996
    - Amendment of the Upgrading of Land Tenure Rights Act, Act 112 of 1991
    - Mpumalanga Land Administration Act, Act 5 of 1998
    - Transvaal Nature Conservation Ordinance, Ordinance 12 of 1983
    - Mpumalanga Nature Conservation Act, Act 10 of 1998
- Policies and Planning Documents
    - Mpumalanga Provincial Growth and Economic Development Strategy
    - Mpumalanga Tourism Growth Strategy / Master Plan
    - Mpumalanga Spatial Development Framework
    - Nkangala District and Victor Khanye Local Municipal Spatial Development Framework
    - Nkangala District and Victor Khanye Local Municipal Integrated Development Plan

5.2 International Best Practice

The most widely recognised and frequently applied set best practice standards pertaining to the assessment and management of social and environmental impacts are the Performance Standards (PS) on Social and

Environmental Sustainability, developed by the International Finance Corporation (IFC) in 2006. The IFC's Performance Standards form part of the Equator Principles.

The IFC's Performance Standards aim to manage social and environmental risks (and impacts) in order to enhance development opportunities in private sector financing in member countries eligible for financing (IFC, 2006 as amended in 2010). The emphasis is on the early identification of potential impacts associated with the project activities during the life cycle of the project, namely construction, operation, decommissioning and closure activities.

IFC Performance Standards define project proponents' roles and responsibilities for managing project activities and associated infrastructure and the requirements for receiving and retaining IFC support.

5.2.1 Basic Human Rights

The protection of basic human rights is first and foremost the responsibility of the state. However, in terms of international best practice, private sector companies are increasingly required to uphold and promote these basic rights. The statement below outlines the United Nations International Children's Education Fund (UNICEF) definition of human rights.

> **"Human rights are those rights, which are essential to live as human beings – basic standards without which people cannot survive and develop in dignity. They are inherent to the human person, inalienable and universal."**

Source: UNICEF, 2011

The UN's 'Protect, Respect and Remedy Framework for Business and Human Rights' (2010) underlines the corporate responsibility to protect human rights, address adverse impacts and provide greater access to remedies. The following key aspects of the UN Framework for Business and Human Rights apply to projects:

- **Respecting rights**: It is the responsibility of a company to respect human rights. This is often defined by social expectations and in part is a company's ''social license to operate''. A company cannot compensate for human rights harm by performing good deeds elsewhere and "doing no harm" may require positive steps such as policies, training and managing impacts.
- **Due diligence**: This concept describes the steps a company must take to become aware of, prevent and address adverse human rights impacts. At a minimum, a company should look at international bill of human rights and core conventions of the International Labour Organisation (ILO). Companies should consider three sets of factors, namely:
    - The country contexts, to highlight any specific human rights challenges they may pose.
    - What human rights impacts the project activities may have within that context.
    - Whether they might contribute to abuse through the relationships connected to their activities, such as with business partners, suppliers, State agencies, and other non-State actors. How far or how deep this process must go will depend on circumstances.
- **Policies**: Companies need to adopt a human rights policy.
- **Impact assessments**: Companies must take proactive steps to understand how existing and proposed activities may affect human rights.
- **Integration**: The integration of human rights policies throughout a company is essential as is leadership from the top to embed respect for human rights throughout a company and training to ensure consistency, as well as capacity to respond appropriately when unforeseen situations arise.

- **Tracking performance**: Monitoring and auditing processes permit a company to track on-going developments.
- **Sphere of influence**: The sphere of influence conflates two very different meanings of influence: one is impact, where the company's activities or relationships are causing human rights harm; the other is whatever leverage a company may have over actors that are causing harm. The first falls squarely within the responsibility to respect; the second may only do so in particular circumstances.
- **Complicity**: The corporate responsibility to respect human rights includes avoiding complicity, which refers to indirect involvement by companies in human rights abuses - where the actual harm is committed by another party, including governments and non-State actors. Due diligence can help a company avoid complicity.

5.3 Policy and Planning

5.3.1 South African Mining Charter

Focus on sustainable transformation of the mining industry. The Mining Charter seeks to achieve the following objectives:

- (a) To promote equitable access to the nation's mineral resources to all the people of South Africa;
- (b) To substantially and meaningfully expand opportunities for Historically Disadvantaged South Africans (HDSA) to enter the mining and minerals industry and to benefit from the exploitation of the nation's mineral resources;
- (c) To utilise and expand the existing skills base for the empowerment of HDSA and to serve the community;
- (d) To promote employment and advance the social and economic welfare of mine communities and major labour sending areas;
- (e) To promote beneficiation of South Africa's mineral commodities; and
- (f) Promote sustainable development and growth of the mining industry.

Social management and mitigation measures, developed as part of the SIA, is aligned to the Mining Charter.

5.3.2 National Strategy for Sustainable Development and Action Plan

The National Strategy for Sustainable Development and Action Plan (NSSD, 2012) is a proactive strategy that regards sustainable development as a long-term commitment, which combines environmental protection, social equity and economic efficiency with the vision and values of the country. It is a milestone in an ongoing process of developing support, and initiating and up-scaling actions to achieve sustainable development in South Africa (DEA, 2011) and has outlined the following strategic objectives:

- enhance systems for integrated planning and implementation;
- sustain ecosystems and use natural resources efficiently;
- move towards a green economy;
- build sustainable communities; and
- respond effectively to climate change.

5.3.3 National Spatial Development Perspective (NSDP)

The NSDP (2006) provides a framework for a focused intervention by the State in equitable and sustainable development. It represents a key instrument in the State's drive towards ensuring greater economic growth, buoyant and sustained job creation and the eradication of poverty. It provides:

- a set of principles and mechanisms for guiding infrastructure investment and development decisions;
- a description of the spatial manifestations of the main social, economic and environmental trends that should form the basis for a shared understanding of the national space economy; and
- an interpretation of the spatial realities and the implications for government intervention.

The Rietkol Project has taken municipal-level spatial planning into account where possible.

5.3.4 National Development Plan 2030

The National Development Plan aims to ensure that all South Africans attain a decent standard of living through the elimination of poverty and reduction of inequality by 2030. The National Development Plan: Vision for 2030 focuses on the following key priority areas:

- An economy that will create more jobs;
- Improving infrastructure;
- Transition to low carbon economy;
- Reversing the spatial effects of apartheid in urban and rural areas;
- Improving the quality of education, training and innovation;
- Quality health for all;
- Social protection;
- Building safer communities; and
- Reforming the public sector.

5.3.5 National Growth Path

The New Growth Path (Nkangala IDP, 2020) must provide bold, imperative and effective strategies to create the millions of new jobs that South Africa needs. It must also lay out a dynamic vision for how we can collectively achieve a more developed, democratic and equitable economy and society over the medium-term, in the context of sustainable growth. The shift to a New Growth Path will require the creative and collective efforts of all sections of South African society. It will require Leadership and strong governance. It takes account of the new opportunities that are available to us, the strength we have and the constraints we face. We will have to develop a collective National will and embark on joint action to change the character of the South African economy and ensure that the benefits are shared more equitably to all our people, particularly the poor.

The National Growth Path identifies 5 job drivers:

- Substantial Public investment in infrastructure both to create employment directly, in construction, operation and maintenance as well as the production of inputs, and indirectly by improving efficiency across the economy;
- Targeting more labour-absorbing activities across the main economic sectors-the Agricultural and Mining Value Chains, Manufacturing and Services;
- Taking advantage of new opportunities in the knowledge and green economies;
- Leveraging social capital in the social economy and the public service; and
- Fostering Rural Development and Regional Integration.

5.3.6 Mpumalanga Vision 2030

In line with the Mpumalanga Spatial Development Framework, the Mpumalanga Vision 2030 document (2012) formulated a spatial rationale for the province which is based on the following eight Key Drivers:

- Key Driver 1: Nodal Development
- Key Driver 2: Business, Commercial and Industrial Development
- Key Driver 3: Tourism Development
- Key Driver 4: Forestry Development
- Key Driver 5: Agricultural Development
- Key Driver 6: Mining and Energy Related Development
- Key Driver 7: Urban Development
- Key Driver 8: Rural Development

Key Drivers 1 to 6 are focused towards promoting economic development and job creation according to the space economy of Mpumalanga Province from which priority nodes / areas for economic development have been identified.

5.3.7 Mpumalanga Provincial Growth and Development Path

The Mpumalanga Economic Growth and Development Path (MEGDP, 2011) underpins the following two spatial strategic objectives:

- Actively promote and support economic growth and development in terms of the provincial economy, its linkages to the national and international economy and with an emphasis on provincial priorities such as targeted growth areas, priority sectors and corridors as well as developmental priorities such as employment and eradicating poverty.
- Facilitate and provide essential services in social and human development in areas such as health, education, social welfare, community safety and with an emphasis on human capital development including human resources development and skills development.

The MEGDP outlines the following pillars:

- Pillar 1: Job creation
- Pillar 2: Inclusive and shared economic growth
- Pillar 3: Spatial distribution
- Pillar 4: Sustainable human development
- Pillar 5: Environmental sustainability
- Pillar 6: Regional Coordination

The following main economic sectors have been identified key to spur economic growth and employment creation in Mpumalanga:

- Agriculture and forestry.
- Mining and energy.

5.3.8 Mpumalanga Spatial Development Framework (MSDF)

The MSDF (2018) has identified five spatial objectives:

- Connectivity and corridor functionality: Inclusive provincial, district, and local benefits and connectivity. Main relevant corridors include the Maputo N4 Corridor and the N17-N2 Corridor. The MSDF objective includes the leveraging of the N4 corridor to facilitate regional and provincial connectivity and the development of the existing corridors and building new linkage corridor to increase capacity and economic opportunities and ensure connectivity to the surrounding areas. Other objectives include the upgrade of tourism, and rural economy road networks with linkages to transportation corridors; the development of the public transportation network and corridor by emphasizing on passenger rail network, buses and taxis; and the decongestion of the coal haul roads and improvement of freight network.
- Sustainable Concentration and Agglomeration: The creation of an agglomeration economy that will enhance the provinces economic activities and thereby improving the livelihoods of the people. The objectives include to enhance economic competitiveness through economic growth and innovation centres; economic enabling of lower order growth centres in the province and economic decentralization; and diversify the economy through the exploitation of the fourth industrial revolution, developing the tourism sector and enhancing township economic development.
- Conservation and Resource utilization: Mpumalanga is a unique province as it has a wide range of biodiversity, mineral resources and good quality soils for agriculture. The main objectives include the protection of biodiversity and resource utilization; ensuring conservation of all water resources and catchment areas, promoting sustainable agriculture; promotion of a low carbon and climate resilient economy; climate change adaptation; and to optimally utilize the mining potential without compromising the long-term sustainability of the natural environment through the definition of special control mining areas.
- Livability and Sense of place: Livability has a great influence on the character and identity of places. The objectives include promotion of compaction and densification in urban areas through the application of designated nodes, densification and infill areas; sustainable development of human settlements; ensuring service delivery and infrastructure investments.
- Rural Diversity and transformation: Efforts geared towards rural transformation and creating sustainable rural livelihoods have been increasing especially through the Comprehensive Rural Development Programme (CRDP). The CRDP forms part of government's key strategic priorities. The objectives include to create Functional Rural Economic Zones (REZ) through rural restructuring and transformation, development of REZs, development of the rural economic sector, establishing rural economic linked infrastructure development

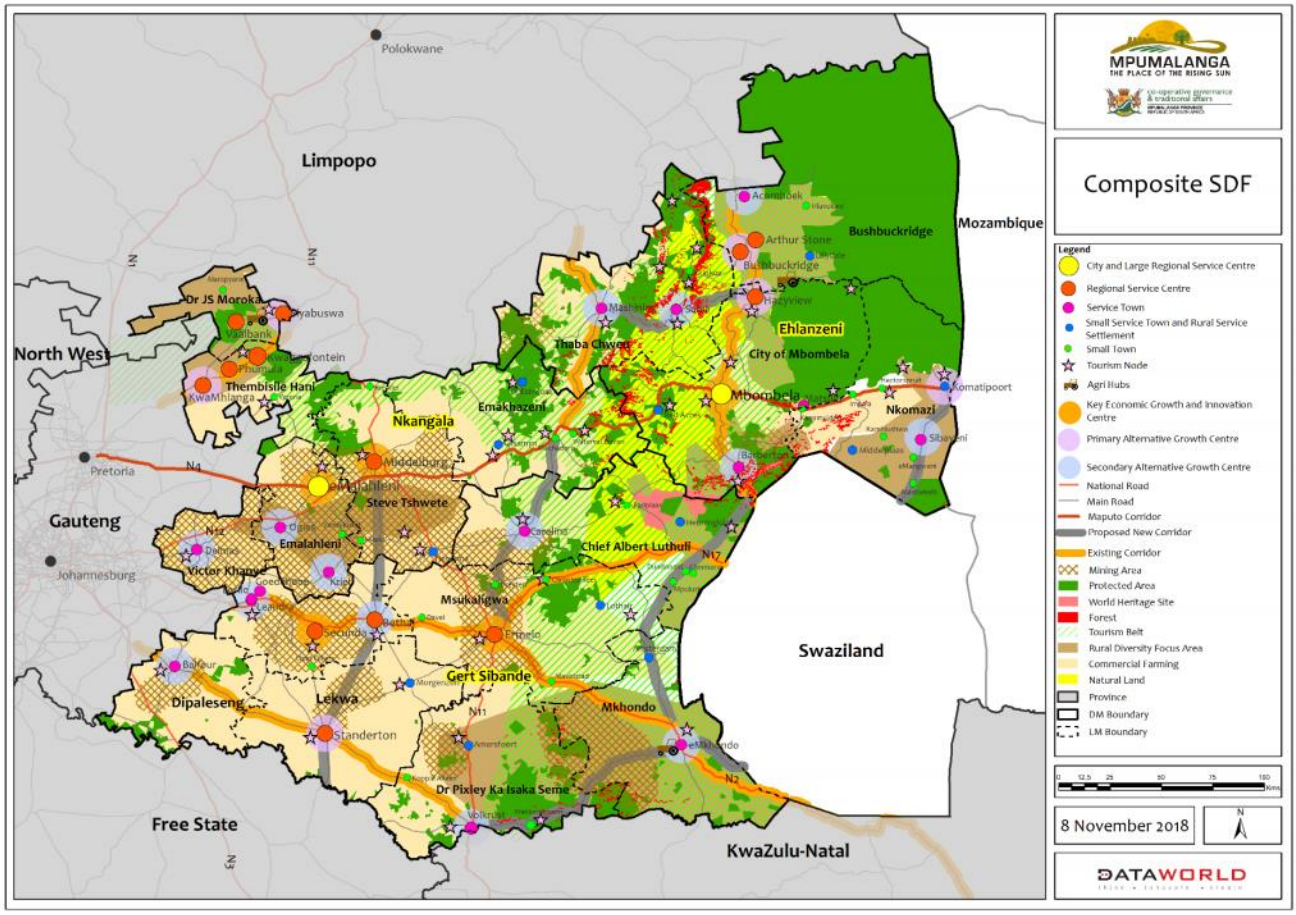


Figure 5-1: Mpumalanga Spatial Development Framework (2018)

5.3.9 Nkangala District Spatial Development Framework

The reviewed Nkangala Spatial Development Framework (SDF, 2014) is based on the following key principles (see figure below):

- Principle 1: To achieve a sustainable equilibrium between urbanisation, biodiversity conservation, mining, industry, agriculture, forestry, and tourism related activities within the district, by way of effective environmental and land use management.
- Principle 2: To establish a functional hierarchy of urban and rural nodes (service centers/agri-villages) in the Nkangala District area, and to ensure equitable and equal access of all communities to social infrastructure and the promotion of local economic development by way of strategically located Thusong Centers (Multi-Purpose Community Centers) (MPCCs) in these nodes.
- Principle 3: To functionally link all nodal points (towns and settlements) in the district to one another, and to the surrounding regions, through the establishment and maintenance of a strategic transport network comprising internal and external linkages, focusing on the establishment of Development Corridors.
- Principle 4: To incorporate the existing natural environmental, cultural, historic and man-made resources within the Municipality in the development of Tourism Precincts, with specific focus on the Tourism Gateway in the north-eastern parts of the district (Emakhazeni), as well as the northern and north-western mountainous parts of the district.
- Principle 5: To promote a wide spectrum of extensive commercial farming activities throughout the district, and to establish local fresh produce markets at the main nodal points identified.
- Principle 6: To optimally utilise the mining potential in the district without compromising the long-term sustainability of the natural environment.

- Principle 7: To concentrate industrial and agro-processing activities at the higher order nodes like Emalahleni and Steve Tshwete in the District where industrial infrastructure is available.
- Principle 8: To enhance business activities (formal and informal) at each of the identified nodal points in the Nkangala District by incorporating these activities with the Thusong Centres and modal transfer facilities.
- Principle 9: To consolidate the urban structure of the district around the nodal points by way of infill development and densification in identified Strategic Development Areas (SDAs) and Upgrading Priority Areas.
- Principle 10: To ensure that all communities (urban and rural) have access to at least the minimum levels of service as enshrined in the Constitution.

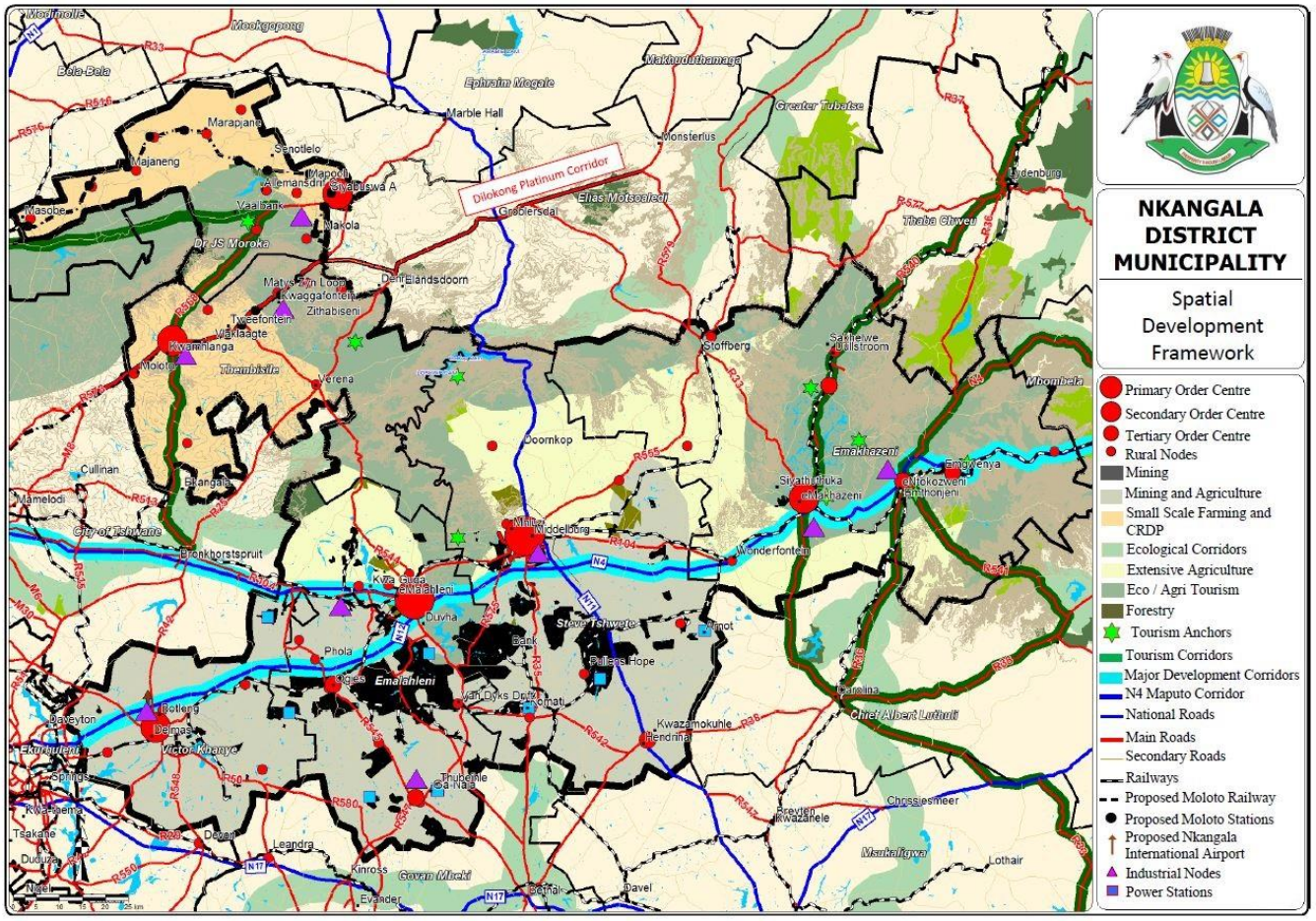


Figure 5-2: Nkangala SDF

5.3.10 Victor Khanye Spatial Development Framework

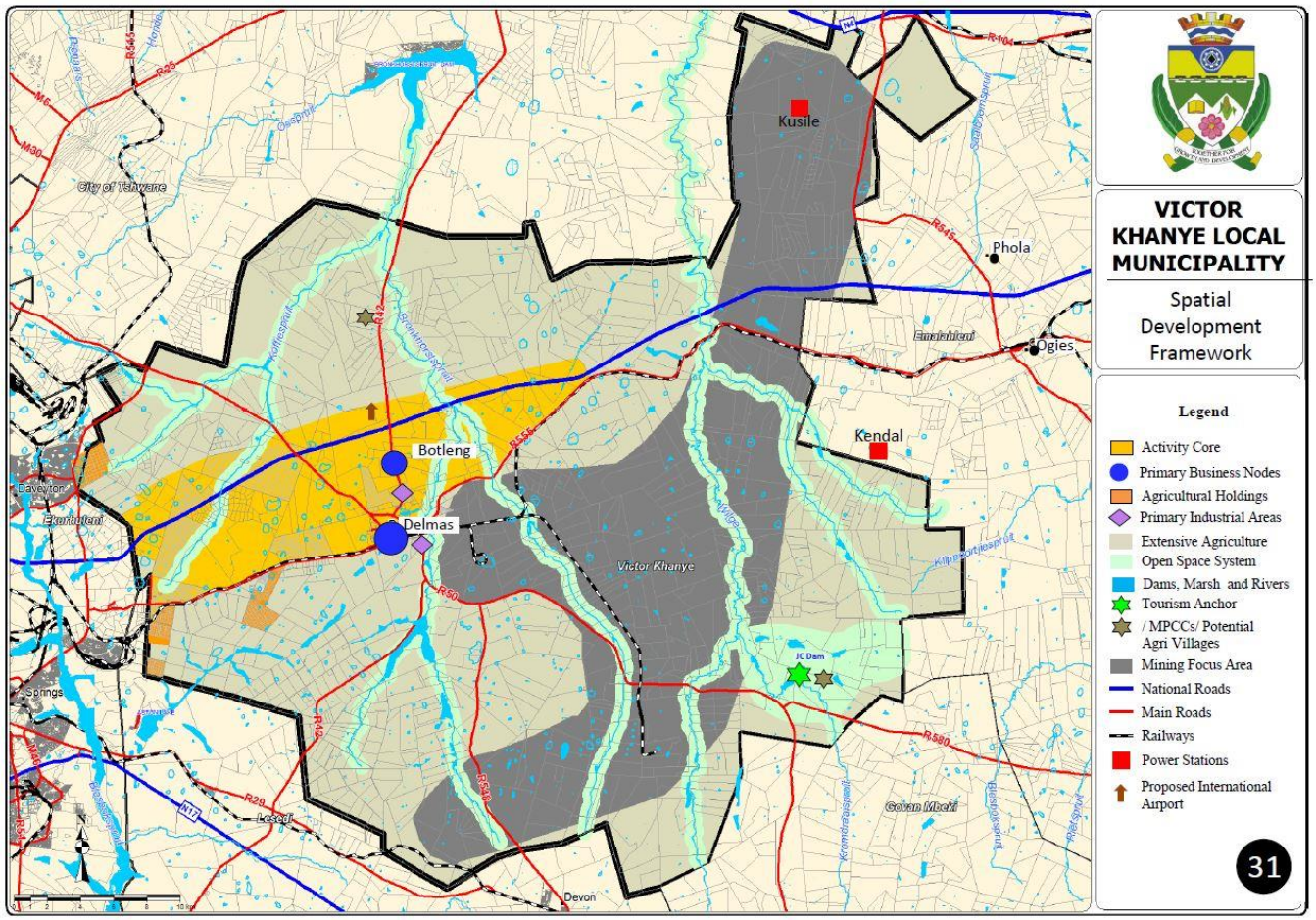


Figure 5-3: Victor Khanye SDF (2010)

The Victor Khanye SDF states that agriculture, mining and industrial development / electricity generation are the most important economic activities for the municipal area. The industrial potential of Delmas Town should be promoted to capitalise on its strategic location in relation to the regional transport network. There are no eco / agri-tourism or ecological corridors that traverse the LM. Lastly, the SDF directed that the establishment of the Nkangala International Airport in Victor Khanye should be supported.

5.3.11 Nkangala District Integrated Development Plan

The District's latest Integrated Development Plan (IDP) states that "it is the principal strategic planning instrument, which guides and informs all planning and development, and all decisions with regard to planning, management and development, in the municipality. It is the key instrument to achieve developmental local governance for decentralised, strategic, participatory, implementation orientated, coordinated and integrated development." The compilation of the IDP must take into account the current social environment in order to come up with Key Performance Areas (KPA) that would be formulated so as to address the various issued identified during that financial year.

5.3.12 Victor Khanye Local Municipal Integrated Development Plan

The Victor Khanye IDP has the following focus areas:

- Upgrading and refurbishment of Infrastructure.
- Land Development and Human Settlement needs.
- Local Economic Development.
- Institutional Development and Transformation.
- Financial position to be improved.
- Institutional capacity to deliver services in an efficient way to be enhanced.
- Governance and community involvement to be expanded.
- Infrastructure base to provide services and enable economic development must be rehabilitated and expanded.
- Human settlement development to be expanded.

5.3.13 Summary of the Regional Policies

The table below is the author's interpretation of the relevance and impact of the Regional Policies on the proposed Rietkol Project:

Table 5-1: Regional Policy/Plan Summary

AREA	RELEVANCE TO THE RIETKOL PROJECT	
	SDF	**PGDP / IDP**
Mpumalanga	Focus on economic development. Project is outside the Maputo Development Corridor as well as any Conservation / Biodiversity Corridors.	Mining industry remains one of the important economic sectors in the Province for economic growth and job creation. Challenges for mining development include a) upgrading and maintenance of the transport network; b) increase the level of higher skilled graduates; c) expand the water network and increase reliance on water transfer schemes; d) increase South Africa's base load and improve alternate energy supply; e) establishment of a mining supplier park to enhance enterprise development in the province; f) resolve land claims to release land for development; and g) comprehensive support to small-scale mining enterprises
Nkangala DM & Victor Khanye LM	Focussed on supporting Mining & Agricultural Development. Outside Conservation and Tourism Nodes or Corridors. Victor Khanye LM: Area zoned for Rural Residential although Victor Khanye has identified mining as an important sector for development.	To ensure increased job creation and economic growth.

6 SOCIAL BASELINE ENVIRONMENT

6.1 Towns and Settlements

The broader project area is located amongst existing towns and settlements. The closest formal towns are:

Table 6-1: Nearest towns

NO	TOWN	DIRECTION	DISTANCE
1	Delmas / Botleng	East	5km
2	Daveyton / Etwatwa	West	15km
3	Eloff	South	3.5km

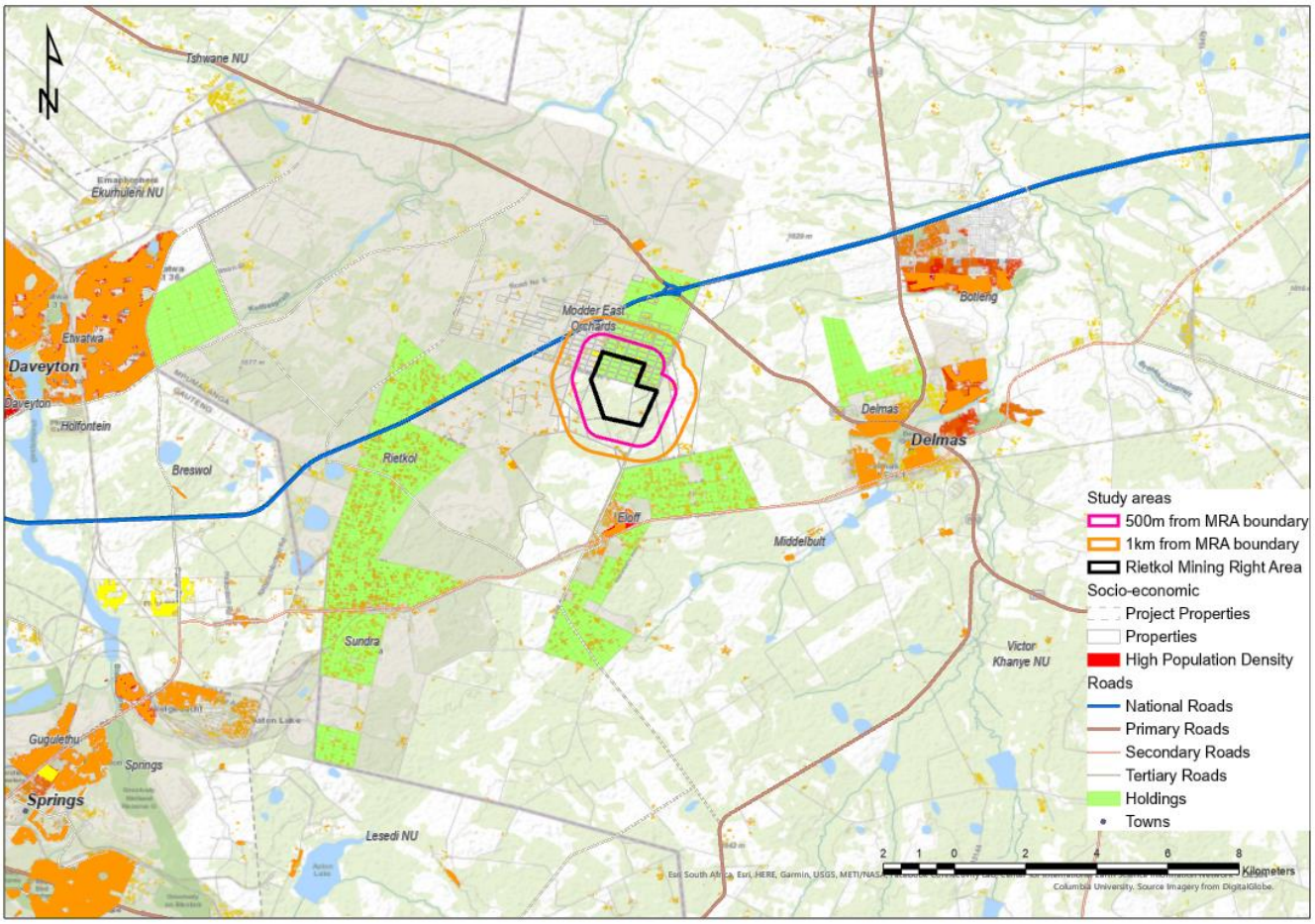


Figure 6-1: Towns and Settlements

On the periphery of the formal towns some settlements and informal housing have been observed, these are relevant as a risk of uncontrolled expansion in these areas due to the potential influx of jobseekers.

Within the broader project area (study area further than 500m from the MRA area), there are no formal towns. There are, however, built-up areas and residential structures located on many of the Modder East Orchard agricultural holdings, which may constitute a rural dispersed settlement in the broader context. The figure below indicates residential structures and built-up areas. In the study areas the following residential structures can be found:

Table 6-2: Residential / Tenant Structures

STUDY AREA	MRA AREA	WITHIN 500M OF MRA AREA	BETWEEN 500M AND 1KM OF THE MRA AREA	TOTAL
Owner / Tenant Residential Structures	12	36	28	76
Worker Residential Structures	13	41	13	67
Support Structures	22	39	27	88
Informal Settlement Structures	0	63	0	63
Total	**47**	**179**	**68**	**294**

The figure below indicates their positions in relation to the various study areas and project MRA area:

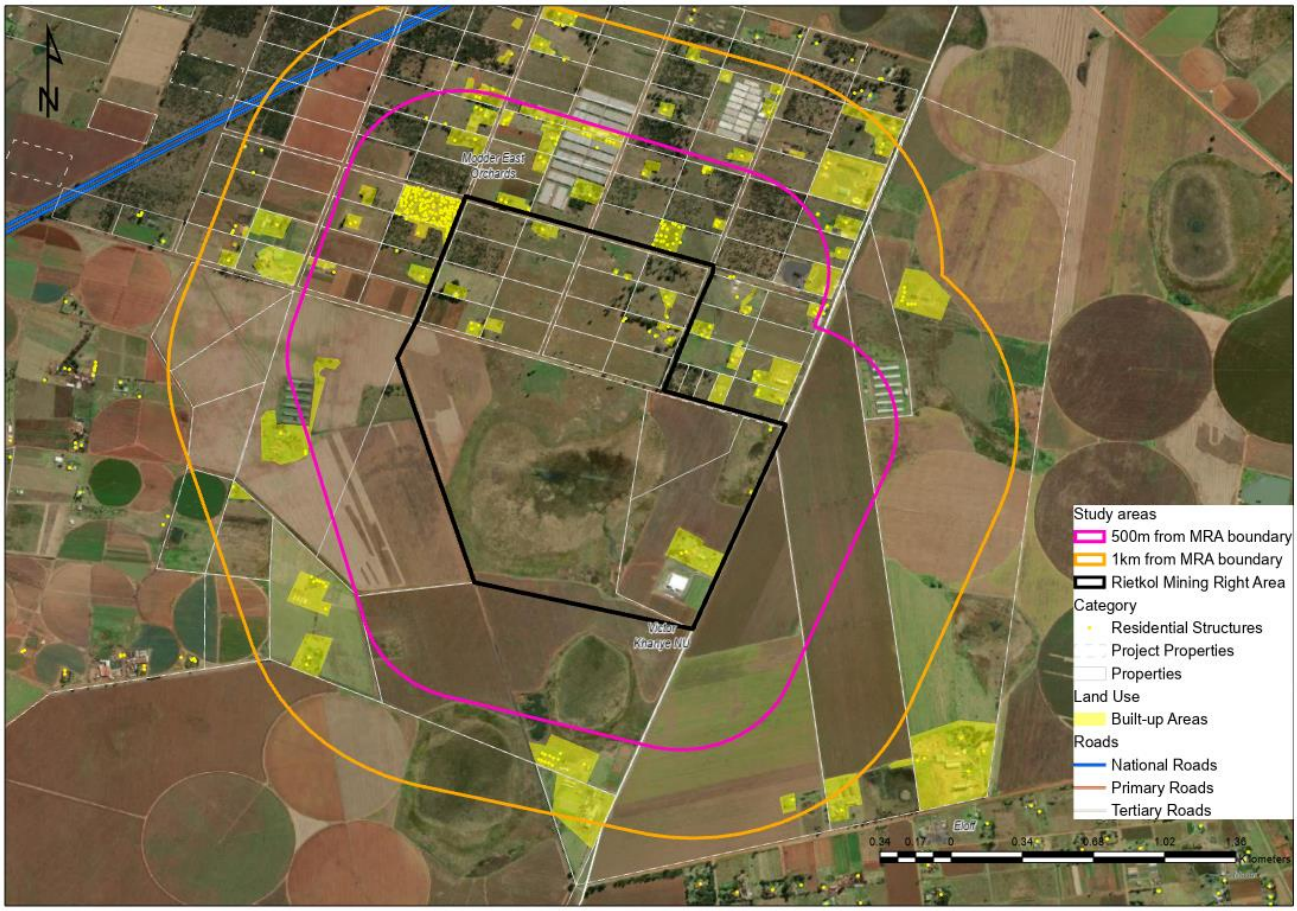


Figure 6-2: Residential & Built-up areas

Apart from the land occupants or labour tenant housing located on the various properties, there are two agricultural holdings that have occupants that constitute the start of or an informal settlement. These are holding 152 spreading over to holding 151.

Figure 6-3: Informal settlement on Holding 152

Other residential areas are less dense and are mixed with other land uses such as agriculture. In some cases owners also use residential rent-out to generate an additional income for the household.

6.2 Socio-Economic Analysis

The following sections provide an analysis of the socio-economic environment in the broader area and within the project area and the informal settlements.

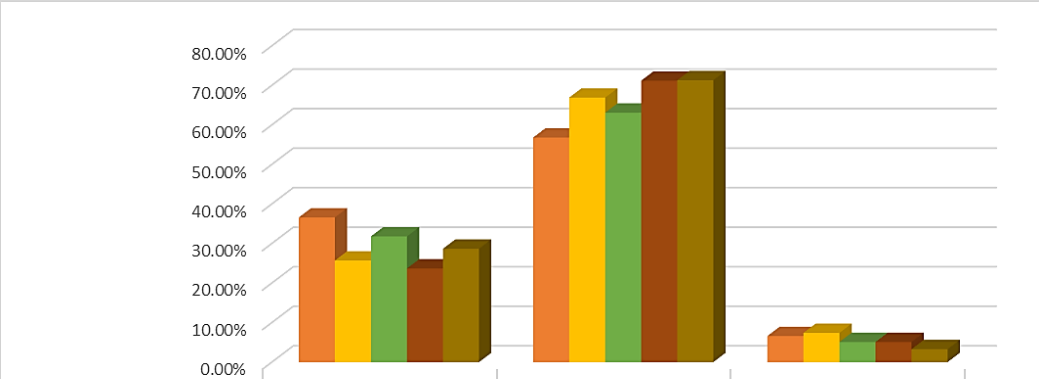
Social statistics below is provided from the following sources:

- Municipal data – Community Survey 2016
- Ward level data – Census 2011
- Settlement data – House-to-house survey conducted in 2018 and updated in 2021

6.2.1 Demographic Analysis

Table 6-3: Demographic Indicators

Demographic	VICTOR KHANYE LM	Ward 8	Ward 9	2018 Emfasini (151/152)	2021 Emfasini (151/152)
Total population	84 150	7 172	13 292	127	126
Number of households	24 268	2 187	3 340	69	63
Population density (people per km^2)	54	114.8	20.6		
Growth rate per annum	2.48%			-2.9%	
Average household size	3.5	3.3	4	1.8	2.0

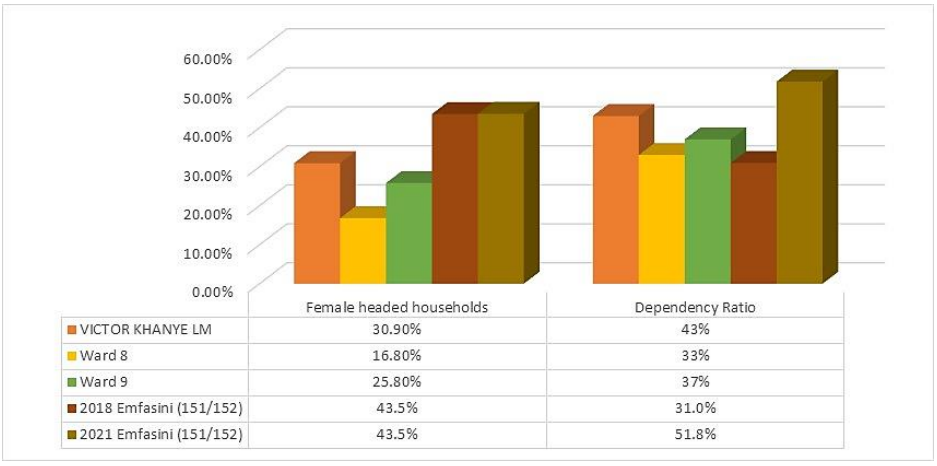


	Young (0-18)	Mid (19 – 60)	Elderly (60+)
VICTOR KHANYE LM	36.60%	56.80%	6.60%
Ward 8	25.70%	66.90%	7.40%
Ward 9	31.80%	63.10%	5.10%
2018 Emfasini (151/152)	23.7%	71.2%	5.1%
2021 Emfasini (151/152)	28.7%	71.3%	3.3%

Figure 6-4: Household Composition

The household dynamics within the study area is a key determinant of the demand for services and employment. The average household size is indicative of the quality of life in a study area. This connection is based on the following principle: In areas where average household size is higher the number of dependents is also expected to be greater and thus income per person will be lower. The age and gender composition of a population can have a considerable impact on socio-economic development in a study area. It is indicative of the size of the labour force, worker migration and the demands for health care and other social services.

The data clearly shows that there has been a slight decrease in the population and households between 2018 and 2021 of, 6 households in the Emafasini settlement.



	Female headed households	Dependency Ratio
VICTOR KHANYE LM	30.90%	43%
Ward 8	16.80%	33%
Ward 9	25.80%	37%
2018 Emfasini (151/152)	43.5%	31.0%
2021 Emfasini (151/152)	43.5%	51.8%

Figure 6-5: Vulnerability

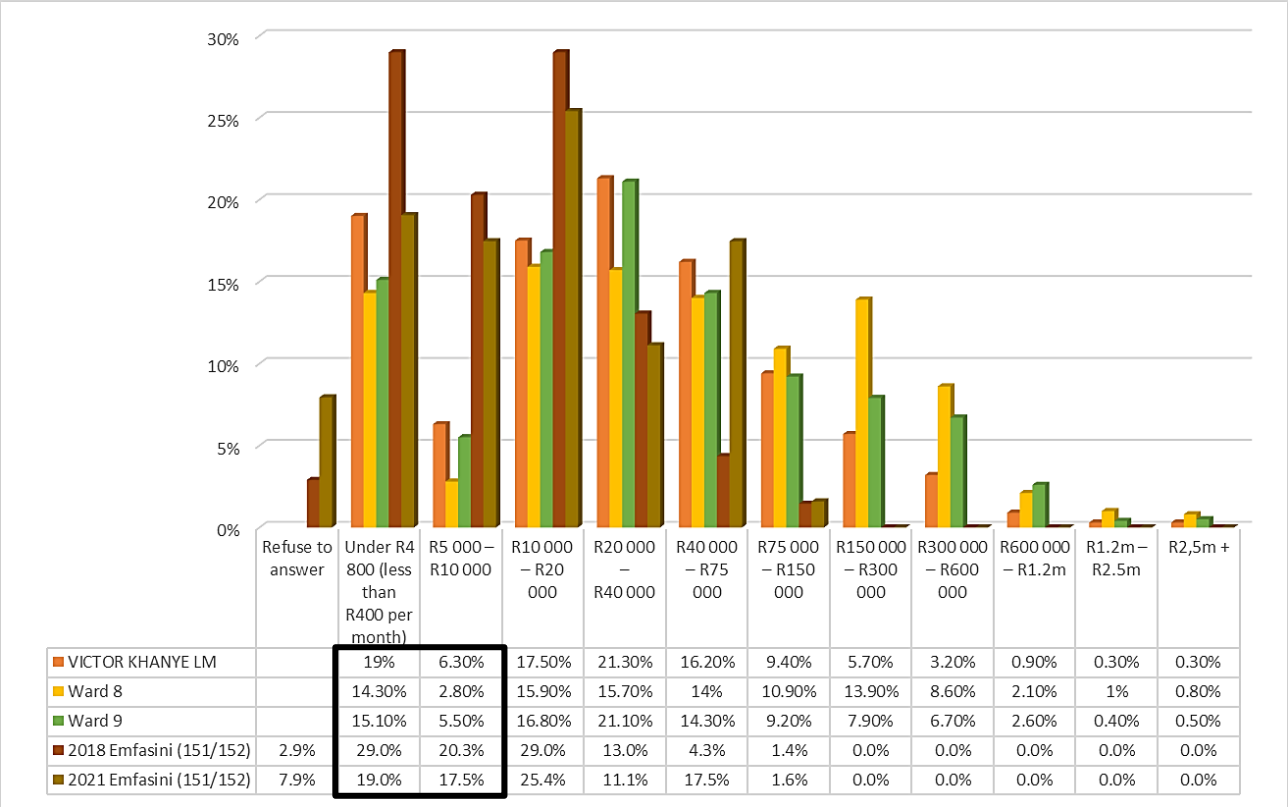
6.2.2 Language

Table 6-4: Prevalent languages

Language	VICTOR KHANYE LM	Ward 8	Ward 9	2018 Emfasini (151/152)	2021 Emfasini (151/152)
Isizulu	35.70%	14.60%	20.40%	46.5%	54.8%
IsiNdebele	25.10%	4.20%	26.90%	1.6%	0.8%
Afrikaans	15.70%	56.10%	28.20%	0.0%	0.0%
Sepedi	3.40%	2.30%	3.30%	26.8%	19.8%
Isixhosa	3.30%	1.70%	2.70%	1.6%	2.4%
Sesotho	3.80%	2.40%	2.70%	0.0%	0.8%
English	3.60%	8.70%	3.40%	0.0%	0.8%
Xitsonga	1.90%	2.60%	2.20%	5.5%	0.8%
Siswati	1.90%	1%	1.70%	2.4%	4.0%
Tshivenda	0.60%	0.90%	1%	5.5%	7.9%
Setswana	2%	1.60%	1.50%	0.0%	0.0%
Other	3.00%	3.80%	6.00%	1.6%	4.8%
Portuguese (Mozambique)				8.7%	3.2%
Chichewa / Tumbuka (Malawi)				0.0%	0.0%

The most prevalent language spoken in the Victor Khanye Local municipal area is Isizulu followed by IsiNdebele. Within Ward 8 & 9, the most prevalent language is Afrikaans followed by Isizulu and IsiNdebele. 54.8% of the people residing in the Emafasini informal settlement speaks Isizulu, followed by 19.8% speaking Sepedi. Households in the Mabona settlement either speak Xitsonga (40%), Portuguese (40%) or Sepedi (20%). All public participation material will be made available in English and isiZulu.

6.2.3 Household Income

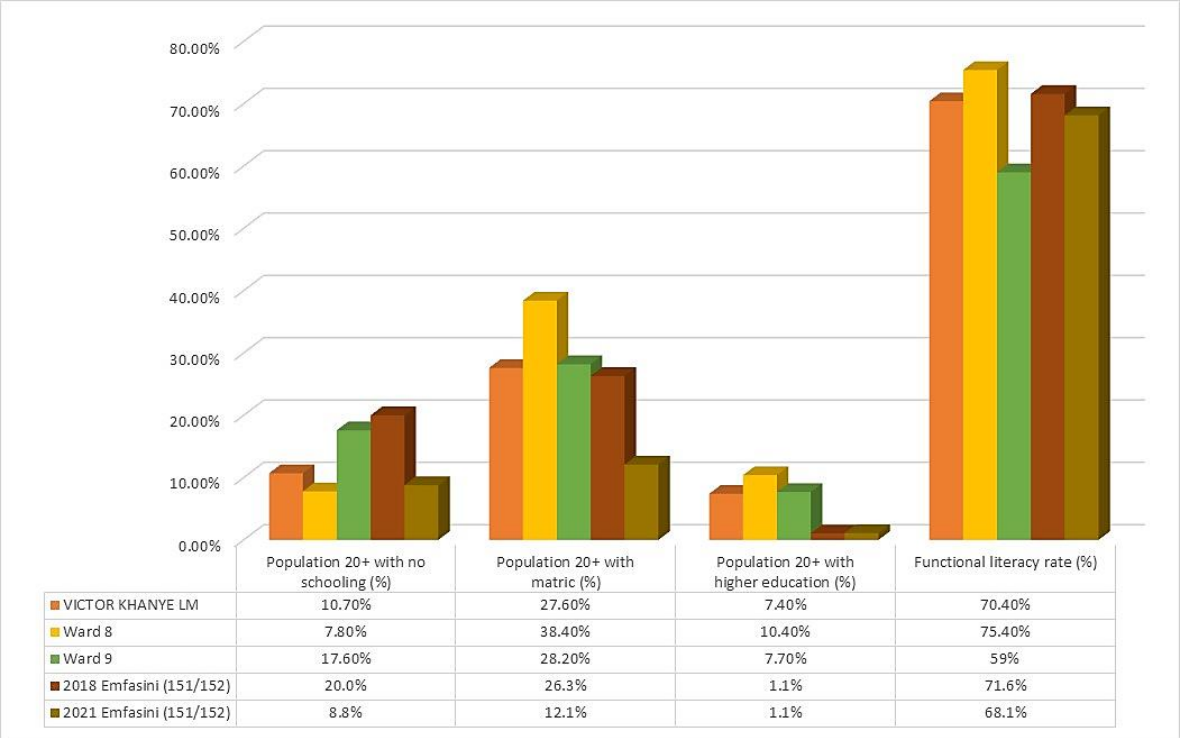


	Refuse to answer	Under R4 800 (less than R400 per month)	R5 000 – R10 000	R10 000 – R20 000	R20 000 – R40 000	R40 000 – R75 000	R75 000 – R150 000	R150 000 – R300 000	R300 000 – R600 000	R600 000 – R1.2m	R1.2m – R2.5m	R2,5m +
VICTOR KHANYE LM		19%	6.30%	17.50%	21.30%	16.20%	9.40%	5.70%	3.20%	0.90%	0.30%	0.30%
Ward 8		14.30%	2.80%	15.90%	15.70%	14%	10.90%	13.90%	8.60%	2.10%	1%	0.80%
Ward 9		15.10%	5.50%	16.80%	21.10%	14.30%	9.20%	7.90%	6.70%	2.60%	0.40%	0.50%
2018 Emfasini (151/152)	2.9%	29.0%	20.3%	29.0%	13.0%	4.3%	1.4%	0.0%	0.0%	0.0%	0.0%	0.0%
2021 Emfasini (151/152)	7.9%	19.0%	17.5%	25.4%	11.1%	17.5%	1.6%	0.0%	0.0%	0.0%	0.0%	0.0%

Figure 6-6: Household Income

Of the households interviewed, 19% have an income of less than R400 per month and 17.5% have an income of approximately R1 650 per month. These two categories (36.5% of households) can be seen as vulnerable and indigent. The balance of the households has incomes above R1 650 per month with 25.4% with an income between R10 000 and R20 000 per year, 11.1% with an income between R21 000 and R40 000 per year and 19.1% with an income higher than R41 000 per year.

6.2.4 Literacy rates, skills and education



	Population 20+ with no schooling (%)	Population 20+ with matric (%)	Population 20+ with higher education (%)	Functional literacy rate (%)
VICTOR KHANYE LM	10.70%	27.60%	7.40%	70.40%
Ward 8	7.80%	38.40%	10.40%	75.40%
Ward 9	17.60%	28.20%	7.70%	59%
2018 Emfasini (151/152)	20.0%	26.3%	1.1%	71.6%
2021 Emfasini (151/152)	8.8%	12.1%	1.1%	68.1%

Figure 6-7: Education Indicators

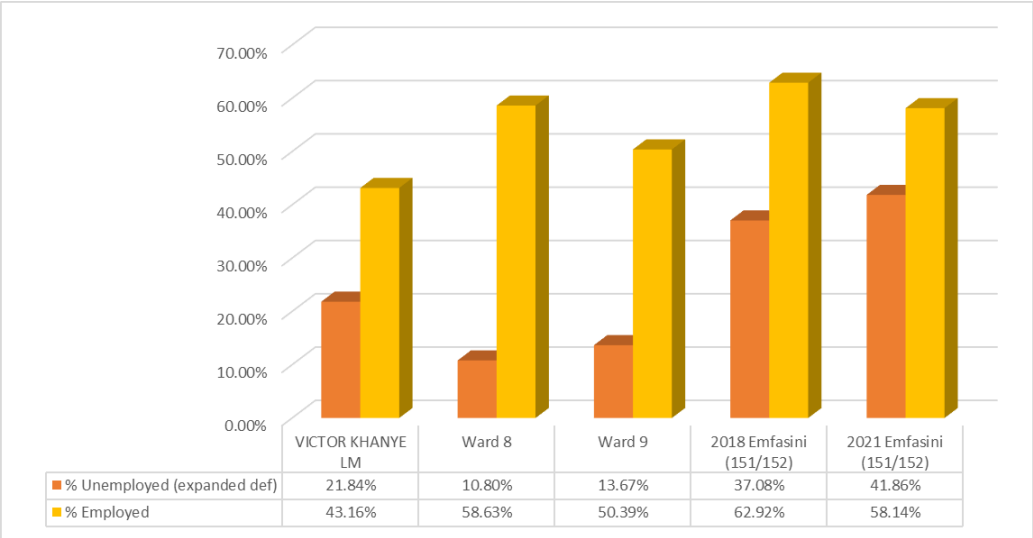
Educational attainment is a key indicator of development in a population. To evaluate long-term provision of education, it is important to disaggregate educational attainment for persons older than 20 years. Statistics South Africa generated a measure of educational attainment for persons over age 20. This group is expected to have completed educational enrolment and therefore giving a good measure for completed level of education.

The survey in Emfasini indicated that there is 13.2% of adults with a Grade 12 or higher qualification. There is also 8.8% with no schooling. Including those with at least secondary level education and higher, the functional literacy rate is estimated at 68.1%. There has been a reduction from 2018 to 2021 is no school, but also in those that have completed Grade 12. An overall reduction in literacy, likely due to the outmigration of people with skills.

6.2.5 Employment Status

Table 6-5: Labour Indicators

Employment & Skills	VICTOR KHANYE LM	Ward 8	Ward 9	2018 Emfasini (151/152)	2021 Emfasini (151/152)
Economically Active Population (EAP)	50 605	5054	9049	89	87
Economically Inactive (Youth & Elderly)	33 545	2118	4243	32	39
Number of employed	21 843	2963	4560	56	50
Number of unemployed	8 573	450	1034	33	36
Discouraged Work seeker	2 477	96	203	0	0



There are 8 573 (21.84%) of the Economically Active Population (EAP) of Victor Khanye Municipality unemployed, 1 484 (10.5%) reside within Wards 8 and 9, and 36 (41.38%) of the EAP in the informal settlement is unemployed. Of the 36 unemployed EAPs, 13 have formal or informal skills and 23 have no specific skill.

Employment within the various study zones is:

Table 6-6: Employment

ECONOMIC INDICATORS	ESTIMATED DIRECT EMPLOYMENT	ESTIMATED INDIRECT AND INDUCED EMPLOYMENT	TOTAL ESTIMATED EMPLOYMENT
Study area 1 (MRA)	79	66	145
Study area 2 (within 500m)	201	142	343
Study area 3 (500m – 1km)	145	142	350
TOTAL	**425**	**350**	**775**

Source: Rietkol Macro-economic Report, 2021, Mosaka Economic Consultants cc

The sector of employments is primarily the formal sectors.

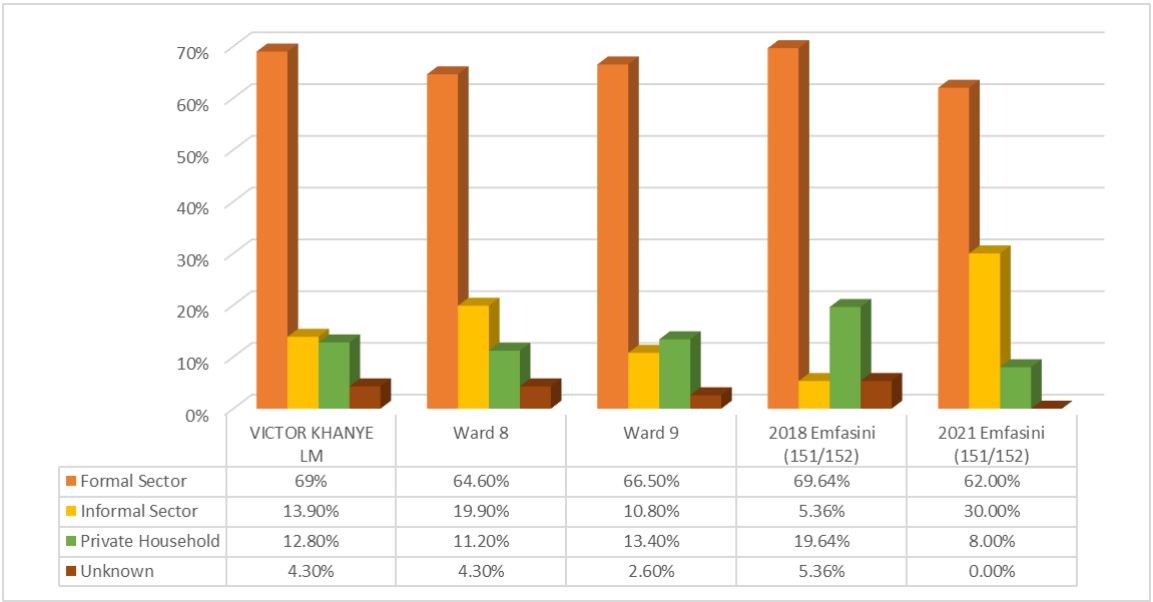


Figure 6-8: Sector of employment

The main economic drive and employer in the Victor Khanye Municipality is Agriculture and Trade, followed by mining and community services. In the ward analysis this trend continuous. In the informal settlement 62% of the people are employed in the formal sectors, primarily in the agricultural sector followed by trade.

Table 6-7: Economic Indicators

Economic Indicators	Contribution
GDP growth (%)	2.7% (2017 - 2018
Victor Khanye Contribution to Mpumalanga GDP	R4.7 billion (2018)
Study area 3 (500m – 1km) Contribution to GDP	R36.855 million (2021)
Study area 2 (within 500m) Contribution to GDP	R64.045 million (2021)
Study area 1 (MRA) Contribution to GDP	R20.488 million (2021)

Source: Statistics South Africa, Census 2011 and Macro-economic Impact Assessment Report, 2021. Mosaka Economic Consultants cc

It was expected that the municipality would have a GDP growth of 2.7% per annum by 2018, which would be higher than the Nkangala District and Mpumalanga Province. Community services, mining, trade and transport should contribute the most to Victor Khanye's economic growth. The various study areas have direct and indirect contributions to the GDP. The MRA area has a very low contribution within the municipal area and province.

6.2.6 Skills Assessment

A skills assessment conducted on the informal settlement (Emfasini) located within study area 2 (within 500m from the MRA area), the following was revealed:

Table 6-8: Informal Settlement Skills Assessment

Employment & Skills	2018 Emfasini (151/152)	2021 Emfasini (151/152)
Economically Active Population (EAP)	89	86
% Employed	62.92%	58.14%
% Unemployed (expanded def)	37.08%	41.86%
% with formal skills	10.1%	33.7%
% with informal skills	47.2%	37.2%
% with No skills	19.1%	29.1%

The following further information was found:

- Employed: In total, 58.14% (50 of 86) of the employable workforce is currently employed or self-employed. The major employers of the people residing in these settlements are:

Employers	2018 survey		2021 survey	
Unex Roses & Prickley Pears	39.3%	22	27.5%	14
Rossgro	17.9%	10	7.8%	4
MBFi	12.5%	7	9.8%	5
Pretorius Blomme	0.0%	0	5.9%	3
Properties surrounding the MRA area as domestic & other workers	12.5%	7	3.9%	2
Parties & Companies within Eloff	1.8%	1	5.9%	3
Parties & Companies within Delmas	5.4%	3	17.6%	9
Parties & Companies within broader region	1.8%	1	3.9%	2
Self-employed	8.9%	5	17.6%	9

From the above table, it is clear that there has been a decrease of 4.8% in employment rates within the settlement, probably primarily due to those employed leaving the settlement to either reside on the properties where they work or to alternative living arrangements. There has also been some loss of employment from some of the employers.

- Formal skills: 33.7% (29 of 86) of the employable workforce have formal skills. Of the 29, 7 are currently unemployed.

Formal Skills from the Surveys	Total	Employed	Unemployed	Details of skills
Formal skills - 2018 survey	10.1%	77.8%	22.2%	Formal Administration, Artisan, Construction, Mining, Safety and Security Skills
	9	7	2	
Formal skills - 2021 survey	33.7%	75.9.2%	24.1%	
	29	22	7	

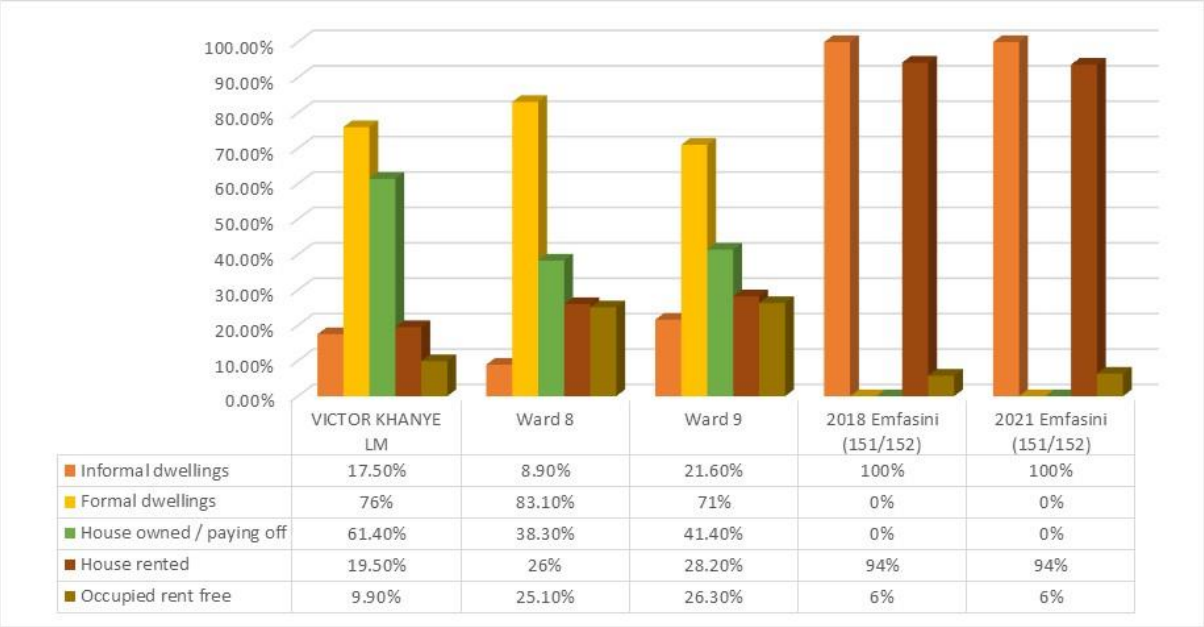
- Informal skills: 37.2% (32 of 86) of the employable workforce have informal skills. Of the 32, only 6 are currently unemployed, amongst them cleaners and agricultural workers.

Informal Skills from the surveys	Total	Employed	Unemployed	Details of skills
Informal skills - 2018 survey	47.2%	83.3%	14.3%	Cleaners and agricultural workers
	42	35	6	
Informal skills - 2021 survey	37.2%	81.3%	18.8%	
	32	26	6	

- No specific skills: 29.1% (25 of 86) of the employable workforce have no specific skills. Of the 25, 23 are unemployed. Of the 23 currently unemployed, 1 has a Public Administration certificate, 7 have their Matric, and a further 15 is functionally literate.

No Skills from the surveys	Total	Employed	Unemployed	Details of skills
No skills - 2018 survey	28.1%	4.0%	96.0%	General workers
	25	1	24	
No skills - 2021 survey	29.1%	8.0%	92.0%	
	25	2	23	

6.2.7 Housing



	VICTOR KHANYE LM	Ward 8	Ward 9	2018 Emfasini (151/152)	2021 Emfasini (151/152)
Informal dwellings	17.50%	8.90%	21.60%	100%	100%
Formal dwellings	76%	83.10%	71%	0%	0%
House owned / paying off	61.40%	38.30%	41.40%	0%	0%
House rented	19.50%	26%	28.20%	94%	94%
Occupied rent free	9.90%	25.10%	26.30%	6%	6%

Figure 6-9: Basic Housing Indicators

In terms of the Mining Charter (2018), new mines must comply with the DMRE Housing and Living Conditions standard and set targets (in terms of the SLP) to improve the housing and living conditions of their employees within the labour sending areas. Since Rietkol is a new mine, this would only be done once employees have been recruited.

If there is a high backlog in formal housing availability, this must be considered by mining companies' housing provision strategies for their employees. Specific considerations and planning are also required to anticipate the impact of influx of work seekers into the local area. The current housing status is essential to determine the local area's capacity to respond to change. With an established town and townships within the municipal area, sprawling informal settlements are found adjacent to the nodes, especially near mining and other economic activities. The existence of informal settlements within the municipal area extends the service delivery backlogs in the municipality. Home ownership also indicates how stable a community is. In the Municipal area, approximately 29.4% of households are either renting accommodation or staying with family members. 61.4% of households own their property or is busy paying it off.

Within the Wards, the situation is similar with a slightly higher number of informal housing and high occupation rent-free, while much lower home ownership. The informal settlement adjacent to the mine area is mostly informal dwellings with rental arrangements with landowners or property caretakers. It should be noted that Holdings 152/151 are privately owned, and it could not be ascertained if the housing being provided are with the owner's consent.

6.2.8 Water and Sanitation

Table 6-9: Water and Sanitation Indicators

Basic Service Infrastructure Indicators	VICTOR KHANYE LM	Ward 8	Ward 9	2018 Emfasini (151/152)	2021 Emfasini (151/152)
Is the municipality responsible to provide water?	Partially, yes	Partially, yes	Partially, yes	Yes	Yes
Households to which water is provided (% of households)	85.70%	52.80%	49.40%	100%	100%
Households with piped connection inside dwelling/yard	8410.00%	48.30%	42.30%	1%	0%
Households with water from tanker	4.10%	8.50%	13.10%	96%	98%
Households with private borehole	3.80%	39.70%	30.10%	0%	2%
Households with other or no access	8.00%	3.50%	14.70%	3%	0%
Is the municipality responsible to provide sanitation?	Partially, yes	Partially, yes	Partially, yes	No	No
Households with flush toilet connected to sewerage / onsite septic tank	85.60%	73.70%	56%	0%	2%
Households with Pit latrines	5.30%	16.10%	22.80%	81%	84%
% of households with no toilets or with the bucket system	6.90%	6%	11.20%	19%	14%

Water and sanitation have generally improved in the municipal area due to service delivery increases. With historical unrest regarding service delivery, it is important to ensure mining development does not place additional pressures on service delivery infrastructure and the capacity of municipalities to deliver the necessary services in the local area. Services in the project area is mostly not provided by the municipality. Water on agricultural holdings and farms are supplied from boreholes by landowners themselves. The municipality

provides a water tanker to the informal settlement on holding 152/151, on the other holdings and settlements water is supplied by the landowner.

6.2.9 Electricity

Table 6-10: Electricity Indicators

Electricity Infrastructure Indicators	VICTOR KHANYE LM	Ward 8	Ward 9	2018 Emfasini (151/152)	2021 Emfasini (151/152)
Electrical supply	91.50%	82.40%	78.20%	0%	0%
Other electricity source (solar, gas, paraffin, etc)	3.40%	4%	2.50%	100%	100%
No access to electricity	5%	13.60%	19.30%	100%	100%

Electricity supply in the municipal area has increased dramatically since 2001, but some areas, especially informal settlements, still utilize gas, paraffin, and wood as their energy source. The informal settlement on plot 151/152 does not have access to electricity and only uses paraffin or wood for heating and cooking.

6.2.9.1 Refuse Removal

Table 6-11: Refuse Removal Indicators

Refuse Removal Indicators	VICTOR KHANYE LM	Ward 8	Ward 9	2018 Emfasini (151/152)	2021 Emfasini (151/152)
Municipal refuse removal	78.80%	75.30%	42.60%	0%	0%
Own / Communal Dump / Other	13.90%	18.40%	41%	0%	0%
None	7.30%	2.20%	12.60%	100%	100%

Refuse removal in the urban centres are done by the municipality. In the rural areas, refuse is primary either burned on-site or transported to the municipal landfill.

6.2.10 General health and welfare

HIV/AIDS in South Africa has increased rapidly over the past decade. The social and economic consequences of the disease are far-reaching and affect every facet of life in South Africa. Although South Africa is creating a progressive and far-sighted policy and legislative environment for dealing with HIV/AIDS, the prevalence of HIV/AIDS continues to increase. The current prevalence in Victor Khanye Municipality is 56.1%. This indicates that policies and laws have not impacted significantly on the ground.

6.3 Land use Activities

The rural area(s) of the municipality predominantly consists of extensive commercial farming and mining activities. The municipality is a major maize producing area, with an annual maize production calculated at between 230 000 and 250 000 metric tons. The primary activity of Victor Khanye is thus extensive commercial agriculture, which covers about 60% of the LM's physical land area. Commercial farming occurs primarily in Eloff, Rietkol, Springs, and Sundra Agricultural Holdings. As the Delmas area is a "high potential" agricultural area, it is important that agricultural land must be protected against urban sprawl and mining activity, etc.

The Modder East AHs on the farm Olifantsfontein cover a substantial area with plots varying from 4 to 28 ha. The land use on these AHs is very disparate, covering intensive horticultural enterprises (rose and cut flower cultivation), dry land crop production, commercial businesses (such as panel beaters, construction contractors and a guest house), residential, horse training (equestrian centre), etc. The surrounding area includes irrigation and dry land farming, horticulture and large poultry enterprises. The figure below indicates the number of properties with the various land-uses.

Table 6-12: Properties assessed and land-use

Activity	Zone 1 (ha)	Zone 2 (ha)	Zone 3 (ha)	Total (ha)
ECONOMIC ACTIVITIES				
Maize	33,04	154,65	619,75	807,44
Soya	16,52	77,33	309,87	403,72
Floriculture - Roses		7,97	-	7,97
Beef (Grazing)	98,5	107,647	164,85	370,997
Teff/Hay/Russian Grass		15,61	27,92	43,53
Cactus Pears		6,88	7,24	14,12
Pecan Nuts	3,5		-	3,5
Egg Packhouse	4,04			4,04
Poultry - Broilers		-	6,34	6,34
Floriculture - Cut Flowers			4,24	4,24
Combined Private Investigations (CPI)		12,14		12,14
Dr Greeff – House Rental		0,44		0,44
Dr Greeff – Pig Feed Experimental Unit		3,6		3,6
MBFi		8,09	12,14	20,23
Other natural areas (wetlands)	45,64	27,89	36,9	110,43
Sub-total	**201,24**	**422,25**	**1189,25**	**1 812,74**
BUILT-UP AREAS				
Farm Homesteads and Outbuildings	6,89	27,07	12,86	**46,82**
Packhouse/Feed Mill	2,38		5,55	**7,93**
Informal Settlements (squatters)		3,55		**3,55**
Business Administration and Premises		10,29	28,39	**38,68**
Equestrian			2,62	**2,62**
Security Business		1,26		**1,26**
Roads	1,48	9,59	11,66	**22,73**
Total	**10,75**	**51,76**	**61,08**	**123,59**

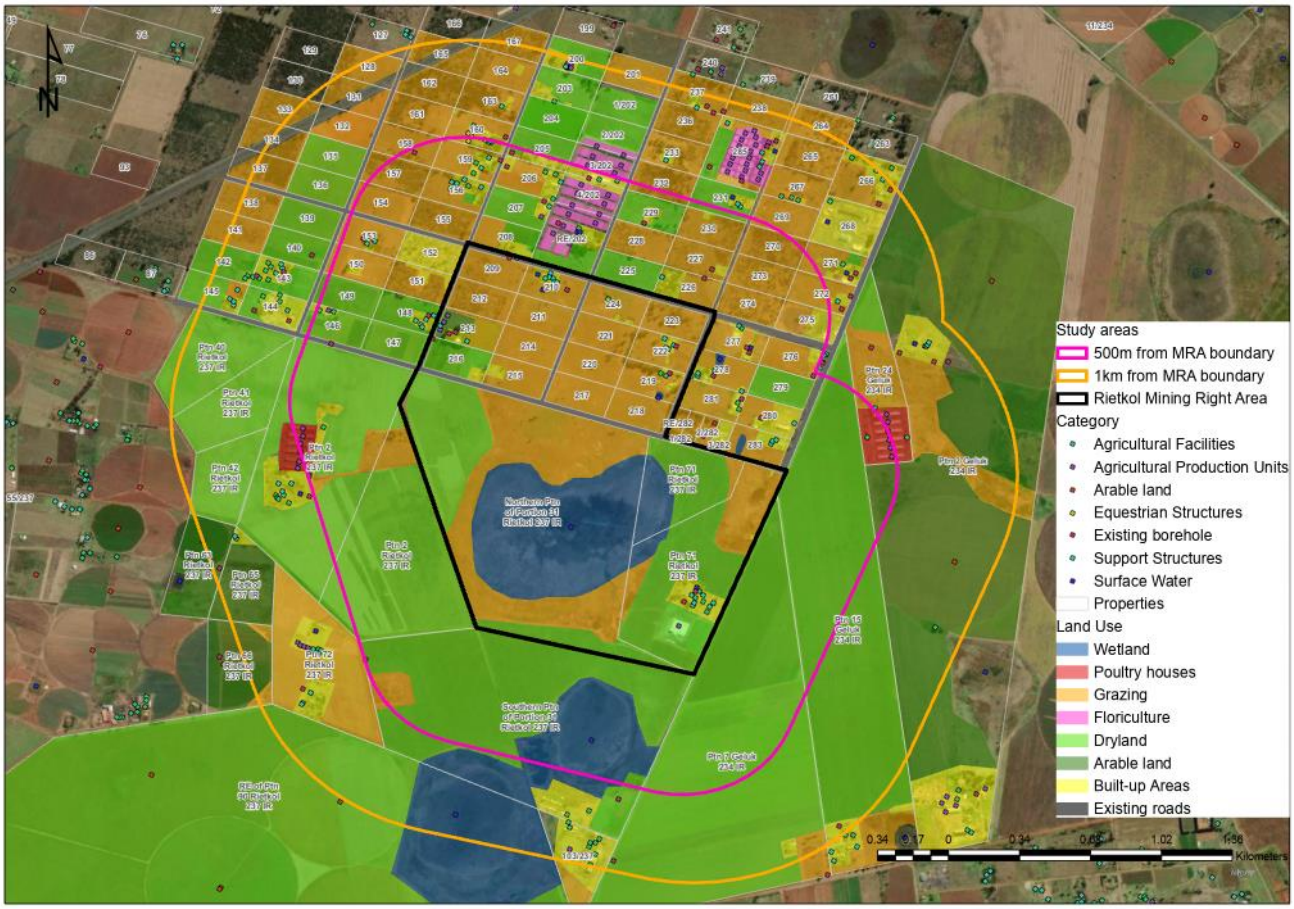


Figure 6-10: Land Use Activities in Project area

6.3.1 Commercial Development

Commercial Development within the Victor Khanye Municipality mostly surrounds primary and secondary development nodes, such as Delmas / Botleng and Eloff. In recent years agricultural holdings have been increasingly developed for commercial properties rather than agriculture.

In terms of the Victor Khanye Land Use Management plan, the Modder East AHs are to be utilized for low-density residential development, but in most cases the holdings have been developed commercial.

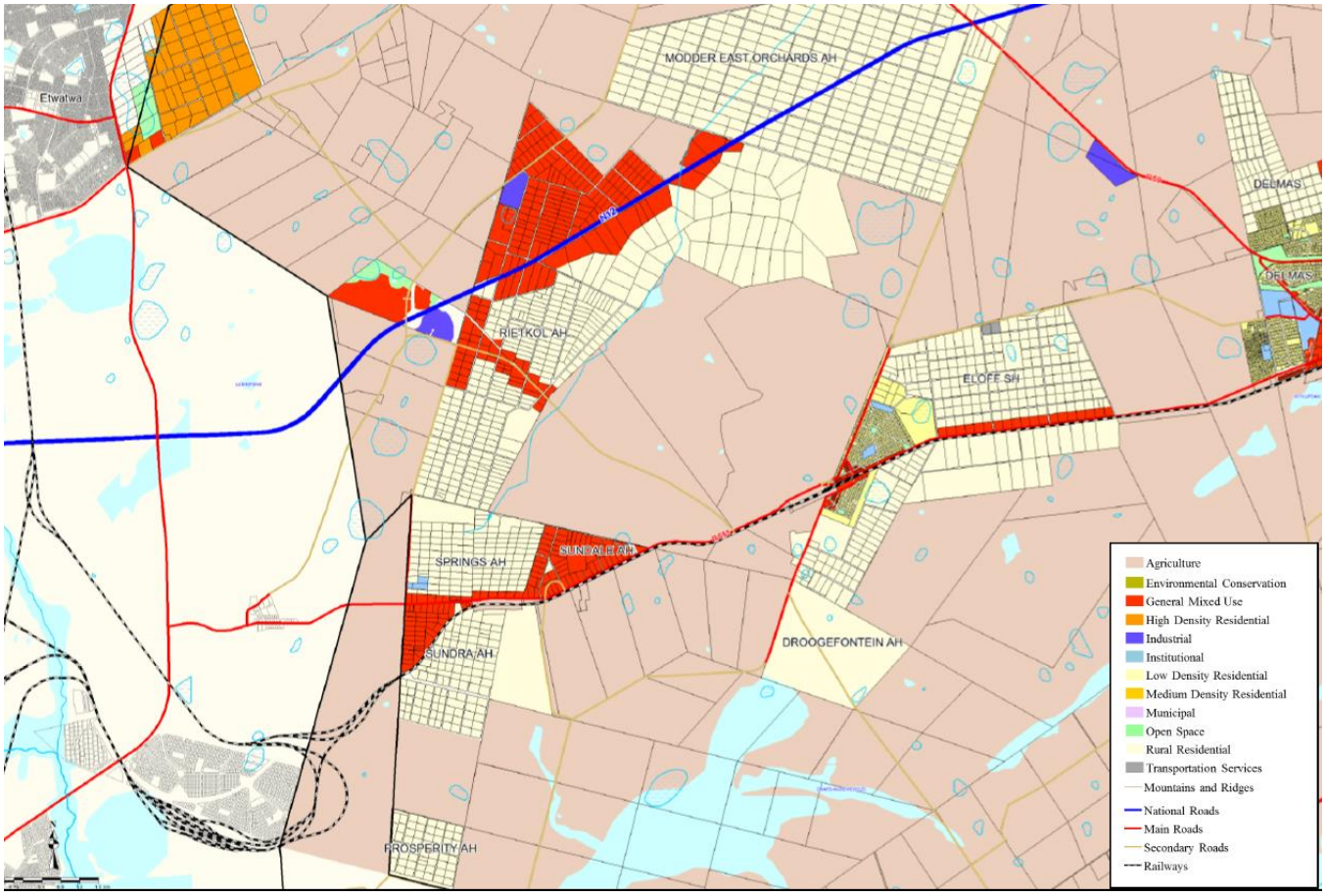


Figure 6-11: Land use management plan

Commercial development has expanded from 2018 – 2021 on the Moddereast Orchards, and more properties especially next to the main access route are now used for commercial activities. The figure below indicates the study areas and where either residential investment or commercial development was found.

Figure 6-12: Commercial business photo

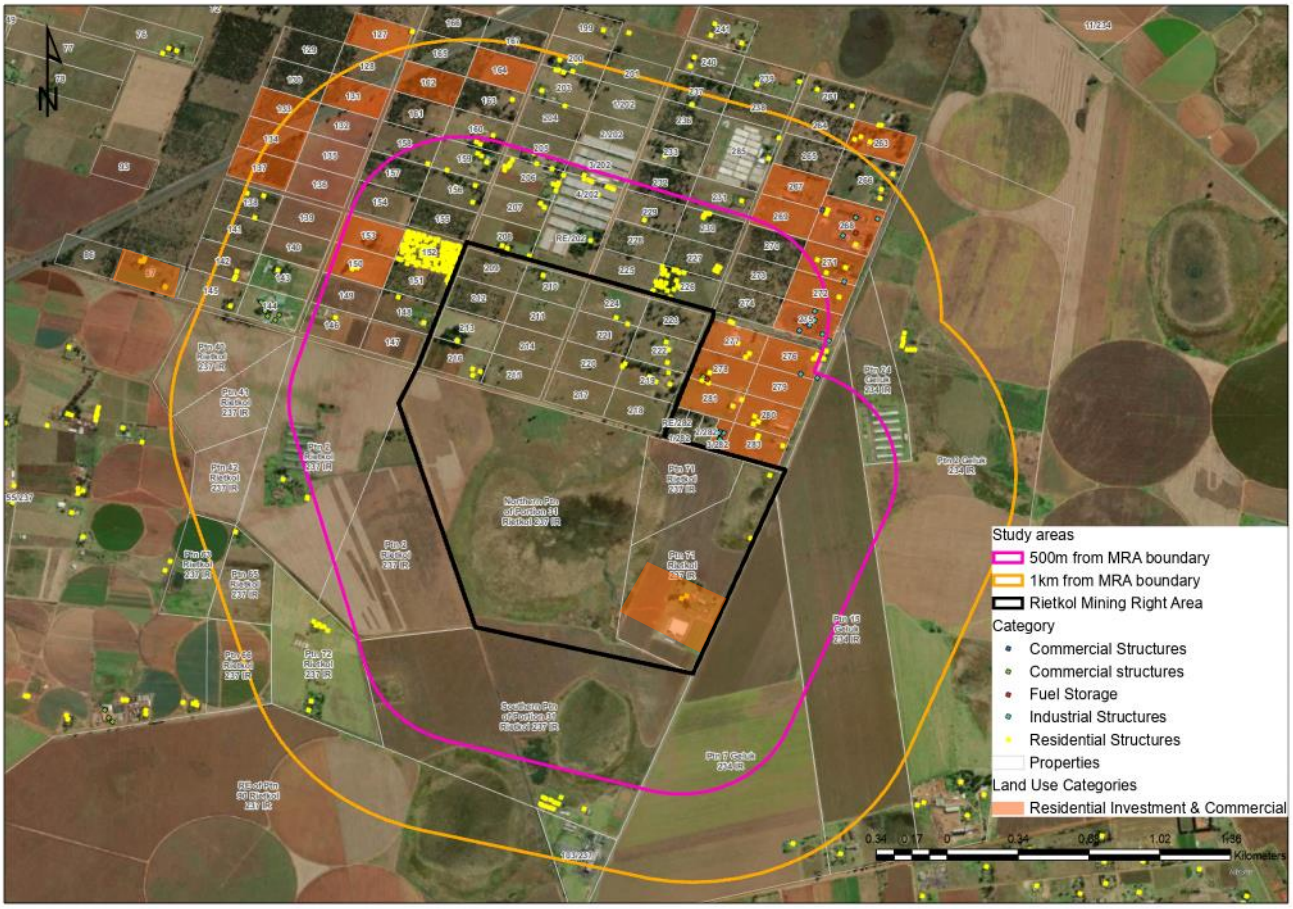


Figure 6-13: Commercial Development (to include MBFi and Rossgro)

Many of the commercial developments have a focus on agricultural activities such as the Rossgro Packhouse, Feedmil and the MBFi laboratory. Other commercial development is focused on the transport, construction and mining industries.

6.3.2 Agricultural Land Use

The Modder East AHs on the farm Olifantsfontein cover a substantial area with plots varying from 4 to 28 ha. The land use on these AHs is very disparate, covering intensive horticultural enterprises (rose and cut flower cultivation), dry land crop production, commercial businesses (such as panel beaters, construction contractors and a guest house), residential, horse training (equestrian centre), etc. The surrounding area includes irrigation and dry land farming, horticulture and large poultry enterprises. Ground water pivot irrigation is common.


Figure 6-14: Agricultural land use

Poultry enterprises are present in the area. Poultry producers market their products in the eMalahleni and East Rand, Gauteng area. Here too good quality water for the layers is a pre-requisite for poultry health.

The poultry industry consists of three main sectors, namely:

- Egg production;
- Broiler production; and
- Egg Sorting, packing and dispatch.

In addition to the direct production of eggs, the poultry industry has a large impact through secondary activities, suppliers and outputs. The poultry industry is one of the largest consumers of maize in South Africa, consuming around 2.68 million tons of maize per annum; 25% of the country's total maize consumption. In addition to this, feed is the biggest determinant of the cost of egg and broiler production. By-products of the industry include chicken manure and spent hens.

A large egg layer packhouse and two broiler units are present within the study zones.

The summer crops are Maize and Soya, winter crops are Cabbage, Teff and Russian grass and flower and rose production all year round. The cultivated dry land and irrigation areas were identified by means of satellite images and the hectares determined. The project area consists of close to 59% allocated to cultivation and crop production (Maize, Soya- and Dry Beans, Teff and Russian Grass, Cactus Pears, Floriculture and Pecan Nuts) and 41% to grazing.

6.3.3 Agricultural Structures

There are a number of farmhouses, outbuildings, and agricultural buildings located across the study areas. These are noise, dust and visual sensitive receptors. Apart from the mostly agricultural workers that reside in the towns and settlements, some reside on the properties within the MRA and surrounding area. An assessment has indicated that the majority of the people residing on the properties work at agricultural and other businesses in the surrounding area. The location and number of structures are indicated in figure 6-14.

Figure 6-15: Typical Agricultural structures

6.4 Main Land use Activities in the Study Zones

6.4.1 Study area 1 (MRA)

6.4.1.1 Pecan Nut farming – Van der Walt

The Van der Walt's reside on Agricultural Holding 213 and have invested in Pecan Nut tree farming. They currently have 3.5ha under drip irrigation. The irrigated area is supplied by 3 boreholes located on the property, which is also utilized for domestic use. Apart from the Pecan Nut farming, small-scale livestock farming occurs on the balance of the property. According to the owners, they currently have 1 permanent farm worker but has indicated that during harvest time more temporary farm workers may be employed.

Figure 6-16: Pecan Nut farming - Van der Walt

6.4.1.2 Rossgro Packaging Plant

The Rossgro Highveld Packaging Plant has been constructed on Portion 71 of the farm Rietkol 273 IR owned by Rossgro Pluimvee – Eiers (Edms) Beperk. Remaining Extent of Portion 31 also belongs to the same company, and maize and soya for supply to their Feed mill is produced on these properties. The Highveld Packing Station is a centralized packhouse facility for the Highveld region for eggs produced by the Rossgro Group. According to data provided by Rossgro about 76 permanent staff are working in the facility, excluding the drivers that deliver the eggs from the different layer facilities and from time-to-time part time workers. According to data provided about 60 000 dozen of eggs are packed per day. During consultations Rossgro raised concerns around the impact on the packhouse in terms of air pollution, environmental degradation, water pollution, blasting & ground vibrations and noise.

Figure 6-17: Photos of Rossgro operations

6.4.2 Study area 2 (Within 500m from the MRA)

The general land use in this study area differs substantially from that in the MRA Area. The land use in this study area includes commercial development, irrigation, floriculture, poultry and livestock.

The following main activities are located within this study area:

6.4.2.1 Unex Roses (located primarily in Study area 2, but also extending into Study area 3)

Unex Roses, located in Zone 2 and Zone 3, cultivates a variety of roses on 7.97 hectares of which 0.87 hectares in Zone 3 under cover and deliver the roses to Uniflo which in turn repacks and distribute them. Uniflo is currently receiving roses and flowers from 7 producers. The current labour force of Unex Roses is around 145 with 3 terrain managers.

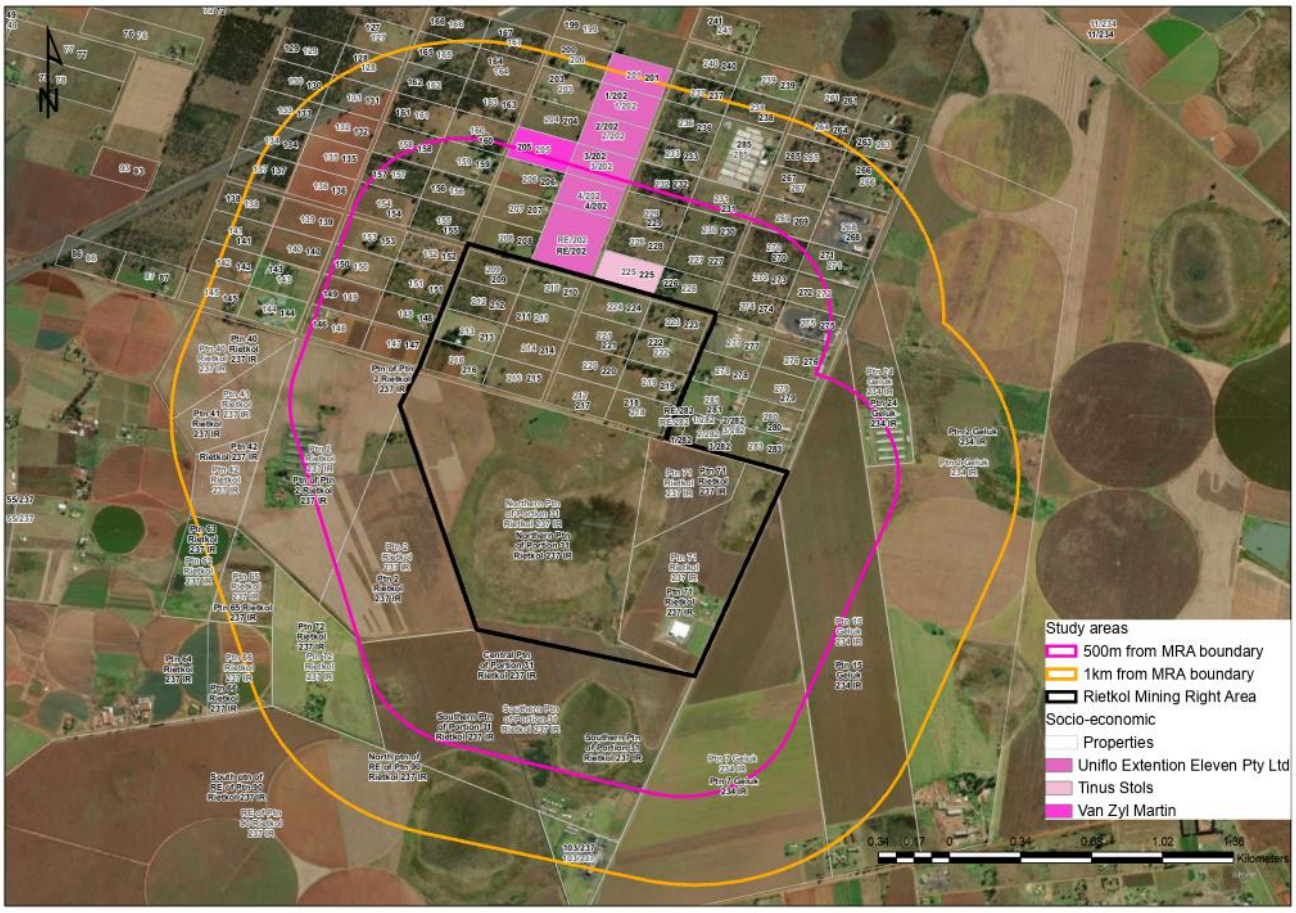


Figure 6-18: UNEX Roses properties

According to Uniflo's webpage, Uniflo Roses is the largest rose supplier in South Africa, and is supplied by various Floriculture production units (35 hectares in total). They export roses worldwide and more than 70% of all roses originating from South Africa come from their producing farms or growers. Unex Roses is one of Uniflo's producing farms and provides 22% of Uniflo's distribution.

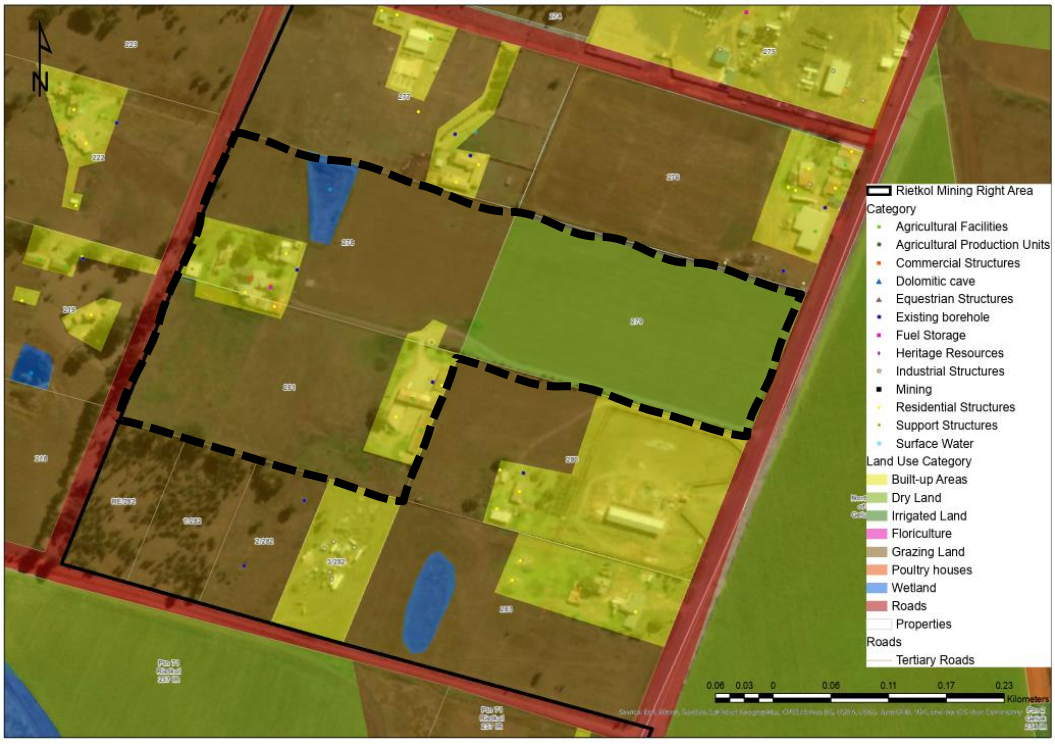
Figure 6-19: Photo of Unex Roses

In addition to the Rose growing, the owners have also established prickly pear producing. Cactus pears or prickly pears are of Mexican origin, in South Africa various hybrid cultivars are utilized due to its high fruit quality. The cactus pear, formerly called the prickly pear, has long been valued in South Africa as cattle fodder as well as for its delicious, healthy fruit. Currently the properties have 6.88ha in production.

Combined Private Investigations (CPI)

Combined Private Investigations (CPI) is a corporate investigation firm, specializing in the investigation of non-ferrous metal theft, specifically focusing on syndicates targeting electrical networks for most of the electricity supply companies and railway networks. In addition, CPI secures and tracks high value cargo for both road and rail transportation and logistics agents (https://www.combinedpi.co.za).

Three smallholdings form part of the CPI operational area i.e., 278, 279 and 281, registered under Robertson Trust. Smallholding 278 houses the management offices, training facility, some of the accommodation areas and a 15 000 liter fuel tank for the use of the vehicles. Smallholding 281 includes workshops and storages areas, the training accommodation area, kitchen and entertainment areas for the trainees. There is also Vodacom tower as well as a helicopter landing facility on site. On site is an average of 12 permanent staff members and regularly increased in numbers by staff on courses, with varying groups of between 10 and 20 attendees.



6.4.2.2 Dr Jacobus Greeff

Holding 277 in Zone 2 is the property of Dr Greeff where four houses are situated as well as the pig feed experimental unit. Dr Greeff has a large house for rental next to CPI and also have a pig feed testing unit with 250 pig saws who produces piglets. Dr Greeff also have pig feed producing unit in Sundra, about 15 km from the proposed mine.

6.4.3 Study area 3 (Between 500m – 1km from the MRA)

The land use in this study area is also diversified, including commercial development, irrigation, horticulture, pasture, floriculture, and livestock. The following main commercial agriculture and other activities are located within this study area:

6.4.3.1 Pretorius Blomme

Pretorius Blomme produces fresh flowers (Chrysanthemums) for the local market in an area under cover, roughly 3.5 hectares. The company was established in 1987 and has steadily expanded over a period of 30 years. The business consists of three business managers and employs 65 workers, 4 office staff and 2 terrain managers. Labourers either stay on the property, or travel from existing settlements in the municipal area (Delmas, Eloff, Botleng). A group of family members also live in a house on the property.

About 99% of their production is different colours of Chrysanthemums and the rest is foliage used in flower bouquets.

The small plants are imported from Tanzania and then grown and marketed in South Africa, although some propagation of the plants are now taking place on site. The flowers are packed on site, stored in coolers and then dispatched to the market by road. About 50% is flown from Oliver Tambo airport to flower wholesalers in the Western Cape. The entire management and marketing are done on site.

Figure 6-20: Pretorius Blomme

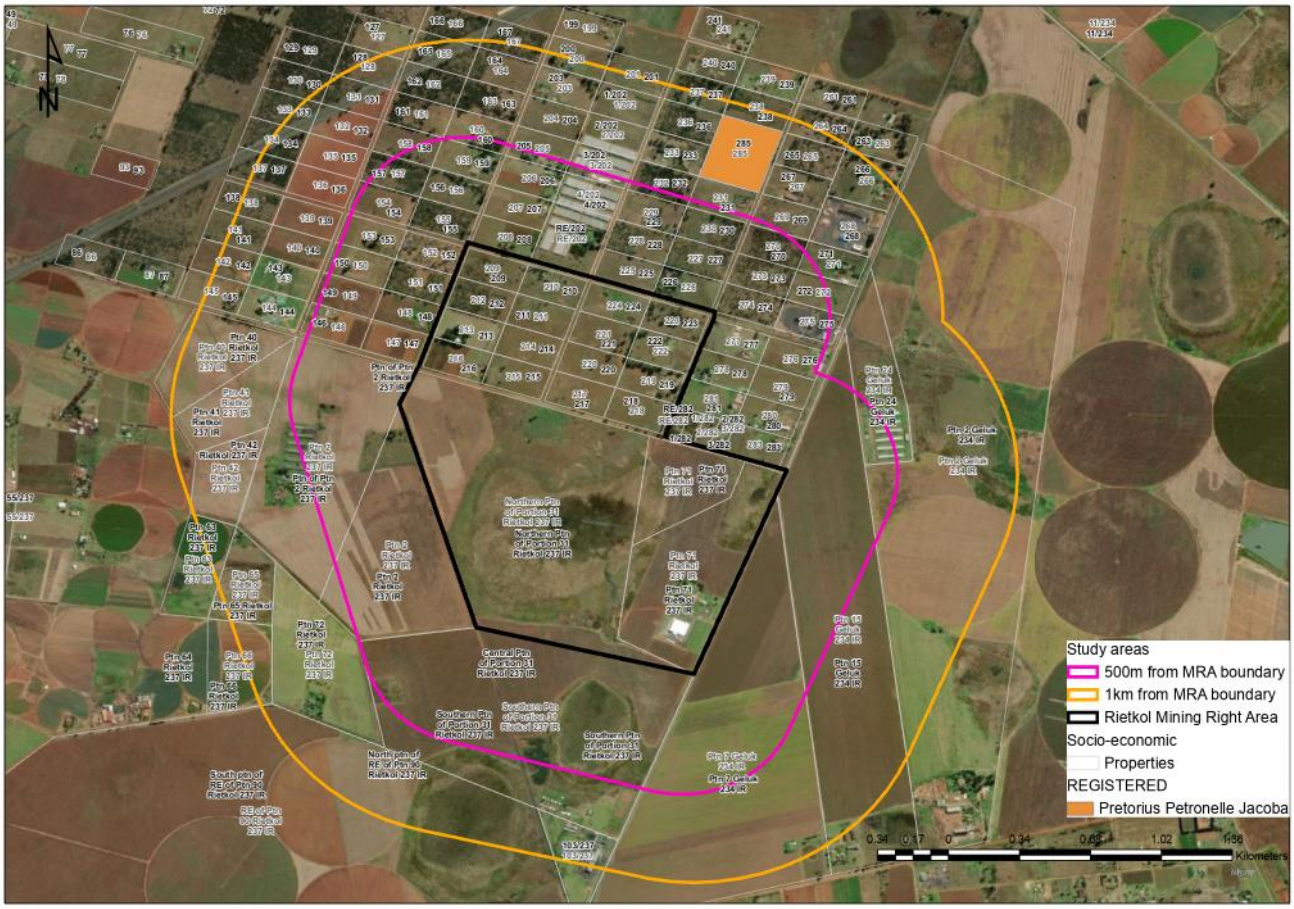


Figure 6-21: Pretorius Blomme Map

6.4.3.2 Rossgro Broilers

Rossgro are commercial egg, broiler and feed producers located within Study area 2 and 3. The closest broiler unit (Rietkol 237 IR Portion 2) is located approximately 730m southwest from planned mining activities and 400m from the MRA boundary (Rustig Broiler Farm), and the Geluk Broiler Farm (Geluk 234 IR Portion 24) is located approximately 800m from planned mining activities and 400 m east from the MRA boundary (Production Unit 2). Apart from the broilers, Rossgro also produce input products from these properties for their animal feed production.

Figure 6-22: Broiler Houses (Production Unit 1 & 2 respectively)

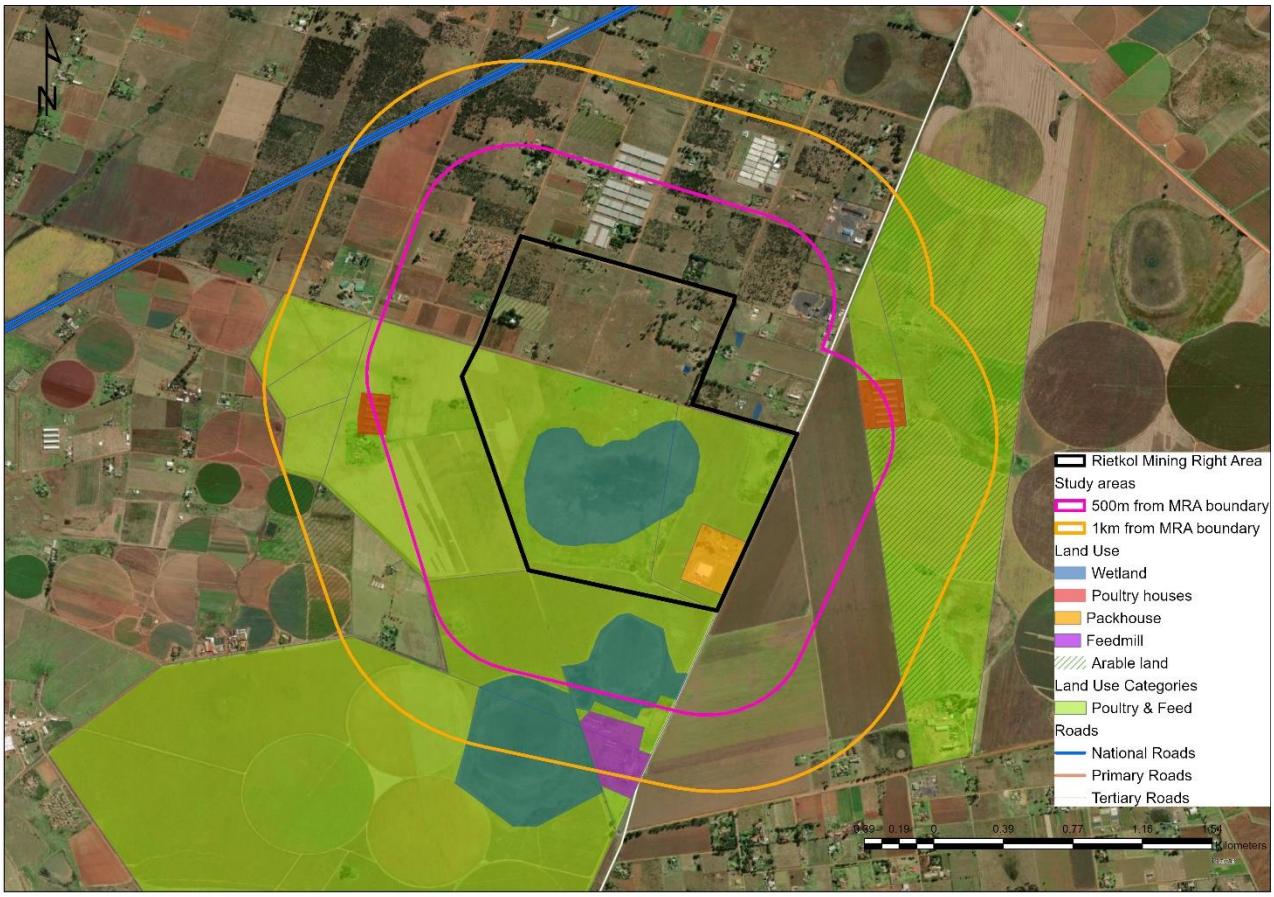


Figure 6-23: Properties owned by Rossgro & broiler locations

6.4.3.3 MBFi

MBFi[1] have their Fungal Department on Holding 144 with experimental crops on Holdings 146, 147 and 216. MBFi, founded in 2003, is a South African multi-national agricultural technology business which operates within Study area 2 and 3. They manufacture and supply insecticides, fungicides, rhizobium inoculants, fungal and bacterial plant promoting inoculants, plant hormones, plant performance products, SAR products, amino acid, seaweed-based fertilizers, liquid chelated fertilizers, unique seed treatment packs, micro-granulated phosphorous fertilizer and adjuvant products. They work in close relationship with farmers, distributors, researchers, suppliers and staff. They are a registered manufacturer and supplier of agricultural products to the South African farming industry. The research currently is aimed at maize and soya production. The research unit houses equipment that are primarily sensitive to vibration and dust interferences.

[1] *MBFi – Microbial Biological Fertilizers International, founded in 2003, is a South African multinational agricultural technology business.*

Figure 6-24: MBFi complex

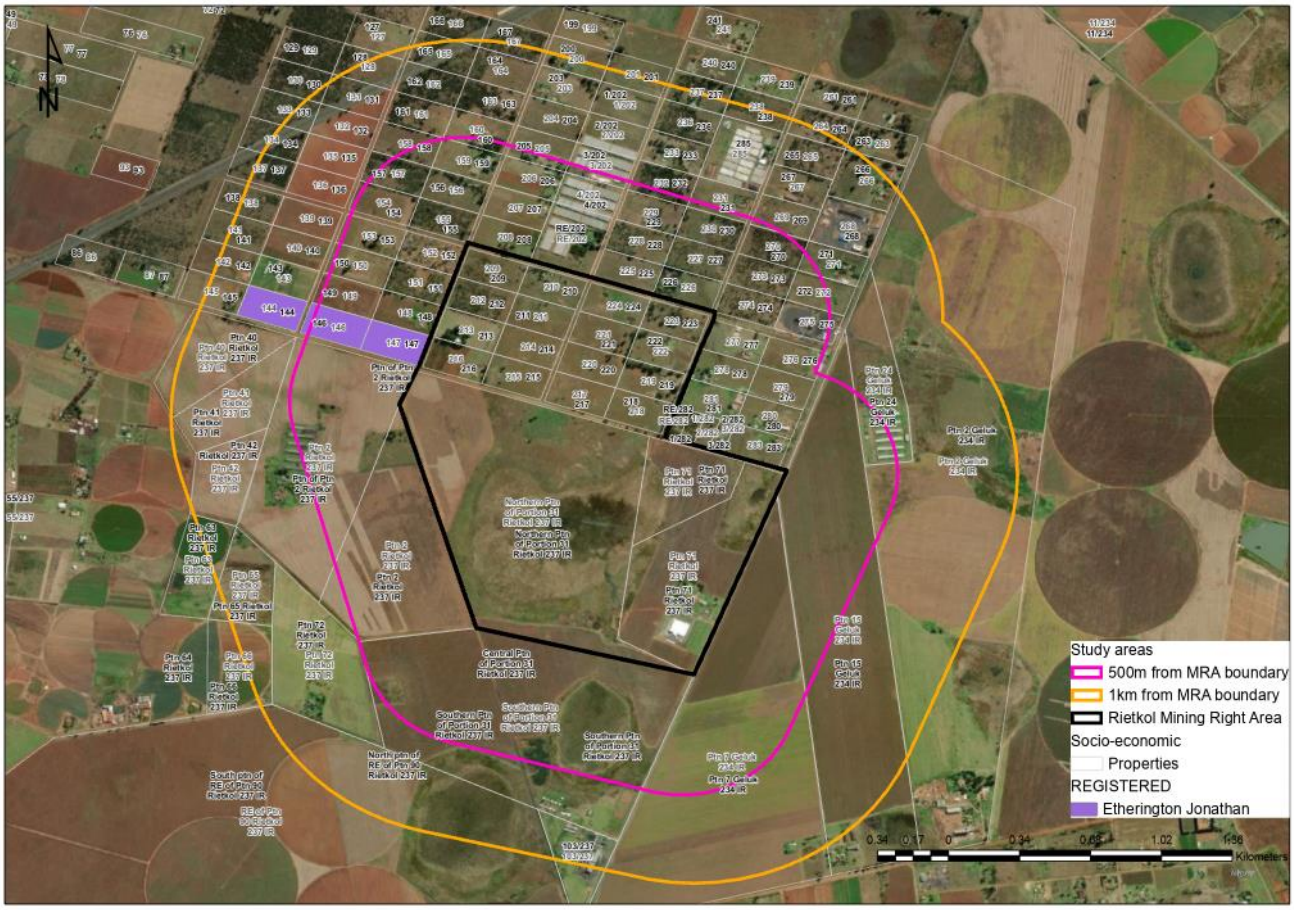


Figure 6-25: MBFi properties

6.4.3.4 Horse Studs and Equestrian Centre

Some landowners have indicated that they are involved in equestrian activities focused on training of horses and riders or just keeping the horses. These activities and properties are indicated in the figure below.

The Goudhoek SA Boerperd Stud has an Equestrian Centre which is located on Modder East Orchards Agricultural holdings 160 and 161, in Study area 3. The Boerperd Stud receives the horses at a young age and

then train them at the Equestrian Centre. The schooling constitutes the value added and determines the sale price of the horse. At the equestrian centre approximately four to eight events are hosted annually with approximately 30 to 40 competitors and their participating horses. This equates to an average of 100 visiting horses per event. Events are primarily held over weekends. Of the visitors are children and the visiting horses are not accustomed to noise and earth tremors which may originate from blasting at the mine during competitions. Sudden noise frightens horses which can result in injuries to the riders and/or the horses.

Holdings 135, 126, 139, 140, 141 and 143 is owned by the Middleditch family, who apart from grazing and pasture units, also keeps horses. In the social survey completed with the family it was noted that approximately 10 – 15 horses are kept on the property. Other landowners more than 1km from the Mining Right area have also indicated that horses are kept and also raised concerns surrounding noise pollution.

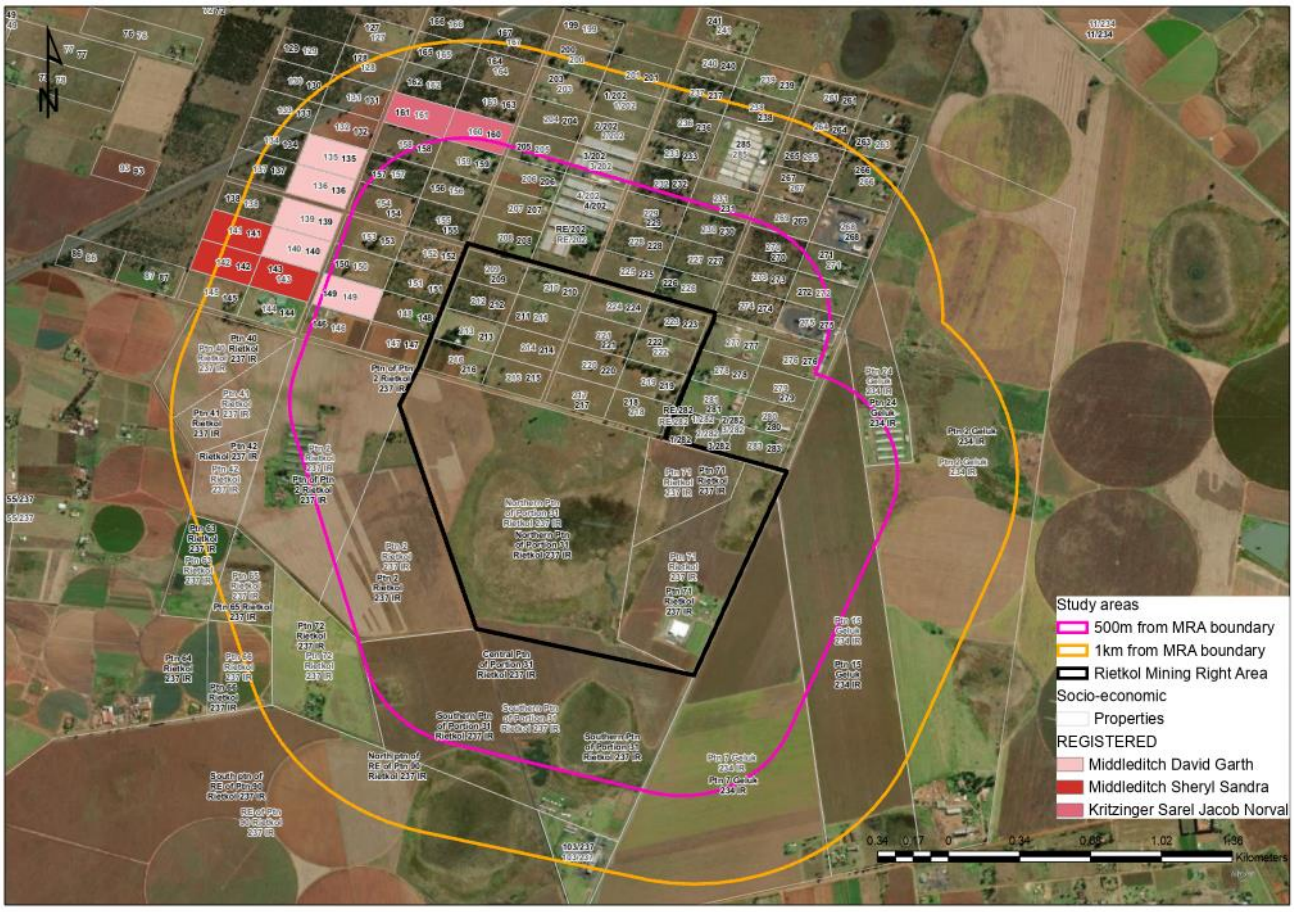


Figure 6-26: Equestrian activities

Figure 6-27: Horse Studs and Equestrian Centre

6.5 Mining Activities

The figure below illustrates the spatial distribution of applications for mining and prospecting licenses in the municipal area (source Victor Khanye SDF). From this it is evident that the entire eastern and southern extents of the municipal area is covered by mining license applications, while there are prospecting license applications on almost the entire remainder of the municipal area.

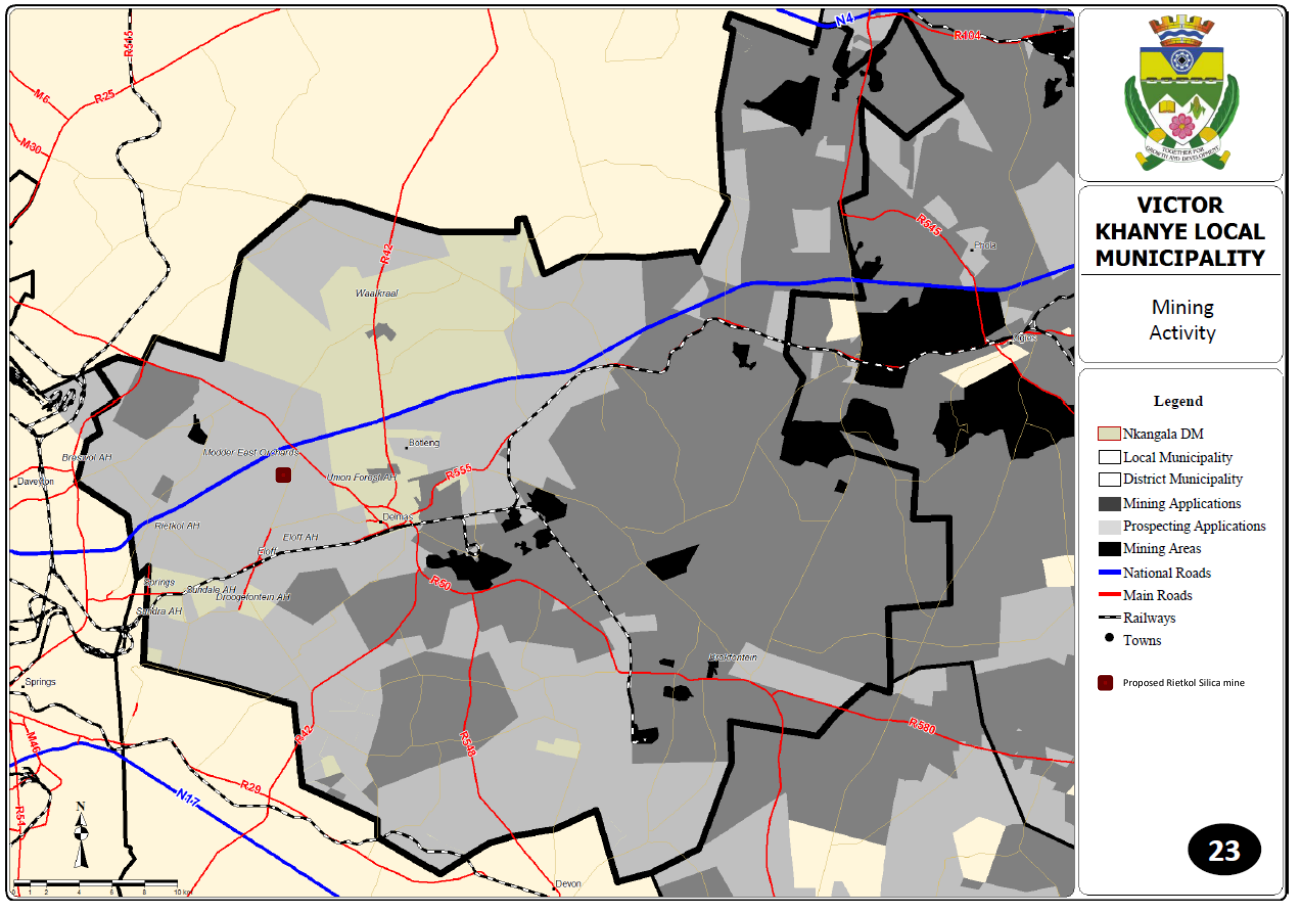


Figure 6-28: Prospecting, Mining Applications & Mining areas, Victor Khanye SDF, 2015

Also shown on the figure above is the footprint of existing mining activities (as per the SDF). It is clear that the spatial extent of mining activities is significantly less than the area covered by the license applications. The two predominant mining areas are around Delmas, and also in the far north-eastern corner of the municipal area. Mining activities however have also expanded recently to the west of the municipal area. Mining activities in the municipal area are concentrated mainly on coal and silica. About 3 million metric tons of coal and 2 million metric tons of silica are mined annually in the municipal area.

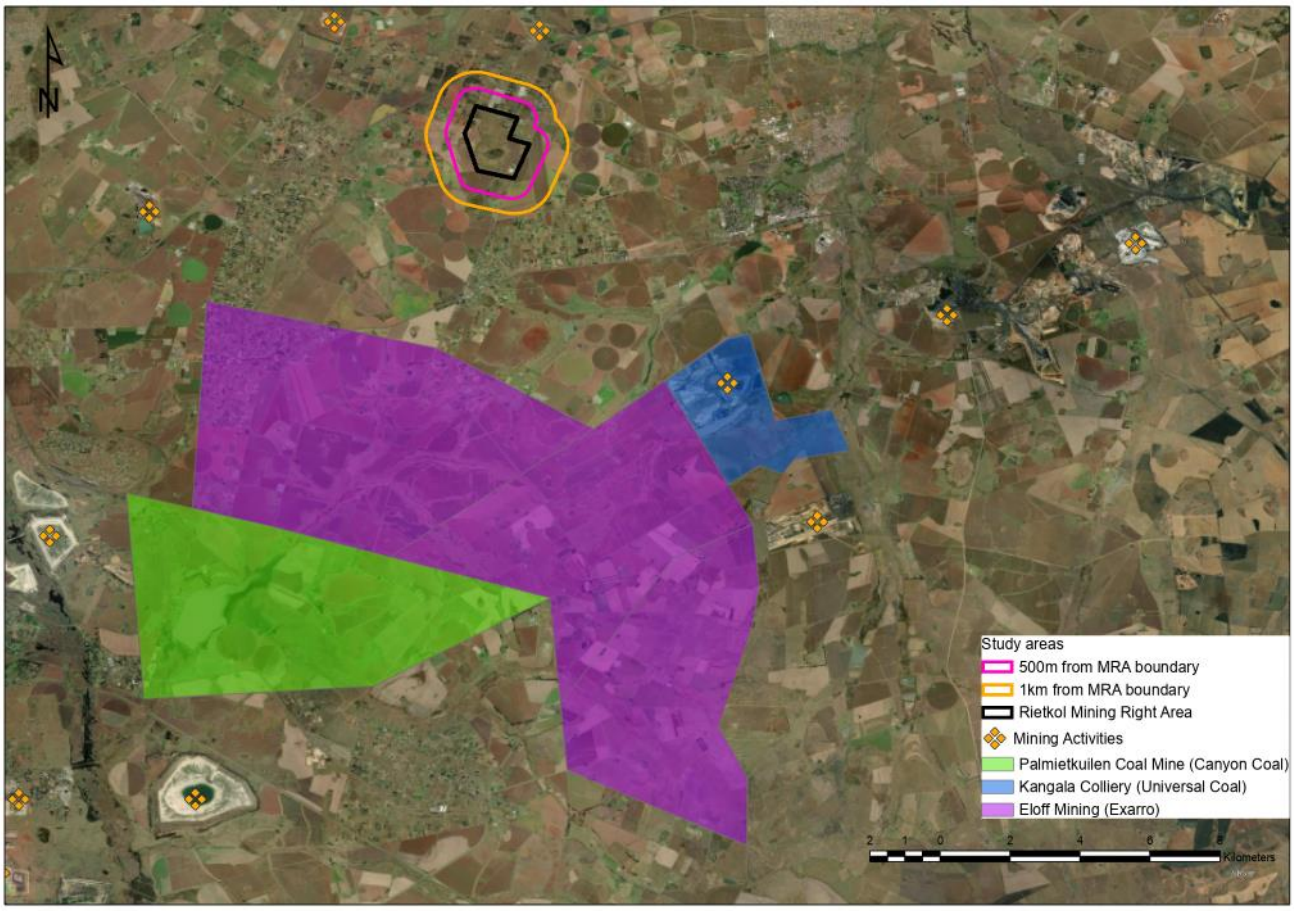


Figure 6-29: Mining Activities

The Palmietkuilen Coal mine of Canyon Coal is located 11.3km south of the Rietkol MRA area, the Eloff Mining of Exxaro is 5km south of the Rietkol MRA area and Kangala Colliery of Universal Coal is 7km south-east of the Rietkol MRA area.

7 SOCIAL IMPACT ASSESSMENT

The impacts identified have been grouped according to the cause of the impact, or the driver. The impact drivers are discussed below:

7.1 Interaction between Environmental and Social Change Drivers

It is often the case that one type of impact (for example an environmental impact) can lead to a different type of impact (for example a social impact). An example is air pollution (environmental impact) due to a new factory that can result in impacts on the health of surrounding communities (social impact). Therefore, it is important, when conducting a SIA, to consider all the impacts identified by the other studies conducted for the same development, such as impacts identified in an EIA Report, Traffic Impact Assessment, Visual Impact Assessment and Biodiversity Assessment, Air Quality and Noise.

As per the methodology discussed in paragraph 4.4.5, the sensitivity mapping utilized results from the other specialist studies to determine the overall potential impact a property is likely to experience from Environmental effects, this was further utilized to then determine the potential socio-economic effects in both the Social Impact Assessment and the Macro-Economic Impact Assessment.

7.1.1 Groundwater

All the involved economic activities have expressed concern about the quality and quantity of the available underground water.

The boreholes that may potentially be impacted by the Rietkol Project, as identified by the groundwater specialist assessment, are indicated in the figure below.

It is important to note the following:

- Boreholes that will be impacted during the operational phase all lie within the direct impact zone which must be purchased to facilitate mining.
- Impacts on the other boreholes will only manifest at mine closure and would therefore not have any impacts during the operational phase. Groundwater monitoring must be implemented to confirm the predictions of the groundwater model as mining progresses.

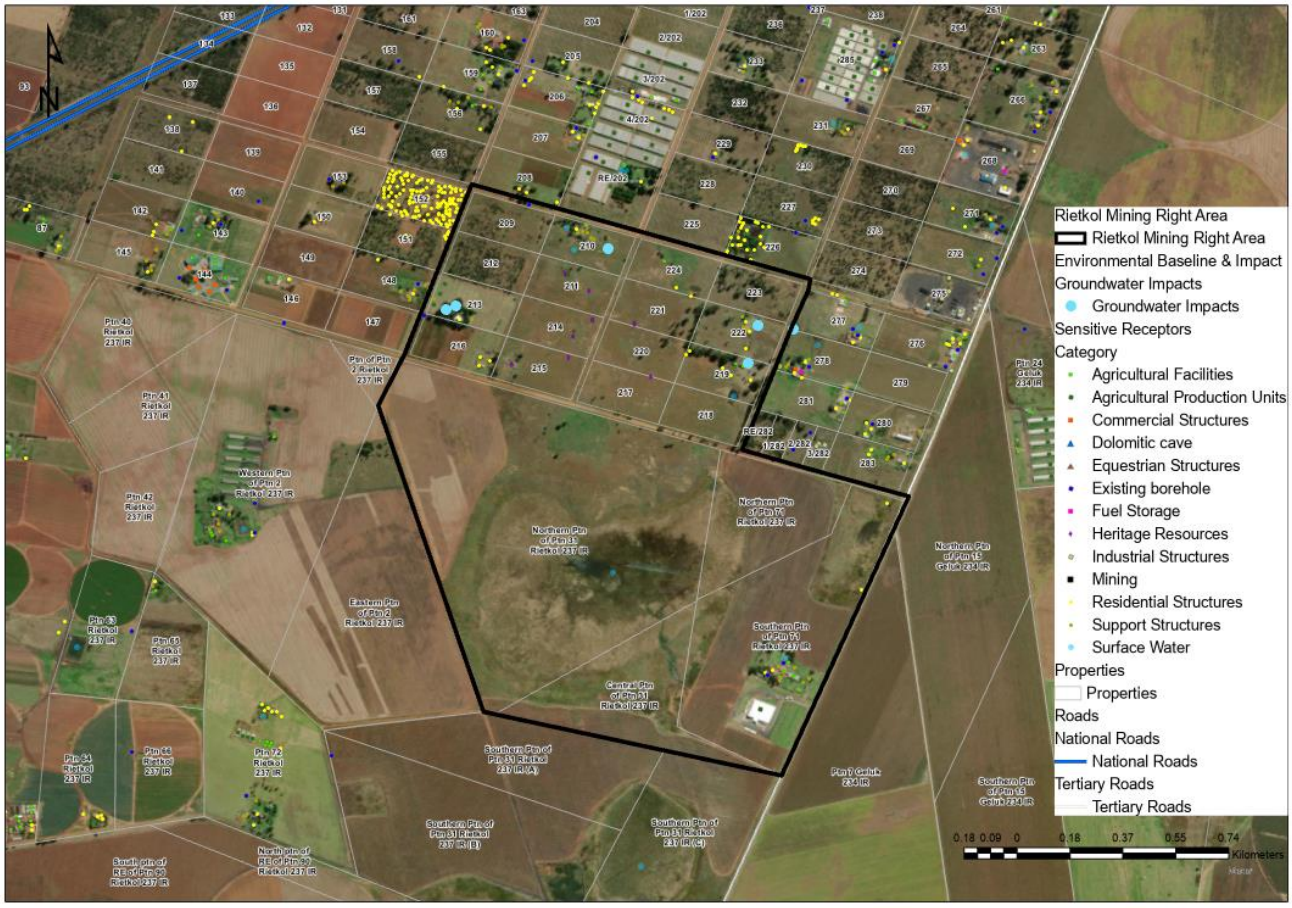


Figure 7-1: Groundwater sensitivity map

7.1.2 Traffic

The Traffic Impact Assessment concluded that the road network, surrounding the Rietkol Project, will be able to handle the traffic, with the identified road improvements, with no detrimental impact on the traffic on any of the relevant roads.

IThe specialist concluded that from a traffic perspective, there are no fatal flaws with the proposed identified required road works, including the new access onto Road D1550, on condition that all improvements (as recommended by the traffic specialist) be constructed to the applicable standards of the provincial authority.

7.1.3 Air Quality

The exposure to Particulate Matter with an aerodynamic diameter of less than 10 microns (PM_{10}), and specifically silica dust, is regarded as the most critical social aspect associated with the Rietkol Project as this could lead to silicosis (lung disease) with a high risk of tuberculosis (TB) as a complication.

The US Occupational Safety and Health Administration has implemented as specific exposure limit of 0.1 mg/m^3 (100 µg/m^3) for respirable silica, whilst South Africa published National Air Quality standards in respect of PM_{10} (SANS 1929:2011) which stipulates a daily (24-hour) average exposure limit of 75 µg/m^3 and an annual average exposure limit of 40 µg/m^3.

The following limits were selected for air quality:

- High Impact (silica) – Respirable silica exposure above 100 µg/m^3

- High Impact – PM_{10} daily exposure of above 75 µg/m^3
- Moderate Impact – PM_{10} daily exposure between 50 µg/m^3 and 75 µg/m^3
- Low impact – PM_{10} daily exposure of between 40 µg/m^3 and 50 µg/m^3

The air quality sensitivity map is presented in the figure below.

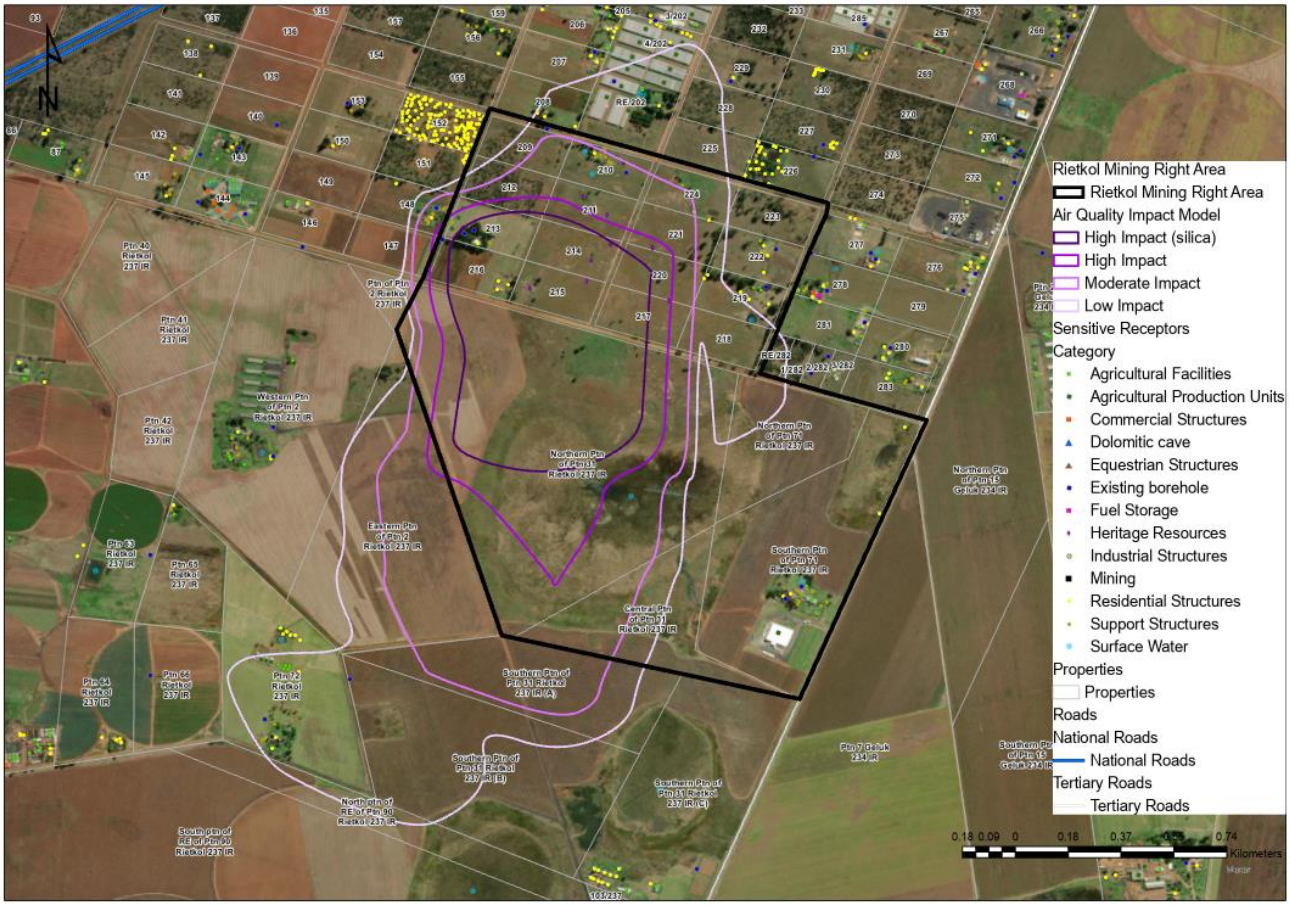


Figure 7-2: Air quality sensitivity map

7.1.4 Noise

The baseline monitoring conducted by Enviro-Acoustic Research indicates that the ambient sound levels of the area are typical of an urban noise district and the acceptable zone rating level would be that of an urban area (45 dBA at night and 55 dBA during the day) as defined in SANS 10103:2008 (for residential use).

An increase (from the ambient sound level) of more than 7 dBA is defined as a disturbing noise and prohibited by National and Provincial Noise Control Regulations. Mining activities (calculated noise levels) should therefore not change the proposed acceptable rating levels with more than 7 dBA (disturbing noise) and ideally with no more than 3 dBA (World Bank guidelines). For the sensitivity mapping the night-time limit of 45 dBA was used which presents the worse-case scenario. The following limits were set for ambient noise:

- High Impact – Increase of 7 dBA or more
- Moderate impact – Increase of between 5 - 7 dBA
- Low impact – Increase of between 3 - 5 dBA

The noise sensitivity map is presented in the figure below.

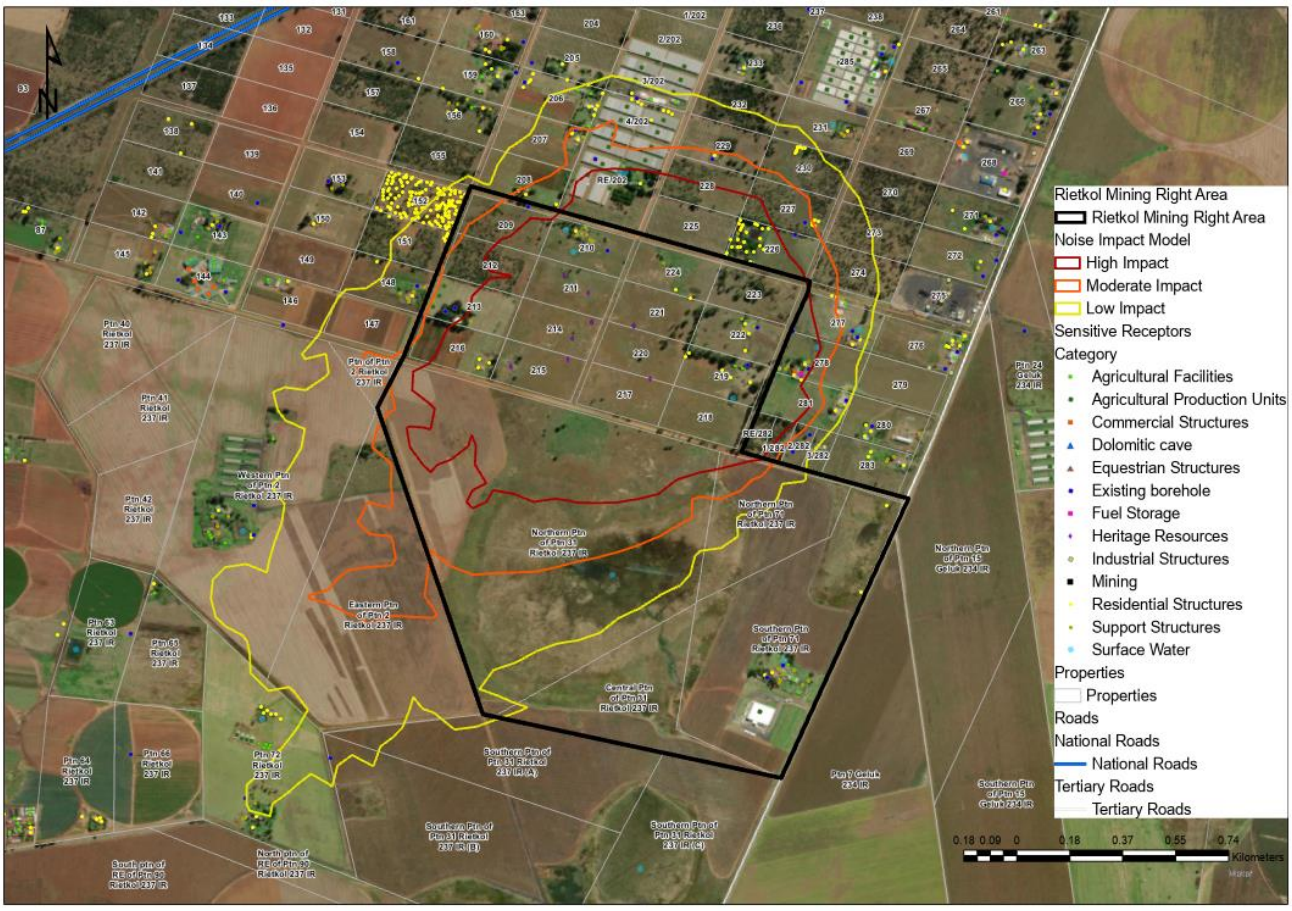


Figure 7-3: Noise sensitivity map

7.1.5 Blasting

The blasting impact assessment concluded that with the adoption of the revised blasting design as developed by BM&C, the following impacts are envisaged:

- Ground vibration impacts will be limited to sensitive receptors situated within the MRA and pit areas.
- Air blast impacts will also be limited to the MRA area except for the potential impact on the flower tunnels situated just to the north of the MRA area due to a lower limit set for such structures.
- The exclusion zone (evacuation zone) for fly rock was calculated as 105 m from any blasting event.

The blasting sensitivity map is presented in the figure below.

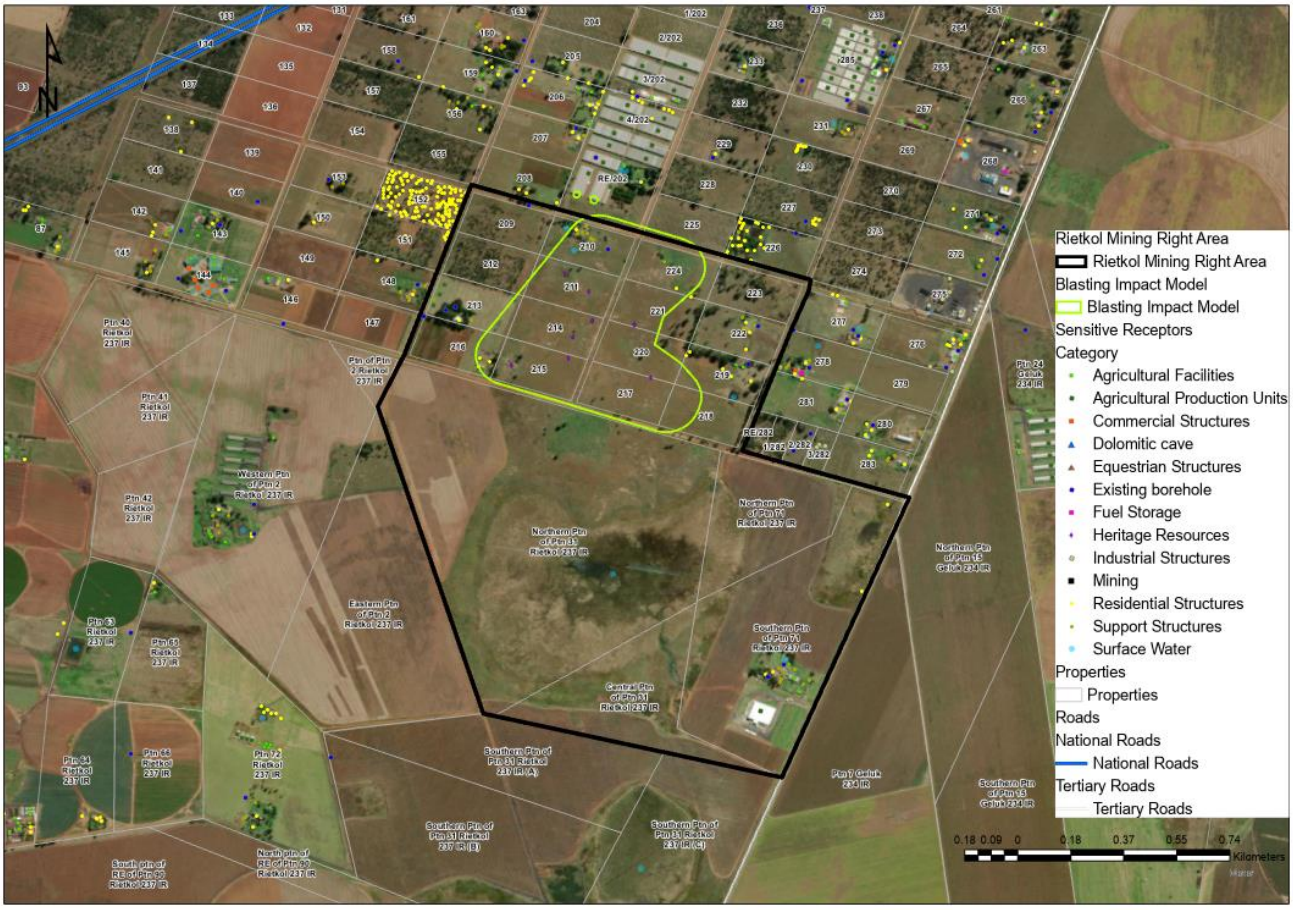


Figure 7-4: Blasting sensitivity map

7.1.6 Cumulative (combined) Sensitivity Mapping

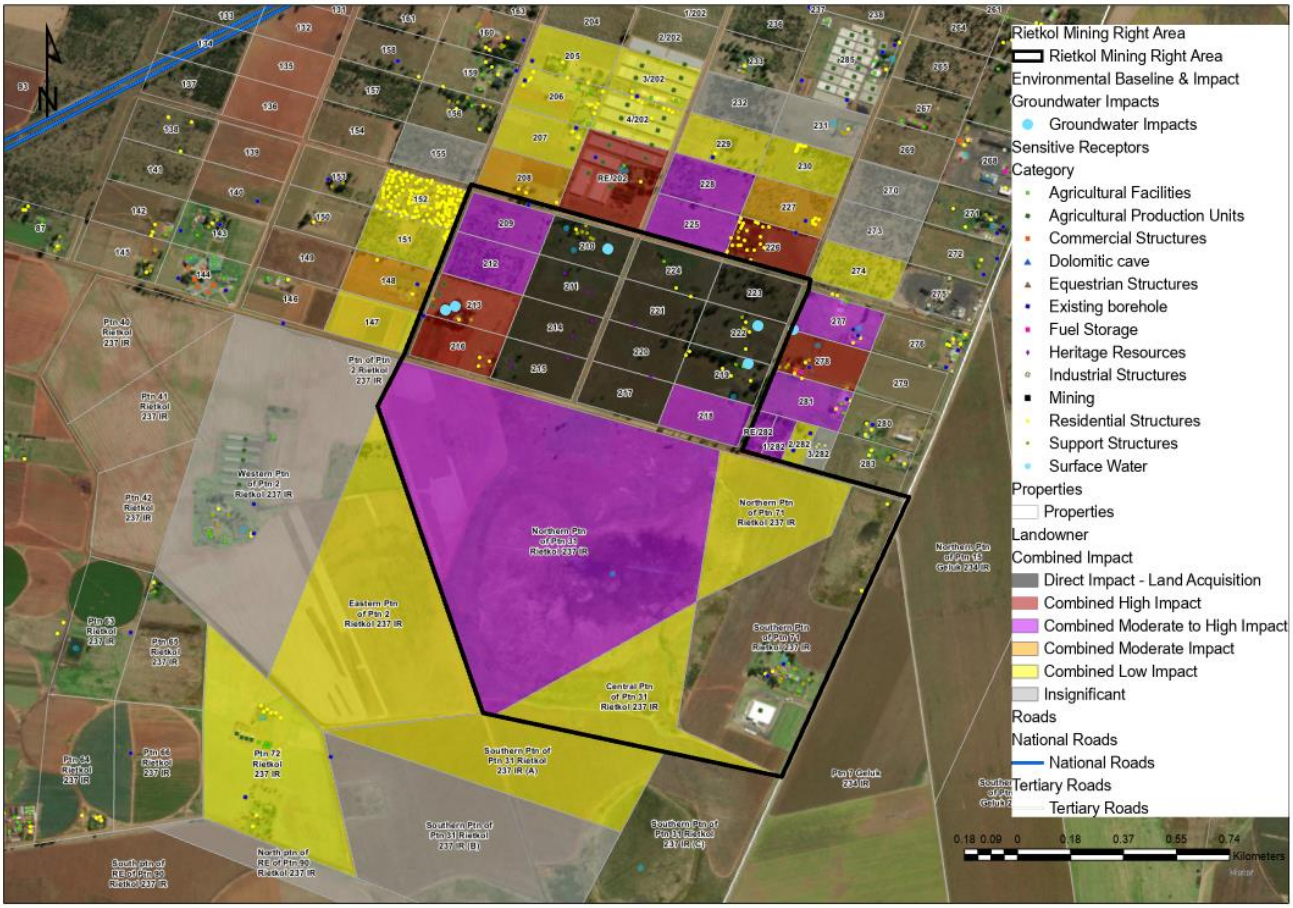


Figure 7-5: Property Risk Classification

The map above indicates the overall impact ratings determined. Most of the properties marked for land acquisition has already or are in the process of being purchased. It is proposed that properties with a high combined impact and where mitigation are not expected to reduce the impact sufficiently should also be purchased by the applicant.

The tables providing detail on each property is attached as Appendix E.

7.2 Driver 1: Change in Land use, Cover & Ownership

7.2.1 Impact on Agricultural Residences and Support Infrastructure due to land acquisition for footprint or high or moderate-high cumulative impact from Environmental Impact Interactions

7.2.1.1 Impact Description

The area earmarked for the development of the Rietkol Project is currently occupied by Agricultural Residences and Support Infrastructure. It is Nhlabathi Minerals' intention to purchase the 11 Agricultural Holdings that fall within the mining footprint area and has already concluded sale agreements on many of the properties. On some of the smallholdings there are residential structures and agricultural/support/other structures. Most of the smallholdings however are vacant with no structures present. Where structures exist the mine plans to repurpose these buildings to form part of the required mining infrastructure where possible.

Other holdings within the MRA area that is not directly required for mine development but that fall within a High-Risk Rating (Holding 213, 216, 209, 212 and 218) should be purchased where possible. The Risk rating on the northern portion of portion 31 of Rietkol 237 IR is moderate to high, but Portion 71 has a combined low risk rating in terms of the Risk Rating as determined with the Interaction and Social Sensitivity Mapping and Risk Assessment discussed above under paragraph 7.1. The properties to the south (a portion of portion 31 of Rietkol 237 IR and Portion 71 of Rietkol 237 IR) will not be purchased at this time. The risk rating is made up of air quality and noise impacts, but there are no structures on this property and the expected impact on social health and wellbeing is expected to be low. Mine development will also not extend onto these properties.,

Within Study area 2, there are properties with a combined High Risk Rating (Holding 226, 278, and Remaining Extent of Holding 202) and Moderate to High Risk Rating (Holding 225, 228, 277, 281, Ptn 1 of Holding 282 and Remaining Extent of Holding 282) as determined with the Interaction and Social Sensitivity Mapping and Risk Assessment discussed above under paragraph 7.1, primarily due to moderate to high noise impacts. There are residential structures, agricultural/support/other structures and floriculture structures located on these properties. Blasting, specifically air blast impacts, may affect 2 floriculture tunnels on property RE/202 It is Nhlabathi Minerals' intention to mitigate these noise impacts by implementing those mitigation measures as contained in the EMP and Noise Specialist study, and to further monitor noise in these areas.

7.2.1.2 Social Impact Rating

Potential Impact	Nature of Impact	Extent	Duration	Intensity	Probability	Weighting Factor	Significance Rating (WOM)	Mitigation Efficiency	Significance Rating (WM)
Displacement of Agricultural Residences and Support Infrastructure within mine footprint areas & those with a High Sensitivity Risk Rating.	Negative	Site specific	Permanent	High	Definite	Medium to High	Medium to High	Low to Medium N	Medium
Impacts on Agricultural Residences & Support Infrastructure surrounding mine footprint areas & those with a Moderate Sensitivity Risk Rating specifically due to a High Noise Impact	Negative	Local	Long term	High	Highly Probable	Medium	Medium	Medium N	Low to Medium

7.2.1.3 Mitigation Measures

The mitigation measures include the following:

- Valuation of all immovable assets for inclusion in the land acquisition agreement for those holdings to be purchased.
- Utilizing the existing buildings as part of the mine development's required infrastructure.
- Ensure a good working relationship between mine management and all potentially sensitive receptors in proximity to the mine. Communication channels should be established.
- Mitigate air quality through dust suppression, wet processing, wind entrainment, and windshields or barriers; noise pollution through implementation of noise abatement measures on vehicles and machinery that generates most noise and blasting impacts through blast preparation and specific stemming controls
- Structure inspections to be conducted in a radius up to 1200 m from the pit area.
- Arrangements should be agreed with equestrian areas surrounding the times of blasting and notification process
- Set the speed limit for hauling vehicles and vehicles in general to as low a speed possible and enforce the speed limits specified.
- Implementation of noise air quality and blasting monitoring programmes with measurements taken where sensitive receptors may be at risk.

- Establishment of a grievances and complaints procedure and raise awareness of this procedure amongst landowners in influence zones.

7.2.1.4 Proposed Monitoring and/or Management Requirement

Management Plan	Monitoring Plan
Stakeholder Engagement Plan	Stakeholder Engagement Monitoring
Issues and Grievance Management Plan	Issues and Grievance Monitoring Programme
Land Acquisition Agreements	Noise Monitoring Programme

7.2.2 Loss of access to productive land and livelihood activities (economic displacement) due to footprint or high cumulative impact from Environmental Impact Interactions

7.2.2.1 Impact Description

The MRA area has a total of 201.24ha productive land, of which 49.56ha is used for crop production, 98.5ha for grazing, 3.5ha for pecan nut production, 4.04ha for the Egg packhouse and the balance are natural/wetland areas. It is expected that at least 40ha of grazing will be lost due to mine development. There is a further expected risk to the pecan nut farming, where purchase of this property is recommended. It is not expected that the egg packhouse will need to be purchased as impacts can be effectively mitigated. It can therefore carry-on normal pre-mining economic activities.

The total productive land use within Study area 2 is 422.25ha. The land use is made up of crop production (231.98ha), Floriculture (7.97ha), grazing (107.647ha), pasture (15.61ha), and cactus pears (6.88ha). Other commercial and residential developments include Combined Private Investigations (CPI), MBFi and commercial agricultural structures and residential rental activities. There are 3 properties (Holding 226, 278 and Remaining Extent of Holding 202) with an expected High risk if impacts are not mitigated, and 6 properties (Holding 225, 228, 277, 281, Portion 1 of Holding 282 and Remaining Extent of Holding 282) with an expected Moderate to High risk if impacts are not mitigated. These holdings have various economic activities which includes grazing, commercial agriculture, floriculture, commercial development and residential rentals.

The economic activities within the MRA area and surrounding study areas contribute approximately R121.388 million to the GDP with an additional R123.0131 million in indirect or induced contribution. It further creates approximately 425 job opportunities (in an area of 1km surrounding the project area).

In a worst-case scenario where impacts cannot be mitigated to acceptable standards, and where larger commercial developments are adversely affected, there could be a reduction of R5.7 million in direct GDP contribution and the loss of approximately 20 job opportunities. This relates to a GDP contribution reduction of 1.87% from land use activities from within the Mining Right area, a potential GDP reduction of 7.7% from land us activities within 500m from the MRA area, and a GDP reduction of 0.9% of land use activities in 500m to 1km from the MRA area (*Mosaka, 2021. Rietkol Economic Impact Assessment*).

7.2.2.2 Social Impact Rating

Potential Impact	Nature of Impact	Extent	Duration	Intensity	Probability	Weighting Factor	Significance Rating (WOM)	Mitigation Efficiency	Significance Rating (WM)
Loss of access to productive land and livelihood activities (economic displacement) within mine footprint areas & those with a High Sensitivity Risk Rating.	Negative	Site specific	Permanent	Medium	Definite	Medium	Medium	Medium N	Low to Medium

Potential Impact	Nature of Impact	Extent	Duration	Intensity	Probability	Weighting Factor	Significance Rating (WOM)	Mitigation Efficiency	Significance Rating (WM)
Loss of access to productive land and livelihood activities (economic displacement) surrounding mine footprint areas & those with a Moderate Sensitivity Risk Rating due to noise impacts.	Negative	Site specific	Long term	Medium	Probable	Medium to High	Medium	Medium N	Low to Medium
Loss of access to productive land and livelihood activities (economic displacement) due to blasting / air blast impacts	Negative	Site specific	Long term	High	Highly Probable	Medium to High	Medium to High	Medium N	Low to Medium

7.2.2.3 Cumulative Impact

Stakeholders stated during the Public Participation that existing mining activities recently commenced to the south of the project area which already cause a nuisance impact in terms of blasting and noise. If further developments take place in proximity to the Modder East AHs there may be a cumulative noise and blasting effect that cannot be determined at this stage.

7.2.2.4 Mitigation Measures

The following mitigation measures are proposed:

- Valuation of productive land for inclusion in the land acquisition agreement for those properties to be purchased.
- Mitigate air quality through dust suppression, wet processing, wind entrainment, and windshields or barriers; noise pollution through implementation of noise abatement measures on vehicles and machinery that generates most noise and blasting impacts through blast preparation and specific stemming controls
- Engagement with owners of the key economic activities surrounding the development should be implemented. This is to determine measures that can be implemented apart from the already stated mitigation measures against noise, air quality and blasting impacts to safeguard the existing economic activities. Any unforeseen impacts should be identified immediately or where monitoring indicates noise, air quality and blasting impacts cannot be mitigated effectively, the mine and land / business owners should agree on such additional measures necessary to avoid or minimize impacts on economic activities and livelihoods.
- If environmental impacts cannot be effectively mitigated, and it's determined that an adverse impact exists, then compensation for landowners affected by the mining operations must be negotiated on a fair basis.
- Where possible, and if safety permits, land purchased but not required for mining infrastructure should be made available for small scale grazing to existing agricultural operators
- Implementation of noise air quality and blasting monitoring programmes with measurements taken where sensitive receptors may be at risk.
- Establishment of a grievances and complaints procedure and raise awareness of this procedure amongst stakeholders in influence zones.

7.2.2.5 Proposed Monitoring and/or Management Requirement

Management Plan	Monitoring Plan
Stakeholder Engagement Plan	Stakeholder Engagement Monitoring
Issues and Grievance Management Plan	Issues and Grievance Monitoring Programme
Land Acquisition Agreements	Noise Monitoring Programme
	Blasting Monitoring Programme (Vibration & Air Blast)

7.2.3 Physical displacement of affected worker households and/or labour tenants through land acquisition for footprint or high cumulative impact from Environmental Impact Interactions

7.2.3.1 Impact Description

Within the MRA area, and from investigations, a total of 7 structures that could be occupied, or unoccupied labour tenant or worker houses were identified. With land acquisition for the mine development these structures and potential worker households may be adversely affected, being left homeless and unemployed. In most cases these workers have already been displaced through the purchase of these properties by Consol.

Within Study area 2, an informal settlement of local worker households resides on AH 152, but this area should only expect low impacts from Environmental impacts as determined with the Interaction and Social Sensitivity Mapping and Risk Assessment discussed above under paragraph 7.1, mostly due to unmitigated noise levels. Other labour tenants / worker houses / settlements located in this Study area may experience some nuisance effects from noise generated and blasting activities at the mine.

7.2.3.2 Social Impact Rating

Potential Impact	Nature of Impact	Extent	Duration	Intensity	Probability	Weighting Factor	Significance Rating (WOM)	Mitigation Efficiency	Significance Rating (WM)
Physical displacement of worker households and/or labour tenants through land acquisition for footprint or high cumulative impact from Environmental Impact Interactions	Negative	Site specific	Permanent	High	Definite	High	Medium to High	Medium N	Medium
Physical displacement or impact of worker households and/or labour tenants within a moderate cumulative impact zone from Environmental Impact Interactions	Negative	Site specific	Long term	High	Highly Probable	Medium	Medium	Medium N	Low to Medium

7.2.3.3 Anticipated Cumulative Impact

Stakeholders stated during the Public Participation that existing mining activities recently commenced to the south of the project area which are already cause a nuisance impact in terms of blasting and noise. If further developments take place in proximity to the Modder East AHs, there may be a cumulative noise and blasting effect that cannot be determined at this stage.

7.2.3.4 Mitigation Measures

- Valuation of all immovable assets for inclusion in the land acquisition agreement.
- Where possible offer employment opportunities to local workers that may have lost employment due to the mine development displacement
- Mitigate air quality through dust suppression, wet processing, wind entrainment, and windshields or barriers; noise pollution through implementation of noise abatement measures on vehicles and machinery that generates most noise and blasting impacts through blast preparation and specific stemming controls
- Implementation of noise air quality and blasting monitoring programmes with measurements taken where sensitive receptors may be at risk.
- Establishment of a grievances and complaints procedure and raise awareness of this procedure amongst stakeholders in influence zones.

7.2.3.5 Proposed Monitoring and/or Management Requirement

Management Plan	Monitoring Plan
Stakeholder Engagement Plan	Stakeholder Engagement Monitoring
Issues and Grievance Management Plan	Issues and Grievance Monitoring Programme
Land Acquisition Agreements	Noise Monitoring Programme
	Blasting Monitoring Programme (Vibration & Air Blast)

7.2.4 Impact on property values of adjacent properties

7.2.4.1 Impact Description

The area surrounding the Rietkol Project is used primarily for rural residential, and agriculture use with some commercial development. During the scoping phase of the project, certain members of the community exhibited concern that the environmental impacts and properties in proximity to the proposed project could negatively impact property values in the area. In general, any development associated with some negative environmental effects can influence property values in two primary ways:

- Firstly, it can reduce the value of the land if the proposed development has a negative image associated with it. This could be related to the real or perceived adverse effects that the proposed development could have on air quality, noise levels, aesthetics, traffic congestion, health, and crime levels in the area.
- Secondly, the development could increase the demand for surrounding properties and lead to the rise in the area's property values. This could occur in situations where nearby properties are found to carry valuable marketable natural resources, or they offer improved accessibility of suppliers and workers to the facility or other nearby developments.

Over the years, studies have been undertaken of the impact of industrial development on the value of residential property. These impacts, however, are not easily measurable, as property value is determined by various factors that are market driven such as land use, safety, location, property size, housing size, services, amenities and technology. In a recent local study conducted by African Development Economic Consultants (2013), on the impact of a Refinery on property values, it was found that those properties utilized for residential use directly adjacent to mining / industrial development has the highest risk of influence on property values, as the research found that residential properties located next to industrial development are less favoured by potential buyers than those further away.

7.2.4.2 Social Impact Rating

Potential Impact	Nature of Impact	Extent	Duration	Intensity	Probability	Weighting Factor	Significance Rating (WOM)	Mitigation Efficiency	Significance Rating (WM)
Impact on property values of adjacent properties	Negative	Local	Medium term	Medium	Probable	Medium to High	Medium	Low N	Medium

7.2.4.3 Mitigation Measures

- Establishment of a grievances and complaints procedure and raise awareness of this procedure amongst stakeholders in influence zones.
- Mitigate air quality through dust suppression, wet processing, wind entrainment, and windshields or barriers; noise pollution through implementation of noise abatement measures on vehicles and machinery that generates most noise and blasting impacts through blast preparation and specific stemming controls

7.2.4.4 Proposed Monitoring and/or Management Requirement

Management Plan	Monitoring Plan
Stakeholder Engagement Plan	Stakeholder Engagement Monitoring
Issues and Grievance Management Plan	Issues and Grievance Monitoring Programme

7.3 Driver 2: Resource Consumption and Ecosystem Services

7.3.1 Impact on livelihoods dependent on Groundwater

7.3.1.1 Impact Description

The local landowners and communities depend on groundwater for their livelihoods, there are no municipal water supply in the area. The hydrocensus/user surveys that were conducted within the MRA area and its immediate surroundings found that groundwater is used extensively for irrigation and domestic purposes. Any negative impact on water quantity or quality will have a negative impact on the health, social well-being and livelihoods of these parties.

The Groundwater Impact Report determined that:

- Numerous potential sources of groundwater contamination are planned for the MRA area, but most of these potential source areas pose no real threat to the underlying aquifer in terms of impacts on groundwater quality. Both the target mineral and host rock that will be processed in the plant and then stockpiled/dumped are inert and will therefore not react with oxygen and water to create poor quality leachate (i.e. acid mine/rock drainage).
- The sensitive dolomite aquifer will not be intersected by the proposed opencast pits. The quartzite deposit in its entirety is expected to act as a buffer between the proposed mining activities and the surrounding and underlying dolomite.

7.3.1.2 Social Impact Rating

Potential Impact	Nature of Impact	Extent	Duration	Intensity	Probability	Weighting Factor	Significance Rating (WOM)	Mitigation Efficiency	Significance Rating (WM)
Impact on livelihoods dependent on Groundwater due to potential impact on Groundwater Quality during and after decommissioning of mining	Negative	Local	Long term	Medium	Highly Probable	Medium	Medium	Low N	Low to Medium

Please note that this impact is only anticipated after decommissioning of the mine and not during operation.

7.3.1.3 Mitigation Measures

- It is acknowledged that there are processes in place to manage potential water pollution and monitor water quality. These processes should be applied continuously and post decommissioning.
- Implementation of mitigation measures as proposed by the Groundwater Impact Assessment (Dedicated plume monitoring boreholes should be drilled in the down-gradient groundwater flow direction and sampled at quarterly intervals to monitor plume migration. Should the monitoring program indicate significant plume migration, interception trenches and/or rehabilitation boreholes may be considered. Emergency measures in place for pollution incidences must include assessing the risks to adjacent landowners and communities, and if an impact is determined and the source of pollution is the mine, these landowners and/or communities

must be supplied with clean water, while remediating the water sources of these parties as soon as possible.)

- Establishment of a grievances and complaints procedure and raise awareness of this procedure amongst stakeholders in influence zones.

7.3.1.4 Proposed Monitoring and/or Management Requirement

Management Plan	Monitoring Plan
Stakeholder Engagement Plan	Stakeholder Engagement Monitoring
Issues and Grievance Management Plan	Issues and Grievance Monitoring Programme
	Groundwater Monitoring Programme

7.3.2 Impact on the availability of natural resources such as firewood, small mammals for hunting, medicinal plants and subsistence grazing

7.3.2.1 Impact Description:

The project area is currently primarily utilised for livestock grazing. Neighbouring landowners/communities utilize open holdings for additional grazing. Local communities gather firewood, medicinal plants and small mammals for protein addition in their diets. The development of the proposed project is perceived by adjacent landowners to impact on the sustainability of the current land uses in the study area.

7.3.2.2 Social Impact Rating

Potential Impact	Nature of Impact	Extent	Duration	Intensity	Probability	Weighting Factor	Significance Rating (WOM)	Mitigation Efficiency	Significance Rating (WM)
Impact on the availability of natural resources such as firewood, small mammals for hunting, medicinal plants and subsistence grazing	Negative	Site specific	Long term	Medium	Highly Probable	Medium to High	Medium	Low N	Medium

7.3.2.3 Mitigation Measures

- Allow local occupants to gather natural resources from specific areas prior to vegetation clearance.
- Lease back unutilized areas for agricultural purposes (grazing) if safety permits.

7.3.2.4 Proposed Monitoring and/or Management Requirement

Management Plan	Monitoring Plan
Stakeholder Engagement Plan	Stakeholder Engagement Monitoring
Issues and Grievance Management Plan	Issues and Grievance Monitoring Programme

7.4 Driver 3: Potential Pollution (Air, Vibration, Noise, Visual)

7.4.1 Impact on health, well-being and livelihoods of the public due to risk exposure from Potential Pollution

7.4.1.1 Impact Description

The Human Health Risk Assessment (Oosthuizen, 2021) was conducted to determine the human health risks of exposure to dust (particulate matter) containing silica. A Health Hazard Risk Assessment was also conducted

by AirCheck (2021). Air quality sources was identified in the Air Quality Impact Assessment (EBS Advisory, 2021).:

The following is noted as findings from the reports:

- Assessment of acute short-term risks from exposure to the 24-h PM2.5, indicated the same as for acute PM10 risks, namely it would be unlikely for individuals to develop acute adverse effects from exposure to the monitored or modelled concentrations. Although the combined effect from baseline and modelled data indicate a potential for adverse effects, these were based on worst-case unmitigated impacts.
- Assessment of chronic (long-term) risks from exposure to modelled annual average PM10 and PM2.5, indicated chronic health effects as a result of exposure to the modelled annual concentrations would be unlikely.
- Assessment of the chronic risks to crystalline silica (quartz) showed silicosis was mostly associated with exposure to crystalline silica particulates in the respirable size range over extended periods of time (long-term PM2.5 was used) and indicated that the risk for developing silicosis from exposure to the modelled annual PM2.5 is unlikely.
- Fumes including diesel and blasting fumes, which may cause respiratory irritation especially in those with a compromised immune system (occupational risk).
- Shock and anxiety from loud noises such during blasting (occupational risk).
- Increased irritability and annoyance due to continuous nuisance noise.
- Personal injury due to fly rock during blasting.
- Social diseases such as HIV, HPV, Herpes, Hepatitus B and STDs.

There is also a possibility of secondary impacts due to a perceived impact or risk to human or animal health.This would specifically relate to prospective buyers of either property or goods from the area, not entering into purchase contracts due to a perceived risk to human health or product contamination. This would be applicable to residential properties surrounding the mining area, as well as products produced and sold by the Rossgro package plant or Unex Roses. The perceived impact does not imply an actual impact, and with the availability of monitoring data from the mine, it would be possible to prove whether an actual impact or contamination risk exists.

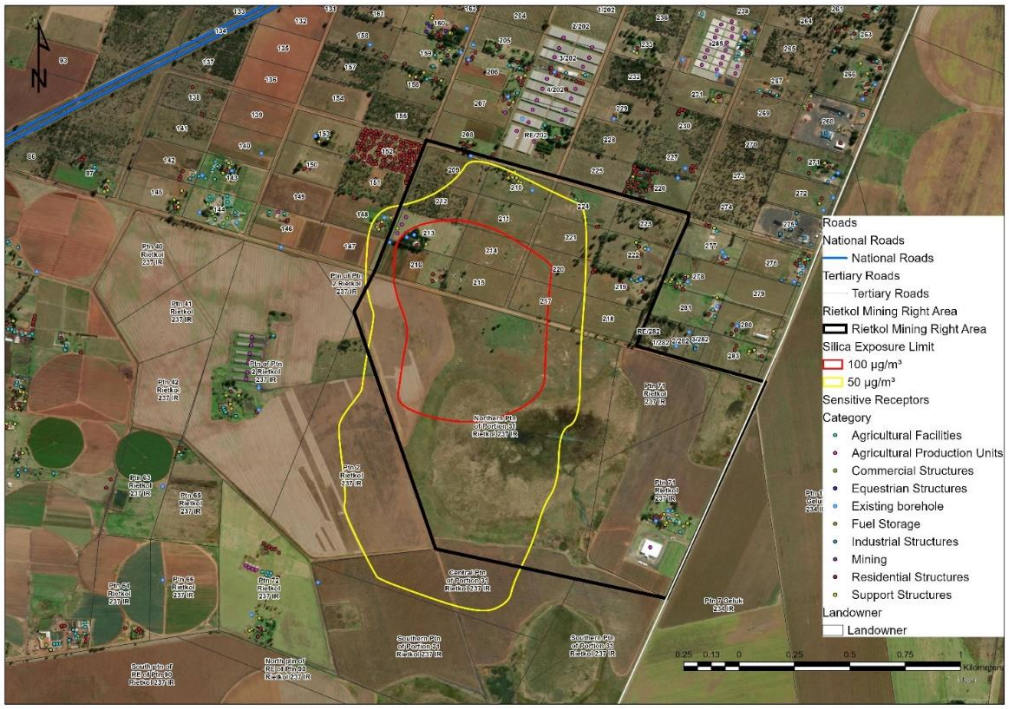


Figure 7-6: Worst case unmitigated Silica dust exposure

7.4.1.2 Social Impact Rating

Potential Impact	Nature of Impact	Extent	Duration	Intensity	Probability	Weighting Factor	Significance Rating (WOM)	Mitigation Efficiency	Significance Rating (WM)
Impact on health, well-being and livelihoods of the public due to risk exposure from Potential Pollution	Negative	Local	Long term	High	Highly Probable	Medium	Medium	Medium N	Low to Medium

7.4.1.3 Mitigation Measures

- Majority of the health impacts related to pollution can be effectively mitigated by reduction of air quality impacts. Mitigate air quality impacts through dust suppression, wet processing, wind entrainment, and windshields or barriers
- Purchase of property where risk levels are above an acceptable threshold, those properties within the MRA area where a high risk in air quality pollution levels is indicated by modelled impacts.
- Implementation of air quality monitoring programmes with measurements taken where sensitive receptors may be at risk.
- Making available monitoring information as a measure of assurance of the measured impact, and close collaboration with large production units such as Rossgro and Unex Roses to make information available to mitigate the perception of an impact by their customers.
- If impact is experienced above the predicted impacts and standards, and cannot be further mitigated, the negotiation and agreement on compensation.
- Identification of a sample of local residents at risk points and implementing a health monitoring programme with identified persons. Conduct lung function testing, once every 12 months on selected members of the public, including children.
- Communication Strategy to keep community informed of potential pollution risks and mitigation measures.
- Establishment of a grievances and complaints procedure and raise awareness of this procedure amongst stakeholders in influence zones.

7.4.1.4 Proposed Monitoring and/or Management Requirement

Management Plan	Monitoring Plan
Stakeholder Engagement Plan	Stakeholder Engagement Monitoring
Issues and Grievance Management Plan	Issues and Grievance Monitoring Programme
Land Acquisition Agreements	Air Quality Monitoring

7.4.2 Impact on health and well-being of workers due to risk exposure (silica dust, occupational risks, noise)

7.4.2.1 Impact Description

The Health Hazard Impact and Risk Assessment considered a number of potential health hazards to workers (AirCheck, 2021), these can be summarized as follows:

- Dust exposure from operational areas with specific reference to PM_{10} dust, $PM_{2.5}$ and crystalline silica.
- Fumes including diesel and blasting fumes, which may cause respiratory irritation especially in those with a compromised immune system.
- Noise induced hearing loss.
- Occupation risks of slipping, falling and accidents.

- Social diseases such as HIV, HPV, Herpes, Hepatitis B and STDs.

7.4.2.2 Social Impact Rating

Potential Impact	Nature of Impact	Extent	Duration	Intensity	Probability	Weighting Factor	Significance Rating (WOM)	Mitigation Efficiency	Significance Rating (WM)
Impact on health and well-being of workers due to risk exposure (silica dust, occupational risks, noise)	Negative	Site specific	Long term	Very High	Highly Probable	Medium to High	Medium to High	Medium N	Low to Medium

7.4.2.3 Mitigation Measures:

- Implementation of Personal Protective Equipment for workers.
- Implementation of a Health Monitoring Programme with workers.
- Compensation if risks cause health-related illnesses.
- Conduct regular full risk assessment and have procedures in place to deal with emergency incidents.
- Establish on-site emergency equipment and appoint safety staff.

7.4.2.4 Proposed Monitoring and/or Management Requirement

Management Plan	Monitoring Plan
Stakeholder Engagement Plan	Stakeholder Engagement Monitoring
Issues and Grievance Management Plan	Issues and Grievance Monitoring Programme
Land Acquisition Agreements	Occupational Hygiene Monitoring Programme
	Medical Surveillance Programme

7.4.3 Impact on Aesthetic Value and Sense of Place due to Visual intrusions and increase Nuisance Noise

7.4.3.1 Impact Description

Social impacts experienced in the physical environment relates to exposure to dust, noise, risk, odour, vibration, artificial light etc. It is anticipated that there will be a decrease in the quality of the physical environment. Noise levels and traffic in and around the affected communities will increase as result of the mining activities. The extent, magnitude and impact on the physical environment and the nuisances this will create are addressed in various other specialist studies.

Sense of place is an important consideration before any development, since sprawl development tends to eliminate unique features of the landscape. The notion that places are more than just locations is at the core of ideas about place and sense of place. In its simplest form, sense of place encompasses the idea that each person forms close relationships with the spaces and settings in which he or she interacts. As they work, play, spend time with their families and friends, travel in their neighborhoods and immediate environments individuals have positive and negative experiences in, and of, places and as a result ascribe meaning to them. It is anticipated that there will be:

- Visual impact on the landscape character and Sense of Place associated with the MRA area and surrounding area during operations, due to noise, dust, increased traffic and a change in landscape character.
- Visual intrusion of mining activities on visual receptors during operations, due to presence of mining infrastructure, increased traffic and increased presence of mining vehicles on the local roads, ongoing loss of vegetation, scarring of the terrain, and alteration of landforms and contours.

- Visual impacts from nighttime lighting impacting on receptors accustomed to a low district brightness during night time.

7.4.3.2 Social Impact Rating

Potential Impact	Nature of Impact	Extent	Duration	Intensity	Probability	Weighting Factor	Significance Rating (WOM)	Mitigation Efficiency	Significance Rating (WM)
Impact on Aesthetic Value and Sense of Place due to Visual intrusions and increase Nuisance Noise	Negative	Regional	Long term	High	Definite	Medium	Medium to High	Medium N	Low to Medium

7.4.3.3 Cumulative Impacts

An increase in development projects in the region affecting similar geographical area can cause an increase in the intrusion to sense of place. In the event of increased development in the region, the aesthetic environment will be further impacted, this may render other land use activities that rely on the aesthetic environment (tourism, etc.) non-viable.

7.4.3.4 Mitigation Measures

- Implementation of mitigation measures as contained in the Visual Impact Assessment
- Implementation of mitigation measures as contained in the Noise Impact Assessment
- Establishment of a grievances and complaints procedure and raise awareness of this procedure amongst stakeholders in influence zones.

7.4.3.5 Proposed Monitoring and/or Management Requirement:

Management Plan	Monitoring Plan
Stakeholder Engagement Plan	Stakeholder Engagement Monitoring
Issues and Grievance Management Plan	Issues and Grievance Monitoring Programme

7.5 Driver 4: Goods, Staff and Product Transport

7.5.1 Disruption of daily living and movement patterns and safety of road users

7.5.1.1 Impact Description

In terms of impacts on daily movement patterns, the main access road to the area (D1550) will be impacted by an increase in traffic between the mine infrastructure area and the product destination. The road network, surrounding the Rietkol Project, will be able to handle the traffic, with the identified road improvements as proposed by the traffic specialist, with no detrimental impact on the traffic on any of the relevant roads. Change processes would result from both construction and operational vehicles accessing, crossing and using roads for the proposed project. This increase in construction vehicles in the early phase and product transport vehicles during the operational phase, will disrupt daily movement patterns of local owners, tenants and occupants. These impacts would potentially manifest in: (1) the general population, e.g. individuals on their way to work; parents taking children to school; people on their way to local towns and beyond; (2) tourists visiting/traversing the area; and (3) businesses taking their products to market or farmers going about their farming activities (intra-farm movement). Impacts would present differentially for these groups, ranging potentially from a mere nuisance factor giving rise to frustration, to more serious ramifications where activities are impeded. The safety of other road users does require some intervention.

7.5.1.2 Social Impact Rating

Potential Impact	Nature of Impact	Extent	Duration	Intensity	Probability	Weighting Factor	Significance Rating (WOM)	Mitigation Efficiency	Significance Rating (WM)
Disruption of daily living and movement patterns and safety of road users	Negative	Regional	Medium term	High	Highly Probable	Medium	Medium	Medium N	Low to Medium

7.5.1.3 Cumulative Impacts

Existing limited road access into the area will be further impacted if more development is initiated that will utilise the same roads. The agricultural activities also utilise the same roads for product transport and therefore the development will intensify the impact.

7.5.1.4 Mitigation Measures

- Implementation of the recommendations and mitigation measures as contained in the Traffic Impact Assessment including speed calming measures, safety awareness campaigns and upgrades to intersections
- Establishment of a grievances and complaints procedure and raise awareness of this procedure amongst landowners in influence zones.

7.5.1.5 Proposed Monitoring and/or Management Requirement

Management Plan	Monitoring Plan
Stakeholder Engagement Plan	Stakeholder Engagement Monitoring
Issues and Grievance Management Plan	Issues and Grievance Monitoring Programme
Traffic Safety and Awareness Plan	

7.5.2 Impact on well-being and livelihoods due to dust generation along transport routes

7.5.2.1 Impact Description

The road network to be utilised for Construction, Supplies, Staff and Production involves the N12 and R50. From the R50 access will be via Provincial Road R1550, which is a paved secondary provincial road. From the D1550 to the mine site is a poor-quality gravel road just north of holding 276. This portion of the road would need to be upgraded to handle the increased traffic flows. If this portion of the road is kept gravel, although improved, this may further lead to a decrease in the regional air quality due to dust, wind erosion of product and spillages.

7.5.2.2 Social Impact Rating

Potential Impact	Nature of Impact	Extent	Duration	Intensity	Probability	Weighting Factor	Significance Rating (WOM)	Mitigation Efficiency	Significance Rating (WM)
Impact on well-being and livelihoods due to Dust generation along transport routes	Negative	Local	Long term	Medium	Highly Probable	Medium	Medium	Medium N	Low to Medium

7.5.2.3 Mitigation Measures

- Mitigate air quality impacts through dust suppression, wet processing, wind entrainment, and windshields or barriers
- Establishment of a grievances and complaints procedure and raise awareness of this procedure amongst landowners in influence zones.

7.5.2.4 Proposed Monitoring and/or Management Requirement:

Management Plan	Monitoring Plan
Stakeholder Engagement Plan	Stakeholder Engagement Monitoring
Issues and Grievance Management Plan	Issues and Grievance Monitoring Programme
	Air quality monitoring programme

7.6 Driver 5: Need of Human Resources, Recruitment, Suppliers and Social License to Operate

7.6.1 Influx of Job seekers and Population growth pressures

7.6.1.1 Impact Description

Previous studies and experience in the field indicated that, in South Africa with its high levels of unemployment, with any new development or rumor of a new development, people are prone to move in search of employment opportunities, which when considered against the trends in population growth rates in the individual municipalities will have a definitive impact. Project-induced job seeker influx may be direct, indirect or associated, as follows:

- Direct influx: non-local people induced to the project area by employment just before or during the construction stage, and who are hired or contracted directly by the proponent and/or the main contractors.
- Indirect influx: non-local people who have been induced to the project area by the prospect of employment and are hired by sub-contractors and local businesses who provide goods and services to the main contactors or to the mobile workforce.
- Associated influx: non-local people induced to the project area who have or are seeking association with the direct or indirect project workforce and may include: workers' families or relations, sex trade workers, local businesses, speculative job seekers and others.

The interplay between influx and social impacts is complex, and could include the following more specific impacts:

- Environmental: population pressure due to influx may lead to expanded use of natural resources. Influx may induce increased collection of fuel wood, seek land for housing or agriculture. There may also be impacts on biodiversity and wildlife from increased hunting and foraging or the siting of informal settlements in sensitive areas. Changing land use patterns may result in increased demand on water resources or introduction of invasive species.
- Economic and Livelihood Strategies: influx, when significant in relation to local community size, often results in inflationary pressures due to increases in the demand for food, fuel, housing and land. These might impact greatest on the most vulnerable in the area and exacerbate the economic vulnerability of marginal groups (e.g., women, poor, and elderly). Speculators and new businesses looking to capitalize on direct and indirect influx may create informal room rental markets, and informal food and goods markets to name a few.
- Pressure on Infrastructure, Services and Utilities: population surges can stretch the capacities of social infrastructure such as housing, schools and health care and lead to additional pressures on waste

management, sanitation, water, power, and transport. Housing pressures; for example, may lead to overcrowding. Lack of adequate housing may also lead to unplanned and controlled development of informal settlements in vacant holdings surrounding the project area.

- Health: influx can provoke higher rates of violence, injury, alcohol and drug consumption and sexually transmitted diseases in the local population. Overcrowded living conditions can significantly alter existing levels of communicable diseases including respiratory problems, diarrheal and vector-borne diseases and tuberculosis. This can strain public resources and affect overall service capacity.
- Social and Community Wellbeing: influx can have effects on community cohesion. This can be particularly acute in smaller communities hosting a largely male workforce population (such as the settlement on holding 152) which may result in conflicts between locals and non-locals concerning employment opportunities, wages, and natural resources. Especially in a resource-starved environment (see unemployment figures).0 While crime rates may increase generally, increases in crime and violence against women and girls may be particularly acute in socio-economic settings where there is an existing gender differentiation in terms of power and norms. In locations with pre-existing sexual and gender-based violence (SGBV) issues, influx can exacerbate SGBV risks.

It is anticipated that influx may affect the existing informal settlement on holding 152 as well as other vacant holdings in the surrounding areas. Even if it is the intent of Nhlabathi Minerals to source workers locally, it is unlikely to discourage people from elsewhere entering the area. It is this perceived prospect of employment opportunities, fueled by potential rumors about the number of jobs to be created, that would attract outsiders.

Employing members from the local community to fill the medium to low-skilled job categories will assist to reduce the risk and mitigate the potential impacts on the local communities. These workers will be from the local community and form part of the local family and social network and, as such, the potential impact will be low. The use of local residents to fill the medium to low skilled job categories will also reduce the demand placed on local services (housing etc.) by workers. However, due to the potential mismatch of skills and low education levels, the potential employment opportunities for the members from these local communities may be low.

7.6.1.2 Social Impact Rating

Potential Impact	Nature of Impact	Extent	Duration	Intensity	Probability	Weighting Factor	Significance Rating (WOM)	Mitigation Efficiency	Significance Rating (WM)
Influx of Job seekers and Population growth pressures	Negative	Local	Medium term	High	Definite	Medium to High	Medium to High	Medium N	Low to Medium
Changes in Settlement & Housing Patterns	Negative	Local	Medium term	Medium	Probable	Medium to High	Medium	Medium N	Low to Medium
Increase in Social Pathologies and Crime	Negative	Local	Medium term	Medium	Probable	Medium to High	Medium	Medium N	Low to Medium

7.6.1.3 Cumulative Impact

Due to the proximity of other mine developments in the area, it is anticipated that influx will be amplified within the broader area. The cumulative influx will be focused on formal towns and unoccupied areas close to mine development.

7.6.1.4 Mitigation Measures

- Development and implementation of an Influx and Land use Management Plan in conjunction with the LM. Planning infrastructure, services, and utilities in collaboration with the Victor Khanye Local Municipality

- Consultations with and involvement of local communities in project planning and implementation.
- Awareness-raising among local community and workers relating to recruitment processes. Contractor to hire workers through recruitment procedures and avoid hiring “at the gate” to discourage spontaneous influx of job seekers.
- Prioritise employment from local communities with the development of recruitment procedures and utilizing the existing skills database compiled from the local communities.
- Implementation of bursary programme and practical skills programmes as part of the Social and Labour Plan.
- Use of buffer zones
- Planning worker transportation that resides in formal settlements surrounding the mine development such as Delmas and Eloff
- Effective Delivery of Project Benefits
- Increased security on mine premises: Properly constructed and secured fences can control access to mine site. Implementing strict access control to the project site.
- Induction of contractors and workforce with regard to their code of conduct in the local area.
- Implement health awareness programmes for workers and communities including education programmes on sexually transmitted diseases and HIV/AIDS and other illnesses such as TB.
- Workers should be urged to recognize and report suspicious activity and signs of burglary and be informed of crime prevention measures that they themselves can take.
- Liaison with existing community policing forums and project security to properly secure the project area and surrounding area.
- Establishment of a grievances and complaints procedure and raise awareness of this procedure amongst stakeholders in influence zones.

7.6.1.5 Proposed Monitoring and/or Management Requirement

Management Plan	Monitoring Plan
Stakeholder Engagement Plan	Stakeholder Engagement Monitoring
Issues and Grievance Management Plan	Issues and Grievance Monitoring Programme
Influx Management Plan	Influx monitoring

7.6.2 Creation of temporary construction employment

7.6.2.1 Impact Description

During the construction phase, temporary or short-term job opportunities will be created. These opportunities, although short may bring relief to families in the broader local area.

7.6.2.2 Social Impact Rating

Potential Impact	Nature of Impact	Extent	Duration	Intensity	Probability	Weighting Factor	Significance Rating (WOM)	Mitigation Efficiency	Significance Rating (WM)
Creation of temporary construction employment	Positive	Local	Short term	Medium	Highly Probable	Medium to High	P-Low	Low P	P-Medium

7.6.2.3 Mitigation Measures

- Prioritize people residing in local settlements.
- Establishment of a local labour recruitment committee to monitor recruitment procedures and results.

7.6.2.4 Proposed Monitoring and/or Management Requirement

Management Plan	Monitoring Plan
Stakeholder Engagement Plan	Stakeholder Engagement Monitoring
Issues and Grievance Management Plan	Issues and Grievance Monitoring Programme
Employment Strategy	

7.6.3 Creation of permanent operational employment

7.6.3.1 Impact Description

The broader municipal socio-economic environment within which Rietkol Project will be implemented has indicated high levels of unemployment. As is the case in many areas within the Province, the supply of labour outnumbers the potential job opportunities by far. In the development a number of job opportunities will be available. It is proposed that a maximum number of opportunities are provided locally, keeping in mind the skill levels available. Apart from the direct employment opportunities that will be created due to the construction of Rietkol Project, a number of indirect and induced jobs will also be created in the construction and operational phase. This impact has been quantified in the economic study.

7.6.3.2 Social Impact Rating

Potential Impact	Nature of Impact	Extent	Duration	Intensity	Probability	Weighting Factor	Significance Rating (WOM)	Mitigation Efficiency	Significance Rating (WM)
Creation of permanent operational employment	Positive	Local	Long term	High	Highly Probable	High	P-Medium	Medium P	P-High

7.6.3.3 Cumulative Impacts

If further developments take place in the vicinity of Rietkol Project, the anticipated impacts will be intensified, causing an increase in skill levels as well as employment. The secondary effect is more disposable income which will lead to a higher standard of living in communities surrounding these developments.

7.6.3.4 Mitigation Measures

- Prioritize people residing in local settlements.
- Implementation of bursary programme and practical skills programmes as part of the Social and Labour Plan.

7.6.3.5 Proposed Monitoring and/or Management Requirement

Management Plan	Monitoring Plan
Stakeholder Engagement Plan	Stakeholder Engagement Monitoring
Issues and Grievance Management Plan	Issues and Grievance Monitoring Programme
Employment Strategy	Employment Monitoring and Feedback Programme
Social and Labour Plan	Social and Labour Plan Annual Audit

7.6.4 Loss of employment opportunities associated with land use activities

7.6.4.1 Impact Description

A number of job opportunities are created by existing land use activities within the three study zones. The table below describes estimated jobs currently created within the study zones and the anticipated impact.

Table 7-1: Employment Impact

STUDY AREA	DIRECT JOBS	IMPACT ON DIRECT JOBS	INDIRECT / INDUCED JOBS	IMPACT ON INDIRECT / INDUCED JOBS	TOTAL JOBS	IMPACT ON TOTAL JOBS
Study area 1 (MRA)	79	-1	66	-2	145	-3
Study area 2 (within 500m)	201	-19	142	-13	343	-32
Study area 3 (between 500m & 1km	145	-0	142	-2	287	-2
TOTAL	**425**	**-20**	**350**	**-17**	**775**	**-37**

The MRA area and specifically the part of the MRA area to be affected by mining and infrastructure, is not extremely economically active and therefore it is expected that only one permanent employee would be affected. The MRA area however creates an estimated 79 jobs, and most of these would not be affected.

Within study area 2 (within 500m) an estimated 201 direct jobs are created largely within the primary land use activities in this zone. It is estimated that the mine could potentially affect 19 direct jobs. The impact on existing jobs are minimal in comparison to the overall jobs created in the area, as well as the additional jobs that would be created by the mine development.

7.6.4.2 Social Impact Rating

Potential Impact	Nature of Impact	Extent	Duration	Intensity	Probability	Weighting Factor	Significance Rating (WOM)	Mitigation Efficiency	Significance Rating (WM)
Loss of employment opportunities associated with land-use activities	Negative	Site specific	Permanent	Medium	Definite	Medium	Medium	Medium N	Low to Medium

7.6.4.3 Mitigation Measures

- During recruitment preference should be provided to unemployed job seekers, so as to avoid poaching workers already gainfully employed on properties not affected by the mine.
- Identification of people likely to lose employment due to the impact of the mine, and dependent on their capability, assess, reskill and employ these workers.

7.6.4.4 Proposed Monitoring and/or Management Requirement

Management Plan	Monitoring Plan
Stakeholder Engagement Plan	Stakeholder Engagement Monitoring
Issues and Grievance Management Plan	Issues and Grievance Monitoring Programme
Employment Strategy	Employment Monitoring and Feedback Programme

7.6.5 Opportunities in local Skills Development, Bursaries, Internships and Mentorship Programmes

7.6.5.1 Impact Description

The Social and Labour Plan provides for skills development, bursaries, internships, and learnerships to employees and the local community. As part of the implementation of the Social and Labour Plan processes will be put in place to identify candidates especially amongst the youth that meet the requirements and can participate in these opportunities.

7.6.5.2 Social Impact Rating

Potential Impact	Nature of Impact	Extent	Duration	Intensity	Probability	Weighting Factor	Significance Rating (WOM)	Mitigation Efficiency	Significance Rating (WM)
Opportunities in local Skills Development, Bursaries, Internships and Mentorship Programmes	Positive	Local	Long term	High	Definite	Medium to High	P-Medium	Medium P	P-High

7.6.5.3 Mitigation Measures

- Implementation of the SLP, with a focus on local settlement residents.

7.6.5.4 Proposed Monitoring and/or Management Requirement

Management Plan	Monitoring Plan
Stakeholder Engagement Plan	Stakeholder Engagement Monitoring
Issues and Grievance Management Plan	Issues and Grievance Monitoring Programme
Social and Labour Plan	Social and Labour Plan Annual Audit

7.6.6 Opportunities in local SMME Development and Procurement

7.6.6.1 Impact Description

Nhlabathi Minerals has committed that opportunities will be provided for local SMME to participate in contracts that would become available during construction and operational phase of the Rietkol Project.

7.6.6.2 Social Impact Rating

Potential Impact	Nature of Impact	Extent	Duration	Intensity	Probability	Weighting Factor	Significance Rating (WOM)	Mitigation Efficiency	Significance Rating (WM)
Opportunities in local SMME Development and Procurement	Positive	Local	Long term	High	Highly Probable	Medium	P-Low	Medium P	P-Medium

7.6.6.3 Mitigation Measures

- Establishment of a vendor database and assessment of business aptitude and skill.
- Identification of procurement opportunities that can be ring-fenced for local businesses.
- Implementation of the SLP, with a focus on local settlement residents, and businesses within the Municipal area.

7.6.6.4 Proposed Monitoring and/or Management Requirement

Management Plan	Monitoring Plan
Stakeholder Engagement Plan	Stakeholder Engagement Monitoring
Issues and Grievance Management Plan	Issues and Grievance Monitoring Programme
Social and Labour Plan	Social and Labour Plan Annual Audit
Procurement Policy	Local Procurement Monitoring and Feedback

7.6.7 Impact on Social Development through SLP Community Development Programmes

7.6.7.1 Impact Description

Nhlabathi Minerals intends to implement Community Development Projects within the Victor Khanye Local Municipality to the value of R6.27m for the first 10 years.

7.6.7.2 Social Impact Rating

Potential Impact	Nature of Impact	Extent	Duration	Intensity	Probability	Weighting Factor	Significance Rating (WOM)	Mitigation Efficiency	Significance Rating (WM)
Impact on Social Development through SLP Community Development Programmes	Positive	Local	Long term	Medium	Definite	Medium	P-Low	Medium P	P-Medium

7.6.7.3 Mitigation Measures

- Implementation of the SLP, with a focus on local settlement residents.

7.6.7.4 Proposed Monitoring and/or Management Requirement

Management Plan	Monitoring Plan
Stakeholder Engagement Plan	Stakeholder Engagement Monitoring
Issues and Grievance Management Plan	Issues and Grievance Monitoring Programme
Social and Labour Plan	Social and Labour Plan Annual Audit

7.6.8 Generation of tax base, revenue and GDP contribution

7.6.8.1 Impact Description

Distribution of benefits and social equity relates to the fairness of the distribution of benefits in comparison to impacts across the affected area. The potential for mining taxes and royalties to deliver socio-economic benefits to the local area is both a significant opportunity and one of the greatest challenges. Both taxes and royalties are paid to either National or Local Government. Government is responsible to determine how and where these income streams are spent. In some instances, it has been known that government investment in infrastructure and services decrease in areas where large mining companies are present due to the investment these companies do through their Social Investment Programmes.

7.6.8.2 Social Impact Rating

Potential Impact	Nature of Impact	Extent	Duration	Intensity	Probability	Weighting Factor	Significance Rating (WOM)	Mitigation Efficiency	Significance Rating (WM)
Generation of tax base, revenue and GDP contribution	Positive	National	Long term	Medium	Definite	Medium to High	P-Medium	Medium P	P-High

7.6.9 Loss of job opportunities due to downscaling of the mine employment

7.6.9.1 Impact Description

During downscaling, employment will be lost by those that were employed during the operational phase.

This may have an impoverishment effect on the local communities and those households that are dependent on the mining sector and income generated by the employment.

7.6.9.2 Social Impact Rating

Potential Impact	Nature of Impact	Extent	Duration	Intensity	Probability	Weighting Factor	Significance Rating (WOM)	Mitigation Efficiency	Significance Rating (WM)
Loss of job opportunities due to downscaling of the mine employment	Negative	Local	Medium term	Medium	Highly Probable	Medium to High	Medium	Medium N	Low to Medium

7.6.9.3 Mitigation Measures

- Establish a future forum with representation from the workforce to discuss potential difficulties and solutions.
- Implementation of programmes to minimize and mitigate the impact of downscaling and retrenchment.
- Implementation of portable skills programmes to assist employees, especially those from the local area, to re-enter the agricultural and other sectors prevalent in the Municipal area.

7.6.9.4 Proposed Monitoring and/or Management Requirement

Management Plan	Monitoring Plan
Stakeholder Engagement Plan	Stakeholder Engagement Monitoring
Issues and Grievance Management Plan	Issues and Grievance Monitoring Programme
Social and Labour Plan	Social and Labour Plan Annual Audit

8 SUMMARY OF IMPACT ASSESSMENT

ID	Driver	Potential Impact	Nature of Impact	Extent	Duration	Intensity	Probability	Weighting Factor	Significance Rating (WOM)	Mitigation Efficiency	Significance Rating (WM)
1	Driver 1: Change in Land use & Cover	Displacement of Agricultural Residences and Support Infrastructure within mine footprint areas & those with a High Sensitivity Risk Rating.	Negative	Site specific	Permanent	High	Definite	Medium to High	Medium to High	Low to Medium N	Medium
2	Driver 1: Change in Land use & Cover	Impacts on Agricultural Residences & Support Infrastructure surrounding mine footprint areas & those with a Moderate Sensitivity Risk Rating specifically due to a High Noise Impact	Negative	Local	Long term	High	Highly Probable	Medium	Medium	Medium N	Low to Medium
3	Driver 1: Change in Land use & Cover	Loss of access to productive land and livelihood activities (economic displacement) within mine footprint areas & those with a High Sensitivity Risk Rating.	Negative	Site specific	Permanent	Medium	Definite	Medium	Medium	Medium N	Low to Medium
4	Driver 1: Change in Land use & Cover	Loss of access to productive land and livelihood activities (economic displacement) surrounding mine footprint areas & those with a Moderate Sensitivity Risk Rating due to noise impacts.	Negative	Site specific	Long term	Medium	Probable	Medium to High	Medium	Medium N	Low to Medium
5	Driver 1: Change in Land use & Cover	Loss of access to productive land and livelihood activities (economic displacement) due to blasting / air blast impacts	Negative	Site specific	Long term	High	Highly Probable	Medium to High	Medium to High	Medium N	Low to Medium
6	Driver 1: Change in Land use & Cover	Physical displacement of worker households and/or labour tenants through land acquisition for footprint or high cumulative impact from Environmental Impact Interactions	Negative	Site specific	Permanent	High	Definite	High	Medium to High	Medium N	Medium
7	Driver 1: Change in Land use & Cover	Physical displacement or impact of worker households and/or labour tenants within a moderate cumulative impact zone from Environmental Impact Interactions	Negative	Site specific	Long term	High	Highly Probable	Medium	Medium	Medium N	Low to Medium
8	Driver 1: Change in Land use & Cover	Impact on property values of adjacent properties	Negative	Local	Medium term	Medium	Probable	Medium to High	Medium	Low N	Medium
9	Driver 2: Resource Consumption and Ecosystem Services	Impact on livelihoods dependent on Groundwater due to potential impact on Groundwater Quality during and after decommissioning of mining	Negative	Local	Long term	Medium	Highly Probable	Medium	Medium	Low N	Low to Medium
10	Driver 2: Resource Consumption and Ecosystem Services	Impact on the availability of natural resources such as firewood, small mammals for hunting, medicinal plants and subsistence grazing	Negative	Site specific	Long term	Medium	Highly Probable	Medium to High	Medium	Low N	Medium
11	Driver 3: Potential Pollution (Air, Vibration, Noise, Visual)	Impact on health, well-being and livelihoods of the public due to risk exposure from Potential Pollution	Negative	Local	Long term	High	Highly Probable	Medium	Medium	Medium N	Low to Medium
12	Driver 3: Potential Pollution (Air, Vibration, Noise, Visual)	Impact on health and well-being of workers due to risk exposure (silica dust, occupational risks, noise)	Negative	Site specific	Long term	Very High	Highly Probable	Medium to High	Medium to High	Medium N	Low to Medium
13	Driver 3: Potential Pollution (Air, Vibration, Noise, Visual)	Impact on Aesthetic Value and Sense of Place due to Visual intrusions and increase Nuisance Noise	Negative	Regional	Long term	High	Definite	Medium	Medium to High	Medium N	Low to Medium
14	Driver 4: Goods, Staff and Product Transport	Disruption of daily living and movement patterns and safety of road users	Negative	Regional	Medium term	High	Highly Probable	Medium	Medium	Medium N	Low to Medium

ID	Driver	Potential Impact	Nature of Impact	Extent	Duration	Intensity	Probability	Weighting Factor	Significance Rating (WOM)	Mitigation Efficiency	Significance Rating (WM)
15	Driver 4: Goods, Staff and Product Transport	Impact on well-being and livelihoods due to Dust generation along transport routes	Negative	Local	Long term	Medium	Highly Probable	Medium	Medium	Medium N	Low to Medium
16	Driver 5: Need of Human Resources, Recruitment, Suppliers and Social License to Operate	Influx of Job seekers and Population growth pressures	Negative	Local	Medium term	High	Definite	Medium to High	Medium to High	Medium N	Low to Medium
17	Driver 5: Need of Human Resources, Recruitment, Suppliers and Social License to Operate	Changes in Settlement & Housing Patterns	Negative	Local	Medium term	Medium	Probable	Medium to High	Medium	Medium N	Low to Medium
18	Driver 5: Need of Human Resources, Recruitment, Suppliers and Social License to Operate	Increase in Social Pathologies and Crime	Negative	Local	Medium term	Medium	Probable	Medium to High	Medium	Medium N	Low to Medium
19	Driver 5: Need of Human Resources, Recruitment, Suppliers and Social License to Operate	Creation of temporary construction employment	Positive	Local	Short term	Medium	Highly Probable	Medium to High	P-Low	Low P	P-Medium
20	Driver 5: Need of Human Resources, Recruitment, Suppliers and Social License to Operate	Creation of permanent operational employment	Positive	Local	Long term	High	Highly Probable	High	P-Medium	Medium P	P-High
21	Driver 5: Need of Human Resources, Recruitment, Suppliers and Social License to Operate	Loss of employment opportunities associated with land-use activities	Negative	Site specific	Permanent	Medium	Definite	Medium	Medium	Medium N	Low to Medium
22	Driver 5: Need of Human Resources, Recruitment, Suppliers and Social License to Operate	Opportunities in local Skills Development, Bursaries, Internships and Mentorship Programmes	Positive	Local	Long term	High	Definite	Medium to High	P-Medium	Medium P	P-High
23	Driver 5: Need of Human Resources, Recruitment, Suppliers and Social License to Operate	Opportunities in local SMME Development and Procurement	Positive	Local	Long term	High	Highly Probable	Medium	P-Low	Medium P	P-Medium
24	Driver 5: Need of Human Resources, Recruitment, Suppliers and Social License to Operate	Impact on Social Development through SLP Community Development Programmes	Positive	Local	Long term	Medium	Definite	Medium	P-Low	Medium P	P-Medium

ID	Driver	Potential Impact	Nature of Impact	Extent	Duration	Intensity	Probability	Weighting Factor	Significance Rating (WOM)	Mitigation Efficiency	Significance Rating (WM)
25	Driver 5: Need of Human Resources, Recruitment, Suppliers and Social License to Operate	Generation of tax base, revenue and GDP contribution	Positive	National	Long term	Medium	Definite	Medium to High	P-Medium	Medium P	P-High
26	Driver 5: Need of Human Resources, Recruitment, Suppliers and Social License to Operate	Loss of job opportunities due to downscaling of the mine employment	Negative	Local	Medium term	Medium	Highly Probable	Medium to High	Medium	Medium N	Low to Medium

9 SUMMARY OF MITIGATION MEASURES

ID	Driver	Potential Impact	Nature of Impact	Significance Rating (WOM)	Mitigation Efficiency	Mitigation Measures	Significance Rating (WM)
1	Driver 1: Change in Land use & Cover	Displacement of Agricultural Residences and Support Infrastructure within mine footprint areas & those with a High Sensitivity Risk Rating.	Negative	Medium to High	Low to Medium N	▪ Valuation of productive land for inclusion in the land acquisition agreement for those properties to be purchased. ▪ Mitigate air quality through dust suppression, wet processing, wind entrainment, and windshields or barriers; noise pollution through implementation of noise abatement measures on vehicles and machinery that generates most noise and blasting impacts through blast preparation and specific stemming controls ▪ Engagement with owners of the key economic activities surrounding the development should be implemented. This is to determine measures that can be implemented apart from the already stated mitigation measures against noise, air quality and blasting impacts to safeguard the existing economic activities. Any unforeseen impacts should be identified immediately or where monitoring indicates noise, air quality and blasting impacts cannot be mitigated effectively, the mine and land / business owners should agree on such additional measures necessary to avoid or minimize impacts on economic activities and livelihoods. ▪ If environmental impacts cannot be effectively mitigated, and it's determined that an adverse impact exists, then compensation for landowners affected by the mining operations must be negotiated on a fair basis. ▪ Where possible, and if safety permits, land purchased but not required for mining infrastructure should be made available for small scale grazing to existing agricultural operators ▪ Implementation of noise air quality and blasting monitoring programmes with measurements taken where sensitive receptors may be at risk. ▪ Establishment of a grievances and complaints procedure and raise awareness of this procedure amongst stakeholders in influence zones.	Medium
2	Driver 1: Change in Land use & Cover	Impacts on Agricultural Residences & Support Infrastructure surrounding mine footprint areas & those with a Moderate Sensitivity Risk Rating specifically due to a High Noise Impact	Negative	Medium	Medium N		Low to Medium
3	Driver 1: Change in Land use & Cover	Loss of access to productive land and livelihood activities (economic displacement) within mine footprint areas & those with a High Sensitivity Risk Rating.	Negative	Medium	Medium N	▪ Valuation of all immovable assets for inclusion in the land acquisition agreement. ▪ Where possible offer employment opportunities to local workers that may have lost employment due to the mine development displacement	Low to Medium

ID	Driver	Potential Impact	Nature of Impact	Significance Rating (WOM)	Mitigation Efficiency	Mitigation Measures	Significance Rating (WM)
4	Driver 1: Change in Land use & Cover	Loss of access to productive land and livelihood activities (economic displacement) surrounding mine footprint areas & those with a Moderate Sensitivity Risk Rating due to noise impacts.	Negative	Medium	Medium N	▪ Mitigate air quality through dust suppression, wet processing, wind entrainment, and windshields or barriers; noise pollution through implementation of noise abatement measures on vehicles and machinery that generates most noise and blasting impacts through blast preparation and specific stemming controls ▪ Implementation of noise air quality and blasting monitoring programmes with measurements taken where sensitive receptors may be at risk.	Low to Medium
5	Driver 1: Change in Land use & Cover	Loss of access to productive land and livelihood activities (economic displacement) due to blasting / air blast impacts	Negative	Medium to High	Medium N	▪ Establishment of a grievances and complaints procedure and raise awareness of this procedure amongst stakeholders in influence zones.	Low to Medium
6	Driver 1: Change in Land use & Cover	Physical displacement of worker households and/or labour tenants through land acquisition for footprint or high cumulative impact from Environmental Impact Interactions	Negative	Medium to High	Medium N	▪ Valuation of all immovable assets for inclusion in the land acquisition agreement. ▪ Where possible offer employment opportunities to local workers that may have lost employment due to the mine development displacement ▪ Mitigate air quality through dust suppression, wet processing, wind entrainment, and windshields or barriers; noise pollution through implementation of noise abatement measures on vehicles and machinery that generates most noise and blasting impacts through blast preparation and specific stemming controls ▪ Implementation of noise air quality and blasting monitoring programmes with measurements taken where sensitive receptors may be at risk. ▪ Establishment of a grievances and complaints procedure and raise awareness of this procedure amongst stakeholders in influence zones.	Medium
7	Driver 1: Change in Land use & Cover	Physical displacement or impact of worker households and/or labour tenants within a moderate cumulative impact zone from Environmental Impact Interactions	Negative	Medium	Medium N		Low to Medium
8	Driver 1: Change in Land use & Cover	Impact on property values of adjacent properties	Negative	Medium	Low N	▪ Establishment of a grievances and complaints procedure and raise awareness of this procedure amongst stakeholders in influence zones. ▪ Mitigate air quality through dust suppression, wet processing, wind entrainment, and windshields or barriers; noise pollution through implementation of noise abatement measures on vehicles and machinery that generates most noise and blasting impacts through blast preparation and specific stemming controls	Medium
9	Driver 2: Resource Consumption and Ecosystem Services	Impact on livelihoods dependent on Groundwater due to potential impact on Groundwater Quality during and after decommissioning of mining	Negative	Medium	Low N	▪ It is acknowledged that there are processes in place to manage potential water pollution and monitor water quality. These processes should be applied continuously and post decommissioning. ▪ Implementation of mitigation measures as proposed by the Groundwater Impact Assessment (Dedicated plume monitoring boreholes should be drilled in the down-gradient groundwater flow direction and sampled at quarterly intervals to monitor plume migration. Should the monitoring program indicate significant plume migration, interception trenches and/or rehabilitation boreholes may be considered. Emergency measures in place for pollution incidences must include assessing the risks to adjacent landowners and communities, and if an impact is determined and the source of pollution is the mine, these landowners and/or communities must be supplied with clean water, while remediating the water sources of these parties as soon as possible.) ▪ Establishment of a grievances and complaints procedure and raise awareness of this procedure amongst stakeholders in influence zones.	Low to Medium
10	Driver 2: Resource Consumption and Ecosystem Services	Impact on the availability of natural resources such as firewood, small mammals for hunting, medicinal plants and subsistence grazing	Negative	Medium	Low N	▪ Allow local occupants to gather natural resources from specific areas prior to vegetation clearance. ▪ Lease back unutilized areas for agricultural purposes (grazing) if safety permits.	Medium

ID	Driver	Potential Impact	Nature of Impact	Significance Rating (WOM)	Mitigation Efficiency	Mitigation Measures	Significance Rating (WM)
11	Driver 3: Potential Pollution (Air, Vibration, Noise, Visual)	Impact on health, well-being and livelihoods of the public due to risk exposure from Potential Pollution	Negative	Medium	Medium N	▪ Majority of the health impacts related to pollution can be effectively mitigated by reduction of air quality impacts. Mitigate air quality impacts through dust suppression, wet processing, wind entrainment, and windshields or barriers ▪ Purchase of property where risk levels are above an acceptable threshold, those properties within the MRA area where a high risk in air quality pollution levels is indicated by modelled impacts. ▪ Implementation of air quality monitoring programmes with measurements taken where sensitive receptors may be at risk. ▪ Making available monitoring information as a measure of assurance of the measured impact, and close collaboration with large production units such as Rossgro and Unex Roses to make information available to mitigate the perception of an impact by their customers. ▪ If impact is experienced above the predicted impacts and standards, and cannot be further mitigated, the negotiation and agreement on compensation. ▪ Identification of a sample of local residents at risk points and implementing a health monitoring programme with identified persons. Conduct lung function testing, once every 12 months on selected members of the public, including children. ▪ Communication Strategy to keep community informed of potential pollution risks and mitigation measures. ▪ Establishment of a grievances and complaints procedure and raise awareness of this procedure amongst stakeholders in influence zones.	Low to Medium
12	Driver 3: Potential Pollution (Air, Vibration, Noise, Visual)	Impact on health and well-being of workers due to risk exposure (silica dust, occupational risks, noise)	Negative	Medium to High	Medium N	▪ Implementation of Personal Protective Equipment for workers. ▪ Implementation of a Health Monitoring Programme with workers. ▪ Compensation if risks cause health-related illnesses. ▪ Conduct regular full risk assessment and have procedures in place to deal with emergency incidents. ▪ Establish on-site emergency equipment and appoint safety staff.	Low to Medium
13	Driver 3: Potential Pollution (Air, Vibration, Noise, Visual)	Impact on Aesthetic Value and Sense of Place due to Visual intrusions and increase Nuisance Noise	Negative	Medium to High	Medium N	▪ Implementation of mitigation measures as contained in the Visual Impact Assessment ▪ Implementation of mitigation measures as contained in the Noise Impact Assessment ▪ Establishment of a grievances and complaints procedure and raise awareness of this procedure amongst stakeholders in influence zones.	Low to Medium
14	Driver 4: Goods, Staff and Product Transport	Disruption of daily living and movement patterns and safety of road users	Negative	Medium	Medium N	▪ Implementation of the recommendations and mitigation measures as contained in the Traffic Impact Assessment including speed calming measures, safety awareness campaigns and upgrades to intersections ▪ Establishment of a grievances and complaints procedure and raise awareness of this procedure amongst landowners in influence zones.	Low to Medium
15	Driver 4: Goods, Staff and Product Transport	Impact on well-being and livelihoods due to Dust generation along transport routes	Negative	Medium	Medium N	▪ Mitigate air quality impacts through dust suppression, wet processing, wind entrainment, and windshields or barriers ▪ Establishment of a grievances and complaints procedure and raise awareness of this procedure amongst landowners in influence zones.	Low to Medium
16	Driver 5: Need of Human Resources, Recruitment, Suppliers and	Influx of Job seekers and Population growth pressures	Negative	Medium to High	Medium N	▪ Development and implementation of an Influx and Land use Management Plan in conjunction with the LM. Planning infrastructure, services, and utilities in collaboration with the Victor Khanye Local Municipality	Low to Medium

ID	Driver	Potential Impact	Nature of Impact	Significance Rating (WOM)	Mitigation Efficiency	Mitigation Measures	Significance Rating (WM)
	Social License to Operate					▪ Consultations with and involvement of local communities in project planning and implementation.	
17	Driver 5: Need of Human Resources, Recruitment, Suppliers and Social License to Operate	Changes in Settlement & Housing Patterns	Negative	Medium	Medium N	▪ Awareness-raising among local community and workers relating to recruitment processes. Contractor to hire workers through recruitment procedures and avoid hiring "at the gate" to discourage spontaneous influx of job seekers. ▪ Prioritise employment from local communities with the development of recruitment procedures and utilizing the existing skills database compiled from the local communities. ▪ Implementation of bursary programme and practical skills programmes as part of the Social and Labour Plan.	Low to Medium
18	Driver 5: Need of Human Resources, Recruitment, Suppliers and Social License to Operate	Increase in Social Pathologies and Crime	Negative	Medium	Medium N	▪ Use of buffer zones ▪ Planning worker transportation that resides in formal settlements surrounding the mine development such as Delmas and Eloff ▪ Effective Delivery of Project Benefits ▪ Increased security on mine premises: Properly constructed and secured fences can control access to mine site. Implementing strict access control to the project site. ▪ Induction of contractors and workforce with regard to their code of conduct in the local area. ▪ Implement health awareness programmes for workers and communities including education programmes on sexually transmitted diseases and HIV/AIDS and other illnesses such as TB. ▪ Workers should be urged to recognize and report suspicious activity and signs of burglary and be informed of crime prevention measures that they themselves can take. ▪ Liaison with existing community policing forums and project security to properly secure the project area and surrounding area. ▪ Establishment of a grievances and complaints procedure and raise awareness of this procedure amongst stakeholders in influence zones.	Low to Medium
19	Driver 5: Need of Human Resources, Recruitment, Suppliers and Social License to Operate	Creation of temporary construction employment	Positive	P-Low	Low P	▪ Prioritize people residing in local settlements. ▪ Establishment of a local labour recruitment committee to monitor recruitment procedures and results.	P-Medium
20	Driver 5: Need of Human Resources, Recruitment, Suppliers and Social License to Operate	Creation of permanent operational employment	Positive	P-Medium	Medium P	▪ Prioritize people residing in local settlements. ▪ Implementation of bursary programme and practical skills programmes as part of the Social and Labour Plan.	P-High
21	Driver 5: Need of Human Resources, Recruitment, Suppliers and	Loss of employment opportunities associated with land-use activities	Negative	Medium	Medium N	▪ During recruitment preference should be provided to unemployed job seekers, so as to avoid poaching workers already gainfully employed on properties not affected by the mine. ▪ Identification of people likely to lose employment due to the impact of the mine, and dependent on their capability, assess, reskill and employ these workers.	Low to Medium

ID	Driver	Potential Impact	Nature of Impact	Significance Rating (WOM)	Mitigation Efficiency	Mitigation Measures	Significance Rating (WM)
	Social License to Operate						
22	Driver 5: Need of Human Resources, Recruitment, Suppliers and Social License to Operate	Opportunities in local Skills Development, Bursaries, Internships and Mentorship Programmes	Positive	P-Medium	Medium P	▪ Implementation of the SLP, with a focus on local settlement residents.	P-High
23	Driver 5: Need of Human Resources, Recruitment, Suppliers and Social License to Operate	Opportunities in local SMME Development and Procurement	Positive	P-Low	Medium P	▪ Establishment of a vendor database and assessment of business aptitude and skill. ▪ Identification of procurement opportunities that can be ring-fenced for local businesses. ▪ Implementation of the SLP, with a focus on local settlement residents, and businesses within the Municipal area.	P-Medium
24	Driver 5: Need of Human Resources, Recruitment, Suppliers and Social License to Operate	Impact on Social Development through SLP Community Development Programmes	Positive	P-Low	Medium P	▪ Implementation of the SLP, with a focus on local settlement residents.	P-Medium
25	Driver 5: Need of Human Resources, Recruitment, Suppliers and Social License to Operate	Generation of tax base, revenue and GDP contribution	Positive	P-Medium	Medium P	▪ No mitigation required	P-High
26	Driver 5: Need of Human Resources, Recruitment, Suppliers and Social License to Operate	Loss of job opportunities due to downscaling of the mine employment	Negative	Medium	Medium N	▪ Establish a future forum with representation from the workforce to discuss potential difficulties and solutions. ▪ Implementation of programmes to minimize and mitigate the impact of downscaling and retrenchment. ▪ Implementation of portable skills programmes to assist employees, especially those from the local area, to re-enter the agricultural and other sectors prevalent in the Municipal area.	Low to Medium

10 SOCIAL MONITORING AND MANAGEMENT PLANS

10.1 Introduction

This section presents the proposed social management and monitoring strategies that would be implemented to ensure that all identified impacts are addressed and managed accordingly. The main aim of the strategies is to minimize negative impacts and maximize positive impacts by means of effective compensation and mitigation measures. Logical Framework Matrix (LFM) methodology was used to develop the strategies listed below.

- Communication, Consultation and Awareness Management Plan: Ensuring continuous engagement with project affected parties and stakeholders.
- Issue and Grievance Management Strategy: To ensure the appropriate management of issues and grievances.
- Influx and Land Use Management Strategy: To manage the influx of job seekers.
- Employment Strategy:
    - Recruitment Strategy: to maximise employment opportunities for the local communities and reduce the influx of a foreign labour force whilst ensuring an effective construction and operational process.
    - Human Resource Development and Training Strategy: to identify appropriate training and skills transfer opportunities that will enhance the skills level of the local labour force both during and after project implementation.
- Procurement Policy: to ensure that local business outfits, especially those of HDIs, women and SMMEs get allocated a fair business share of project related business opportunities. The policy should include a SMME Development Programme.
- Health Strategy:
    - Occupational Health and Safety Strategy: to ensure that during the project construction process and the operational phase of the project, employees receive adequate health support from the project team for work-related health problems.
    - Community Health and Welfare Strategy: to ensure that the project intervention will not have a negative impact on the health and welfare infrastructure in the project area, and to suggest appropriate measures to enhance the capacity of existing health infrastructure.
    - Traffic Safety and Awareness Strategy: to ensure that appropriate traffic management measures are planned and employed, in anticipation of the major increase in both heavy and light vehicle traffic.
    - Safety and Security Strategy: to ensure that the project areas as well as the impacted communities are protected adequately through the formal policing system as well as additional safety measures such as additional security at the project sites and community policing in the project area.
- Social Monitoring and Evaluation Strategy: to ensure that the project intervention process is monitored with the aim of implementing corrective measures if and when required.

In the following sections, the proposed strategies will be discussed in terms of a hierarchy of objectives, outputs and activities and targets.

- Objectives – objectives of strategy / policy which highlight the motivation behind each strategy.
- Outputs – the expected deliverables for the objectives to be achieved.
- Activities – actions that should be undertaken to ensure the expected deliverables. These activities are referenced against the timeframe within which they should be undertaken and the parties that would take responsibility for carrying out the activities.
- Targets – probable key success factors / performance indicators by which implementation success of strategy should be monitored. In a significant number of cases, specific targets would only be set in the process of implementing the strategies.

10.2 Strategies and Management Plans

10.2.1 Communication, Consultation and Awareness Strategy

10.2.1.1 Objective

- To develop and maintain an ongoing process of public participation (refer Public Participation Programme Section of the report) to ensure the continued involvement of interested and affected parties in the project in a meaningful and responsible way.
- To establish an Environmental Management Committee (EMC) to inform and monitor the environmental and social planning and implementation processes.

10.2.1.2 Outputs

- An EMC comprising of representatives from community stakeholder sectors, the mining company and relevant national, provincial and local authorities.
- A database of project interested and affected parties, stakeholder groups and stakeholder sectors.

10.2.1.3 Activities

ACTIVITY	TIMEFRAME	RESPONSIBLE PARTIES
Consult and constitute an EMC.	Before Construction	Mining Right Holder
Develop a constitution for the EMC to guide its operations.	Before Construction	Mining Right Holder EMC

10.2.1.4 Targets

- Annual EMC meetings.
- EMC reports.

10.2.2 Issue and Grievance Management Strategy

10.2.2.1 Objective

- Ensure the management and address of complaints and grievances through a well-defined procedure

10.2.2.2 Outputs

- Ensure communities and stakeholders are aware of the opportunity to express grievances and complaints.
- Ensure communities and stakeholders feel free to express their complaints / grievances.
- Encourage communities and stakeholders to use the procedure, but also warned not to abuse it with false grievances.
- Ensure sensitive grievances are dealt with privately, and confidentiality of information is maintained.

10.2.2.3 Activities

ACTIVITY	TIMEFRAME	RESPONSIBLE PARTIES
Development of a Grievance Procedure that is accessible and effective	Before & during construction, before and during operations	Mining Right Holder Contractor Engagement Officer
The existence and conditions of access to this procedure and avenue shall be widely disseminated within the stakeholder environment and affected parties as part of the consultation undertaken for the development in general.	Before & during construction, before and during operations	Mining Right Holder Contractor Engagement Officer
If the response to the grievance has not been accepted or resolved the mine management will enter a Mediation phase, where a meeting will be held with the party that submitted the Grievance in an attempt to resolve.	Before & during construction, before and during operations	Mining Right Holder Contractor Engagement Officer
If Grievance is not resolved through Mediation the Grieving Party are open to take up any of the formal avenues available in terms of South African Legislation.	Before & during construction, before and during operations	Mining Right Holder Contractor Engagement Officer

10.2.2.4 Targets

- Registration and resolving of grievances.
- Amicable mediation and settlement.

10.2.3 Influx Management Plan

10.2.3.1 Objective

- Define the scope and dimensions of mine-related influx and its management and set out applicable management interfaces.
- Define roles and responsibilities for influx management.
- Outline the applicable Project Standards relevant to this Management Plan.
- Define suitable mitigation measures for the direct and indirect negative impacts associated with population influx to Rietkol Project Area of Influence, by people seeking employment or moving to the area in expectation of other benefits.
- Define effective plans and procedures for managing potential influx impacts in Rietkol Project Area of Influence.
- Define monitoring and reporting procedures, including Key Performance Indicators.
- Define training requirements associated with influx management.

10.2.3.2 Outputs

- Mitigation and minimizing the effect of influx.
- Development of capacity of local authorities in land use management.
- Monitoring influx and the effectiveness of the influx management strategies.

10.2.3.3 Activities

ACTIVITY	TIMEFRAME	RESPONSIBLE PARTIES
Establish an Influx Management committee.	Before & during construction, before and during operations	Mining Right Holder Contractor Engagement Officer Municipal officials
Influx Management Committee to refine and agree on the Influx Management Plan and Monitoring Programme.	Before & during construction, before and during operations	Mining Right Holder Contractor Engagement Officer Municipal officials
Manage expectations for opportunities: Communicate policy on procurement & recruitment Notice of opportunities Briefing on labour and procurement statistics Improve communication to communities	Before & during construction, before and during operations	Mining Right Holder Contractor Engagement Officer
Updated the full census of the local informal settlements within 12 months of construction commencing and thereafter every 2 years	Before & during construction, before and during operations	Mining Right Holder Contractor Engagement Officer Local Municipality
Monitoring Influx risks at existing informal settlements as well as vacant uncontrolled land surrounding the mine area	Before & during construction, before and during operations	Mining Right Holder Contractor Engagement Officer

10.2.3.4 Targets

- Identification of influx influence zone and implementation of influx management strategies at these areas.
- Create capacity and awareness in the management of influx.
- Reduce secondary impacts due to influx.

10.2.4 Employment Strategy

The Employment Strategy consists of two main components, namely:

- Recruitment Strategy
- Human Resource Development and Training Strategy

10.2.4.1 Recruitment Strategy

Objective

To develop an official recruitment policy that seeks to:

- Maximise employment opportunities for the local communities, including identifying and encouraging use of labour intensive practices in such a way as not to negatively influence the operation quality or quantity, project timeframes.
- Ensure that pursuant to the completion of construction and operation phases, developed skills are retained in long-term employment opportunities, and where appropriate and possible, through the assistance of local business, be transferred to related local employment opportunities and businesses.
- Provide appropriate incentives for local businesses that provide skills transfer opportunities and new employment opportunities to the local community.
- Minimise the utilization of imported labour as far possible within the ambit of applicable legislation

Outputs

Fair, equitable, transparent and legally defensible recruitment policy accepted by project stakeholder groups, Mining Right Holder and the Engineer and Contractor.

Activities

ACTIVITY	TIMEFRAME	RESPONSIBLE PARTIES
Development of a Recruitment Policy that adheres to relevant labour legislation such as the Basic Employment Conditions Act and the Labour Relations Act.	Before construction	Mining Right Holder, Contractor, Engineer, Legal Counsel
Access to Recruitment Policy at Employment Information Desk for viewing by interested and affected parties.	Before and during construction	Mining Right Holder, Engineer, Contractor, Employment Information Desk

Targets

- Recruitment Policy should be finalised before the tender process for suitable Engineer and Contractor commences.
- The policy should set targets for the following performance indicators:
    - Employment percentage of local labour recruited in unskilled, semi-skilled and management categories;
    - Employment percentage of HDIs;
    - Employment percentage of broader District & Provincial residents recruited in the professional category; and
    - Employment percentage of women, youth and disabled people.
- Meeting of targets should be ensured during the project implementation process and should be open to scrutiny by interested and affected parties.

10.2.4.2 Human Resource Development Strategy

Core Skills and Artisan Development

Objectives

- To provide core skills and artisan development to allow individuals to assume employment on Rietkol Project, should the need arise during the construction and operational phases.

Outputs

- Trained and well-equipped potential employees with training certificates ready to be employed by the Rietkol Project.

Activities

ACTIVITIES	TIMEFRAME	RESPONSIBLE PARTIES
Identification of employment opportunities that requires core skills or artisan training.	Before & during construction, before and during operations	Mining Right Holder Contractor Employment Information Desk Skills Development Service Provider
Identification of individuals that should benefit from skills development.	Before & during construction, before and during operations	Mining Right Holder Contractor Employment Information Desk Skills Development Service Provider
Skills Development of identified potential employees.	Before & during construction, before and during operations	Mining Right Holder Contractor Employment Information Desk Skills Development Service Provider
Environmental Awareness Training for all different levels of construction and operational workers.	Before & during construction, before and during operations	Mining Right Holder Contractor Employment Information Desk

Targets

- Definition of employee percentages that would receive skills development in (a) core skills, and (b) artisan skills that would be required during the Rietkol Project.

Learnerships and Internships

Objectives

- To provide learnerships and internships during the construction and operational phases aimed at the development of appropriate practical skills transfer processes and opportunities.
- To provide learnerships and internships and ensure that candidates have the required skills and insight to undertake the tasks that they were appointed to do, safely and efficiently.

Outputs

- Completed learnerships and internships per annum.

Activities

ACTIVITIES	TIMEFRAME	RESPONSIBLE PARTIES
Identification of learnerships and internship opportunities.	Before & during construction, before	Mining Right Holder Contractor

ACTIVITIES	TIMEFRAME	RESPONSIBLE PARTIES
	and during operations	Skills Development Service Provider
Identification of individuals on the Skills Register that should benefit from learnerships and internships.	Before & during construction, before and during operations	Mining Right Holder Contractor Employment Information Desk Skills Development Service Provider
Learnerships and Internships of identified potential employees.	Before & during construction, before and during operations	Mining Right Holder Contractor Employment Information Desk Skills Development Service Provider

Targets

- Training of employees before active duty occurs, both before and during construction.

10.2.5 Procurement Policy

10.2.5.1 Objectives

- To develop a procurement policy within the guidelines and stipulations of relevant legislation.
- To maximise employment, training and development opportunities for local businesses, HDI-owned businesses, SMMEs, women-owned businesses, as well as disabled business people.
- To ensure transparent tendering and procurement procedures.
- To offer assistance to local businesses in tender and procurement procedures.

10.2.5.2 Outputs

- A practical and transparent Procurement Policy.
- Access to Preferential Procurement Policy, advice and guidance at Employment Information Desk.

10.2.5.3 Activities

ACTIVITIES	TIMEFRAME	RESPONSIBLE PARTIES
Drafting of a Procurement Policy reflecting the objectives of the relevant legislation and project employment and procurement objectives. In cases of discrepancies between project objectives and legislation, legislation takes precedence.	Before construction	Mining Right Holder Contractor
Monitoring of Procurement Policy implementation by relevant project role-players and EMC.	Before and during construction and during operations	Mining Right Holder EMC Employment Information Desk Contractor

10.2.5.4 Targets

- Setting targets to achieve in terms of local procurement and HDSA procurement (% of spend).
- An improvement of performance annually towards reaching set targets.

10.2.6 Health and Safety strategy

The Health Strategy consists of three components, namely:

- Occupational Health and Safety.
- Community Health and Welfare Programme.
- Traffic Safety and Awareness Strategy.

10.2.6.1 Occupational Health and Safety

Objectives

- To ensure adherence by the Engineer, Contractor and other employed entities to the Mine Health and Safety Act (Act 29 of 1996) and the Occupational and Safety No. 85 of 1993 and as amended in No. 181 of 1993 and relevant NOSA regulations and requirements.

Outputs

- Health and Safety Policy by Engineer and Contractor subject to national legislation and requirements.
- Establishment of a First Aid and Emergency Health facility on site for emergency use by project employees.

Activities

ACTIVITIES	TIMEFRAME	RESPONSIBLE PARTIES
Health and Safety Policy by Engineer and Contractor.	Before construction	Mining Right Holder Engineer Contractor Safety Manager
Design of Health and Safety Audit Process and site inspections to ensure compliance to Health and Safety Policy.	Before and during construction	Mining Right Holder Engineer Contractor Safety Manager
Conduct compulsory Health and Safety Training Programme in procedures and responsibilities for the employees and employer.	Before and during construction	Engineer Contractor Safety Manager
Compilation and distribution of printed copies (in all relevant languages) of Health and Safety Policy to employees so that they are aware of their rights and responsibilities.	Before and during construction	Mining Right Holder Engineer Contractor

Targets

- Adherence to Health and Safety Regulations and requirements.

10.2.6.2 Community Health and Welfare Programme

Objectives

- To ensure that community health and welfare issues are addressed in an integrated and coordinated fashion with existing health and welfare facilities and infrastructure.

Outputs

- Community Health and Welfare Strategy.
- Community Health Awareness workshops.

Activities

ACTIVITIES	TIMEFRAME	RESPONSIBLE PARTIES
Facilitate the development of a Community Health and Welfare Programme in consultation with Health and Welfare Authorities in the project area, both governmental and non-governmental. Facilitate presentation of Community Awareness Programmes on STDs and HIV/Aids, unwanted pregnancies. Ensuring the availability of applicable birth control measures.	Before and during construction / operations	Mining Right Holder Local Health Services Dept. of Health Contractor
Implementing appropriate noise and dust monitoring equipment. Monitoring of noise and dust levels during the construction and operational phases. Implementation of appropriate mitigation measures to curb noise and dust pollution impact on the local settlements and land occupants.	During Construction and Operations	Mining Right Holder Contractor Environmental Manager Health Facilities
Implement a Medical Surveillance Programme with identified community members.	During Construction and Operations	Mining Right Holder Dept. of Health

Targets

- Appropriate support and assistance to local health facilities impacted by the project.
- Hand-over of support measures (if applicable) to the relevant role-players.
- Community Health and Welfare Awareness programmes in co-ordination and with the guidance of local health staff and facility requirements.

10.2.6.3 Traffic safety and Awareness strategy

Objectives

- To undertake a road safety audit for all road infrastructure that would be directly affected by the movement of construction vehicles, product transport vehicles and other related traffic.
- To further evaluate existing traffic patterns and road conditions in the project area.
- To further evaluate the condition and suitability of proposed access roads to the project site.
- To ensure that adequate traffic management tools are employed for the duration of the project duration.

Outputs

- A Traffic Management Strategy.
- A Road Safety Plan for implementation in consultation with Local Government Traffic Authorities
- A Road Safety Awareness Campaign.

Activities

ACTIVITIES	TIMEFRAME	RESPONSIBLE PARTIES
Compile a Traffic Safety and Awareness Plan. This may need to inform the tender process with regards to scheduling of construction material deliveries, product transport, mining contractor, etc.	Before and during construction / operations	Mining Right Holder Contractor Dept. Of Transport
Present Traffic Management and Safety Plan to Dept. of Transport for input and support.	Before and during construction / operations	Mining Right Holder Contractor Dept. Of Transport
Upgrading of roads and construction of new roads if required for the project implementation process.	Before and during construction / operations	Mining Right Holder Engineer Contractor

ACTIVITIES	TIMEFRAME	RESPONSIBLE PARTIES
		Dept. Of Transport
Drafting of hand-over agreements between mining right holder and relevant authorities, provincial and or local regarding maintenance of road infrastructure.		Legal Counsel
Implementation of Traffic Safety and Awareness Plan and Monitoring Programme.	Before and during construction / operations	Mining Right Holder Engineer Contractor Dept. Of Transport

Targets

- Completion of the Road Safety Audit before construction commences.
- Completion of the Traffic Safety and Awareness Plan before construction commences.

10.2.7 Social Monitoring and Evaluation Strategy

10.2.7.1 Objectives

- To ensure that all the activities listed in the social strategies are implemented to support the achievement thereof.
- To monitor, review and adapt social implementation strategies if and when required.
- To ensure that the monitoring information is captured in a structured and organised fashion, according to an agreed system by responsible parties, in order to ensure post mining and benefit implementation analysis of the data.
- Integration with ECO monitoring functions of the bio-physical environment.

10.2.7.2 Outputs

- Drafting of Monitoring and Evaluation Policy.
- Implementation and or adapting corrective measures.
- Compilation of Monitoring Reports to EMC and project proponent.

10.2.7.3 Activities

ACTIVITIES	TIMEFRAME	RESPONSIBLE PARTIES
Compile Monitoring and Evaluation Policy and Procedures Definition of Conflict Resolution Procedure	Before construction	Mining Right Holder, Social Scientist, EMC, Engineer, Contractor
Define monitoring role and functions of the EMC with regards to various project components, e.g. social aspects, bio-physical environmental aspects, construction and operational issues etc.	Before and during construction	Mining Right Holder, EMC
Design and implementation of monitoring and evaluation methodologies (e.g. checklists, Participatory Rural Appraisal etc.)	Before and during construction	Mining Right Holder, Social Scientist, EMC
Drafting of regular process and compliance monitoring reports Timeous implementation of corrective measures based on recommendations from process and compliance monitoring reports	During and after construction	Mining Right Holder, Social Scientist, EMC

10.2.7.4 Targets

- Efficient and effective project management.
- Timeous information flow to support decision-making processes.
- Integration of monitoring data between biophysical and socio-economic impacts.

11 CONCLUSION

A total of 26 social impacts were identified for the proposed project, and 6 impacts caused by interaction between social and environmental aspects.

Of the 26 social impacts, 6 are positive and 20 negative. The significance ratings for negative impacts without any mitigation range from Low, Medium-to-High and High.

If all mitigation measures are implemented according to the recommendations given in Section 8, it is anticipated that the consequence and/or probability of most negative impacts will be reduced. This is reflected in the residual or post-mitigation significance ratings assigned to negative impacts. All positive impacts are expected to be at least moderately significant after mitigation.

This summary confirms that adequate mitigation measures are expected to reduce the significance of almost all negative impacts albeit not always to baseline levels, while positive impacts will on average be significantly enhanced to maximise benefits to surrounding communities.

Consequently it is recommended from a social perspective that the proposed Rietkol Project proceed. This recommendation is based on the following conditions

- Mitigation measures outlined in this report will be given effect through the social management plan outlined in Section 8,
- Measures to monitor and assess implementation of these mitigation measures and to take corrective action where necessary (as is outlined in the social monitoring plan outlined in Section 9) will be implemented; and
- Impacts pertaining to other specialist disciplines that could have indirect socio-economic repercussions (e.g. impacts on groundwater, air quality, health etc.) will be effectively addressed as per the mitigation measures recommended in those specialist reports
- Nhlabathi Minerals must also establish continuous communication channels as well as complaints and grievance procedures with the affected parties.

12 REFERENCES

12.1 Specialist Studies

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- Rietkol Air Quality Impact Assessment, 2021, EBS Advisory, unpublished
- Rietkol Blasting Impact Assessment, 2021, Blast Management & Consulting, unpublished
- Rietkol Geohydrological Assessment, 2021, Groundwater Complete, unpublished
- Rietkol Economic Impact Assessment, 2021, Mosaka
- Rietkol Health Impact Assessment, 2021, AirCheck Occupational Health, Environmental and Training Services cc, unpublished
- Rietkol Visual Impact Assessment, 2021, Scientific Aquatic Services, unpublished
- Rietkol Traffic Impact Assessment, 2021, Avzcons, unpublished
- Human Health Risk Assessment, 2021, R Oosthuizen, unpublished
- Impact Statement on Broiler Farms and Egg Packing Station, 2021, C4 Africa, unpublished

12.2 Academic and Other References

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12.3 Legislation

- International Best Practice
  - Equator Principles
  - IFC Standards
  - Project Classification
  - Human Rights
- South African Legislation
  - The Constitution, Act 108 of 1996
  - The National Environmental Management Act 107 of 1998 (NEMA)
  - National Heritage Resources Act (Act No. 25 of 1999) (NHRA)
  - Conservation of Agricultural Resources Act (Act No. 43 of 1983)
  - Mine Health and Safety Act, 1996 (Act 29 of 1996)
  - Development Facilitation Act, Act 67 of 1995
  - Land Use Planning Ordinance (Ordinance No. 15 of 1985)
  - Town Planning and Townships Ordinance No 15 of 1986
  - Spatial Planning and Land Use Management Act (SPLUMA)

- Special Economic Zones Act, No. 16 of 2014
- Promotion of Access to Information Act (No. 2 of 2000)
- Promotion of Administrative Justice (No. 3 of 2000)
- Basic Conditions of Employment Act (No. 75 of 1997)
- The Labour Relations Act (No. 66 of 1995)
- Promotion of Equality and Prevention of Unfair Discrimination Act (No. 4 of 2000)
- Occupational Health and Safety Act (No. 85 of 1993)
- Broad Based Black Economic Empowerment Act (No. 53 of 2003)
- National Road Safety Act (No. 9 of 1972)
- National Road Traffic Act (No. 93 of 1996)
- Prevention of Illegal Eviction from and Unlawful Occupation of Land Act 19 of 1998
- Restitution of Land Rights Act 3 of 1996
- Amendment of the Upgrading of Land Tenure Rights Act 112 of 1991
- Subdivision of Agricultural Land Act 70 of 1970
- Housing Act No 107 of 1997
- National Land Transport Act 5 of 2009
- Mpumalanga Land Administration Act 5 of 1998
- Transvaal Nature Conservation Ordinance 12 of 1983
- Mpumalanga Nature Conservation Act 10 of 1998

12.4 Government Policies and Documents

- Provincial Growth and Economic Development Strategies for Mpumalanga
- Tourism Growth Strategy / Master Plan for Mpumalanga
- Provincial and District Spatial Development Framework
- District and Local Integrated Development Plan
- Census 2011 data
- Community survey 2016
- Quarterly Employment Statistics, 2016
- General household survey, 2011
- Income and Expenditure survey 2010/2011
- Mortality and causes of death survey, 2010

Appendix A: Declaration of Independence

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Department:
Economic Development, Environment and Tourism
MPUMALANGA PROVINCIAL GOVERNMENT

Details of specialist and declaration of interest in respect of an application for authorisation in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998), as amended and the Environmental Impact Assessment Regulations, 2010

PROJECT TITLE

NHLABATHI MINERALS (PTY) LTD – RIETKOL MINING OPERATION

Specialist:	Diphororo Development (Pty) Ltd		
Nature of specialist study compiled:	Social Impact Assessment		
Contact person:	Ms Lizinda Dickson		
Postal address:	PO Box 13509, Sinoville		
Postal code:	0129	**Cell:**	0829222261
Telephone:	0125439093	**Fax:**	0866025566
E-mail:	lizinda@diphororo.com		
Qualifications & relevant experience:	• University of Stellenbosch (US); 1994 – 1996; Degree in Geography and Psychology • University of Pretoria; 1997 – 1998; Honours Degree in Environmental Management & GeoInformatics • University of Pretorial 2017 – in progress; Masters Degree in Environment and Society • Environmental Systems Research Institute (ESRI) • 2002, 2008, 2012, 2020; Various Courses and refresher course in ArcGIS (ArcMap, ArcGIS Online, ArcGIS Pro, Geodatabases) • PlanetGIS South Africa; 2004; PlanetGIS system design and operations		
Professional affiliation(s) (if any)	International Association of Impact Assessment Active Member Environmental Assessment Practitioner Association of South Africa Registration in process International Association of Public Participation (IAP2) Active Member Geo-Information Society of South Africa Member South African Geomatics Council Registration in process Geospatial Information & Technology Association Member		

The specialist appointed in terms of the Regulations

I, **Lizinda Dickson** declare that -

General declaration:

- I act as the independent specialist in this application;
- I will perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the applicant;
- I declare that there are no circumstances that may compromise my objectivity in performing such work;
- I have expertise in conducting the specialist report relevant to this application, including knowledge of the Act, regulations and any guidelines that have relevance to the proposed activity;
- I will comply with the Act, regulations and all other applicable legislation;
- I will take into account, to the extent possible, the matters listed in Regulation 8;
- I have no, and will not engage in, conflicting interests in the undertaking of the activity;
- I undertake to disclose to the applicant and the competent authority all material information in my possession that reasonably has or may have the potential of influencing - any decision to be taken with respect to the application by the competent authority; and - the objectivity of any report, plan or document to be prepared by myself for submission to the competent authority;
- All the particulars furnished by me in this form are true and correct; and
- I realise that a false declaration is an offence in terms of Regulation 71 and is punishable in terms of section 24F of the Act.

Signature of specialist:

Diphororo Development (Pty) Ltd

Name of company:

12 February 2021

Date:

Signature of Commissioner of Oaths

12 February 2021

Date:

Accountant

Designation:

Official stamp (below)

HELENA CLAASSEN
COMMISSIONER OF OATHS
177 MALHERBE STR
CAPITAL PARK 0084
CERTIFIED FINANCIAL ACCOUNTANT

Appendix B: Curriculum Vitae

PROFILE

Lizinda Dickson has more than 24 years' experience in conducting Public Participation and Social Impact Assessments for various clients in the mining, industrial, commercial, agricultural, sport and water sectors.

Her expertise ranges from Public Participation, Land use & Spatial Planning, Socio-economic Assessment and Management, GIS mapping, Risk assessments, Resettlement Management, to complex Stakeholder and Community Engagement strategies.

She strives to set best practice standards and not merely benchmark against them. She has strong people communication skills, thrives on a challenge and successful implementation.
She is known for her practical approach to complex problems to develop solutions that are implementable and feasible.

CONTACT

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LIZINDA DICKSON

SOCIO-ECONOMIC & STAKEHOLDER ENGAGEMENT SPECIALIST

EDUCATION

University of Stellenbosch (US)
1994 - 1996
Degree in Geography and Psychology

University of Pretoria
1997 - 1998
Honours Degree in Environmental Management & GeoInformatics

University of Pretoria
2017 – in progress
Masters Degree in Environment and Society

Environmental Systems Research Institute (ESRI)
2002, 2008, 2012, 2020
Various Courses and refresher course in ArcGIS (ArcMap, ArcGIS Online, ArcGIS Pro, Geodatabases)

PlanetGIS South Africa
2004
PlanetGIS system design and operations

WORK EXPERIENCE

Diphororo Development (Pty) Ltd - Director & Specialist
2004 – date
I am a partner and director in the company that provide professional consultancy services in the Environmental Management, Social Impact Assessment and Management, Resettlement, Stakeholder Engagement and GeoInformatics areas.

Naledi Development Restructured (Pty) Ltd - Senior Project Management & Specialist
2000 – 2004
Manage and implement projects in the Social Impact Assessment, Management, Resettlement, Stakeholder Engagement and Community Development areas.

Naledi Development (Pty) Ltd – Junior Project Leader
1998 – 1999
Support, assist and conduct fieldwork in the project implementation in the fields of Social Impact Assessment, Management, Resettlement, Stakeholder Engagement and Community Development areas.

University of Pretoria – Research Assistant
1996 – 1997
Support and assistance with research fieldwork, literature review, and presenting lectures to first year students

University of Stellenbosch – Student Counselor
1995 – 1996
Provide counselling to first year students to support their integration into student life.

SKILLS

Social and Environmental Impact Assessment
Conducting Social and Environmental Impact Assessments in terms of the National Environmental Management Act and its EIA regulations. Compliance with International (IFC, Worldbank) standards where required. Designed breakthrough methodologies to integrate Environmental and Social Impacts in the EIA process.

Stakeholder Engagement and Public Participation
Compiling Stakeholder Engagement Strategies and Public Participation Plans, spearheading the implementation to ensure effective engagement with stakeholders.

Geographic Information Systems (GIS) / GeoInformatics
Development of GIS base maps for new developments including all social, environmental and technical details. Conducting thematic analysis on data to determine likely impacts and best practice approaches for developers.

Social Development Plans and Community Development
Compilation of Social Development Plans, Social and Labour Plans and Annual Reports as well as the implementation of Bursary Schemes, Skills audits, and Community Development Projects.

Resettlement and Livelihood Restoration Programmes
Compilation of Resettlement Action Plans in compliance with International Standards, implementation of the RAPs and conducting audits on Resettlement Programmes compliance and impact.

LIZINDA DICKSON

SOCIO-ECONOMIC & STAKEHOLDER ENGAGEMENT SPECIALIST

PROFESSIONAL ASSOCIATIONS

International Association of Impact Assessment

Active Member

Environmental Assessment Practitioner Association of South Africa

Registration in process

International Association of Public Participation (IAP2)

Active Member

Geo-Information Society of South Africa

Member

South African Geomatics Council

Registration in process

Geospatial Information & Technology Association

Member

PUBLICATIONS

International

Water Management Institute (IWMI) South Africa Working Paper. Colombo, Sri Lanka

Van Koppen, B., Joubert, C. & Grobbelaar (Dickson), L (2000). Gender and Irrigation in Mathabatha Land.

COMPUTER & SYSTEMS

Microsoft

Windows 10; Microsoft 365, Teams, Sharepoint, Dynamics, Office suite

Corel

Office suite, Corel Draw, CorelCAD

ESRI

ArcMap ArcGIS online; ArcMap Pro

Planet GIS

QGIS

Global Mapper

SAS Statistical analysis (database management)

EXPERIENCE

Platinum Group Metals / Waterberg JV Resources (Pty) Ltd

Waterberg Platinum Mine: Stakeholder Engagement & Public Participation

KfW Development Bank / Eskom

Neptune – Pembroke 400kVA Transmission line: IFC compliant Social Impact Assessment and Resettlement Action Plan & Implementation (Transmission, Eastern Cape)

Transnet

Swazi-Rail Link Project: IFC compliant Social Impact Assessment and Resettlement Action Plan (Mpumalanga)

Anglo American

Twickenham Platinum, Bokoni Platinum: Social Impact, Stakeholder Engagement and Resettlement. Livelihood Restoration (Platinum, Limpopo)

Consol SA

Socio-environmental Sensitivity Mapping, Public Participation and Impact Assessment for their Rietkol Mining Right Application

Magalies Water

Social and Environmental Impact Assessment, Public Participation, Land Access, Construction Liaison and Servitude Registration

West Wits Mining (Pty) Ltd

Social Impact Assessment and Socio-environmental Sensitivity Mapping for Mining Right Application

Subiflex Mining (Pty) Ltd

The Duel Coal Project - Social Impact Assessment and Stakeholder Engagement (Limpopo)

MC Mining (Pty) Ltd

Makhado Colliery, Greater Soutpansberg Projects and Vele Colliery – Strategic Stakeholder Engagement, Social Impact Assessment and Development Planning (Coal- Limpopo Province)

Lebalelo Water User Association

Establishment, servitude registration, stakeholder engagement, construction liaison, social development plan and conflict resolution (Water, Limpopo)

Sefateng Chrome

Social Impact Assessment / Public Participation, Social & Labour Plan, Resettlement Action Plan and Implementation (Chrome, Limpopo)

South32

Leandra Project, Khutala, Weltevreden: Social Impact Assessment / Public Participation (Coal, Mpumalanga)

Bengwenyama Minerals

Land Rights Enquiry, and Public Participation in support of their Constitutional Court Case where they succeeded to obtain the first preferent right in South Africa

Department of Human Settlement

Urban Renewal Programme in Bekkersdal, Renewal of hostels in Gauteng, Affordable Rental Accommodation Programme – Socio-economic survey of 50,000 inhabitants in 3 months, Social Development Plans (Gauteng)

Glencore (Pty) Ltd / African Rainbow Minerals

Vlakfontein Colliery and Goedgevonden Colliery – Stakeholder Engagement and Social Impact Assessment (Coal- Limpopo Province)

Impala Platinum (Pty) Ltd

Company Resettlement Policy and Implementation Guideline, Social Development Plan and Implementation for their Essential Oil farm development in the Eastern Cape

Development Bank of South Africa (Pty) Ltd

Socio-economic Assessments of project proposals to determine financial viability and project sustainability in the long term.

South African National Roads Agency Ltd

Botlokwa, Capricorn, and Diamond Hill Toll Plaza development – Social assessment, Stakeholder Engagement and Consent

Appendix C: Landowner Questionnaire

ENVIRONMENTAL IMPACT ASSESSMENT FOR THE PROPOSED RIETKOL MINING OPERATION

LANDOWNER INFORMATION QUESTIONNAIRE

Please complete and return to the Stakeholder Engagement Public Participation Office.
Contact Details: Susan van Eeden Tel: (012) 543 9093, Fax: 086 571 0939, Email: rietkolproject@gmail.com

1 LANDOWNER INFORMATION

Title		First Name	
Initials		Surname	
Organisation / Business			
Postal Address			
		Postal Code	
Land Line Tel No		Cell no	
Fax No		Email	
Are you a member of a Farmers' Association / Union?	Yes ☐ / No ☐	Name:	
Are you a member of a Water User Association?	Yes ☐ / No ☐	Name:	
Are you registered with any Production Association?	Yes ☐ / No ☐	Name:	

2 PROPERTY INFORMATION

Please list farm names owned

Farm name	Farm No	Portion	Size (Ha)	Aware of any land claims
1.				
2.				
3.				
4.				
5.				
If there are land claims, do you know who?				
Are there any servitudes / right of way registered?		Formal		
		Informal		
Are there any lease agreements?		Formal		
		Informal		
Who supplies you with electricity?	ESKOM ☐ Municipality ☐ Self ☐ Other ☐			

3 LAND USE INFORMATION

Type of primary land use	Grazing ☐	Irrigation ☐	Dry Land ☐	Other ☐
Percentage of land allocation	%	%	%	%
Provide the following:	Crop:_____	Crop:_____	Crop:_____	Crop:_____
• Crop type (Maize, wheat, sorghum, fruit trees (specify variant) etc.	Irrigated☐/Dry☐	Irrigated☐/Dry☐	Irrigated☐/Dry☐	Irrigated☐/Dry☐
• Irrigated or dryland/rain fed	Size:_____	Size:_____	Size:_____	Size:_____
• Size of crop fields	Yield: _____	Yield: _____	Yield: _____	Yield: _____
• Estimated yield of crop (e.g. tons / year)	Crop replaced every _____ yrs with _____(crop) for _____ yrs	Crop replaced every _____ yrs with _____(crop) for _____ yrs	Crop replaced every _____ yrs with _____(crop) for _____ yrs	Crop replaced every _____ yrs with _____(crop) for _____ yrs
• Frequency of crop rotation • Frequency & duration of fallow period	Fallow every _____yrs for _____ yrs	Fallow every _____yrs for _____ yrs	Fallow every _____yrs for _____ yrs	Fallow every _____yrs for _____ yrs
Fruit or vegetable packing facilities	Yes ☐ No ☐	Estimated Crop losses per year		

Reasons for losses (if applicable mark with X)	Drought ☐	Disease ☐	Theft ☐	Other ☐
Type, dosage and method of fertilizer and/or herbicide applications	Type	Dosage	Method	
Grazing Capacity (if known) per large stock unit				
Livestock Farming (if applicable mark with X)	Cattle ☐	Sheep ☐	Goats ☐	Other ☐
Livestock numbers per type				
Weaning percentage				
Breed and Cow Numbers (e.g. Bonsmara 50)				
Feedlot – average cattle numbers standing				
Dairy cows – number of cows in milk				
Other – livestock (e.g. pigs and numbers	Type	Number	Type	Number
	Laying hens		Broiler chickens	
Poultry – Laying hens/chicken numbers				
Estimated animal losses per year				
Reasons for losses (if applicable mark with X)	Drought ☐	Disease ☐	Theft ☐	Other ☐
Please provide information on any other business or operations being practiced from the property, i.e. guesthouses, shops, farm schools, pre-school, workshops, etc				
Please provide any other land uses, e.g. quarries, plantations, etc. on the property				
Are you aware of any Fauna/Flora Protected Species? If yes please provide details				

4 WATER USE INFORMATION

Where do you get your water supply from?	Boreholes ☐ Abstraction from Streams / River ☐ Springs ☐ Dams ☐ Other ☐		
If other, please explain			
Is your water use registered and/or licensed with Department of Water and Sanitation?		How many boreholes/springs are in use?	
How many boreholes/springs do you have on the property?		How many dams do you have on the property?	
Do your boreholes/springs yield	<1 litre/sec ☐ 1-5 litres/sec ☐ >5 litres/sec ☐ >10 litres/sec ☐	OR	< 3600 litres/hour ☐ 3600 – 18 000 litres/hour ☐ >18 000 litres/hour ☐ >36 000 litres/hour ☐
Do your boreholes/springs ever run dry?		Boreholes: Yes ☐ / No ☐ Wells: Yes ☐ / No ☐ Springs: Yes ☐ / No ☐ Other, specify _____	
What do you use the water for?	Household ☐ Lodges ☐	Other, please	

	Stock ☐ Irrigation ☐	specify	
If for household use, how many persons (including labourers) are supplied?			
If for irrigation, how many hectares are irrigated?	ha	Crop Type	
If other, what volume is used?	litres per day		
Water Quality	Good (sweet) ☐ Moderate (slightly brackish) ☐ Poor (salty) ☐ Other specify _____		

5 WORKER INFORMATION

Number of part-time workers		How often do they work? (weeks per year)	
Number of permanent workers		Reside on Property	Yes ☐ / No ☐
How many reside on the property?		Number of worker houses	
What is the number of dependents staying with the employees on the property?			
What is the primary language spoken by your workers?			
Do you have employment contracts with your workers?			Yes ☐ / No ☐
Do you employ any foreign-nationals on the property?			Yes ☐ / No ☐
May we include your workers or a representative of the workers in the consultation process?			Yes ☐ / No ☐
May we complete a questionnaire with your workers?			Yes ☐ / No ☐
Do your workers use any Natural Resources?			Yes ☐ / No ☐
If yes, specify			

6 HERITAGE AND CULTURAL SITES

Are there any graves present on the farm?	Yes ☐ / No ☐	Number of graves on the farm	
How old are the graves?			
Are you aware of any heritage sites / ruins / historical buildings? If yes, specify			
Is there an active graveyard on the property (currently being used)?			
Who uses this graveyard?	Self ☐ Workers ☐ Other, specify_____		

7 YOUR OPINION

Please give your honest opinion on the following statements:

Mining brings benefits to the local community	Agree ☐ Not sure ☐ Disagree ☐
Mining contributes significantly to South Africa's economy	Agree ☐ Not sure ☐ Disagree ☐
Mining companies are not doing enough to empower local communities	Agree ☐ Not sure ☐ Disagree ☐
There is nothing that can be done to protect the environment from mining activities	Agree ☐ Not sure ☐ Disagree ☐
Environmental Protection and Mining Development can co-exist	Agree ☐ Not sure ☐ Disagree ☐
If done responsibly, do you want mining in your area?	Agree ☐ Not sure ☐ Disagree ☐

8 EXPECTED IMPACTS AND BENEFITS

Select the positive impacts you think mining in this area will bring	Jobs ☐ Business Contracts ☐ Infrastructure ☐ Economic growth ☐	Local ownership ☐ Skills Development ☐ Bursaries ☐ Community projects ☐
	Other, please specify below:	
Select the negative impacts you think mining in this area will bring	Groundwater levels ☐ Groundwater quality ☐ Surface water flow ☐ Surface water quality ☐ Noisy environment ☐ Dust ☐ Health problems ☐	Increased crime/social ills ☐ Land use & livelihoods ☐ Property Values ☐ Current Labour Force ☐ Roads ☐ Heritage/Cultural Sites ☐ Biodiversity/Wetlands ☐
	Other, please specify below:	

9 COMMENTS AND SUGGESTIONS (PLEASE USE SEPARATE SHEETS IF YOU WISH)

Landowner Name		Property	
		Date:	

Please provide any comments on the Project below:

Please provide any suggestions on the stakeholder engagement programme for the Project below:

10 METHODS TO CONTACT

What is the best way to contact you?		What times of the day?	
How do we send you letters / documents regarding the project?			
Where would you prefer to have meetings?			

THANK YOU FOR YOUR CONTRIBUTION

NAME: SIGNATURE: DATE:

Appendix D: Land occupant / Settlement Questionnaire

ENVIRONMENTAL IMPACT ASSESSMENT FOR THE PROPOSED RIETKOL MINING OPERATION

LAND OCCUPANT INFORMATION QUESTIONNAIRE

Please complete and return to the Stakeholder Engagement Public Participation Office.
Contact Details: Susan van Eeden Tel: (012) 543 9093, Fax: 086 571 0939, Email: rietkolproject@gmail.com

1 LAND OCCUPANT INFORMATION

Title		First Name	
Initials		Surname	
Property residing on			
Cell no		Email	
Number of adults residing in the house?		Number of children residing in the house?	

2 HOUSEHOLD INFORMATION

How long have you lived here?				
Type of house?	Traditional Mud Rondavel ☐ Traditional Mud building ☐ Brick building ☐ Zinc Building ☐ Modern Brick building ☐ Wood Building ☐			
Is the house a RDP house?	Yes ☐ No ☐			
Who built the house?	Self ☐	Landowner ☐	Government ☐	Other ☐
Do you permanently stay in this house, if not where do you stay?	Yes ☐ No ☐ Town: _____			
Do you have an agreement with the land owner to stay on this land?	Yes, verbal ☐ Yes, written ☐ No ☐ Other ☐ _____			
Type of Religion	 Town of Church: _____			
Main means of transport	Bus ☐ Taxi ☐ Car ☐ Bicycle ☐ Walk ☐			
Do you hunt in the area	 Yes ☐ No ☐ Refuse to answer ☐			
If yes by what means do you hunt?	 Not applicable ☐ Dogs ☐ Hunting sticks ☐ Traps/Snares ☐ Firearms ☐			
Does the family harvest wild plants for medicinal use	 Yes ☐ No ☐ Sometimes ☐ Refuse to answer ☐			
If so, where?	 Not applicable ☐ Around the house ☐ Towards the town ☐ Towards the River ☐ Other ☐ _____			
What does the family use for medicinal treatment	 Clinic ☐ Traditional Healer ☐ Doctor ☐ Refuse to answer ☐ Other ☐ _____			
Where is your nearest government medical service	A mobile clinic that visits the village ☐ Close by clinic ☐ Hospital ☐ Other ☐ Location of clinic/hospital/other _____			
If Mobile clinic, how regular does the mobile clinic visit the community	 Daily ☐ Weekly ☐ Monthly ☐ Ever second month ☐ Not applicable ☐			

3 FAMILY MEMBER INFORMATION

Member	1	2	3	4	5
Role in Household (i.e. Spouse, child, parent, tenant, etc)	***Household Head***				
Surname					
Name					
Gender	Male ☐ Female ☐	Male ☐ Female ☐	Male ☐ Female ☐	Male ☐ Female ☐	Male ☐ Female ☐
Birthdate					
Age	0 – 18yrs ☐ 19 – 35 yrs ☐ 36 – 45 yrs ☐ 46 – 65 yrs ☐ 65 yrs & older ☐	0 – 18yrs ☐ 19 – 35 yrs ☐ 36 – 45 yrs ☐ 46 – 65 yrs ☐ 65 yrs & older ☐	0 – 18yrs ☐ 19 – 35 yrs ☐ 36 – 45 yrs ☐ 46 – 65 yrs ☐ 65 yrs & older ☐	0 – 18yrs ☐ 19 – 35 yrs ☐ 36 – 45 yrs ☐ 46 – 65 yrs ☐ 65 yrs & older ☐	0 – 18yrs ☐ 19 – 35 yrs ☐ 36 – 45 yrs ☐ 46 – 65 yrs ☐ 65 yrs & older ☐
Marital status	N/A ☐ Single ☐ Married ☐ Living with partner ☐ Divorced ☐ Widow ☐	N/A ☐ Single ☐ Married ☐ Living with partner ☐ Divorced ☐ Widow ☐	N/A ☐ Single ☐ Married ☐ Living with partner ☐ Divorced ☐ Widow ☐	N/A ☐ Single ☐ Married ☐ Living with partner ☐ Divorced ☐ Widow ☐	N/A ☐ Single ☐ Married ☐ Living with partner ☐ Divorced ☐ Widow ☐
Qualifications	No formal education ☐ Primary ☐ Secondary ☐ Matric ☐ Tertiary ☐	No formal education ☐ Primary ☐ Secondary ☐ Matric ☐ Tertiary ☐	No formal education ☐ Primary ☐ Secondary ☐ Matric ☐ Tertiary ☐	No formal education ☐ Primary ☐ Secondary ☐ Matric ☐ Tertiary ☐	No formal education ☐ Primary ☐ Secondary ☐ Matric ☐ Tertiary ☐
Provide detail of Highest Qualification (i.e. Certificate in Accounting, Grade 12 passed, etc)					
Student / Learner	Yes ☐ No ☐	Yes ☐ No ☐	Yes ☐ No ☐	Yes ☐ No ☐	Yes ☐ No ☐
Town of school					
Primary Language					
Level – Primary language	Understand ☐ Read ☐ Write ☐	Understand ☐ Read ☐ Write ☐	Understand ☐ Read ☐ Write ☐	Understand ☐ Read ☐ Write ☐	Understand ☐ Read ☐ Write ☐
Can you understand English	Yes ☐ No ☐	Yes ☐ No ☐	Yes ☐ No ☐	Yes ☐ No ☐	Yes ☐ No ☐
Level – English	Understand ☐ Read ☐ Write ☐	Understand ☐ Read ☐ Write ☐	Understand ☐ Read ☐ Write ☐	Understand ☐ Read ☐ Write ☐	Understand ☐ Read ☐ Write ☐
Other language					
Level – Other language	Understand ☐ Read ☐ Write ☐	Understand ☐ Read ☐ Write ☐	Understand ☐ Read ☐ Write ☐	Understand ☐ Read ☐ Write ☐	Understand ☐ Read ☐ Write ☐
Can you read and write?	Yes ☐ No ☐	Yes ☐ No ☐	Yes ☐ No ☐	Yes ☐ No ☐	Yes ☐ No ☐
Do you permanently stay in this house, if not where do you	Yes ☐ No ☐ Town: ____________________	Yes ☐ No ☐ Town: ____________________	Yes ☐ No ☐ Town: ____________________	Yes ☐ No ☐ Town: ____________________	Yes ☐ No ☐ Town: ____________________

Member	1	2	3	4	5
stay?					
If you do not stay here permanently, how often do you come to this house?	Weekly ☐ Monthly ☐ Twice a Year ☐ Yearly ☐ Other ☐ ________________	Weekly ☐ Monthly ☐ Twice a Year ☐ Yearly ☐ Other ☐ ________________	Weekly ☐ Monthly ☐ Twice a Year ☐ Yearly ☐ Other ☐ ________________	Weekly ☐ Monthly ☐ Twice a Year ☐ Yearly ☐ Other ☐ ________________	Weekly ☐ Monthly ☐ Twice a Year ☐ Yearly ☐ Other ☐ ________________
Employment Status	Unemployed ☐ Employed ☐ Self-employed ☐ Pensioner ☐ Studying / Too young to work ☐	Unemployed ☐ Employed ☐ Self-employed ☐ Pensioner ☐ Studying / Too young to work ☐	Unemployed ☐ Employed ☐ Self-employed ☐ Pensioner ☐ Studying / Too young to work ☐	Unemployed ☐ Employed ☐ Self-employed ☐ Pensioner ☐ Studying / Too young to work ☐	Unemployed ☐ Employed ☐ Self-employed ☐ Pensioner ☐ Studying / Too young to work ☐
If employed, by who?					
Town of employ					
Income source of family member	Salary ☐ Social Grant ☐ Pension ☐ Other ☐	Salary ☐ Social Grant ☐ Pension ☐ Other ☐	Salary ☐ Social Grant ☐ Pension ☐ Other ☐	Salary ☐ Social Grant ☐ Pension ☐ Other ☐	Salary ☐ Social Grant ☐ Pension ☐ Other ☐
Family member income per month?	R0 - R1 200 ☐ R1 201 – R3 000 ☐ R3 001 – R5 000 ☐ R5 001 – R10 000 ☐ More than R10 001 ☐ Refuse to answer ☐	R0 - R1 200 ☐ R1 201 – R3 000 ☐ R3 001 – R5 000 ☐ R5 001 – R10 000 ☐ More than R10 001 ☐ Refuse to answer ☐	R0 - R1 200 ☐ R1 201 – R3 000 ☐ R3 001 – R5 000 ☐ R5 001 – R10 000 ☐ More than R10 001 ☐ Refuse to answer ☐	R0 - R1 200 ☐ R1 201 – R3 000 ☐ R3 001 – R5 000 ☐ R5 001 – R10 000 ☐ More than R10 001 ☐ Refuse to answer ☐	R0 - R1 200 ☐ R1 201 – R3 000 ☐ R3 001 – R5 000 ☐ R5 001 – R10 000 ☐ More than R10 001 ☐ Refuse to answer ☐
Driver's License	Yes ☐ No ☐ Code: _____	Yes ☐ No ☐ Code: _____	Yes ☐ No ☐ Code: _____	Yes ☐ No ☐ Code: _____	Yes ☐ No ☐ Code: _____
Formal Skills (have qualifications / certificates / diplomas)	☐ Construction (building, plaster, paint) ☐Mining (Machine operator, blasting, ☐Artisan (Boiler making, Electricity, Plumbing, Fitter & Turner) ☐Safety and Security ☐Agriculture (livestock, crops) ☐Administration/ Human Resources ☐Cleaning ☐Catering, food, entertainment	☐ Construction (building, plaster, paint) ☐Mining (Machine operator, blasting, ☐Artisan (Boiler making, Electricity, Plumbing, Fitter & Turner) ☐Safety and Security ☐Agriculture (livestock, crops) ☐Administration/ Human Resources ☐Cleaning ☐Catering, food, entertainment	☐ Construction (building, plaster, paint) ☐Mining (Machine operator, blasting, ☐Artisan (Boiler making, Electricity, Plumbing, Fitter & Turner) ☐Safety and Security ☐Agriculture (livestock, crops) ☐Administration/ Human Resources ☐Cleaning ☐Catering, food, entertainment	☐ Construction (building, plaster, paint) ☐Mining (Machine operator, blasting, ☐Artisan (Boiler making, Electricity, Plumbing, Fitter & Turner) ☐Safety and Security ☐Agriculture (livestock, crops) ☐Administration/ Human Resources ☐Cleaning ☐Catering, food, entertainment	☐ Construction (building, plaster, paint) ☐Mining (Machine operator, blasting, ☐Artisan (Boiler making, Electricity, Plumbing, Fitter & Turner) ☐Safety and Security ☐Agriculture (livestock, crops) ☐Administration/ Human Resources ☐Cleaning ☐Catering, food, entertainment
Detail of skill (Painter, Security Guard)					
Detail of qualification for skill					
Years of experience in formal skill					

Member	**1**	**2**	**3**	**4**	**5**
Informal Skills Have years' experience, indicate below	☐ Construction (building, plaster, paint) ☐Mining (Machine operator, blasting, ☐Artisan (Boiler making, Electricity, Plumbing, Fitter & Turner) ☐Safety and Security ☐Agriculture (livestock, crops) ☐Administration/ Human Resources ☐Cleaning ☐Catering, food, entertainment	☐ Construction (building, plaster, paint) ☐Mining (Machine operator, blasting, ☐Artisan (Boiler making, Electricity, Plumbing, Fitter & Turner) ☐Safety and Security ☐Agriculture (livestock, crops) ☐Administration/ Human Resources ☐Cleaning ☐Catering, food, entertainment	☐ Construction (building, plaster, paint) ☐Mining (Machine operator, blasting, ☐Artisan (Boiler making, Electricity, Plumbing, Fitter & Turner) ☐Safety and Security ☐Agriculture (livestock, crops) ☐Administration/ Human Resources ☐Cleaning ☐Catering, food, entertainment	☐ Construction (building, plaster, paint) ☐Mining (Machine operator, blasting, ☐Artisan (Boiler making, Electricity, Plumbing, Fitter & Turner) ☐Safety and Security ☐Agriculture (livestock, crops) ☐Administration/ Human Resources ☐Cleaning ☐Catering, food, entertainment	☐ Construction (building, plaster, paint) ☐Mining (Machine operator, blasting, ☐Artisan (Boiler making, Electricity, Plumbing, Fitter & Turner) ☐Safety and Security ☐Agriculture (livestock, crops) ☐Administration/ Human Resources ☐Cleaning ☐Catering, food, entertainment
Detail of skill (Painter, Security Guard)					
Years of experience in informal skill					
Do you have your own business?	Yes ☐ No ☐	Yes ☐ No ☐	Yes ☐ No ☐	Yes ☐ No ☐	Yes ☐ No ☐
If yes, what type of business?					

4 STAND, BUILDINGS AND STRUCTURES

Structure	**1**	**2**	**3**	**4**	**5**
Type of structure	Traditional Mud Rondavel ☐ Traditional Mud building ☐ Brick building ☐ Zinc Building ☐ Modern Brick building ☐	Traditional Mud Rondavel ☐ Traditional Mud building ☐ Brick building ☐ Zinc Building ☐ Modern Brick building ☐	Traditional Mud Rondavel ☐ Traditional Mud building ☐ Brick building ☐ Zinc Building ☐ Modern Brick building ☐	Traditional Mud Rondavel ☐ Traditional Mud building ☐ Brick building ☐ Zinc Building ☐ Modern Brick building ☐	Traditional Mud Rondavel ☐ Traditional Mud building ☐ Brick building ☐ Zinc Building ☐ Modern Brick building ☐
Structure Primary use	Sleeping ☐ Cooking ☐ Living area ☐ Toilets ☐ Store ☐ Business ☐ Other ☐ ________________	Sleeping ☐ Cooking ☐ Living area ☐ Toilets ☐ Store ☐ Business ☐ Other ☐ ________________	Sleeping ☐ Cooking ☐ Living area ☐ Toilets ☐ Store ☐ Business ☐ Other ☐ ________________	Sleeping ☐ Cooking ☐ Living area ☐ Toilets ☐ Store ☐ Business ☐ Other ☐ ________________	Sleeping ☐ Cooking ☐ Living area ☐ Toilets ☐ Store ☐ Business ☐ Other ☐ ________________
Rooms per structure	1 room ☐ 2 rooms ☐ 3 rooms ☐ 4 rooms ☐ 5 rooms ☐ 6 rooms ☐	1 room ☐ 2 rooms ☐ 3 rooms ☐ 4 rooms ☐ 5 rooms ☐ 6 rooms ☐	1 room ☐ 2 rooms ☐ 3 rooms ☐ 4 rooms ☐ 5 rooms ☐ 6 rooms ☐	1 room ☐ 2 rooms ☐ 3 rooms ☐ 4 rooms ☐ 5 rooms ☐ 6 rooms ☐	1 room ☐ 2 rooms ☐ 3 rooms ☐ 4 rooms ☐ 5 rooms ☐ 6 rooms ☐
Roof material	Grass / Thatch ☐ Zinc ☐ Tiles ☐ Rubber ☐ Plastic ☐	Grass / Thatch ☐ Zinc ☐ Tiles ☐ Rubber ☐ Plastic ☐	Grass / Thatch ☐ Zinc ☐ Tiles ☐ Rubber ☐ Plastic ☐	Grass / Thatch ☐ Zinc ☐ Tiles ☐ Rubber ☐ Plastic ☐	Grass / Thatch ☐ Zinc ☐ Tiles ☐ Rubber ☐ Plastic ☐

5 INFRASTRUCTURE INFORMATION

Where do you get your water supply from?	Private Borehole ☐ Tap in house ☐ Tap on Stand ☐ Have to walk to village tap ☐ Municipal Tanker supply ☐ Have to buy from someone ☐ Have to fetch from other village ☐ None ☐
If your water is piped or delivered, where does it come from? Who delivers?	Landowner supplies ☐ Municipality supplies ☐ Other ☐ _____
Toilet Facilities	Flush toilet on stand ☐ VIP on stand ☐ Pit latrine on stand ☐ Enviroloo on stand ☐ Use pit latrine on neighbours stand ☐ None ☐
Energy source (cooking, heating, lighting)	Wood ☐ Paraffin ☐ Diesel ☐ Dung ☐ Gas ☐ Electricity connection ☐ None ☐

6 OTHER ACTIVITIES

Do you have a vegetable garden / arable plot on or next to your stand	Yes ☐ No ☐
Type of farming	Not applicable ☐ Vegetables ☐ Lucerne ☐ Maize ☐ Corn ☐ Sorghum ☐ other ☐ _____
Do you own any of the following livestock?	None ☐ Cattle ☐ Chickens ☐ Goats ☐ Pigs ☐ Sheep ☐ Donkeys ☐ Other ☐ _____
How many livestock?	
Do you have any pets	None ☐ Dogs ☐ Cats ☐

7 HERITAGE AND CULTURAL SITES

Are there any graves present on the property?	Yes ☐ / No ☐	Number of graves on the property	
Where are the graves situated	In the house ☐ In the stand ☐ On the property ☐ Other ☐ _____		
What type of grave is it?	Family Grave ☐ Other non-relative grave ☐ Unknown grave ☐		
Are any of the graves older than 60 years?	Yes ☐ / No ☐		
Is there any ancestral / sacred areas?	Yes ☐ / No ☐ If yes, where?		

8 YOUR OPINION

Please give your honest opinion on the following statements:

Mining brings benefits to the local community	Agree ☐ Not sure ☐ Disagree ☐
Mining contributes significantly to South Africa's economy	Agree ☐ Not sure ☐ Disagree ☐
Mining companies are not doing enough to empower local communities	Agree ☐ Not sure ☐ Disagree ☐
There is nothing that can be done to protect the environment from mining activities	Agree ☐ Not sure ☐ Disagree ☐
Environmental Protection and Mining Development can co-exist	Agree ☐ Not sure ☐ Disagree ☐
If done responsibly, do you want mining in your area?	Agree ☐ Not sure ☐ Disagree ☐

9 EXPECTED IMPACTS AND BENEFITS

Select the positive impacts you think mining in this area will bring	Jobs ☐ Business Contracts ☐ Infrastructure ☐ Economic growth ☐	Local ownership ☐ Skills Development ☐ Bursaries ☐ Community projects ☐
	Other, please specify below:	
Select the negative impacts you think mining in this area will bring	Groundwater levels ☐ Groundwater quality ☐ Surface water flow ☐ Surface water quality ☐ Noisy environment ☐ Dust ☐ Health problems ☐	Increased crime/social ills ☐ Land use & livelihoods ☐ Property Values ☐ Current Labour Force ☐ Roads ☐ Heritage/Cultural Sites ☐ Biodiversity/Wetlands ☐
	Other, please specify below:	

10 COMMENTS AND SUGGESTIONS

Please provide any comments on the Project below:

THANK YOU FOR YOUR CONTRIBUTION

NAME: SIGNATURE: DATE:

Appendix E: List of properties with Sensitivity Risk Ratings

Table 2: Property risk classification – Mining Right Application Area

Property Name	Portion Description	Study Area	Registered Landowner	Existing Land use	Cumulative Impact	Direct (Land Take) Impact	Direct (Land Take) Impact comment	Air Quality Impact rating	Air Quality Impact comment	Noise Impact rating	Noise Impact comment	Blasting Impact rating	Blasting Impact comment	Groundwater Impact rating	Groundwater Impact comment
MODDER EAST ORCHARDS AH	Holding 210	Mining Right Application Area	Consol Glass (Pty) Ltd	Grazing, Residential	Direct Impact - Land Acquisition	High Impact	Land purchased	Moderate Impact	SR in zone	High Impact	SR in zone	High Impact	Exclusion Zone with SR	High Impact	1 borehole within direct impacted area
MODDER EAST ORCHARDS AH	Holding 211	Mining Right Application Area	Consol Glass (Pty) Ltd	Grazing	Direct Impact - Land Acquisition	High Impact	Land purchased	High impact	No SR in zone	High Impact	No SR in zone	High Impact	Exclusion Zone with no SR	No Impact	
MODDER EAST ORCHARDS AH	Holding 214	Mining Right Application Area	Consol Glass (Pty) Ltd	Grazing, Residential	Direct Impact - Land Acquisition	High Impact	Land purchased	High impact	No SR in zone	High Impact	No SR in zone	High Impact	Exclusion Zone with no SR	No impact	
MODDER EAST ORCHARDS AH	Holding 215	Mining Right Application Area	Marthinus Petrus Venter and Veizaj Sokol	Grazing	Direct Impact - Land Acquisition	High Impact	Land to be purchased	High impact	No SR in zone	High Impact	No SR in zone	High Impact	Exclusion Zone with SR	No impact	
MODDER EAST ORCHARDS AH	Holding 217	Mining Right Application Area	Consol Glass (Pty) Ltd	Grazing	Direct Impact - Land Acquisition	High Impact	Land purchased	High impact	No SR in zone	High Impact	No SR in zone	High Impact	Exclusion Zone with no SR	No impact	
MODDER EAST ORCHARDS AH	Holding 219	Mining Right Application Area	Consol Glass (Pty) Ltd	Grazing, Residential	Direct Impact - Land Acquisition	High Impact	Land purchased	Low impact	SR in zone	High Impact	SR in zone	High Impact	Exclusion Zone with no SR	High Impact	1 borehole within direct impacted area
MODDER EAST ORCHARDS AH	Holding 220	Mining Right Application Area	Consol Glass (Pty) Ltd	Grazing	Direct Impact - Land Acquisition	High Impact	Land purchased	High impact	No SR in zone	High Impact	No SR in zone	High Impact	Exclusion Zone with no SR	No impact	
MODDER EAST ORCHARDS AH	Holding 221	Mining Right Application Area	Consol Glass (Pty) Ltd	Grazing	Direct Impact - Land Acquisition	High Impact	Land purchased	High impact	No SR in zone	High Impact	No SR in zone	High Impact	Exclusion Zone with no SR	No Impact	
MODDER EAST ORCHARDS AH	Holding 222	Mining Right Application Area	Consol Glass (Pty) Ltd	Grazing, Residential	Direct Impact - Land Acquisition	High Impact	Land purchased	Low impact	SR in zone	High Impact	SR in zone	No impact		High Impact	1 borehole within direct impacted area
MODDER EAST ORCHARDS AH	Holding 223	Mining Right Application Area	Consol Glass (Pty) Ltd	Grazing	Direct Impact - Land Acquisition	High Impact	Land purchased	No impact	No SR in zone	High Impact	No SR in zone	No impact		No impact	

Property Name	Portion Description	Study Area	Registered Landowner	Existing Land use	Cumulative Impact	Direct (Land Take) Impact	Direct (Land Take) Impact comment	Air Quality Impact rating	Air Quality Impact comment	Noise Impact rating	Noise Impact comment	Blasting Impact rating	Blasting Impact comment	Groundwater Impact rating	Groundwater Impact comment
MODDER EAST ORCHARDS AH	Holding 224	Mining Right Application Area	Consol Glass (Pty) Ltd	Grazing, Residential	Direct Impact - Land Acquisition	High Impact	Land purchased	Moderate Impact	SR in zone	High Impact	SR in zone	High Impact	Exclusion Zone with SR	No impact	
MODDER EAST ORCHARDS AH	Holding 213	Mining Right Application Area	Johanna Elizabeth van der Walt	Pecanut farming, Grazing, Residential	Combined High Impact	No impact	No mining or infrastructure on property	High impact	SR in zone	High Impact	SR in zone	High Impact	Exclusion Zone with no SR	High Impact	2 boreholes affected at mine closure
MODDER EAST ORCHARDS AH	Holding 216	Mining Right Application Area	Anthoni Meta van der Laan / Bheki Mthethwa / Lorraine Mthethwa	Residential Crops, Grazing	Combined High Impact	No impact	No mining or infrastructure on property	High impact	SR in zone	High Impact	SR in zone	High Impact	Exclusion Zone with SR	No impact	
MODDER EAST ORCHARDS AH	Holding 209	Mining Right Application Area	Consol Glass (Pty) Ltd	Grazing	Combined Moderate to High Impact	No impact	Land purchased	Moderate Impact	No SR in zone	High Impact	No SR in zone	No impact		No impact	
MODDER EAST ORCHARDS AH	Holding 212	Mining Right Application Area	Consol Glass (Pty) Ltd	Grazing	Combined Moderate to High Impact	No impact	Land purchased	High impact	No SR in zone	High Impact	No SR in zone	No impact		No impact	
MODDER EAST ORCHARDS AH	Holding 218	Mining Right Application Area	Consol Glass (Pty) Ltd	Grazing	Combined Moderate to High Impact	No impact	Land purchased	Moderate Impact	No SR in zone	High Impact	No SR in zone	High Impact	Exclusion Zone with no SR	No impact	
RIETKOL 237 IR	Northern Ptn of Portion 31	Mining Right Application Area	Rossouw Christiaan Le Cordeur	Crops, Grazing	Combined Moderate to High Impact	No impact	No mining or infrastructure on property	High impact	No SR in zone	High Impact	No SR in zone	No impact		No impact	
RIETKOL 237 IR	Central Ptn of Portion 31	Mining Right Application Area	Rossouw Christiaan Le Cordeur	Crops, Grazing	Combined Low Impact	No impact	No mining or infrastructure on property	Moderate Impact	No SR in zone	Low impact	No SR in zone	No impact		No impact	
RIETKOL 237 IR	Northern Portion of Portion 71	Mining Right Application Area	Rossouw Chris	Crops, Grazing	Combined Low Impact	No impact	No mining or infrastructure on property	Low impact	No SR in zone	Moderate impact	No SR in zone	No impact		No impact	
RIETKOL 237 IR	Southern Portion of Portion 71	Mining Right Application Area	Rossouw Chris	Feed, Poultry	No Impact	No impact		No impact	SR	No impact	SR	No impact		No impact	

Table 3: Property risk classification – 500m buffer around the MRA area

Property Name	Portion Description	Study Area	Registered Landowner	Existing Land use	Cumulative Impact	Direct (Land Take) Impact	Direct (Land Take) Impact comment	Air Quality Impact rating	Air Quality Impact comment	Noise Impact rating	Noise Impact comment	Blasting Impact rating	Blasting Impact comment	Groundwater Impact rating	Groundwater Impact comment
MODDER EAST ORCHARDS AH	Holding 226	500m around Mining Right Application Area	Mabona Boy Khetile and Sarah Maditshaba	Grazing, Residential	Combined High Impact	No impact		No impact	SR	High Impact	SR	No Impact		No impact	
MODDER EAST ORCHARDS AH	Remaining Extent of Holding 202	500m around Mining Right Application Area	Uniflo Extention Eleven Pty Ltd	Roses	Combined High Impact	No impact		Low impact	SR	High Impact	SR	High Impact	Two tunnels affected by air blast	No impact	
MODDER EAST ORCHARDS AH	Holding 278	500m around Mining Right Application Area	Combined Private Investigations CC	Commercial	Combined High Impact	No impact		No impact	SR	High Impact	SR	No impact		High Impact	1 of 2 boreholes affected at mine closure
MODDER EAST ORCHARDS AH	Holding 281	500m around Mining Right Application Area	Combined Private Investigations CC	Commercial	Combined Moderate to High Impact	No impact		No impact	SR	High Impact	SR in Low	No impact		No impact	
MODDER EAST ORCHARDS AH	Holding 225	500m around Mining Right Application Area	Tinus Stols	Prickley Pears	Combined Moderate to High Impact	No impact		Low impact	No SR	High Impact	No SR	High Impact	Exclusion Zone with no SR	No impact	
MODDER EAST ORCHARDS AH	Holding 228	500m around Mining Right Application Area	Bobbins Patricia Mary	Grazing	Combined Moderate to High Impact	No impact		Low impact	No SR	High Impact	No SR	No impact		No impact	
MODDER EAST ORCHARDS AH	Portion 1 of Holding 282	500m around Mining Right Application Area	Naidoo Krishnaswami Adimoolam	Grazing	Combined Moderate to High Impact	No impact		Low impact	No SR	High Impact	No SR	No impact		No impact	
MODDER EAST ORCHARDS AH	Remaining Extent of Holding 282	500m around Mining Right Application Area	Lam Ying Wan	Grazing	Combined Moderate to High Impact	No impact		Low impact	No SR	High Impact	No SR	No impact		No impact	
MODDER EAST ORCHARDS AH	Holding 277	500m around Mining Right Application Area	Greeff Jacobus, JO, Dr	Commercial - Agriculture & Property rental	Combined Moderate to High Impact	No impact		No impact	SR	High impact	SR in Low	No impact		No impact	No impact
MODDER EAST ORCHARDS AH	Holding 227	500m around Mining Right Application Area	Roux Jacobus J	Grazing	Combined Moderate Impact	No impact		No impact	SR	Moderate impact	SR	No impact		No impact	
MODDER EAST ORCHARDS AH	Holding 208	500m around Mining Right Application Area	Mthethwa Amos Bheki	Maize, Residential	Combined Moderate Impact	No impact		Low impact	SR	Moderate impact	SR	No impact		No impact	
MODDER EAST	Holding 148	500m around Mining Right	Booyen Koos	Pasture, Grazing	Combined Moderate Impact	No impact		Moderate Impact	SR	Low impact	SR	No impact		No impact	

Property Name	Portion Description	Study Area	Registered Landowner	Existing Land use	Cumulative Impact	Direct (Land Take) Impact	Direct (Land Take) Impact comment	Air Quality Impact rating	Air Quality Impact comment	Noise Impact rating	Noise Impact comment	Blasting Impact rating	Blasting Impact comment	Groundwater Impact rating	Groundwater Impact comment
ORCHARDS AH		Application Area													
MODDER EAST ORCHARDS AH	Holding 147	500m around Mining Right Application Area	Etherington Jonathan	Commercial - Agriculture, Pasture	Combined Low Impact	No impact		Moderate Impact	No SR	Low impact	No SR	No impact		No impact	
MODDER EAST ORCHARDS AH	Holding 151	500m around Mining Right Application Area	Killat Siegward	Grazing, Residential	Combined Low Impact	No impact		Low impact	SR	Low Impact	SR	No impact		No impact	
MODDER EAST ORCHARDS AH	Holding 152	500m around Mining Right Application Area	Hardchrome Plating Co Pty Ltd	Residential, Squatters	Combined Low Impact	No impact		No impact	SR	Low impact	SR	No impact		No impact	
MODDER EAST ORCHARDS AH	Holding 205	500m around Mining Right Application Area	Van Zyl Martin	Prickley Pears	Combined Low Impact	No impact		No impact	SR	Low impact	SR	No impact		No impact	
MODDER EAST ORCHARDS AH	Holding 206	500m around Mining Right Application Area	Van Staden JJ & EJ	Residential	Combined Low Impact	No impact		No impact	SR	Low impact	SR	No impact		No impact	
MODDER EAST ORCHARDS AH	Holding 207	500m around Mining Right Application Area	Jerome Natasha	Maize, Residential	Combined Low Impact	No impact		Low impact	SR	Moderate impact	SR	No impact		No impact	
MODDER EAST ORCHARDS AH	Holding 229	500m around Mining Right Application Area	Du Plessis Hendrik Nicholaas	Teff Grass	Combined Low Impact	No impact		Low impact	No SR in zone	Moderate impact	No SR in zone	No impact		No impact	
MODDER EAST ORCHARDS AH	Holding 230	500m around Mining Right Application Area	Mabona Boy Khetile and Sarah Maditshaba	Grazing	Combined Low Impact	No impact		No impact	SR	Low impact	SR	No impact		No impact	
MODDER EAST ORCHARDS AH	Holding 274	500m around Mining Right Application Area	Heusinkveld Walter Karl Friedrich	Grazing	Combined Low Impact	No impact		No impact	No SR	Moderate impact	No SR	No impact		No impact	
MODDER EAST ORCHARDS AH	Portion 2 of Holding 282	500m around Mining Right Application Area	Su Chung-Chien and Lam Ying Wan	Grazing	Combined Low Impact	No impact		Low impact	No SR	Moderate impact	No SR	No impact		No impact	
MODDER EAST ORCHARDS AH	Portion 3 of Holding 202	500m around Mining Right Application Area	Uniflo Extention Eleven Pty Ltd	Roses	Combined Low Impact	No impact		No impact	SR	Low impact	SR	No impact		No impact	
MODDER EAST ORCHARDS AH	Portion 4 of Holding 202	500m around Mining Right Application Area	Uniflo Extention Eleven Pty Ltd	Roses	Combined Low Impact	No impact		Low impact	SR	Low impact	SR	No impact		No impact	

Property Name	Portion Description	Study Area	Registered Landowner	Existing Land use	Cumulative Impact	Direct (Land Take) Impact	Direct (Land Take) Impact comment	Air Quality Impact rating	Air Quality Impact comment	Noise Impact rating	Noise Impact comment	Blasting Impact rating	Blasting Impact comment	Groundwater Impact rating	Groundwater Impact comment
RIETKOL 237 IR	Southern Ptn of Portion 31 (A)	500m around Mining Right Application Area	Rossouw Christiaan Le Cordeur		Combined Low Impact	No impact	No mining or infrastructure on property	Moderate Impact	No SR in zone	Low Impact	No SR in zone	No impact		No impact	
RIETKOL 237 IR	Eastern Portion of Portion 2	500m around Mining Right Application Area	Rossouw Christiaan Le Cordeur	Crops, Feed, Grazing	Combined Low Impact	No impact		Moderate Impact	No SR	Moderate impact	No SR	No impact		No impact	
MODDER EAST ORCHARDS AH	Holding 155	500m around Mining Right Application Area	Pickering William Edward	Grazing	Insignificant	No impact		No impact		Low impact	No SR	No impact		No impact	
MODDER EAST ORCHARDS AH	Holding 231	500m around Mining Right Application Area	Wentzel Annamarie Regina and Christiaan Johannes Hubertus	Maize, Grazing	Insignificant	No impact		No impact	No SR	Low impact	No SR	No impact		No impact	
MODDER EAST ORCHARDS AH	Holding 232	500m around Mining Right Application Area	Murray Sheilah	Grazing	Insignificant	No impact		No impact	No SR	Low impact	No SR	No impact		No impact	
MODDER EAST ORCHARDS AH	Holding 270	500m around Mining Right Application Area	Dawid Joubert Trust	Grazing	Insignificant	No impact		No impact	No SR	Low impact	No SR	No impact		No impact	
MODDER EAST ORCHARDS AH	Holding 273	500m around Mining Right Application Area	Pollard Michael John Field	Grazing	Insignificant	No impact		No impact	No SR	Low impact	No SR	No impact		No impact	
MODDER EAST ORCHARDS AH	Portion 3 of Holding 282	500m around Mining Right Application Area	Fisher Riaan Henry	Commercial	Insignificant	No impact		No impact	No SR	Low impact	No SR	No impact		No impact	
RIETKOL 237 IR	Eastern Ptn of Portion 31 (B)	500m around Mining Right Application Area	Rossouw Christiaan Le Cordeur	Crops, Grazing	Insignificant	No impact	No mining or infrastructure on property	Low impact	No SR in zone	Low Impact	No SR in zone	No impact		No impact	
RIETKOL 237 IR	Western Portion of Portion 2	500m around Mining Right Application Area	Rossouw Christiaan Le Cordeur	Poultry, Feed, Residential/Office	Insignificant	No impact		No impact		Low impact		No impact		No impact	
GELUK 234 IR	Northern Portion of Portion 15	500m around Mining Right Application Area	Martinuzzi Nicolina	Crops, Feed	No Impact	No impact		No impact		No impact		No impact		No impact	
GELUK 234 IR	Portion 7	500m around Mining Right Application Area	Martinuzzi Nicolina	Crops, Feed, Grazing	No Impact	No impact		No impact		No impact		No impact		No impact	
MODDER EAST ORCHARDS AH	Holding 146	500m around Mining Right Application Area	Etherington Jonathan	Commercial - Agriculture, MBFI	No Impact	No impact		No impact	SR	No impact		No impact		No impact	

Property Name	Portion Description	Study Area	Registered Landowner	Existing Land use	Cumulative Impact	Direct (Land Take) Impact	Direct (Land Take) Impact comment	Air Quality Impact rating	Air Quality Impact comment	Noise Impact rating	Noise Impact comment	Blasting Impact rating	Blasting Impact comment	Groundwater Impact rating	Groundwater Impact comment
MODDER EAST ORCHARDS AH	Holding 149	500m around Mining Right Application Area	Middleditch David Garth	Pasture	No Impact	No impact		No impact	No SR	No impact		No impact		No impact	
MODDER EAST ORCHARDS AH	Holding 150	500m around Mining Right Application Area	Thom Mike	Grazing	No Impact	No impact		No impact	SR	No impact		No impact		No impact	
MODDER EAST ORCHARDS AH	Holding 153	500m around Mining Right Application Area	Thom Mike	Grazing	No Impact	No impact		No impact		No impact		No impact		No impact	
MODDER EAST ORCHARDS AH	Holding 154	500m around Mining Right Application Area	Mthetwha Amos Bheki	Grazing	No Impact	No impact		No impact		No impact		No impact		No impact	
MODDER EAST ORCHARDS AH	Holding 156	500m around Mining Right Application Area	Botha Daniel Erich	Grazing	No Impact	No impact		No impact	SR	No impact		No impact		No impact	
MODDER EAST ORCHARDS AH	Holding 157	500m around Mining Right Application Area	Van Coller Hermanus Stephanus	Grazing	No Impact	No impact		No impact		No impact		No impact		No impact	
MODDER EAST ORCHARDS AH	Holding 158	500m around Mining Right Application Area	Serepo Masie Lucas	Grazing	No Impact	No impact		No impact		No impact		No impact		No impact	
MODDER EAST ORCHARDS AH	Holding 159	500m around Mining Right Application Area	Buckle Annemarie	Grazing	No Impact	No impact		No impact	SR	No impact		No impact		No impact	
MODDER EAST ORCHARDS AH	Holding 269	500m around Mining Right Application Area	Webster Maria Elizabeth Cornelia	Grazing	No Impact	No impact		No impact		No impact		No impact		No impact	
MODDER EAST ORCHARDS AH	Holding 271	500m around Mining Right Application Area	Cremer Louis Frederik Jacobus	Grazing	No Impact	No impact		No impact		No impact		No impact		No impact	
MODDER EAST ORCHARDS AH	Holding 272	500m around Mining Right Application Area	Rudolph Johan	Grazing	No Impact	No impact		No impact		No impact		No impact		No impact	
MODDER EAST ORCHARDS AH	Holding 275	500m around Mining Right Application Area	Bredenkamp Pieter Dawid	Commercial	No Impact	No impact		No impact		No impact		No impact		No impact	
MODDER EAST ORCHARDS AH	Holding 276	500m around Mining Right Application Area	Fourie Pieter Johannes and Fourie Johanna Hendrina	Commercial	No Impact	No impact		No impact		No impact		No impact		No impact	

Property Name	Portion Description	Study Area	Registered Landowner	Existing Land use	Cumulative Impact	Direct (Land Take) Impact	Direct (Land Take) Impact comment	Air Quality Impact rating	Air Quality Impact comment	Noise Impact rating	Noise Impact comment	Blasting Impact rating	Blasting Impact comment	Groundwater Impact rating	Groundwater Impact comment
MODDER EAST ORCHARDS AH	Holding 279	500m around Mining Right Application Area	Combined Private Investigations CC	Commercial	No Impact	No impact		No impact		No impact		No impact		No impact	
MODDER EAST ORCHARDS AH	Holding 280	500m around Mining Right Application Area	Greyling Jacobus Johannes	Grazing	No Impact	No impact		No impact		No impact		No impact		No impact	
MODDER EAST ORCHARDS AH	Holding 283	500m around Mining Right Application Area	Grobbelaar Alex Libion	Grazing	No Impact	No impact		No impact		No impact		No impact		No impact	
RIETKOL 237 IR	Southern Ptn of Portion 31 (C)	500m around Mining Right Application Area	Rossouw Christiaan Le Cordeur	Feed, Poultry	No Impact	No impact	No mining or infrastructure on property	No impact	SR	No impact	SR	No impact		No impact	

Table 4: Property risk classification – Between 500m and 1km buffer around the MRA area

Property Name	Portion Description	Study Area	Registered Landowner	Existing Land use	Cumulative Impact	Direct (Land Take) Impact	Direct (Land Take) Impact comment	Air Quality Impact rating	Air Quality Impact comment	Noise Impact rating	Noise Impact comment	Blasting Impact rating	Blasting Impact comment	Groundwater Impact rating	Groundwater Impact comment
RIETKOL 237 IR	Portion 72	500m - 1km around Mining Right Application Area	Du Plessis Maria Johanna / Ds Fanie	Vegetables	Combined Low Impact	No impact		Low impact	SR	Low impact	SR	No impact		No impact	
RIETKOL 237 IR	Northern Portion of Portion 90	500m - 1km around Mining Right Application Area	Chris Rossouw Familie Beleggings Pty	Crops, feed	Insignificant	No impact		Low impact		No impact		No impact		No impact	
GELUK 234 IR	Portion 2	500m - 1km around Mining Right Application Area	Rossouw Christiaan Le Cordeur	Crops, Feed	No Impact	No impact		No impact		No impact		No impact		No impact	
GELUK 234 IR	Portion 24	500m - 1km around Mining Right Application Area	Rossouw Christiaan Le Cordeur	Poultry	No Impact	No impact		No impact		No impact		No impact		No impact	
GELUK 234 IR	Southern Portion of Portion 15	500m - 1km around Mining Right Application Area	Martinuzzi Nicolina	Crops, Residential, Grazing	No Impact	No impact		No impact		No impact		No impact		No impact	
MODDER EAST ORCHARDS AH	Holding 127	500m - 1km around Mining Right Application Area	De Jager Jacoba Alletta and De Jager Petrus Hendrik	Grazing, Residential	No Impact	No impact		No impact		No impact		No impact		No impact	
MODDER EAST ORCHARDS AH	Holding 128	500m - 1km around Mining Right Application Area	De Jager Petrus Hendrik and De Jager Jacoba Alleetta	Grazing	No Impact	No impact		No impact		No impact		No impact		No impact	
MODDER EAST ORCHARDS AH	Holding 130	500m - 1km around Mining Right Application Area	Shein Meyer	Grazing	No Impact	No impact		No impact		No impact		No impact		No impact	
MODDER EAST ORCHARDS AH	Holding 131	500m - 1km around Mining Right Application Area	Suid Afrikaanse Padraad	Grazing	No Impact	No impact		No impact		No impact		No impact		No impact	
MODDER EAST ORCHARDS AH	Holding 132	500m - 1km around Mining Right Application Area	Voogt Dwayne	Grazing	No Impact	No impact		No impact		No impact		No impact		No impact	

Property Name	Portion Description	Study Area	Registered Landowner	Existing Land use	Cumulative Impact	Direct (Land Take) Impact	Direct (Land Take) Impact comment	Air Quality Impact rating	Air Quality Impact comment	Noise Impact rating	Noise Impact comment	Blasting Impact rating	Blasting Impact comment	Groundwater Impact rating	Groundwater Impact comment
MODDER EAST ORCHARDS AH	Holding 133	500m - 1km around Mining Right Application Area	South African National Road Agency Ltd	Grazing	No Impact	No impact		No impact		No impact		No impact		No impact	
MODDER EAST ORCHARDS AH	Holding 134	500m - 1km around Mining Right Application Area	South African National Road Agency Ltd	Grazing	No Impact	No impact		No impact		No impact		No impact		No impact	
MODDER EAST ORCHARDS AH	Holding 135	500m - 1km around Mining Right Application Area	Middleditch David Garth	Pasture, Equestrian, Grazing	No Impact	No impact		No impact		No impact		No impact		No impact	
MODDER EAST ORCHARDS AH	Holding 136	500m - 1km around Mining Right Application Area	Middleditch David Garth	Pasture, Equestrian, Grazing	No Impact	No impact		No impact		No impact		No impact		No impact	
MODDER EAST ORCHARDS AH	Holding 137	500m - 1km around Mining Right Application Area	South African National Road Agency Ltd	Grazing	No Impact	No impact		No impact		No impact		No impact		No impact	
MODDER EAST ORCHARDS AH	Holding 138	500m - 1km around Mining Right Application Area	Marais Edwin	Grazing	No Impact	No impact		No impact		No impact		No impact		No impact	
MODDER EAST ORCHARDS AH	Holding 139	500m - 1km around Mining Right Application Area	Middleditch David Garth	Pasture, Equestrian, Horses	No Impact	No impact		No impact		No impact		No impact		No impact	
MODDER EAST ORCHARDS AH	Holding 140	500m - 1km around Mining Right Application Area	Middleditch David Garth	Pasture, Equestrian, Horses	No Impact	No impact		No impact		No impact		No impact		No impact	
MODDER EAST ORCHARDS AH	Holding 141	500m - 1km around Mining Right Application Area	Middleditch Sheryl Sandra	Grazing	No Impact	No impact		No impact		No impact		No impact		No impact	
MODDER EAST ORCHARDS AH	Holding 142	500m - 1km around Mining Right Application Area	Middleditch Sheryl Sandra	Pasture, Equestrian	No Impact	No impact		No impact		No impact		No impact		No impact	
MODDER EAST ORCHARDS AH	Holding 143	500m - 1km around Mining Right	Middleditch Sheryl Sandra	Equestrian, Pasture	No Impact	No impact		No impact		No impact		No impact		No impact	

Property Name	Portion Description	Study Area	Registered Landowner	Existing Land use	Cumulative Impact	Direct (Land Take) Impact	Direct (Land Take) Impact comment	Air Quality Impact rating	Air Quality Impact comment	Noise Impact rating	Noise Impact comment	Blasting Impact rating	Blasting Impact comment	Groundwater Impact rating	Groundwater Impact comment
		Application Area													
MODDER EAST ORCHARDS AH	Holding 144	500m - 1km around Mining Right Application Area	Etherington Jonathan	Commercial - Agriculture, MBFI	No Impact	No impact		No impact		No impact		No impact		No impact	
MODDER EAST ORCHARDS AH	Holding 145	500m - 1km around Mining Right Application Area	AW De Jager	Grazing, Residential	No Impact	No impact		No impact		No impact		No impact		No impact	
MODDER EAST ORCHARDS AH	Holding 160	500m - 1km around Mining Right Application Area	Kritzinger Sarel Jacob Norval	Equestrian, Grazing	No Impact	No impact		No impact	SR	No impact		No impact		No impact	
MODDER EAST ORCHARDS AH	Holding 161	500m - 1km around Mining Right Application Area	Kritzinger Sarel Jacob Norval	Grazing	No Impact	No impact		No impact		No impact		No impact		No impact	
MODDER EAST ORCHARDS AH	Holding 162	500m - 1km around Mining Right Application Area	Lions Club of Durban	Grazing	No Impact	No impact		No impact		No impact		No impact		No impact	
MODDER EAST ORCHARDS AH	Holding 163	500m - 1km around Mining Right Application Area	Marais Hester H	Grazing	No Impact	No impact		No impact		No impact		No impact		No impact	
MODDER EAST ORCHARDS AH	Holding 164	500m - 1km around Mining Right Application Area	Pioneer Carpet Wholesalers Pty Ltd	Grazing	No Impact	No impact		No impact		No impact		No impact		No impact	
MODDER EAST ORCHARDS AH	Holding 165	500m - 1km around Mining Right Application Area	Mc Donald Ronald	Grazing	No Impact	No impact		No impact		No impact		No impact		No impact	
MODDER EAST ORCHARDS AH	Holding 166	500m - 1km around Mining Right Application Area	Mountifield John Robert	Grazing	No Impact	No impact		No impact		No impact		No impact		No impact	
MODDER EAST ORCHARDS AH	Holding 167	500m - 1km around Mining Right Application Area	Binder Aron and Epstein Joseph and Plein Aaron	Grazing	No Impact	No impact		No impact		No impact		No impact		No impact	

Property Name	Portion Description	Study Area	Registered Landowner	Existing Land use	Cumulative Impact	Direct (Land Take) Impact	Direct (Land Take) Impact comment	Air Quality Impact rating	Air Quality Impact comment	Noise Impact rating	Noise Impact comment	Blasting Impact rating	Blasting Impact comment	Groundwater Impact rating	Groundwater Impact comment
MODDER EAST ORCHARDS AH	Holding 200	500m - 1km around Mining Right Application Area	Swart M	Maize/Veg	No Impact	No impact		No impact		No impact		No impact		No impact	
MODDER EAST ORCHARDS AH	Holding 201	500m - 1km around Mining Right Application Area	Uniflo Extention Eleven Pty Ltd	Roses	No Impact	No impact		No impact		No impact		No impact		No impact	
MODDER EAST ORCHARDS AH	Holding 203	500m - 1km around Mining Right Application Area	Jansen van Niewenhuizen	Teff grass	No Impact	No impact		No impact		No impact		No impact		No impact	
MODDER EAST ORCHARDS AH	Holding 204	500m - 1km around Mining Right Application Area	Stols Tinus	Prickley Pears	No Impact	No impact		No impact		No impact		No impact		No impact	
MODDER EAST ORCHARDS AH	Holding 233	500m - 1km around Mining Right Application Area	Van Dyk Dawid Schalk and Johanna Susanna	Grazing, Residential	No Impact	No impact		No impact		No impact		No impact		No impact	
MODDER EAST ORCHARDS AH	Holding 236	500m - 1km around Mining Right Application Area	Reitmann Cornelia Huibrecht and Le Roux Hester Anette	Grazing	No Impact	No impact		No impact		No impact		No impact		No impact	
MODDER EAST ORCHARDS AH	Holding 237	500m - 1km around Mining Right Application Area	Viljoen Carel Johannes	Grazing	No Impact	No impact		No impact		No impact		No impact		No impact	
MODDER EAST ORCHARDS AH	Holding 238	500m - 1km around Mining Right Application Area	Bouwer Jacobus Christoffel	Grazing	No Impact	No impact		No impact		No impact		No impact		No impact	
MODDER EAST ORCHARDS AH	Holding 263	500m - 1km around Mining Right Application Area	Webster Dennis Ian Webster Maria Elizabeth	Grazing	No Impact	No impact		No impact		No impact		No impact		No impact	
MODDER EAST ORCHARDS AH	Holding 264	500m - 1km around Mining Right Application Area	Engelbrecht David Cornelius	Grazing	No Impact	No impact		No impact		No impact		No impact		No impact	
MODDER EAST ORCHARDS AH	Holding 265	500m - 1km around Mining Right	Thembeni Geluza Selby and	Grazing	No Impact	No impact		No impact		No impact		No impact		No impact	

Property Name	Portion Description	Study Area	Registered Landowner	Existing Land use	Cumulative Impact	Direct (Land Take) Impact	Direct (Land Take) Impact comment	Air Quality Impact rating	Air Quality Impact comment	Noise Impact rating	Noise Impact comment	Blasting Impact rating	Blasting Impact comment	Groundwater Impact rating	Groundwater Impact comment
		Application Area	Thembeni Christina												
MODDER EAST ORCHARDS AH	Holding 266	500m - 1km around Mining Right Application Area	African BEE Farming Pty Lyd	Bee farming	No Impact	No impact		No impact		No impact		No impact		No impact	
MODDER EAST ORCHARDS AH	Holding 267	500m - 1km around Mining Right Application Area	Webster Maria Elizabeth Cornelia	Grazing	No Impact	No impact		No impact		No impact		No impact		No impact	
MODDER EAST ORCHARDS AH	Holding 268	500m - 1km around Mining Right Application Area	Webster Dennis Ian	Commercial	No Impact	No impact		No impact		No impact		No impact		No impact	
MODDER EAST ORCHARDS AH	Holding 285	500m - 1km around Mining Right Application Area	Pretorius Petronelle Jacoba	Flowers	No Impact	No impact		No impact		No impact		No impact		No impact	
MODDER EAST ORCHARDS AH	Portion 1 of Holding 202	500m - 1km around Mining Right Application Area	Uniflo Extention Eleven Pty Ltd	Roses	No Impact	No impact		No impact		No impact		No impact		No impact	
MODDER EAST ORCHARDS AH	Portion 2 of Holding 202	500m - 1km around Mining Right Application Area	Uniflo Extention Eleven Pty Ltd	Prickley Pears	No Impact	No impact		No impact		No impact		No impact		No impact	
RIETKOL 237 IR	Portion 103	500m - 1km around Mining Right Application Area	Rossgro Voere Pty Ltd	Feed Production	No Impact	No impact		No impact		No impact		No impact		No impact	
RIETKOL 237 IR	Portion 40	500m - 1km around Mining Right Application Area	Rustig Landgoed Pty Ltd	Feed, Poultry	No Impact	No impact		No impact		No impact		No impact		No impact	
RIETKOL 237 IR	Portion 41	500m - 1km around Mining Right Application Area	Rustig Landgoed Pty Ltd	Feed, Poultry	No Impact	No impact		No impact		No impact		No impact		No impact	
RIETKOL 237 IR	Portion 42	500m - 1km around Mining Right Application Area	Rustig Landgoed Pty Ltd	Feed, Poultry	No Impact	No impact		No impact		No impact		No impact		No impact	

Property Name	Portion Description	Study Area	Registered Landowner	Existing Land use	Cumulative Impact	Direct (Land Take) Impact	Direct (Land Take) Impact comment	Air Quality Impact rating	Air Quality Impact comment	Noise Impact rating	Noise Impact comment	Blasting Impact rating	Blasting Impact comment	Groundwater Impact rating	Groundwater Impact comment
RIETKOL 237 IR	Portion 63	500m - 1km around Mining Right Application Area	Louman Farm Property cc	Vegetables	No Impact	No impact		No impact		No impact		No impact		No impact	
RIETKOL 237 IR	Portion 65	500m - 1km around Mining Right Application Area	Scorpio Farming cc	Pasture, Residential	No Impact	No impact		No impact		No impact		No impact		No impact	
RIETKOL 237 IR	Portion 66	500m - 1km around Mining Right Application Area	Louman Farm Property cc	Vegetables	No Impact	No impact		No impact		No impact		No impact		No impact	
RIETKOL 237 IR	Southern Portion of Portion 90	500m - 1km around Mining Right Application Area	Chris Rossouw Familie Beleggings Pty	Crops, feed	No Impact	No impact		No impact		No impact		No impact		No impact	