

Socio-Economic Impact Assessment Report
for the Existing 83MR Mining Right near Pilgrim's Rest,
Mpumalanga

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DRAFT for Public Review



Photo: View to the west of Pilgrim's Rest

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For Kongiwe Environmental (Pty) Ltd on behalf of
Transvaal Gold Mining Estates Limited (TGME)

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LIST OF ABBREVIATIONS

Abbreviation	Description
CDM	Clewer Dukes and Morgezon
DEFF	Department of Environment, Forestry and Fisheries
DMRE	Department of Mineral Resources and Energy
DoH	Department of Health
DPWRT	Department of Public Works Roads and Transport Mpumalanga
DWS	Department of Water and Sanitation
EA	Environmental Authorisation
EDM	Ehlanzeni District Municipality
EIA	Environmental Impact Assessment
EMPr	Environmental Management Programme
EMS	Emergency Medical Services
FTE	Full-Time Equivalent
GVA	Gross Value Added (income generated from the production process consisting of salaries and wages, rent, interest, and profits)
KNP	Kruger National Park
LED	Local Economic Development
MTPA	Mpumalanga Tourism and Parks Agency
MRTT	Mpumalanga Regional Training Trust
NEMA	National Environmental Management Act, 1998
SAPS	South African Police Service
SEIA	Social and Economic Impact Assessment
SHEQ	Safety, Health, Environment and Quality
TCLM	Thaba Chweu Local Municipality
TGME	Transvaal Gold Mining Estates Limited
TSF	Tailings Disposal Facility
WMA	Water Management Area
WML	Waste Management Licence
WUL	Water Use Licence

EXECUTIVE SUMMARY

Project background:

Transvaal Gold Mining Estates Limited (TGME) proposes to recommence the historical underground mines within the 83MR Mining Area which includes the Frankfort, Beta North, and the Clewer Dukes and Morgezon (“CDM”) underground mines. The proposed project will require additional surface infrastructure to support the underground working, the expansion of the current Tailings Disposal Facility (“TSF”), and an upgrade of the old TGME process plant.

Project Scope:

The Impact Assessment Report provides a local socio-economic baseline of the project and provides an assessment of potential socio-economic impacts of the municipal wards where the mining right is situated (Wards 13 and 10 of Thaba Chweu Local Municipality); adjacent Wards 9 and 8 to the north as well as the larger municipal area and larger national economy. The report includes a management plan to enhance positive socio-economic impacts and mitigate against negative impacts.

Main Baseline Characteristics of Receiving Environment:

- The main landuses in the local area includes forestry; old (decommissioned) mine shafts; tourism-related activities; scattered settlements as well as limited small to medium scale farming activities.
- Wards 13 and 10, where the 83MR mining area is situated, are typically rural areas with only two major towns (Pilgrim’s Rest and Graskop) and represent less than 10% of the total Thaba Chweu Local Municipality (TCLM) population.
- Matibidi, Leroro, and Moremela (Wards 8 and 9) are referred to as the Northern Areas of the TCLM and is situated within the northern section of the study area. The closest mining activity to these areas is the former Frankfort Mine.
- According to local sources, the population in the Pilgrim’s Rest area could have stayed relatively stable with limited in or out-migration the past decade. There is current evidence of accelerated in-migration of illegal miners to both Pilgrim’s Rest and Moremela (north of the mining right).
- Within Ward 13, the Mpumalanga Department of Public Works, Roads and Transport (DPWRT) is currently the custodian of the town on behalf of the government and is responsible for the maintenance and restoration of Pilgrim’s Rest.
- The lack of public funds and the growth in households places increased pressure on municipal and social services in the local area.
- While crime rates are lower than national averages, the increased presence of outsiders and illegal miners could have a negative impact on security in the local area.
- Illegal mining activities in the area have a severe negative impact on the environment in and around the Blyde River with changing the flow patterns of the river as sedimentation due to their activities being a major local concern.
- While the primary sector (agriculture, forestry, and mining) dominates the local economy there is limited downstream beneficiation of these products and most products are exported in a raw form and processed elsewhere.
- The local area is situated in the Ehlanzeni District Municipality (EDM) where tourism plays a major role due to many major tourist attractions in the area. Not all areas in the district

experienced high tourism growth. In the past decade, the historic town of Pilgrim's Rest faced a decline in the tourism industry due to the general lack of public funds for maintenance of the town resulting in deteriorating safety and hygiene conditions.

- The economy of Pilgrim's Rest town (historic and Newtown/Schoonplaas) is still dominated by tourism-related activities including accommodation, restaurants/taverns, and arts and craft shops and is very small relative to the municipal (Thaba Chweu) economy, contributing less than 1% towards municipal output and employment.
- Apart from relatively low-level agricultural activities (mainly livestock farming) in the rural area, other economic activities in the local area are concentrated in Graskop with its numerous guesthouses and retail facilities. Moremole and environs have a limited number of small retail shops and one restaurant at Bourke's Luck potholes. The forestry sector (SAFCOL and York) employs a limited number of people in the local area as the industry mainly employs contractors from outside (e.g. from Mbombela and further afield).
- While agriculture, forestry, and tourism also play some role in the TCLM economy the local municipal economy is currently dominated by the mining sector in terms of output and employment. As was discussed under the economic structure above, the mining sector currently makes a major contribution (between 45% - 50%) towards the local economic output.
- Unemployment and poverty rates are very high in the local area with less than 30% of the labour force estimated to be employed, During COVID-19 unemployment could have increased even further and currently most households in the local area are dependent on social grants.
- As is the case in the national economy, skill levels in the local economy are very low with most of the labour force falling in the elementary labour category. There is nevertheless evidence of some mining-related skills present in the area.
- The downstream economy of the Blyde River catchment area relies heavily on the health of the river for agricultural (including citrus exports) and tourism-related activities and supports the economic livelihood of an estimated 2 000 people.

Impact Assessment:

The summary table shows that most socio-economic impacts are rated low to medium before mitigation apart from the closure risks of job losses and loss of social funds. The latter two risks are particular to mining projects that play a large role in local economies and could be mitigated to moderate risks.

The project is expected to bring moderate advantages to the local and regional economy during the construction and operational phases due to local employment creation and an increase in social spending (including taxes and local economic development funds).

Summary of Socio-Economic Impacts

Socio-economic Impact	Phase	Significance of Impact	
		Pre-mitigation	Post-mitigation
Employment and income generation	Construction	Moderate (52) +	Moderate (62) +
Project induced in-migration	Construction	Moderate (52) -	Moderate (44) -
Nuisance factors	Construction	Moderate (48) -	Low (22) -
Community health risks	Construction	Low (26)-	Negligible (18)-
Safety and Health Risks	Construction	Moderate (52) -	Low (36) -
Local employment and income	Operations	Moderate (52) +	Moderate (62) +
Increase in Public revenues	Operations	Moderate (48) +	Moderate (56) +
Impact on non-mining sectors	Operations	Moderate (52) -	Low (36) -
Decline in economic diversity	Operations	Moderate (60) -	Moderate (52) -
Impact on resource use (mainly energy)	Operations	Moderate (52) -	Moderate (44) -
Project Induced in-migration	Operations	Moderate (60) -	Moderate (52) -
Nuisance factors	Operations	Moderate (51) -	Low (36) -
Impact on community health	Operations	Moderate (52) -	Low (26) -
Impact on community safety	Operations	Moderate (52) -	Moderate (44) -
Loss of jobs	Closure	High (65) -	Moderate (52) -
Decrease/Termination of social funds	Closure	High (65) -	Moderate (52) -
Permanent loss of agricultural land	Closure	Low (36)-	Negligible (18)-
Nuisance factors	Closure	Moderate (44) -	Low (22) -
Impact on community safety	Closure	Moderate (52) -	Low (36) -

Conclusion:

The proposed Project is in line with development priorities to support the mining sector in the district and province. The project should also be considered within the broader context of the negative economic impacts of the COVID-19 pandemic and the slow recovery anticipated for South Africa's economy. In this context, the proposed project will make a significant positive contribution to providing much needed employment opportunities and tax income, not only for the locals but also for the larger regional and national economy. Based on the findings of the socio-economic impact assessment for the project it is therefore recommended that the proposed Project be approved.

1. INTRODUCTION AND TERMS OF REFERENCE

Transvaal Gold Mining Estates Limited (“TGME”), a subsidiary of Theta Gold Mines Limited, is the holder of an existing mining right with Department of Mineral Resources and Energy (“DMRE”) Reference Number: MP 30/5/1/2/2/83 MR (“83MR”) with effective date 16 October 2013.

The 83MR mining area comprises Portions 1, 2, 3, 4, 5 and the Remaining Extent of the farm Frankfort 509KT, the farm Krugers Hoop 527KT, Portion 1, and the Remaining Extent of the farm Van Der Merwe's Reef 526KT, Portions 1, 2 and the Remaining Extent of Portions of the farm Morgenzon 525KT, the farm Peach Tree 544KT, and Portions 18, 42, 43, 44 and the Remaining Extent of the farm Ponieskrans 543KT (“Mining Area”).

TGME proposes to redevelop the historical underground mines within the 83MR Mining Area which includes the Frankfort, Beta North, and the Clewer Dukes and Morgenzon (“CDM”) underground mines. The expansion of the current Tailings Disposal Facility and an upgrade of the old TGME process plant would also be required.

The proposed Beta North Mine is situated on the farms Peach Tree 544 KT and Portion 42 of the farm Ponieskrans 543 KT. It is 2.5 km west-southwest of Pilgrims Rest, while the proposed CDM Mine is located to the north of Beta North Mine on the farms Morgenzon 525 KT, approximately 2.3km northwest of Pilgrim’s Rest. The proposed Frankfort Mine is approximately 10 km north of Pilgrim’s Rest and approximately 17 km southwest of Moremela on the farm Frankfort 509 KT.

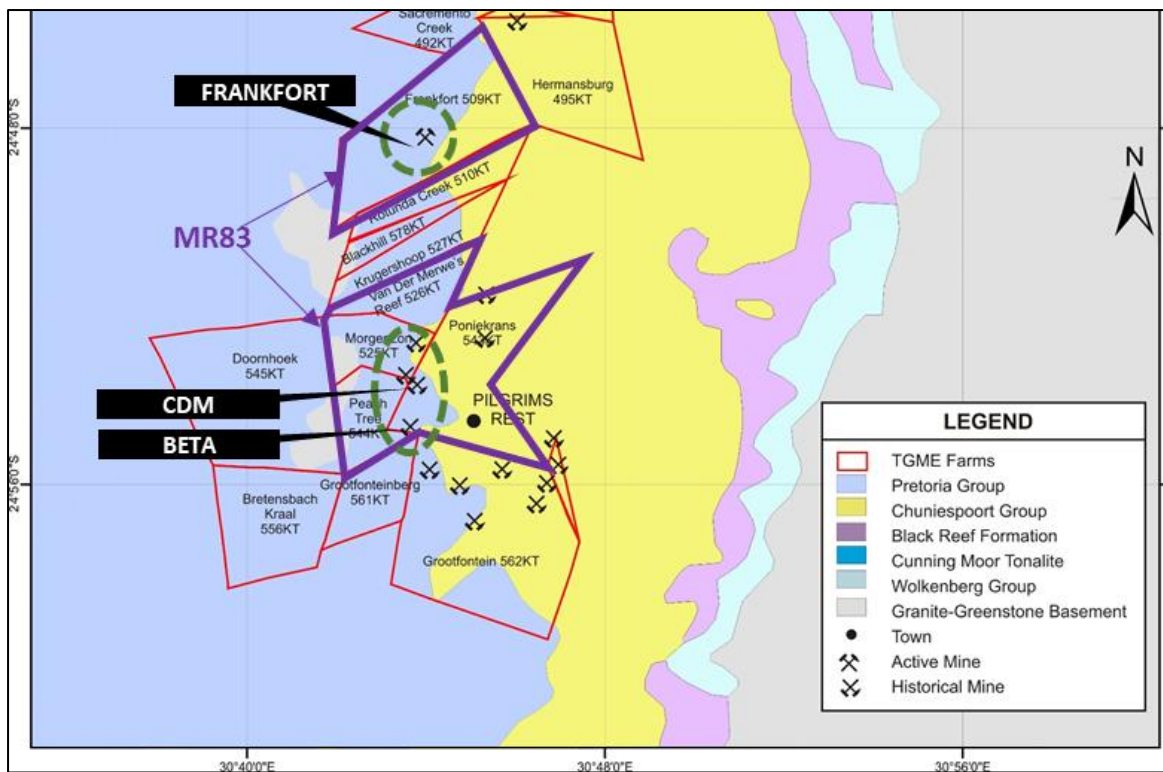


Figure 1: Locality Map
Source: Minxcon: 2021

Before TGME may commence with the proposed project the following environmental authorisation and licence applications must be approved in accordance with the relevant national legislation:

- An integrated application for Environmental Authorisation (EA) in terms of the National Environmental Management Act No. 107 of 1998 (NEMA) and for a Waste Management Licence (WML) in terms of the National Environmental Management: Waste Act No. 59 of 2008 (NEM:WA)
- Application for amendment to the current Environmental Management Programme ("EMPr") approved by the DMRE in terms of the Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002) (MPRDA) on 16 October 2013.
- Application for a Water Use Licence (WUL) under the National Water Act No. 36 of 1998 (NWA) will be submitted for approval to the Department of Water and Sanitation (DWS).
- Application for an Atmospheric Emission License (AEL) under the National Environmental Management: Air Quality Act, 2004 (Act No. 39 of 2004) (NEM:AQA), required to operate the upgraded process plant.

The Socio-Economic Impact Assessment (SEIA) Process forms part of the larger Environmental Impact Assessment (EIA) Process. The terms of reference for the Socio-Economic Report for the Project include the following deliverables:

- A socio-economic baseline description of the local area surrounding the project area;
- Identification of the anticipated core impact categories and impact areas (possible hot spots);
- Identification of anticipated socio-economic impacts of the proposed project;
- Identification of the significance of the positive and negative impacts;
- Present management measures to limit negative impacts and to enhance positive impacts; and
- Present the findings, recommendations, and conclusions of the socio-economic study.

2. DETAILS OF SPECIALISTS

2.1 EXPERTISE OF THE SPECIALISTS

2.1.1 QUALIFICATIONS OF THE SPECIALISTS

An Kritzinger (*Masters Economics*) is the specialist responsible for the economic baseline description and economic impact assessment of the proposed project.

Ingrid Snyman (*BA Honours degree, Anthropology*) is the specialist responsible for the social baseline description and social impact assessment of the proposed project.

2.1.2 PAST EXPERIENCE OF THE SPECIALISTS

An Kritzinger has been working as a consultant in the economic development field for the past twenty years. She has extensive experience in the economic assessments of projects in various countries in Sub Saharan Africa. Her work has also focussed on applied economic modelling in South Africa, Namibia, Botswana and Mozambique including economic impact analysis, economic cost benefit analysis, social incidence studies and macroeconomic forecast modelling.

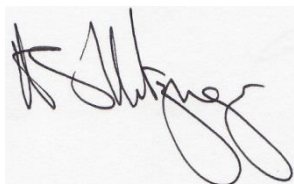
Ingrid Snyman has 20 years' experience in the social field. Ingrid has been involved in various Social Impact Assessments during her career as social scientist. These project themes consist of infrastructure development, waste management, road development, water and sanitation programmes, township and other residential type developments. She has also been involved in the design and management of numerous public participation programmes and communication strategies, particularly on complex development projects that require various levels and approaches.

2.2 CV OF THE SPECIALISTS

The detailed Curriculum Vitae (CV) of the specialists is provided in Appendices 1 and 2 below.

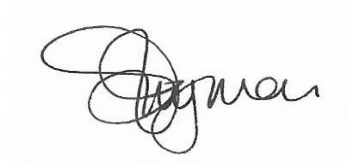
3. DECLARATION OF INDEPENDANCE

This report has been prepared as per the requirements of Appendix 6 of the Environmental Impact Assessment (EIA) Regulations, 2014 (GN R982 of 2014, as amended in June 2021. I, Anna Sophia Kritzinger, and Ingrid Snyman declare that this report has been prepared independently of any influence or prejudice as may be specified by the Department of Environment Forestry and Fishing (DEFF).



Anna Sophia Kritzinger

Signature of the specialist:



Ingrid Snyman

Signature of the specialist

Southern Economic Development

Name of group (trading name):

14 February 2022

Date:

4. RELEVANT LEGISLATION AND GUIDELINES

The relevant legislation and guidelines are summarised in Table 1 below.

Table 1: Policy and Legislative Context

Applicable Legislation and Guidelines used to Compile the Report	Reference where Applied during Specialist Study	How does this project Comply with and Respond to the Policy and Legislative Context
<p>Constitution of the Republic of South Africa, 1996 (Act No. 108 of 1996)</p> <p>Section 24 of the Constitution states that everyone has the right to an environment that is not harmful to their health or well-being; and to have the environment protected, for the benefit of present and future generations, through reasonable legislative and other measures that -</p> <ul style="list-style-type: none"> secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development. 	<p>All Application Forms, Documents, and Reports (Draft and Final) are compiled and submitted in support of the Scoping and Environmental Impact Assessment and Reporting (S&EIR) Process.</p>	<p>A comprehensive SEIA Process has been undertaken to identify the potential socio-economic impacts associated with the project and to prescribe management measures to enhance or mitigate impacts to minimise negative impacts and enhance the project's contribution to socio-economic development.</p>
<p>Mineral and Petroleum Resource Development Act, 2002 (Act No. 28 of 2002)</p> <p>The MPRDA is the central Act governing mining in South Africa and the preamble to the MPRDA affirms the State's obligation to protect the environment for the benefit of present and future generations, to ensure ecologically sustainable development of mineral and petroleum resources, and to promote economic and social development.</p>	<p>The SEIA has covered the identification of and proposed management measures for socio-economic impacts relevant to the project.</p>	<p>A comprehensive SEIA Process has been undertaken to identify the socio-economic baseline of the project area, potential socio-economic impacts associated with the project and to prescribe management measures to enhance or mitigate impacts to minimise negative impacts and enhance the project's contribution to socio-economic development.</p>
<p>NEMA, 1998 (Act No 107 of 1998) – and Environmental Impact Assessment Regulations (GN R982 of 04 December 2014, as amended) (EIA Regulations)</p> <p>provide a suite of principles and tools to guide South Africa on a path to sustainable development. "Environment" is defined in holistic terms and includes biophysical, social, and economic components, as well as the connections within and between these components. While the act does not prescribe a specific methodology in terms of socio-economic impact assessment the following stipulations highlight the necessity to include socio-economic issues in environmental impact assessments.</p>	<p>The SEIA has covered the identification of and proposed management measures for socio-economic impacts relevant to the project.</p>	<p>A comprehensive SEIA Process has been undertaken to identify the socio-economic baseline of the project area, potential socio-economic impacts associated with the project and to prescribe management measures to enhance or mitigate impacts to minimise negative impacts and enhance the</p>

Applicable Legislation and Guidelines used to Compile the Report	Reference where Applied during Specialist Study	How does this project Comply with and Respond to the Policy and Legislative Context
<p>The following general principles apply to all identified impacts:</p> <ul style="list-style-type: none"> • Responsibility for the impact should apply throughout its life cycle. • The participation of all interested and affected parties in environmental governance must be promoted • Decisions must take into account the interests, needs, and values of all interested parties • The costs of remedying pollution, environmental degradation, consequent adverse health effects, and of preventing, controlling, or mitigating further pollution, environmental damage, or adverse health effects must be paid for by those responsible for harming the environment, i.e., the so-called polluter-pay principle. <p>The regulations also make provision for cumulative effects assessment identifying and evaluating the significance of effects from multiple actions representing potential causes of impacts. The NEMA regulations of 2014 provide for baseline/scoping, impact assessment as well and management reports including the identification of measures to monitor adherence to the ESMP.</p> <p>The National Water Act No 36 of 1998, the Water Use Licence Application and Appeals Regulations, 2017 (published under GN R267 in GG 40713 of 24 March 2017) states that in issuing a water use license the relevant authorities must take all relevant factors into account including:</p> <ul style="list-style-type: none"> • the need to redress the results of past racial and gender discrimination; • efficient and beneficial use of water in the public interest; • the socio-economic impact related to the application 	<p>The SEIA has covered the identification of and propose management measures for socio-economic impacts relevant to the project</p>	<p>project's contribution to socio-economic development.</p> <p>A comprehensive SEIA Process has been undertaken to identify the socio-economic baseline of the project area, potential socio-economic impacts associated with the project and to prescribe management measures to enhance or mitigate impacts to minimise negative impacts and enhance the project's contribution to socio-economic development.</p>

5. INFORMATION REQUESTED BY THE COMPETENT AUTHORITIES

A Specialist Report Checklist Table has been compiled in accordance with the guideline as set out in Appendix 6 of the EIA Regulations. Appendix 6 relays the specific information required as per the guideline is given in the second column of the Table. Any other information requested by the Competent Authorities will be included in this chapter.

Table 2: Specialist Checklist

Specialist Report Guideline: Appendix 6 GNR 982 EIA Regulations 4 December 2014 as amended	
Details to be included in the Report	Section in Report
Details of	
Specialist who prepared the report	Section 2
Expertise of the specialist	Section 2
CV of the specialist	Appendices 1 and 2
Declaration that the Specialist is Independent in a form as may be specified by the CA	Section 3
An indication of the Scope of and the Purpose for which the report was prepared	Section 6.1
An indication of the Quality and Age of base data used for the specialist report	Sections 6.7 and 7
A Description of existing impacts on the site, cumulative impacts of the proposed development, and levels of acceptable change	Section 9
The Duration, Date, and Season of the site investigation and the relevance of the season to the outcome of the assessment	Section 7
A Description of the Methodology adopted in preparing the report or carrying out the specialised process inclusive of equipment and modelling used	Section 7
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	Section 8.3
An identification of any areas to be avoided including buffers	Not applicable
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	Section 8.3
A Description of any Assumptions made and any Uncertainties or Gaps in Knowledge	Section 7
A Description of the Findings and Potential implications of such findings on the Impact of the proposed activity, including identified Alternatives on the environment, or activities	Section 9.2
Any Mitigation Measures for inclusion in the EMPr	Section 9.2
Any Conditions for inclusion in the Environmental Authorisation	Not applicable
Any Monitoring Requirements for inclusion in the EMPr or Environmental Authorisation	Section 9.2
Reasoned Opinion	
As to whether the proposed activity/ activities or portions thereof should be authorised	Section 10
Regarding the acceptability of the proposed activity or activities	Section 10
If the opinion is that the proposed activity 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	Section 10
A Description of any Consultation Process that was undertaken during the course of preparing the specialist report	Sections 7 and 11.2
A Summary and copies of any comments received during any consultation process and where applicable all responses thereto	Part of the stakeholder engagement process
Any other information requested by the CA	Not applicable

6. SCOPE, PURPOSE, APPROACH, AND METHODOLOGY

6.1 SCOPE AND PURPOSE OF REPORT

The scope and purpose of the SEIA report are to provide the background of the socio-economic characteristics of the local area relevant to the project; to provide an assessment of potential impacts that are anticipated during the construction, operational, and decommissioning phases, and provide a socio-economic management plan to enhance positive impact and mitigate negative impacts.

6.2 APPROACH AND METHODOLOGY

The SEIA report was based on primary; secondary resources (see Section 11 for the full list of sources) as well as economic modelling:

Primary sources include:

- Information supplied by the project developer
- Site visit
- Structured interviews with local stakeholders (personal and telephonic) (See Section 11.2 for the full list of stakeholders interviewed)

Secondary sources include:

- Academic literature review
- Internet searches;
- Updated policy documents relevant to the local and regional area, such as:
 - Integrated development plans, including spatial development frameworks;
 - Local economic development plans; and
- Official government data from Stats SA; and
- Public reports from the Municipal Demarcation Board, South African Police Service (SAPS), etc.

Economic modelling:

For the economic impact of the Project, input-output (I/O) modelling was used to assess the project's potential impact on employment and economic output. The I/O analysis is based on i) direct impacts (income and employment created due to employment by the power plant itself) ii) indirect impacts (backward linkages to local suppliers) and iii) induced impacts due to the overall increase in income levels and increased spending on goods and services which could lead to a further increase in production and employment in the local area.

7. ASSUMPTIONS, UNCERTAINTIES, AND KNOWLEDGE GAPS

7.1 ASSUMPTIONS

- Where up to date site specific / ward level socio-economic data is missing, municipal and provincial trends were used as proxy for trends in the local area.
- It is assumed that the local community development priorities are expressed through public processes and public documents such as municipal integrated development plans.
- Provincial (Mpumalanga) ratios were used to represent the economic structure of the local economy such as value added to total income, low income as percentage of production income, etc. These ratios were based on the Mpumalanga Social Accounting Matrix (SAM) 2018 prices.

7.2 UNCERTAINTIES AND LIMITATIONS

With regards to the SEIA to be undertaken, the following should be noted:

- The SEIA includes consultations with key stakeholders and potentially affected parties as part of the impact assessment phase. This does not form part of the Public Participation Process (PPP) required for the overall EIA process, except where it was specifically specified as such during the consultation session.
- Socio-economic baseline information was mainly based on official statistics from Stats SA, as well as municipal documentation. Sub-municipal data was only available for 2011. Recent trends, as well as information on a sub-municipal level, were also based on quantitative and qualitative information received from local representatives with local knowledge. The lack of more recent official socio-economic data is therefore seen as a limiting factor, although it is not anticipated to influence the outcome of the report.
- The profile of Pilgrim's Rest's economy was based on information supplied by the Pilgrim's Rest business community in 2019 and updated in January 2022. No extensive audit was undertaken but rather information from an existing non-official audit of the economy was used as the basis of the employment and output estimates of the local economy, cross-checked with other local data sources.
- Ratios of the national and provincial economy were used to establish the economic output of the economy and cross-check local employment data to be consistent with output figures.

8. BASELINE DESCRIPTION

8.1 THE LOCAL AREA

The project is situated in the larger Ehlanzeni District Municipality (EDM), one of three districts in Mpumalanga Province located in the Northern Eastern part of Mpumalanga. Within EDM the Project is situated in the Thaba Chweu Local Municipality (TCLM). The main towns of TCLM are Pilgrim's Rest, Graskop, Sabie, and Lydenburg. The escarpment divides the municipality into eastern and western sections. The western section (Lydenburg area) is dominated by agricultural and farming activities, while forestry is the main economic activity of the eastern section (Sabie/Graskop/Pilgrim's Rest area). Figure 2 below shows the Wards in TCLM that are relevant to the project area.

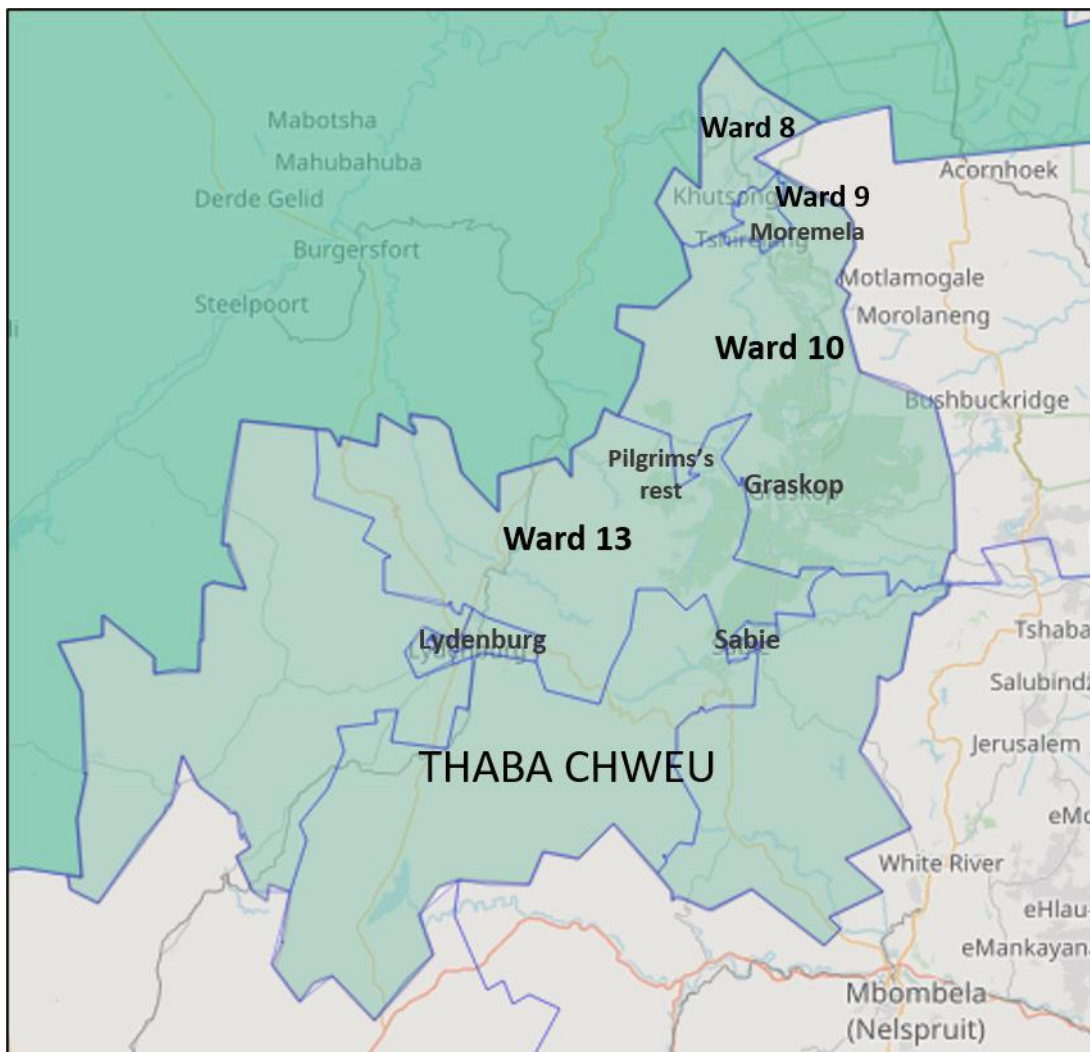


Figure 2: TCLM Municipal Boundaries

Source: Wazimap: 2021

As indicated in Figure 2 above, Ward 13 includes an area from north of Simile (near Sabie) to Pilgrim's Rest. The main town in the area is Pilgrim's Rest. Other areas falling in this ward include the Ohrhstad Dam area, Spekboom, and Boomplaats.

Ward 10 forms the eastern boundary of the TCLM area and is situated to the north and east of Ward 13. It includes Graskop and the rural area to the north of the town. The southern section of Moremela falls within Ward 10. The R532 stretches through the ward in a north-south direction. Other roads include the R534, R533, and R535.

The proposed Beta North (2.5 km southwest of Pilgrim's Rest) and CDM mines (2.3 km northwest of Pilgrim's Rest) fall within Ward 13. The proposed Frankfort mine falls within Ward 10 of the TCLM and is located approximately 10 km north of Pilgrim's Rest and approximately 17 km southwest of Moremela. The directly affected wards within the study area for the project are Ward 10 and Ward 13.

Ward 9 is situated to the north of Ward 10 and includes some areas of Moremela and Leroro. Ward 8 is again directly adjacent (north and west) of Ward 9 and includes the settlement of Mathibidi which consists of Khutsong, Ga-Monlala, Aparar, Hlapetsa, Didimala, and Mashelebeng. The R532 traverses the ward. Wards 8 and 9 thus include community settlements that can also be influenced by the proposed projects.

The Matibidi Traditional Authority under the leadership of Chief Mohlala and Chief Mashile, as well as the Mogane (Moremela) Traditional Authority under the leadership of Chief Mogane, functions in the northern section of the study area.

The Ponieskranz Land Claim settlement, which includes the farms Frankfort 509 KT; Klondyke 493 KT; Manx 475 KT; Vaalhoek 474 KT; Ledovine 507 KT; Ponieskranz 543 KT; Doornboom 478 KT; Buffelsfontein 452 KT; London 496 KT; Willemsoord 476 KT and Hermansburg 495 KT, has been settled by Government. Some of the farms of the Ponieskranz Land Claim have been handed over to the Maroabjang Communal Property Association (CPA). It is the understanding that the Maroabjang CPA is the title deed holder of the following farms within the larger study area:

- Frankfort 509 KT: Ptn 4 (falls within 83 MR)
- Frankfort 509 KT: Ptn 5 (falls within 83 MR)
- Frankfort 509 KT: Remainder (falls within 83 MR)
- Ponieskrans 543 KT: Remainder (falls within 83 MR)
- Hermansburg 495 KT: Remainder (adjacent to 83 MR)
- Klondyke 493 KT: (adjacent to 83 MR)
- Ledovine 507 KT: (adjacent to 83 MR)

Apart from the immediate communities in Wards 10 and 13 of the TCLM and the larger municipal areas, the larger regional and national economy is also relevant in terms of impacts such as employment and tax revenues.

8.2 LOCAL LAND-USE PATTERNS

The study area is mainly located directly north and west of Pilgrim's Rest. The current land uses in the study area include:

- Forestry;
- Old Mining shafts;

- Residential Development (Pilgrim's Rest, Brown's Hill, Dark's Gully, and Newtown/Schoonplaas);
- Agricultural activities (although limited and focussed on cattle farming with no large-scale commercial farming); and
- Tourism-related activities and accommodation facilities are mainly centred in and around Pilgrim's Rest.

8.3 SOCIO-ECONOMIC SENSITIVE AREAS IN THE VICINITY OF THE PROJECT SITE



Figure 3: Socio-economic receptors around Beta North mine

As indicated in Figure 3 above, socio-economic sensitive receptors around the *Beta North mine and infrastructure* include:

- **Pilgrim's Rest Town** is ± 2 to 2.5 km to the east/northeast of TGME's existing process plant with Brown's Hill and Theta Hill in between. Businesses and the residential area of Pilgrim's Rest Town include inter alia the Royal Hotel, restaurants, guest houses, the Pilgrim's Rest Environmental Centre, a clinic, and the Pilgrim's Rest Museum. The town consists of a Downtown area and an Uptown area with approximately 75 historical buildings. Iota Hill is approximately 1.5 km to the west of Pilgrim's Rest's Downtown area.
- **Dark's Gully** (± 500 m north-west of Pilgrim's Rest Downtown) is a residential area north of Pilgrim's Rest and west of the R533 road leading into Pilgrim's Rest that consists of scattered homesteads (formal and informal). Dwellings are sub-let. The area is experiencing an influx of outsiders and illegal miners.

- **Brown's Hill community** (300 metres northeast of the existing TGME offices and process plant area) consists of about four to five family units living in 10 mud and tin dwellings. The residents include \pm four young working adults and five individuals (mainly elderly women). The families have vegetable gardens and goats that roam free. There are no water and sanitation facilities and the residents are reliant on water supplied by tankers. The borehole was not in working order at the time of the study.



Photo: Dwelling at Brown's Hill

- **Newtown/Schoonplaas** (about 700 m – 1 km north-east of Pilgrim's Rest town and east of R533 road leading to Pilgrim's Rest) consists of relatively densely populated homesteads (formal and informal). Dwellings are sub-let. The area is experiencing an influx of outsiders and illegal miners. The Pilgrim's Rest Primary School is in Newtown/Schoonplaas.



Photo: View of Newtown/ Schoonplaas to the northeast of Pilgrim's Rest

- **Former Pilgrim's Rest Caravan Park and Camping Site** (\pm 2.3 km from the existing TGME process plant, \pm 500 m south of Darks Gully, and \pm 300 m north of Pilgrim's Rest Downtown).



Photos: Entrance to the Caravan Park (left): Current state of buildings at the Caravan Park (right)

The Caravan Park ceased operations in 2015 when the lessee terminated the contract. Buildings are in a deteriorated state and the area is not maintained. The Caravan Park falls under the management of the Mpumalanga Department of Public Works, Roads and Transport (DPWRT). In 2021 the DPWRT signed a new lease agreement with a private company Kruger on Sabie to operate the Caravan Park on behalf of DPWRT. The lease agreement is subject to renewal after 10 years. As part of the agreement, the private sector

company will finance and undertake renovations to all the out-buildings on the terrain. In February 2022 the private company was still waiting for the finalisation of a water use licence. If successful, the Caravan Park will open in mid-2022.

- **Grootfontein Village** (± 2.7 km – south of the existing TGME process plant) hosts about 150 residents of which some are employed by York Timbers (Scientific Aquatic Services, 2020). It consists of formal dwellings and water and sanitation facilities are available. Cattle roam free within the area surrounding Grootfontein Village.



Photo: Grootfontein Village (2019)

- **Mount Sheba Forever Lodge and Nature Reserve** (4 km - southwest of the existing TGME process plant Facilities) includes accommodation at the lodge, caravan, and camping sites, self-catering timeshare cottages, general recreational facilities, conference facilities, wellness centre, and wedding venue. Activities that can be undertaken include: General recreational activities (walking, swimming, etc.), hiking trails, and birdwatching.

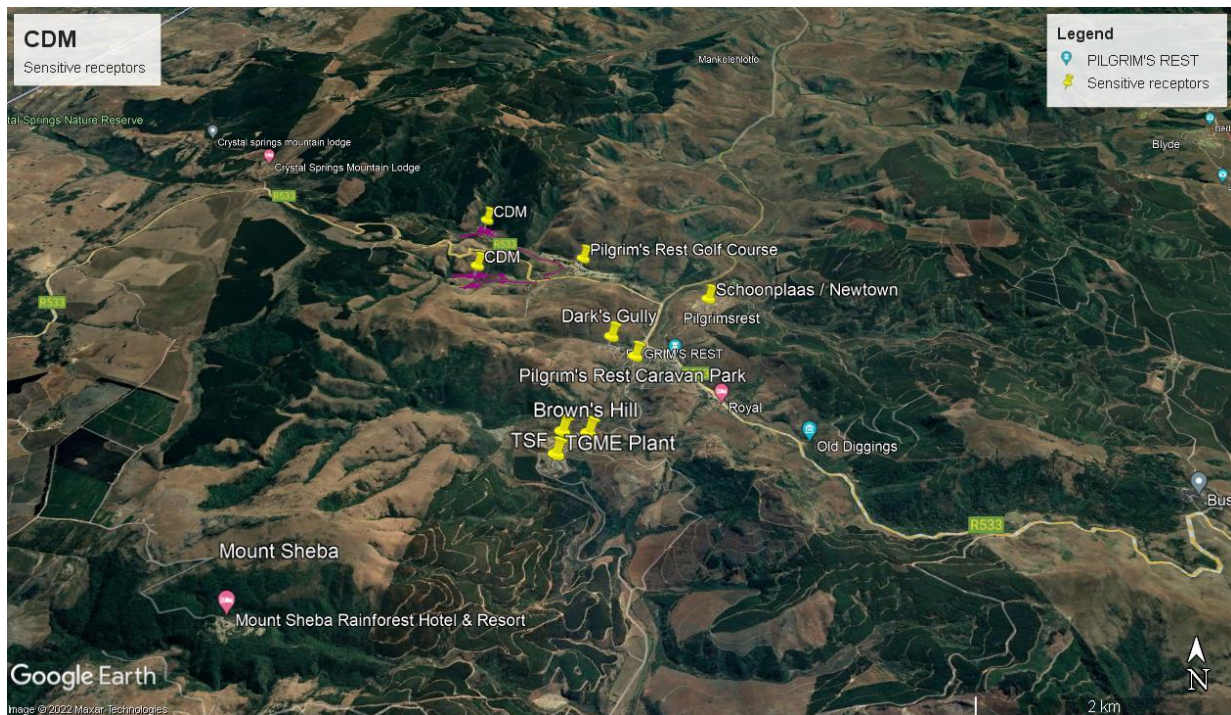


Figure 4: Socio-economic receptors around CDM mine

As indicated in Figure 4 above, additional areas close to the CDM mining area include:

- **Crystal Springs Mountain Lodge** (± 6 km - northwest of Pilgrim's Rest). Facilities include Accommodation and Recreational Facilities (restaurant and wellness centre), and Conference Facilities.
- **Pilgrim's Rest Golf Course and Club** is a nine-hole golf course located to the northwest of the town of Pilgrim's Rest and to the north of the R533. The golf course was established in 1932 and the clubhouse is a building of historical value. The clubhouse was once an old school in Rustenburg but was dismantled and re-built as the clubhouse in 1985. According to an article in GPS News (Sept. 2017) TGME assisted with the management of the golf course for some time, which included some upgrading of the facilities.

Socio-economic areas closer to the Frankfort mine and infrastructure are indicated in Figure 5 below. In general, socio-economic sensitive areas are further away from the Frankfort mine and infrastructure than is the case with Beta North and CDM mining areas.

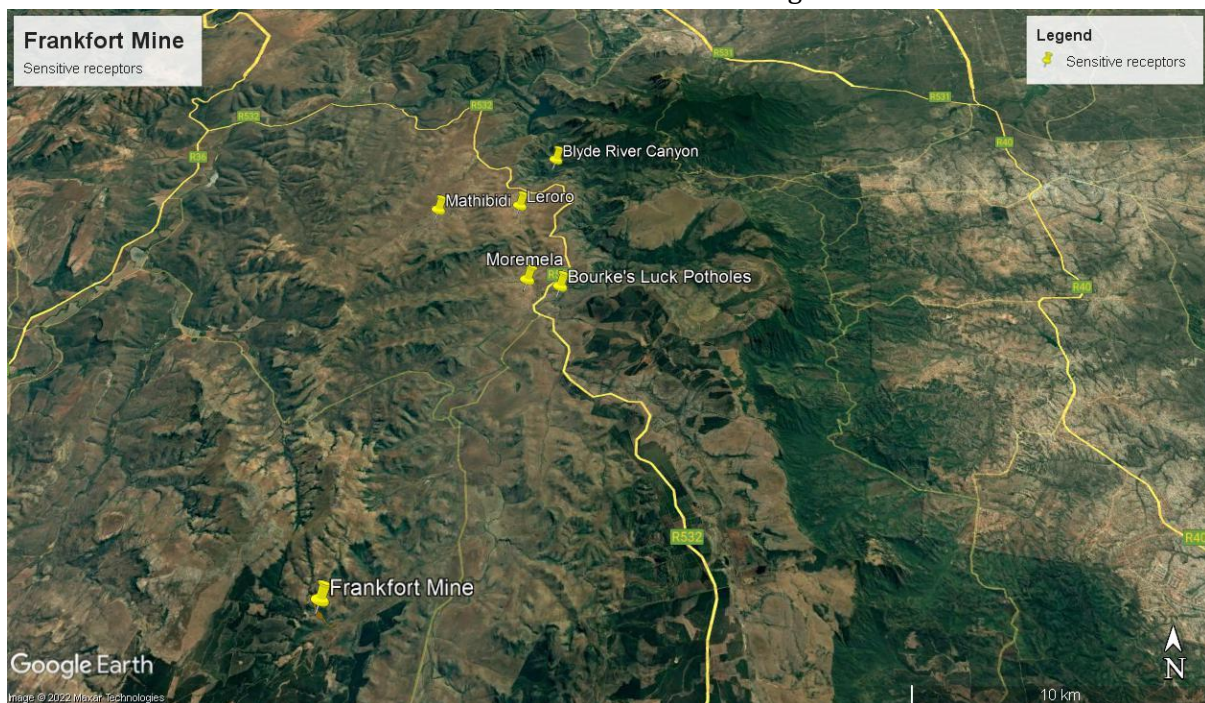


Figure 5: Socio-economic receptors around Frankfort mine



Photos: Moremela Primary School (left): Scattered houses at Moremela settlement (right)

- **Moremela** is a settlement located to the north of Frankfort mine at the Bourke's Luck Potholes along the R532. Moremela comprises the following smaller residential units namely:

Ngwetsinshiroge A and B, Tsherelang, Madalaskom, Diping, Moremela DiF, Moremela-Kanana, and Gapodishe. Moremela falls within Wards 10 (southern section) and 9 (northern section).

- **Leroro** is a settlement located to the north of Frankfort mine at the Bourke's Luck Potholes along the R532. It is to the north of Moremela and falls within Ward 9.
- **Mathibidi** is a settlement located to the west of Leroro. Mathibidi which falls within Ward 8 includes smaller settlements namely Khutsong, Ga-Monlala, Aparar, Hlapetsa, Didimala, and Mashelebeng.
- **Maorabjang Communal Property Association** owns several farms between 10km and 25km to the east of Pilgrim's Rest. The farm Frankfort 509KT belongs to the Maorabjang CPA.
- **Blyde River Canyon Nature Reserves** (25+ km northeast of the proposed Frankfort Mine) extends along the Blyde River Canyon against the Greater Drakensberg escarpment and includes Bourke's Luck Potholes, the Three Rondavels, Pinnacle Rock, and God's Window. Accommodation includes private lodges and guesthouses. Main activities include Hiking, horse-riding, white-water rafting, kloofing, hot-air ballooning, fly-fishing, biking, tours, and boat trips on the Blyde Dam.

Other areas surrounding all the mining areas include:

- **Grazing areas** surrounding the proposed developments, with informal community cattle grazing taking place in and around Pilgrim's Rest. Community members' cattle are also roaming free and grazing takes place throughout the area and farms of the Maorabjang CPA.
- **Forestry plantations** that are owned by commercial forestry companies which include South African Forestry Company SOC Limited (SAFCOL) plantations to the north of Pilgrim's Rest, York Timbers (Pty) Ltd (York Timbers). to the south and east; SAPPI to the south west.

8.4 DEMOGRAPHIC BASELINE

The total population of the TCLM grew from 98 387 in 2011 to 101 895 in 2016, i.e. at an average annual rate of less than 1% per annum (Stats SA, 2016). The population growth of the municipality as a whole is lower than the national population growth rate of 1,5% for the same period thus indicating some out-migration from TCLM mainly.

It must be noted that Sub-municipal data was only available for 2011. Recent trends, as well as information on a sub-municipal level, were also based on quantitative and qualitative information received from local representatives with local knowledge. The lack of more recent official socio-economic data is therefore seen as a limiting factor, although it is not anticipated to influence the outcome of the report.

Table 3 provides a summary of the main demographic characteristics of the TCLM wards relevant to the project area.

Table 3: Main Demographic Characteristics of the Local Area

Demographic indicator	year	ward 13	ward 10	ward 9	ward 8	TCLM	South Africa
Population	2011	2 584	6 371	7 528	7 367	98 387	51 770 560
Population density (people per square km)	2011	2,4	5,8	40,0	37,7	17,2	45,3

Demographic indicator	year	ward 13	ward 10	ward 9	ward 8	TCLM	South Africa
Population growth	2011-2016	na	na	Na	na	0,7%	1,5%
Population estimates ¹⁾	2021	2 771	6 831	8 072	7 899	105 495	60 081 848
Households	2011	1 200	2 682	2136	2201	35 109	15 054 254
Average household size	2011	2,2	2,4	3,5	3,3	2,8	3,4
Household growth	2011-2016	1,1%	1,1%	1,1%	1,1%	1,1%	2,4%
% of population in working age (18-64)	2011	70%	72%	53%	51%	70%	66%
Male share in population %	2011	53%	54%	45%	45%	33%	49%
Main towns (population size)	2011	Pilgrim's Rest (1,721)	Graskop (3,996)	Moremela (5,112), Leroro (4,165)	Leroro (4,165), Mathibidi (6,476)	-	-

Source: Stats SA (2011 and 2016) ¹⁾ Based on population growth rates between 2011 and 2016.

The table highlights the following:

- Wards 13 and 10, where the 83MR mining right area is situated, are typically rural areas, with only two major towns (Pilgrim's Rest and Graskop) and represent less than 10% of the total TCLM population (8 955 in 2011).
- Within Ward 13, there were 1 721 individuals living in the town of Pilgrim's Rest and its surrounding townships in 2011 (66% of Ward 13's population). The majority population (currently between about 1500 – 2300 people) stay in the new township Newtown/Schoonplaas and Darks Gully, close to the old town while a minority (around 200-300 people) stay in the old historic part of the town.
- According to local sources, the population in the Pilgrim's Rest area could have stayed relatively stable with limited in or out-migration after 2011. In the past, the influx to Newtown/Schoonplaas happened sporadically and on an ad-hoc basis when labourers on short term construction works remained behind in the area. There is also a perception that young people leave Pilgrim's Rest for better job opportunities elsewhere while illegal miners move into Pilgrim's Rest from areas as far afield as Free State, Lesotho and Mozambique.
- From discussions with local representatives of TGME and residents of Pilgrim's Rest and Moremela, the in-migration of illegal miners to both areas have substantially increased in the last couple of years. Illegal miners operating in the area are sub-letting from residents in Newtown/Schoonplaas and Darks Gully. The same situation with regards to illegal mining occurs in Moremela, but less so in Leroro and Mathibidi according to local representatives
- Population densities and average household sizes are much higher in the outer bound Wards 8 and 9 north of the mining right than Wards 13 and 10 that fall within the 83 MR area.
- The relatively high male ratios and working age population shares in Wards 13 and 10 suggests high historic and probably continued in-migration rates into these areas while the same ratios are lower than the national average in Wards 8 and 9, suggesting out-migration from these areas.

8.5 INSTITUTIONAL PROFILE

8.5.1 INTRODUCTION

Within Ward 13, Pilgrim's Rest was sold to the government as a living national museum village in 1971 when mining activities in the town closed. The town was declared a National Monument and became a provincial heritage site in 1986. The Mpumalanga Department of Public Works, Roads and Transport (DPWRT) is currently the custodian of the town on behalf of the government and is responsible for the maintenance and restoration of Pilgrim's Rest. The TCLM is responsible for basic service provision while the other provincial departments (e.g. health, education) are responsible for their respective mandates in Pilgrim's Rest (TCLM, 2017).

Graskop is the main town within Ward 10. The TCLM is responsible for basic service provision within this Ward.

Matibidi, Leroro and Moremela (Wards 8 and 9) are referred to as the Northern Areas of the TCLM and is situated within the northern section of the study area. The closest mining activity to these areas are the proposed Frankfort Mine (TCLM, 2017). The TCLM is responsible for the service provision and infrastructure in these northern areas, but the Matibidi Traditional Authority and the Mogane (Moremela) Traditional Authority have jurisdiction in these areas.

8.5.2 BASIC HOUSEHOLD SERVICES

Although 70% of the population within the TCLM lived in formal dwellings in 2016, the TCLM still has a huge housing backlog (EDM, 2017). A challenge that worsens the problem, is the lack of available land as well as capacity constraints in terms of water, sanitation, and energy provision. The situation and the dissatisfaction of residents with the lack of infrastructure and housing led to various community protest actions in TCLM from 2015 to 2019 in the Sabie, Graskop, and Pilgrim's Rest areas (TCLM, 2017). In March 2021, dissatisfied residents participated in protests action against poor service delivery, alleged corruption with the allocation of RDP houses and dilapidated water and sewage infrastructure in the Thaba Chweu Local Municipality (Graskop, Lydenburg, Mashishing, Pilgrim's Rest, Sabie). These protests were concentrated in Lydenburg and led to damage to the Lydenburg Police Station (FF Plus, 2021).

Table 4 below shows that a relatively lower percentage of households in Ward 13 (Pilgrim's Rest area) that had access to formal housing in 2011 (60%) compared to the national average (62%) as well as the other wards relevant to the project area. The informal dwellings are mainly situated in Newtown/Schoonplaas just outside the historic old town. According to local sources there is furthermore dolomite in the vicinity of the old town that could pose challenges in terms of the safety of structures in that area as well as further development of the area. There have been discussions with some local farmers and the Maroabjang CPA related to the availability of land to expand/relocate 'Newtown' in future.

The table also shows the pressure that the growing population has placed on the municipality to continue to provide basic services and infrastructure. As is the case nationally, water and sanitation services have specifically lagged behind household growth in TCLM between 2011 and 2016 while refuse collection just managed to keep up with population growth. Wards 9 and 8 in

particular have very low levels of water, sanitation, and refuse collection service levels although access to electricity is higher in these wards than in Wards 13 and 10.

Table 4: Access to housing and basic services, 2011 and 2016

AREA		Ward 13	Ward 10	Ward 9	Ward 8	TCLM	South Africa
% Households in formal dwellings	2011	60%	70%	83%	88%	65%	62%
	2016	n.a.	n.a.	n.a.	n.a.	70%	77%
% Households with tap inside dwelling	2011	60%	48%	12%	8%	39%	46%
	2016	n.a.	n.a.	n.a.	n.a.	33%	42%
%Households with flush toilets	2011	61%	62%	6%	9%	68%	60%
	2016	n.a.	n.a.	n.a.	n.a.	66%	58%
%Households with access to electricity	2011	75%	61%	97%	97%	84%	85%
	2016	n.a.	n.a.	n.a.	n.a.	90%	93%
% Households with regular waste collection services	2011	68%	57%	1%	3%	57%	58%
	2016	n.a.	n.a.	n.a.	n.a.	58%	57%

Source: Stats SA (2011 and 2016)

8.5.3 WATER PROVISION AND SANITATION INFRASTRUCTURE

The local area basically has two water supply schemes, the Mathibidi scheme, and the Pilgrim's Rest scheme. Only two surface water resources are currently being utilized for primary water use in the Pilgrim's Rest area. One source is called the Moremela spring which feeds the Moremela stream. Water is withdrawn from the spring. Detailed investigations are required to augment supply to the Mathibidi scheme. The Blyde River, which passes southeast of Moremela, is not currently utilized as a bulk water source (EDM, 2017). Various options such as a bulk water pipeline, water treatment plant, and reservoirs, as well as the refurbishment of the current reservoirs and reticulation lines, are being investigated (TCLM, 2017).

In Ward 13 of TCLM where Pilgrim's Rest is located, 75% of households received water from a water service provider while close to 25% of households had to rely on springs, rivers/streams, rainwater tanks or water tankers, or vendors to serve their daily needs in 2011 (EDM, 2017). The situation is mirrored in Wards 10 and 9 where 72% and 78% of households respectively received water from a water service provider. In Ward 8 households are mainly serviced through boreholes (67% of households) with only 29% receiving water from a water service provider (Stats SA, 2011).

Since the percentage coverage by a water service provider increased substantially in TCLM from 72% in 2011 to 85% in 2016 it could also be expected that the percentage of households receiving water from a water service provider could also have increased substantially in the local wards since 2011.

Various concerns were raised about the existing water supply and water quality in Pilgrim's Rest, Darks Gully, and Schoonplaas/Newtown. The DPWRT is investigating the installation of new pumps to improve the water supply to the town, but the aging infrastructure is problematic and

increases the infrastructure maintenance costs significantly. The Pilgrim's Rest waste water works is located downstream from the Beta north mining area (See Figure 6 below).

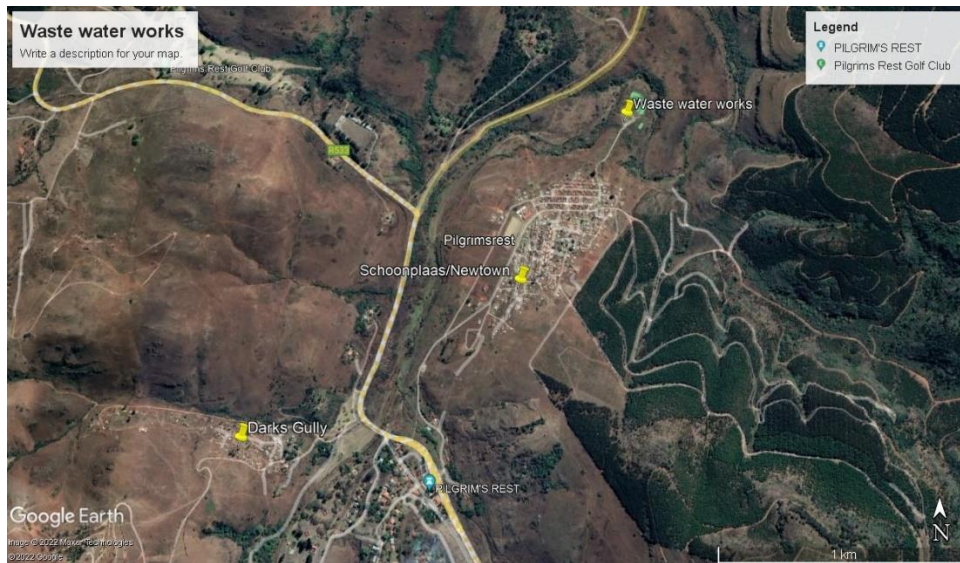


Figure 6: Pilgrim's Rest Municipal Waste Water Treatment Plant

In 2011, few households in Wards 8 and 9 received their water from a regional/local water scheme (operated by a Water Service Authority or provider). There were a number of households that had to rely on springs, rivers/streams, rainwater tanks or water tankers or vendors to serve their daily needs (stats.gov.za). According to local representatives, within the northern areas of Matibidi, Leroro and Moremela, the majority of the communities are still reliant on boreholes as the main water source. Various options such as a bulk water pipeline, water treatment plants, and reservoirs, as well as the refurbishment of the current reservoirs and reticulation lines, are required. The percentage of households within the northern areas that received improved services since 2011, therefore seems low.

8.5.4 ELECTRICITY INFRASTRUCTURE

As indicated in Table 4 above, there exist large electricity backlogs in TCLM with more than 3 200 households still needing electricity connections. The installation of a new substation (Duma) is planned in the Mashishing area. There furthermore exists an electricity maintenance backlog in most areas across the municipal area including the maintenance of switchgears, transformers, streetlights, high mast lights, and overhead lines (TCLM, 2017).

The high contribution of the mining sector to the TCLM economy furthermore implies relative high energy use within the economy. Compared to other economic sectors, the mining sector is relatively energy inefficient, i.e. the production value of the sector is low relative to its energy use (EDM, 2017).

DPW indicated that the electricity supply in the Pilgrim's Rest area is at capacity and overloaded. Negotiations are under way with Eskom to take over the supply to the town and to upgrade the local system.

8.5.5 ROAD INFRASTRUCTURE

The TCLM does not have a road maintenance plan in place. However, various municipal roads within the towns of Sabie, Simile, Graskop, and the Harmony Hill area have been identified to be in need of refurbishment, patching, and/or reconstruction. Small sections of new municipal roads would also be required within these urban areas.

Within the study area, sections of the provincial and national routes must also be upgraded. These routes are frequently used by tourists and are listed in Table 5 below.

Table 5: Provincial and National Route Condition Analysis

Routes	Affected Towns / Areas	Ward(s) Affected
R540	Belfast, Dullstroom, Lydenburg	Wards 1, 2, 3, 4, 5, 12, and 14
R36	Lydenburg, Pilgrim's Rest	Wards 4 and 5
R533	Pilgrim's Rest, Graskop	Wards 13 and 10
R532	God's Window, Potholes, Blyde River Canyon	Wards 10, 8 and 9
R535	Kruger Park, Kruger National Park, Hazyview	Ward 10
R536	Sabie, Hazyview, Kruger Park, Kruger National Park	Ward 7

Source: TCLM, 2017.

8.5.6 HEALTH SERVICES AND INFRASTRUCTURE

Most of the public health care facilities in the Ehlanzeni District are situated in the City of Mbombela. Within the public health care system of TCLM, there are three (3) district hospitals, ten (10) clinics (operating for eight (8) hours per day), and three (3) mobile units (Ehlanzeni District Municipality, District Health Plan 2018/19- 2020/21). Pilgrim's Rest only has one (1) clinic and the closest public hospital to the town is Sabie Hospital some 36km's from Pilgrim's Rest. This public district hospital however was voted the worst in Mpumalanga in 2015 according to a provincial hospital survey by the National Department of Health (DoH) based on aspects such as cleanliness, safety and security of patients and staff, waiting times, staff attitude, infection control and drug supply (Lowvelder, 2019). Graskop Hospital (a private sector hospital) is the closest hospital to Pilgrim's Rest (17 km). Specialist medical services are available in Nelspruit (96km from Pilgrim's Rest).

One of the above-mentioned clinics, one Primary Health Care Clinic is situated in Graskop and another is located in the Moremela area. The latter serves as a regional clinic and serves the community residing in Ward 9 and even parts of Ward 10. Another clinic is situated in Leroro. These clinics function at capacity, the ambulance services are extremely poor and there is thus a need for clinics to operate on a 24-hour basis. Community members in the northern sections of the TCLM can also make use of the hospital situated in Mathibidi.

According to the Ehlanzeni District Municipality, the district health facilities' infrastructure needs attention. It is estimated that some R4-R5million is needed to make the district's primary health care facilities and district hospitals compliant with the ideal clinic and national core standards. In 2018 only 8% of Ehlanzeni's primary health care clinics were compliant with ideal clinic

standards compared to the 44% national average. Ehlanzeni District fared fourth worst of all districts in South Africa (EDM, 2019).

Another challenge that faces Pilgrim’s Rest in terms of health care services is the lack of Emergency Medical Services (EMS) as part of the primary health care services. This situation could mainly be ascribed to the uncertain role played by the DPWRT as the main administrator in Pilgrim’s Rest. In 2005, the DPWRT purchased an ambulance for the town, but reports are that it has not been maintained or operated due to the lack of mandate and budget to operate the service (Mpumalanga News, 2019).

In terms of the incidence of illnesses in the district, TB and HIV/AIDS are the singular leading causes of natural and premature deaths in the Ehlanzeni District. Ehlanzeni District recorded a HIV rate of close to 18% in 2017, on par with the average rate in Mpumalanga. The infection rate furthermore shows an increase of close to 2% between 2017 and 2018. This contributes to the high mortality and morbidity rates and the ever-increasing number of orphans and vulnerable children (EDM, 2017).

The EDM has acknowledged the above as a challenge and a major threat to sustainable development. As a result, coordination has taken place by establishing AIDS Councils and developing AIDS strategies in the district to guide activities and programmes in response to the issue. In 2017 EDM’s male condom distribution rates (54%) were substantially higher than the national average (36%). The HIV testing averages for the District were also higher at 27% compared to the national average of 23% (Health Systems Trust, 2019).

8.6 SAFETY AND SECURITY

8.6.1 CRIME

The mining right area is serviced by two police stations located in Pilgrim’s rest (Ward 13) and Graskop (Ward 10) while Wards 8 and 9 are serviced by the Dientjie police precinct. As indicated in Table 5 below, the number of reported crimes is relatively low in the precinct of Pilgrim’s Rest and Dientjie compared to the Graskop police precinct which recorded per capita crime rates higher than the national rate in 2021.

While the increased presence of outsiders and illegal miners could have a negative impact on security in the local area, reported crimes in Pilgrim’s Rest declined between 2016 and 2021. Between 2016 and 2021 reported crime rates in Pilgrim’s Rest could have decreased from 135 cases in 2016 to only 59 cases in 2021, signifying a potential decline in the per capita crime rate to 21 crimes per 1 000 people in 2021.

Table 6: Per Capita Crime Rates, 2021

AREA	ward 13	ward 10	ward 8 & 9	Mpumalanga	South Africa
Population estimate	2 771	6 831	15 971	4 642 596	60 081 848
Police Precinct	Pilgrims	Graskop	Dientjie	NA	NA
Reported Crimes	59	205	172	94 878	1 538 892
change in reported crimes (June -Sept 2021)	-10%	20%	23%	na	na

Per capita crime rate (number of crimes/ 1000 population)	21	30	11	20	26
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Source: Crime StatsSA (2021)

According to local sources, the crime levels in the Graskop, Leroro, Moremela, and Mathibidi areas have not increased in the past couple of years. Residents perceive these areas as relatively safe residential areas. Criminal activities mainly relate to housebreakings and general theft. The Moremela area has seen an increase in illegal mining activities, which inevitably raised the criminal activities within that area and the rural surroundings. Recent actions against some of these groupings lessened the safety risks, but possibly only in the short term.

8.6.2 COMMUNITY PROTESTS

Service delivery protests in South Africa have remained at relatively high levels since 2012. Violent protests increased from 75% of all service delivery protests in 2004 to 86% in 2016. Mpumalanga Province contributed 7% towards the total number of protests in 2016, slightly lower than the provincial contribution of 8% towards the total national population (Municipal IQ, 2019).

The TCLM has experienced a number of service delivery protests since 2009. Protests are mainly directed at the local municipality and revolve around electricity supply, financial mismanagement, lack of proper consultation, and weak leadership. More recently the municipality has been experiencing protest actions for each consecutive year since 2015. Issues revolve around alleged corruption, financial mismanagement, and electricity supply. TCLM was at one stage among the top twenty municipalities countrywide that owed Eskom R3.68 billion and was threatened by disconnection (SABC, 2015).

The last community protest actions in Pilgrim’s Rest took place during 2018 and 2019 when protestors blocked the main access road to the historic town in protest of the high housing backlogs in ‘Newtown’ (News24, 2019). At the end of February 2022, protests flared up again. Protesters again blocked the main road between Pilgrim’s Rest and Graskop. According to the Lowvelder (2022), these protests were related to dissatisfaction with the lease agreements between DPWRT and individuals, as well as the discouragement that the proposed mining activities by TGME, which would result in some local job creation, have not yet been approved and initiated.

8.6.3 ILLEGAL MINING ACTIVITIES

Illegal activities are usually dominated by organised crime syndicates that operate on a global scale. Illegal miners are often heavily armed, have explosives, and set traps for employees, security, and rival groups of illegal miners. Illegal miners are furthermore at a high risk to be injured owing to their unsafe practices, leaving it to formal mining companies to arrange for their rescue and/or the recovery of the bodies of deceased miners (Moodley, 2013).

The South African Police Service (SAPS) currently participates in forums such as the Mpumalanga Illegal Mining Stakeholder Forum and collaborates with mining companies and the Department of

Mineral Resources and Energy (DMRE) to further curb illegal mining. Preventative measures include demolishing illegal mining infrastructure, arrests, confiscating gold-bearing material, establishing whistle-blower channels, etc.

Illegal miners currently pose a significant security threat in the Pilgrim's Rest Area. Most of the illegal miners stay in Newtown/Schoonplaas and Darks Gully while some also reportedly stay further north in Moremela and Leroro. According to TGME management, a security team from TGME cleared Pilgrim's Rest area from illegal miners in 2013/14. These actions also had a positive impact on crime levels in the town. Since 2015 the situation has worsened again due to the TGME security team being withdrawn from the area due to the cessation of mining activities and limited funds available to continue security operations. Some 25 Zama related fatalities were recorded in the past 5 years of which 8 fatalities occurred over the past 18 months. According to local sources, there is a specific rivalry between two illegal mining factions from Lesotho and Mozambique.

It should further be noted that the illegal mining activities in the area have a severe negative impact on the environment in and around the Blyde River. Illegal miners are currently re-channelling the Blyde River and thereby changing the flow patterns of the river. General pollution of the water source and sedimentation due to their activities is a major source of concern. The activities further have a significant negative impact on the localised fauna and flora.

Apart from illegal mining activities, the Sabie and Pilgrim's Rest areas also experienced the establishment of illegal timber depots where illegally harvested timber was prepared and sold, illegal electrical connections, poaching, and illegal occupation of municipal and private property (GPS News, 2020).

8.7 ECONOMIC PROFILE

8.7.1 THE STRUCTURE OF THE MUNICIPAL ECONOMY

In 2016 the total gross value added (GVA) of the TCLM economy was estimated at R15bn (current prices) contributing close to 5% of the GVA produced in the Mpumalanga province. The formal economy created between 25 000 and 30 000 jobs in 2016, representing around 12% of formal jobs in the district and 4% in the Mpumalanga Province (estimates based on Stats SA, 2011 and 2016; TCLM, 2016 and Ledger, 2015).

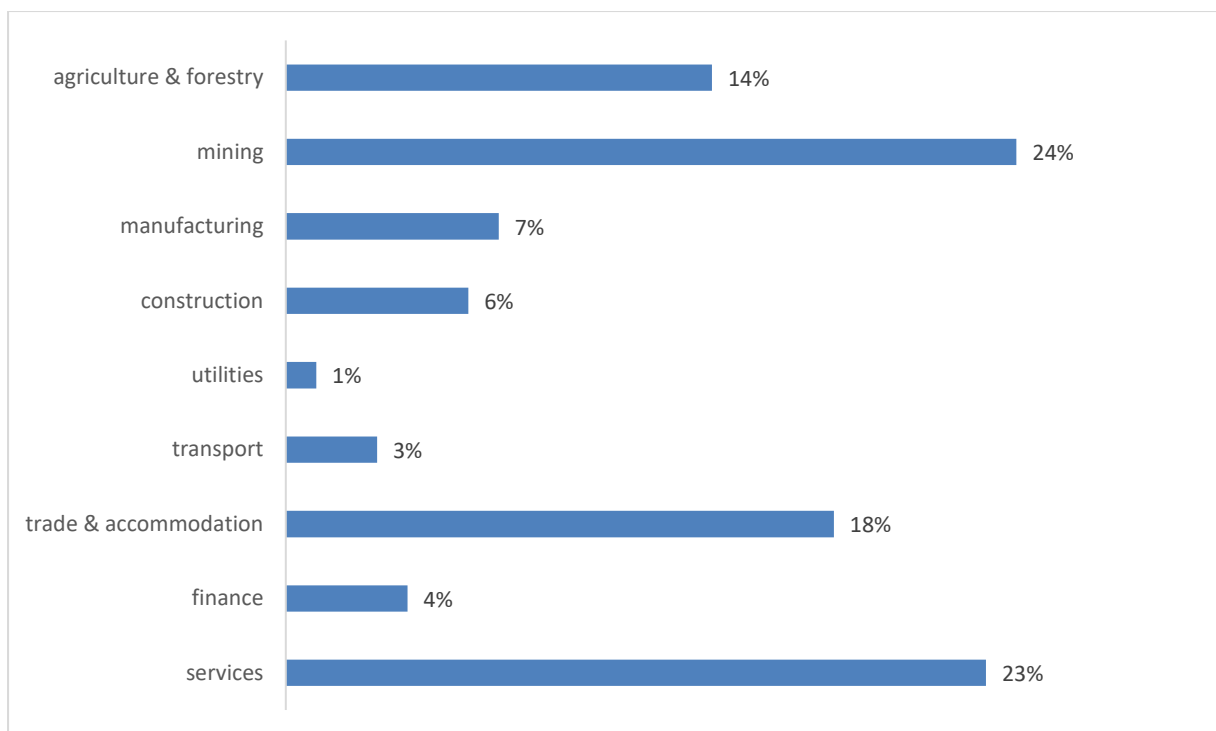


Figure 7: The Sector Distribution of Employment, Thaba Chweu, 2011

Source: Thaba Chweu (IDP 2016/17).

As indicated in Figure 7 above, the mining sector is the single largest sector in the local economy contributing almost a quarter (24%) to total employment opportunities created in the local area and about 45% towards output (Ledger, 2015). TCLM forms part of the Eastern Platinum Belt with more than 20 smelters and 30 platinum and other mineral resources mines operating in the Lydenburg and the adjacent Limpopo Steelpoort area, producing mainly platinum. The mines include Glencore (Xtrata), Sibanye (Aquarius), Mototolo, Impala Platinum, Anglo Platinum, Dwarsrivier, Everest Platinum, junior miners, and quarries (TCLM, 2017).

While the primary sector (agriculture, forestry, and mining) dominates the local economy there is limited downstream beneficiation of these products and most products are exported in a raw form and processed elsewhere (TCLM, 2016). This situation is reflected in the relatively low contribution of the manufacturing sector to the local economy.

Before COVID-19 the growth of the Mpumalanga economy was slightly below the national economy at 1,9% per annum between 2010 to 2018 compared to the national growth of 2,1%, (Stats SA, 2019). COVID-19 is furthermore expected to have a high impact on the provincial economy due to the relatively large role that the tourism sector plays in the provincial economy, as discussed below.

8.7.2 THE TOURISM SECTOR

The EDM lays a dominant role in tourism in Mpumalanga hosting popular tourist destinations including the KNP in Bushbuckridge Local Municipality as well as numerous prime tourism attractions located in Thaba Chweu Municipal area (e.g. Pilgrim’s Rest, God’s Window in Blyde

Canyon, Three Rondavels, Bourke's Luck, Mac Mac Falls). Thaba Chweu furthermore hosts numerous events throughout the year that attract both local residents and visitors to the area including the Long Tom Marathon, Subaru/Ashburton Sabie Classic Mountain Bike race and Sabie Forest Fair (TCLM, 2016).

Tourism spending contributed 12% towards GVA in Ehlanzeni compared to the 7% provincial average in 2013, i.e. the highest contribution of all three districts of Mpumalanga. Since 2001 the number of visitors to the district grew at a rate of more than 8% per annum and more than doubled from 700 000 visitors in 2001 to more than 1.8m visitors in 2015 (Mpumalanga Province, 2015).

In 2015, tourism spending in TCLM made the second highest contribution (16%) towards GVA in the Ehlanzeni district (Mpumalanga Province, 2015). While there are indications of the growth of visitor numbers to TCLM, not all tourist destinations share in tourism growth in the area. While visitor numbers to God's Window for example grew from 106 000 in 2013 to 133 000 in 2015, the historic town of Pilgrim's Rest faces a decline in the tourism industry due to deteriorating safety and hygiene conditions. These factors are related to illegal mining activities, increased vagrancies due to poverty and unemployment, and lack of public facilities and municipal functions such as street cleaning. The town currently falls under the national Department of Public Works (De Villiers, 2016).

The impact of COVID-19 expectedly hit the South African tourism sector very hard and it might take several years for the international tourism sector (the main group visiting Pilgrim's Rest) to recover. According to the World Travel and Tourism Council (WTTC), the South African tourism sector shed close to 62 million jobs in 2020. The number of international tourists to South Africa declined dramatically from 15 million in 2019 to less than 5 million in 2020. While there are indications of some increase in international tourism towards the end of 2021 in the first year of COVID-19 and early predictions are that the global tourism sector is only expected to return to pre- COVID levels in 2023 or 2024 (WTTC, 2021).

8.7.3 THE LOCAL ECONOMY – PILGRIM'S REST AND ENVIRONS

Pilgrim's Rest: The economy of Pilgrim's Rest town (historic and Newtown/Schoonplaas) is dominated by tourism related activities including accommodation, restaurants/taverns and arts and craft shops. The Gross Value Added¹ of the local economy could be in the region of R20 million (2019 prices), employing in the region of an estimated 250 people (including employment of elementary category staff at formal businesses, managers/entrepreneurs as well as hawkers and informal traders). The Pilgrim's Rest economy is very small relative to the TCLM economy, contributing less than 1% towards municipal output and employment.

Main tourism attractions in and close to Pilgrim's Rest include the historic town itself, gold panning tours, Pilgrim's Rest Ghost Tours, Crystal Springs Mountain Lodge, Mount Sheba Resort,

¹ Gross Value Added (GVA) is an economic measure of output that includes only income generated for labour, entrepreneurs, property and owners of other assets. It excludes intermediary inputs and is therefore not the same as turnover. Turnover would include costs related to primary as well as intermediary inputs.

hiking tours, and mountain bike trails throughout the area as well as bird watching tours and trails. Businesses in the historic part of town lease premises from the Mpumalanga DPWRT based on a tender process.

As indicated in Table 7 below there are approximately 32 formal businesses and 72 informal crafts stalls operating in the historic old town of Pilgrim’s rest including two rather distinct geographic areas, informally named an ‘uptown’ and ‘downtown’ area. Both areas serve the same market and there is little real distinction between the two areas. In addition to the businesses in the historic town, there are four (4) businesses operational in Newtown (3 restaurants/taverns and 1 general dealer).

The reliance of the economy on the tourist industry is evident from the type of businesses present within the local economy namely, accommodation (14 main establishments), formal arts and craft shops (11), informal craft stalls (72), restaurants/deli’s (5), retail/wholesalers (2), museums (7); one education centre and one recreation facility.

According to local sources, international tourists (mainly from Europe) dominated the tourism industry of Pilgrim’s Rest pre-COVID-19, accounting for 85% to 90% of tourists visiting the town. Before COVID-19 there were conflicting opinions concerning trends in domestic tourism to the local area. Some sources believe the domestic tourism market is stagnant while other business owners experience an increase in local tourists to the town, especially tourists from historically disadvantaged communities. Local tourism to the town only increases substantially during the holiday season in April and December.

Table 7: Business Directory for Pilgrim’s Rest, 2022

Historic town	Business type
DOWNTOWN	
1. The walls museum	Museum
2. Ponieskrantz arts and crafts	Arts and crafts
3. Pilgrim’s pantry	Deli
4. Highwayman’s Garage	Petrol station
5. Clewer General Dealer	Wholesale
6. Leather shop	Arts and crafts
7. General dealer	Arts and crafts
8. Pilgrim’s Place	Arts and crafts
9. The Vine and Johnny’s pub	Restaurant
10. Kuzzulos Emporium	Arts and crafts
11. Informal stalls (32 stalls) – only 8 open in 2021	Arts and crafts
UPTOWN	
1. Mountain View guest house	Accommodation
2. Berthas Guest House	Accommodation
3. Drezden museum	Museum
4. Scott’s Café	Restaurant
5. Mona Cottage	Accommodation
6. Victorian cottage (DPW)	Museum
7. Old Bank (DPW)	Museum
8. House museum (DPW)	Museum
9. Arts and Crafts	Arts and crafts
10. Pilgrim’s Rest Information centre	Information centre
11. Stables/Pancakes Restaurant	Restaurant
12. Garage Museum	Museum
13. Apothecary Museum	Museum
14. The Royal Hotel and 10 annexes	Accommodation

Historic town	Business type
15. The Postal Agency	Arts and crafts
16. General store	Arts and crafts
17. Liquor store	Retail
18. The Daisy	Arts and crafts
19. News agency	Retail
20. Shop	Arts and crafts
21. The Environmental Centre	Education centre
22. Pilgrims Golf Course	Recreation
23. Informal stalls (40 stalls) – only 13 open in 2021	Informal arts and crafts
New Town	Business type
1. Paradise Tavern	Restaurant/tavern
2. Meadows Tavern	Restaurant/tavern
3. Oupas Tavern	Restaurant/tavern
4. General dealer	Retail and wholesale

Source: Informal Business Audit, Pilgrim’s Rest Business Community (updated January 2022)

The Royal Hotel and its 10 annexes² dominate the local economy as single business entity. The Royal Hotel is currently managed as a private subsidiary company that falls under a Mpumalanga Provincial Government Section 21 Company named the Mpumalanga Regional Training Trust (MRTT). The Hotel does not receive any subsidies from provincial government. Up to 2020, the Royal Hotel received some 12 000 tourists per annum. In 2021 the Royal Hotel continued to face financial challenges and there is a threat that the hotel could close resulting in the loss of close to 60 jobs (The Lowvelder, 2021a). In 2021 a private sector group was negotiating to take over the operations of the hotel but has not yet made a commitment in February 2022.



Photos: The Royal Hotel (left) and one of its annexes (right)

High level estimates suggest that local employment is dominated by informal craft and arts traders accommodated in some 72 stalls in the historic town of Pilgrim’s Rest. Some 43% of total employment (an estimated 108 jobs) could be in informal trade, followed by the accommodation sector. The Royal Hotel is the single largest employer in the formal economy of Pilgrim’s Rest and dominates the accommodation sector, providing more than 60 jobs in 2019 downscaling to 53 in January 2022.

² Including the Pilgrim’s Hotel, Squareface, Welcome Inn, Montagues, Bank House, Victorian and Royal Cottages, Nutmeg, Halfway House and Leadleys

Local business sources agree that the economy of Pilgrim's Rest experienced a sharp decline since its peak in the early 1990s. The factors that are mentioned as the main reasons behind the decline in the local economy include the deteriorating road infrastructure and concerns around general safety especially related to the increase in civil protest actions. Some authors ascribed the particular decline in the Pilgrim's rest tourism industry to deteriorating safety and hygiene conditions. These factors related to illegal mining activities, increased vagrancies due to poverty and unemployment and lack of public facilities and municipal functions such as street cleaning (De Villiers, 2016). According to local business sources, in addition to the challenges above, the public tender process to fill the public-owned business premises in town created challenges in terms of unsustainable business enterprises and the non-payment of rentals. In 2014 the Public Protector released a report related to the negative impacts related to alleged irregular tender processes in Pilgrim's Rest (The Public Protector, 2014).

In the past decade an estimated 17 business premises in Pilgrim's Rest became vacant resulting in a decline of close to 40 direct formal jobs. The local Caravan Park (300 stands), Bank and ATM are just a few of the business premises that became vacant in the past decade. The decline in activities has further negative spin-offs on the remaining business establishments in town. There are some positive signs in the local economy just before COVID-19 (2019) as a number of the vacant premises became occupied again, e.g. the Clewer general dealer and the re-opening of the garage. After some mass community action in 2018, the provincial Department of Public Works also appears to have placed the town higher on its agenda (The Lowvelder, 2019).

The recent COVID-19 pandemic resulted in a steep decline in the tourism industry in Pilgrim's Rest, especially since the sector is highly reliant on visitors from overseas. Industry experts forecasted tourism visitor levels only to return to 2019 (pre-COVID-19 levels) in 2022 or 2023 (WTCC, 2021). While visitor numbers increased slightly in 2022 compared to 2020 the numbers were still substantially below pre-COVID-19 figures. Off-season visitors were 55% below the usual 800 or 900 visitors per month in February 2022; while peak season visitors in December were only 40% of the usual 2,000 or more visitors per month (Interview with Pilgrim's rest Information Centre, January 2022).

The core business of the Royal Hotel was specifically hard hit as the group had to reduce employment from 60 to 53 people while struggling to cover its operational expenses. Like the Royal Hotel informal stalls are also highly dependent on foreign tourism spending and were also hard hit by the COVID-19 pandemic. In January 2022 less than 30% of the informal stalls still were open for trade.



Photo: Open informal stalls at Downtown Pilgrim's Rest, January 2022

However, a year into the COVID-19 pandemic in 2021, despite the pandemic, there are still positive revival signs in Pilgrim's Rest based on improved feedback from tourists visiting the town; support from the domestic tourism market; the improved allocation of leases to business owners by the Provincial Government that goes back to 2018 as well activities of the newly-formed local business forum that formed in 2019. Business owners and staff, local community volunteers, and employees of the DPWRT have also undertaken various clean up campaigns which involved the removal of litter, and clearing of overgrown vegetation at entrances, parks, and the cemetery. Only 6 formal business premises are not occupied and two new businesses that opened include Lopin's General Dealer in Downtown and Mrs. Mac's Shop in Uptown. Other positive signs include the town being awarded the bid to host the 2023 World Gold Panning Championships in Pilgrim's Rest in 2023 (The Lowvelder, 2021b).

As mentioned above the Pilgrim's Rest Caravan Park is under new private management and plans to open again mid- 2022. The enterprise could potentially employ some 10 local people.

Other areas: Apart from relatively low-level agricultural activities (mainly livestock farming) in the rural area, other economic activities are concentrated in Graskop with its numerous guesthouses and retail facilities. Moremole and environs have a limited number of small retail shops and one restaurant at Bourke's Lucke potholes. According to local community representatives, the forestry sector (SAFCOL and York Timbers) employs a limited number of people in the local area as the industry mainly employs contractors from outside (e.g. from Mbombela and further afield).

8.7.4 COMPOSITION OF THE LABOUR FORCE

Even before COVID-19, Pilgrim's Rest experienced very high unemployment rates as indicated in Table 8 below. Based on the population and employment figures in the sections above, the current (expanded) unemployment rate in Pilgrim's Rest could be as high as 75% in 2019. Table 7 shows high level estimates of Pilgrim's Rest labour force in 2016 and 2019 based on current employment estimates, 2011 population figures, provincial population growth rates since 2011 as well as Ward 13 based labour force participation rates. The table also shows that formal employment could have accounted for slightly more than 50% of total employment in 2019 compared to 55%

in 2016. Based on interviews with local representatives, the other areas around Moremela and Graskop most likely experience similar unemployment rates as those in Pilgrim's Rest.

Table 8: The Composition of the Pilgrim's Rest Labour Force, 2019

Pilgrim's Rest labour force (2019)	2016	2019
Population	1,900	2,016
Population in economic active years (15-64)	1,330	1,411
Labour force participation rate (narrow)	71%	71%
Total labour force (narrow)	944	1,002
Formal employment (including management)	141	130
Informal employment	114	124
Unemployment	689	748
Unemployment rate	73%	75%

Source: Based on Stats SA 2011 Pilgrim' Rest Population, age groups, and national population growth rates, employment estimates for the town as well provided by the local business chamber as Stats SA (2011) labour force participation ratios for Ward 13 (It must be noted that Sub-municipal data was only available for 2011.)

According to local representatives, the local unemployment rate during COVID-19 (all areas) could have increased to close to 80% of the labour force with most households relying on income grants.

8.7.5 EDUCATION AND SKILLS LEVELS OF THE LABOUR FORCE

Table 9 shows the relatively higher medium/semi skills levels of the labour force in Wards 13 and 10 (project area) compared to municipal, provincial and national averages. A relatively large portion of the labour force completed matric (36% in Ward 13 and 37% in Ward 10) compared to 33% on a national level. Higher education skills are however more thinly spread in the project area than nationally with only between 5-6% of adults older than 20 having obtained a degree or higher diploma compared to 7% nationally.

As is the case across South Africa, elementary category labour dominates in the local economy with 58% of the adult population having less than a matric qualification compared to 62% on a municipal and provincial level and 60% on a national level. The elementary category labour force is specifically high in Ward 8 (68%).

Table 9: Highest Educational Attainment of the Population age 20 years and older, 2011

Level of education	Ward 13	Ward 10	Ward 9	Ward 8	TCLM	South Africa
No schooling aged 20+	7%	7%	11%	15%	10%	9%
Some schooling but less than matric	51%	51%	48%	53%	51%	51%
Matric aged 20+	36%	37%	38%	30%	34%	33%
Higher education aged 20+	6%	5%	3%	2%	5%	7%

Source: Stats SA (2011)

In terms of educational institutions, there is a primary and secondary school in Pilgrim's Rest (Ward 13); 2 primary schools, and 1 secondary school in Graskop (Ward 10 as well as 1 primary and secondary school in Ward 9. The schools in the local area face challenges in terms of school infrastructure and teachers. The primary school in Schoonplaas (Pilgrim's Rest) mainly consists

of old asbestos buildings that could raise health concerns. Community representatives highlighted the need to upgrade school infrastructure in the local area.

8.7.6 INCOME AND POVERTY LEVELS

The lower bound poverty level in 2011 was close to R 20 000 per household per year. The lower bound poverty level measures the income level needed for households to purchase enough food for the minimum per-capita-per-day energy requirement (which is about 2 100 kilocalories) as well as a very basic non-food component (e.g. clothing, education).

Table 10 shows that more than 42% of households in TCLM were below the lower bound poverty income line in 2011 - lower than the national average (45%) and the average for the Mpumalanga Province (47%). In Pilgrim’s Rest, the poverty rate was much higher than the municipal poverty rate and even higher than the provincial rate at 48% of households living below the lower bound poverty line. The percentage of households that earned more than R 75 000 was also much less in Pilgrim’s Rest (16%) than the municipal (21%) and national averages (24%). The high poverty levels are even more evident in the case of Wards 9 and 8 with recorded poverty rates of 58% and 59% respectively.

Table 10: Distribution of households according to income level, 2011

Income category	Ward 13	Ward 10	Ward 9	Ward 8	TCLM	South Africa
Below lower poverty line (R 20k)	48%	46%	58%	59%	42%	45%
More than R75 000 per annum	16%	15%	11%	8%	21%	24%

Source: Stats SA (2011).

8.7.7 INCOME DISTRIBUTION

Although the Gini coefficient (1= perfectly unequal) of Mpumalanga was lower than the national average of 0.64 in 2013, the income distribution is still highly uneven in the province and likely also in Pilgrim’s Rest. Unemployment is a major determinant of the high poverty levels in South Africa.

8.7.8 ECONOMIC DIVERSITY

While agriculture, forestry, and tourism also play some role in the TCLM economy the local municipal economy is currently dominated by the mining sector in terms of output and employment. As was discussed under the economic structure above, the mining sector currently makes a major contribution (between 45% - 50%) towards the local economic output. This situation potentially makes the local economy vulnerable to external factors such as fluctuations in commodity prices and changes in mining legislation with associated impact on investors. On the other hand, the more diversified the local economy is in terms of economic activity, the more resilient the local economy will be.

On a more localised level, the Pilgrim’s Rest economy is mainly reliant on the foreign tourism industry, also leaving the economy vulnerable to external factors. For future resilience, the local

economy needs to diversify away from the mining and foreign tourism sectors, i.e. sectors that render it more vulnerable to external factors such as foreign tourism numbers and mining commodity prices.

8.8 ECONOMIC DEVELOPMENT PRIORITIES AND INITIATIVES

The Local Economic Development (LED) Strategy of TCLM has identified four priority areas including (TCLM, 2017):

- Tourism Regeneration and Integration.
- Development of Agriculture sector and Value Chain.
- Business Development with a focus on SMMEs and BEE linked to the Mining Sector.
- Creating an enabling environment within all sectors.

The following economic opportunities have been identified in TCLM:

- Beneficiation of agriculture and forestry products (e.g. roof trusses, furniture).
- Tourism development around Kruger National Park and Blyde Canyon Reserve.
- Using opportunities related to the N4 Maputo Corridor.
- The development of a mining supplier park and downstream processing of mining products. So far, the only progress that has been made in this regard is with the launch of the Lydenburg Enterprise Development Hub as a private sector (Glencore) initiative at the end of 2018 in partnership with Regoapele Capital, aimed at incubating new entrepreneurs from all sectors, including the mining sector.
- Retail opportunities in Lydenburg, Sabie, Graskop, Ohrigstad and Mashishing.

Specific development priorities listed for Pilgrim's rest in Ward 13 of TCLM include (TCLM, 2020):

- Need for housing.
- Need for land for human settlement and commercial township development.
- Need for improved sanitation (flush toilets).
- Fencing and cleaning of the cemetery.
- Need for municipal satellite offices for easy payment of social services.
- Need for a library.
- Need for crime prevention.
- Need for internal streets/roads.
- Water supply needs.
- Need for permanent structures for the primary and secondary schools.
- Need for re-opening of shops.
- Need for employment.
- Need SMMEs and other businesses.

8.9 INSTITUTIONAL CAPACITY FOR DEVELOPMENT PLANNING

As was mentioned above, The Mpumalanga DPWRT is currently the custodian of Pilgrim's Rest and is responsible for the maintenance and restoration of Pilgrim's Rest. The involvement of a provincial department in the administration of the town poses a challenge in terms of coordinating and demarcating the responsibilities of other levels of the provincial government (e.g. health and education) and the TCLM in terms of public service delivery together with

integrated human settlement and development (TCLM, 2017). This cross-cutting of local government functions such as integrated development planning (including spatial planning and Local Development Planning) results in the dysfunction evident. It is not clear whether the TCLM or the provincial department of economic development is responsible for economic development planning for the town.

Private local networks in Pilgrim's Rest are also lacking and it would appear that it is left to individual businesses to resolve some of the business's challenges in town (e.g. hawkers harassing tourists or charging exorbitant prices for certain services such as car washing). While there are a number of economic networks that represent general business and tourism interests in the municipal area, Pilgrim's Rest has limited representation in regional organisations. Pilgrim's Rest also currently has no active Business and Tourism Association (as opposed to associations that exist for Lydenburg/Mashishing, Sabie, and Graskop). The Royal Hotel represents the interests of Pilgrim's Rest on the regional business chamber for Ehlanzeni District, the Kruger Lowveld Chamber of Business and Tourism (KLCBT).

In 2016 a multi-stakeholder committee for Pilgrim's Rest was established comprising of the DPWRT), the Mpumalanga Department of Economic Development and Tourism, the Mpumalanga Tourism and Parks Agency (MTPA), Mpumalanga Department of Human Settlement, EDM, TCLM, and the private sector. While it may still be early days, local stakeholders however do not yet appear to embrace this platform as an effective planning platform for the town. A local business forum was formed in 2019 and has been active, especially during the COVID-19 pandemic (The Lowvelder, 2021b).

8.10 THE ECONOMY OF THE DOWNSTREAM BLYDE RIVER CATCHMENT AREA

The economy downstream from the planned mining activities falls within the Blyde River upper catchment area that in turn forms part of the larger Olifants River Water Management Area (WMA).

Figure 8 below shows the Blyde River catchment area within the larger lower Olifants River. The figure shows that the population density in the Blyde catchment area is low relative to the larger population concentrations around Bourke's Luck (Moremela). The population in the total Blyde catchment area could have been around 62 000 people in 2011, i.e. about 18% of the population of the entire lower Olifants River catchment area (350 000 people in 2011) (Department of Water Affairs, 2011).

The Blyde River is popular with anglers. The upper region of the catchment area nearby Pilgrim's Rest (downstream of the proposed mining activities) generates sustainable income for Pilgrim's Rest in terms of national angling competitions, provincial angling trials as well as *ad hoc* angling tourists. Based on conversations with local sources and provincial angling associations, Pilgrim's Rest hosted two national angling competitions over the past 3 years. This could have generated an income injection to the town of R 200 000 for 3 days at least every second year. The national competitions generate demand for approximately 4 days of overnight accommodation and work for 50 to 60 angling marshals employed from Newtown for the 3 days that the competitions last.

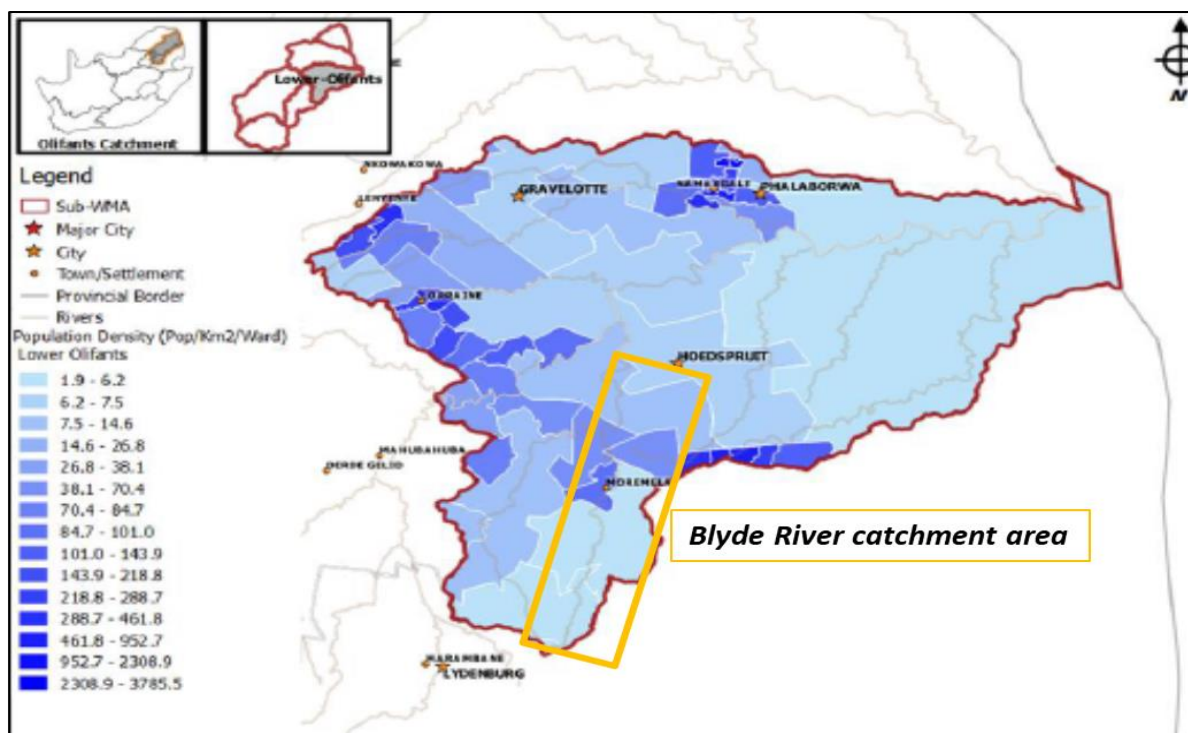


Figure 8: The Lower Olifants River Catchment Area

Source: Department of Water and Sanitation, 2018.

Apart from national competitions, provinces across South Africa hold angling trials at Pilgrims Rest, i.e. around 5 times a year. These trials involve around 18 people per trial spending 3 days in Pilgrim’s Rest over the two-day trial. The provincial trials could generate an additional R 200 000 to the town every year and supply informal, *ad hoc* employment to close to 18 angling marshals from Newtown for 2 days every second month. Non-competitive leisure anglers could generate an additional R 135 000 to Pilgrim’s Rest around the year. In summary angling activities in the Blyde River 20km downstream from Pilgrim’s Rest could generate a total turnover of close to R500 000 per annum. It is possible that close to 20% (R100 000) of this turnover could flow to low- income families of which some R 75 000 could flow to informal angling marshal services per annum, generating some 450 full time equivalents (FTE), person-days of work annually. This is further illustrated in Table 11 below.

Table 11: Eco-system services in the Lower Olifants River, 2010

EcoSystem Service	R million
Domestic water use	55
Livestock watering and grazing	48
Harvesting products (plants, food, medicinal, hunting, and fishing)	44
Water regulation and purification (e.g. Groundwater recharge, flood control)	6
Carbon sequestration ³	2
Tourism	252
Aesthetic value (property values)	6
Education	0
Total	411

Source: Department of Water Affairs, 2011

³ This involves a natural process by which carbon dioxide is removed from the atmosphere and held in liquid form.

The Department of Water and Sanitation estimated in a study in 2011 that the total value of ecosystem services derived from the lower Olifants River could have been in the region of R 411 million in 2010 (R 707million in 2019 prices). Table 11 above shows the high contribution made by tourism (61%) followed by agriculture-related services (22%). The ecosystem services in the entire Lower Olifants River catchment area could sustain the region of an estimated 8 000 employment opportunities (formal and informal) (Based on Stats SA 2011 and Stats 2017 ratios).

If the rough assumption is made that economic activities are fairly evenly distributed across the lower Olifants River catchment area (and that the economic and geographic contribution of the Blyde River catchment area towards the larger catchment area is the same) the ecosystem services of the Blyde River catchment area could be in the region of (R 95 million or 23%) of the R 411 million estimated for the lower Olifants River catchment area, (representing R 165 million in 2019 prices). In addition, some 2 000 employment opportunities could be directly dependent on the healthy functioning of the Blyde River. That would imply that closer to 20% of the total economy in the wards within the downstream Blyde River catchment area (i.e., R 95 million as a percentage of the total downstream economy of R 459 million) could be directly dependent on the health of the Blyde River.

Degraded infrastructure and poor to no services from the TCLM are contributing to the pollution of the Blyde River, for example, defects at the Sabie Waste Water Treatment Plant are a huge contributor to the pollution, while similar problems are experienced with regards to the maintenance of infrastructure by the TCLM within the Pilgrim's Rest area (GPS NEWS, 2021). It should also be noted that, since 2019, due to an increase in illegal mining activities and the direct impact on downstream water quality, angling activities in Pilgrim's Rest have come under increased pressure.

9. SOCIO-ECONOMIC IMPACT ASSESSMENT OF THE PROPOSED PROJECT

9.1 RATING METHODOLOGY

The significance of the aspects/impacts of the process will be rated by using a matrix developed by the Environmental Impact Assessment team and adapted to some extent to fit this process. These matrixes use the consequence and the likelihood of the different aspects and associated impacts to determine the significance of the impacts.

Table 12: Methodology to Determine Impact Significance

Aspect	Description	Weight
Probability: This describes the likelihood of the impact actually occurring		
Improbable:	The possibility of the impact occurring is very low, due to the circumstances, design, or experience.	1
Probable:	There is a probability that the impact will occur to the extent that a provision must be made, therefore.	2
Highly Probable:	It is most likely that the impact will occur at some stage of the development.	4
Definite:	The impact will take place regardless of any prevention plans, and there can only be relied on mitigatory actions or contingency plans to contain the effect.	5
Duration: The lifetime of the impact		
Short term:	The impact will either disappear with mitigation or will be mitigated through natural processes in a period shorter than any of the phases.	1
Medium-term:	The impact will last up to the end of the phases, whereafter it will be negated.	3
Long term:	The impact will last for the entire operational phase of the project but will be mitigated by direct human action or by natural processes thereafter.	4
Permanent:	Impact that will be non-transitory. Mitigation either by man or natural processes will not occur in such a way or in such a time span that the impact can be considered transient.	5
Scale: The physical and spatial size of the impact		
Local:	The impacted area extends only as far as the activity, e.g. footprint	1
Site:	The impact could affect the whole or a measurable portion of the above-mentioned properties.	2
Regional:	The impact could affect the area including the neighbouring residential areas.	3
Magnitude/Severity: Does the impact destroy the environment or alter its function?		
Low:	The impact alters the affected environment in such a way that natural processes are not affected.	2
Medium:	The affected environment is altered, but functions and processes continue in a modified way.	6
High:	The function or process of the affected environment is disturbed to the extent where it temporarily or permanently ceases.	8
Significance: This is an indication of the importance of the impact in terms of both physical extent and time scale, and therefore indicates the level of mitigation required		
<i>Significance = Sum (Duration, Scale, Magnitude) x Probability</i>		

Aspect	Description	Weight
Negligible:	The impact is non-existent or unsubstantial and is of no or little importance to any stakeholder and can be ignored.	<20
Low:	The impact is limited in extent, has low to medium intensity; whatever its probability of occurrence is, the impact will not have a material effect on the decision and is likely to require management intervention with increased costs.	<40
Moderate:	The impact is of importance to one or more stakeholders, and its intensity will be medium or high; therefore, the impact may materially affect the decision, and management intervention will be required.	<60
High:	The impact could render development options controversial or the project unacceptable if it cannot be reduced to acceptable levels; and/or the cost of management intervention will be a significant factor in mitigation.	>60

9.2 IMPACT ASSESSMENT

9.2.1 CONSTRUCTION PHASE

9.2.1.1. Introduction

The Beta North, Frankfort, and CDM project areas consist of historical underground mining sections as well as an old TGME process plant. The plan is to redevelop the underground mining projects and to establish infrastructure in addition to the existing surface infrastructure.

Pre-construction activities would include fencing of the mining sections (sites), earth clearing activities (clearing of vegetation, soil stripping), road construction and the upgrading and/or extension of site offices, security checkpoints, and surface infrastructure, as well as the establishment of contractor's laydown areas for the temporary storage of materials and equipment.

During the construction phase, the appointed contractors will be responsible for the erection of the temporary change / ablution facilities (chemical toilets). This infrastructure will remain on-site for the duration of the construction phase. Permanent infrastructure will then be established on-site after the finalisation of the construction phase. Infrastructure will consist of access roads and other road infrastructure, power and water supply, underground infrastructure, and upgrades to the processing plant.

Based on information supplied by the draft TGME Mining Work Programme (MWP) for the project, TGME plans to spend R 1,1 billion on construction over a 10-year period. The construction period will overlap with the operational phase of the mine as production is expected to commence 1 or 2 years after the construction phase started.

9.2.1.2. Positive impacts on local employment and income

Construction activities could create approximately 120 full-time equivalent (FTE) employment opportunities (the total mine complement will enlarge to 426 over a 10-year period). The potential number of semi-skilled and elementary category labour is very high (32% and 51% of

total employment). TGME aims to ensure that 70% of its workforce will be sourced from local residents.

At its peak, activities will significantly reduce the numerous unemployed people currently residing in Pilgrim's Rest.

As indicated in the table below, construction activities are however only anticipated to employ relatively large numbers directly for 3 years (Year 2, Year 5, and Year 6). As mentioned above, it is also important to note that construction activities will overlap with operational mining activities as mining production is expected to commence 1 or 2 years after the initial construction phase started.

Table 13: Forecasted employment and income impacts during construction

CATEGORY (ZARm), 2021 prices	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Initial capital expenditure	6	343	14	52	378	99	25	13	-	-
Ongoing capital expenditure	-	6	23	36	47	43	4	2	11	0
Total capital expenditure	6	349	38	88	425	142	28	14	11	0
Direct gross value added (profits, salaries and wages)	2	112	12	28	136	45	9	5	3	0
Direct employment (FTE)	6	353	38	89	430	143	29	14	11	0
Skilled Employment	1	60	6	15	73	24	5	2	2	0
Semi-Skilled Employment	2	113	12	29	138	46	9	5	3	0
Elementary Skilled Employment	3	180	19	45	219	73	15	7	6	0
% Of GVA to low-income households	14%	14%	14%	14%	14%	14%	14%	14%	14%	14%
FLOW-ON IMPACT										
Flow-on gross value added (profits, salaries and wages) R million	3	219	24	55	267	89	18	9	7	0
Flow-on employment (FTE)	2	99	11	25	121	40	8	4	3	0
Skilled Employment	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%
Semi-Skilled Employment	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%
Elementary Skilled Employment	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%

Source: Estimates based on information supplied by TGME Mine Works Programme (2021), Mpumalanga Social Accounting Matrix (2018); Quarterly Employment Stats (2021); Bhorat and Rooney (2017), and Reddy et.al. (2016)

Construction activities related to the project could also significantly increase local income levels. The economic production (Gross Value Added or GVA)⁴ of the town is estimated in the region of R 20 million (pre-COVID). **Direct spending on construction activities alone could be almost 7 times the current size of the Pilgrim's Rest economy during its peak (year 5).** The direct income (GVA) from construction activities is also expected to have some distributive impact as low-income households are expected to earn a slightly higher portion (14%) of total income compared to their 13% contribution in provincial income and 16% in national income.

⁴ Economic production is measured by Gross Value Added (GVA) and is a sum of all the income to production factors (labour, capita, entrepreneurship, land) used in the production process.

Due to the limited spending opportunities of these increased wages and salaries in the local economy of Pilgrim's Rest, the adjacent towns of Sabie and Graskop are also expected to receive some induced spending benefits from increased income levels. Spending on construction suppliers/inputs will also mainly occur outside the local Pilgrim's Rest economy. Within Pilgrim's Rest, the income of the general dealer/hardware store could experience a significant increase and activities could ensure a high turnover to a local petrol station. Some of the restaurants and accommodation facilities might also experience some increase in turnover.

Flow on impacts due to spending on suppliers and induced construction spending due to higher income could create up to 121 additional jobs during peak construction mainly in the larger region of which half could be created in Mpumalanga Province and the rest in the larger national economy.

Table 14: Rating of Impact on Local Employment and Income

Impact Name	Local income and employment	
Environmental Risk		
Attribute	Pre-mitigation	Post-mitigation
Nature	Positive	Positive
Probability	4	4
Duration	4	4
Scale	3	3
Severity	6	8
Environmental Risk (Pre-mitigation)		52
		Moderate
Enhancement Measures:		
<ul style="list-style-type: none"> • Prioritise local labour in the recruitment process as part of the company's own recruitment policy or as part of the contractor management plan • Provide up-skilling opportunities for elementary and semi-skilled local workers during the construction phase • If use is made of a contractor, explore the possibility of placement of up-skilled local workers in other projects • Explore possible placement of local construction workers in mining operations • Incorporate the mitigation measures worker related management plans and employment contracts as well as contractor management plans 		
Monitoring:		
Through the contractor management plan on a quarterly basis		
Environmental Risk (Post-mitigation)		62
		Moderate
Cumulative Impacts		Yes
<ul style="list-style-type: none"> • Due to the lack of other major projects within the immediate vicinity of the project, limited cumulative impacts from outside projects are foreseen in the local area • Other mining applications of TGME, other possible mining developments proposed by different applicants within the area, and other companies in TCLM have a cumulative impact on mining construction supplies 		
Potential for residual risk		Low

9.2.1.3. Potential influx of people to the project area

Population characteristics are expected to evolve as a result of the expected influx of people and households to the area as a result of the project. Few of these may be related to those formally employed by the project (TGME aims to ensure that 70% of its workforce will be sourced from local residents), but more substantially, there is an expected influx of prospective job-seekers hoping to find work on the news of the economic activity. The result could be a change in the size and density, as well as the demographic profile of the local community.

As indicated in Table 13 above, peak employment during construction is expected to last for short periods in Years 2, 5, and 6 of the Project. Some of these individuals would be from outside the TCLM area, this could result in some change in the temporary population figures and population density of Pilgrim’s Rest (as Beta North and CDM would be in close proximity to town), and an expected smaller change in the population figures and density of the Moremela, Leroro and Mathibidi communities. As the construction activities would involve some semi-skilled and elementary workers, it is expected that locals will be employed which would result in a limited population change.

The settlements in the study area have experienced an inflow of outsiders over the last couple of years. Once the recruitment process starts, more individuals will become aware of the mining projects. This, together with the overall high unemployment levels in the TCLM area, can increase the in-migration of jobseekers to settlements near the mining areas such as Pilgrim’s Rest, Darks Gully, Newton/Schoonplaas, Moremela, Leroro, and Mathibidi. Jobseekers can also comprise of unemployed locals including ex-miners residing in the local settlements.

Infrastructure and service provision within the TCLM already does not address the needs of the communities, especially those within the northern areas, where water and sanitation services are lacking. DPW also indicated that the existing services and aging infrastructure in the Pilgrim’s Rest area will not be able to handle a significant inflow of additional residents, which could result in challenges as with regards to infrastructure and service delivery.

For the duration of the construction period, non-local and/or temporary contract workers forming part of the construction team of the main contractor would require accommodation. It is anticipated that these contractors would make use of the existing establishments in close proximity to the site. Depending on the number of workers involved, local accommodation facilities within Pilgrim’s Rest, Graskop, and Sabie are likely to be utilised. It is possible that there could be a shortage of accommodation in close proximity to the site due to the requirements of team members. Should the upgrading of the Caravan Park be completed, this facility can further provide possible accommodation to members of the temporary construction workforce.

The influx of individuals to an area in search of employment is difficult to quantify and to exercise control. It can further not only be attributed to one single project as migration is dependent on various socio-economic factors. **The procurement of local labour can mitigate this impact. This is critical to the success of the project and will assist in minimising the negative impacts on infrastructure and services** associated with the likely inflow of people, as it is not foreseen that the existing state of the infrastructure will be able to accommodate high volumes of new residents.

Table 15: Rating of Impact of Population Influx

Impact Name	Population Change	
	Pre-mitigation	Post-mitigation
Environmental Risk		
Attribute		
Nature	Negative	Negative
Probability	4	4
Duration	4	4
Scale	1	1

Impact Name	Population Change	
Magnitude	8	6
Environmental Risk (Pre-mitigation)	52	
	Moderate	
Mitigation Measures:		
<ul style="list-style-type: none"> • Prioritise recruitment of local labour as far as possible. • Access skills databases currently being drawn up by local community representatives such as ward counsellors and TCLM. • No recruitment to be undertaken on-site. • Enter into formal employment contracts with casual labour and the construction staff to ensure that they are aware that employment is for a limited period only and that it is unlikely that the mine will employ construction staff on the mine when in operation. • Communicate redeployment with current operational staff and in the media to prevent word spreading of new job opportunities at the mine. • Availability of accommodation facilities to be established prior to and during the construction phase 		
Monitoring:		
<ul style="list-style-type: none"> • Develop a procurement strategy as well as a contractor management plan (if relevant) to ensure that local employment is enhanced as far as possible within the semi-skilled and skilled categories and that all elementary (unskilled) labour is recruited from local communities. 		
Environmental Risk (Post-mitigation)	44	
	Moderate	
Cumulative Impacts	Yes	
<ul style="list-style-type: none"> • Due to the lack of other major projects within the immediate vicinity of the project, limited cumulative impacts from outside projects are foreseen in the local area • 		
Potential for residual risk	Medium	

9.2.1.4. Increase in nuisance factors (noise and dust)

Noise

Noise created by construction activities could create nuisance factors, especially during peak construction periods. This would materialise at the different construction sites due to the inflow of workers, construction activities undertaken by the construction teams, heavy vehicle movement, and use of equipment. This could possibly have an impact on the rural, social environment (low ambient noise levels), but due to the distance of the Frankfort construction area to the nearest dwellings (Moremela), the impact in this area is anticipated to be of a low significance (with mitigation). The Brown's Hill settlement in close proximity to the Beta North mining area could be a critical sensitive receptor in terms of the noise impacts, this is assessed in the Noise specialist study.

Construction would be phased and not all construction workers will be on-site for the full duration of the construction period. The intensity of the impacts will thus depend on the average size of the construction teams, the number of teams, and the number of workers anticipated to be on site.

Traffic and Roads

The R533 serves as the main access route to all three sites. Access from the R533 would be via established gravel roads. The Beta North site would be accessed from Pilgrim's Rest on the gravel road leading to the TGME process plant.

The same road is used by the residents of Brown’s Hill to access Pilgrim’s Rest town and will furthermore be used by visitors to the Pilgrim’s Rest Caravan Park. This road crosses the Blyde River on two occasions and would need to be upgraded. Provision has been made for haul road construction.

The gravel roads leading to the CDM sites are of a short distance. Limited, if any, upgrading of these roads is foreseen. The movement of workers along the R533 could have an impact on the daily living and movement patterns of residents in the area.

The Frankfort site would be accessed from Pilgrim’s Rest and the TGME process plant via the Vaalbank/Bourke’s Luck Road. Sections of this road would also have to be upgraded. Provision has been made for haul road construction within this area.

According to the Traffic Impact Assessment, a maximum of ten 25-ton trucks will travel to and from the Beta North, Frankfort, and CDM sites daily that will result in one truck per hour in both directions (based on a ten hour construction day). Further trips to transport workers are estimated. Overall, four vehicle trips will be undertaken per direction per hour for each site, totalling 8 additional vehicular trips per hour (4 to enter and 4 to exit) (Infratrans, 2021). These vehicle movements will be a significant increase from the existing traffic volumes with resultant noise and dust impacts, as well as impacts on the road surfaces.

Local road surfaces are damaged and narrow increase the risks of traffic accidents.

Dust

These road constructions and upgrading, as well as the usage of gravel roads during construction, could result in dust fallout increases. Dust fallout must be managed in line with the requirements of the EMPr.

Brown’s Hill

The Brown’s Hill settlement is approximately 300 m from the existing process plant and existing TSF. This settlement could be exposed to risks mainly due to the movement of mining vehicles, possible noise and dust fallout (wind erosion), as well as the increase in traffic on the access road, these risks must be managed line with the requirements of the EMPr.

Visual Impact

The main visual impact associated with the construction phase would be the actual construction sites, and possible storage of material and equipment, as well as the disruption of the soil and vegetation due to the infrastructure footprints. The actual construction sites, however, would have limited temporary negative visual impacts due to their extent and location to dwellings, settlements, and roads frequently used by tourists, except in the case of the Brown’s Settlement which is in close proximity to the Beta North mining activities.

Table 16: Nuisance Factors: Impact Assessment

Impact Name	Nuisance Factors	
Environmental Risk		
Attribute	Pre-mitigation	Post-mitigation

Impact Name	Nuisance Factors	
Nature	Negative	Negative
Probability	4	2
Duration	4	4
Scale	2	1
Magnitude	6	6
Environmental Risk (Pre-mitigation)		48
		Moderate
Mitigation Measures:		
<ul style="list-style-type: none"> • Mitigation measures with regards to noise impacts as per the EIA Report should be implemented. • All construction vehicles should be in a good condition and adhere to road-worthy standards. • Maintenance of vehicles and machinery should be done regularly. • Construction hours must preferably be limited to daylight day hours e.g., 6 am to 6 pm where possible. • Construction site management to adhere to the Theta SHEQ requirements • Dust control measures e.g., wetting of gravel roads to be implemented where feasible. • Dust monitoring to be undertaken at Brown's Hill • Public transport options to be provided to construction workers • Concurrent rehabilitation/cleaning of construction sites to be undertaken • Resettlement of Brown's Hill community members to be considered during this phase or prior to construction 		
Monitoring:		
<ul style="list-style-type: none"> • Construction activities and site management to adhere to EMPr • Monitor impact on residents of Brown's Hill. 		
Environmental Risk (Post-mitigation)		22
		Low
Cumulative Impacts		No
None		
Potential for residual risk		Low

9.2.1.5. Impacts on Community Health

Spread of communicable diseases

An increased health risk, such as the spread of HIV/AIDS, Tuberculosis (TB) as well as Covid-19 with long-term possible consequences, could be created due to the influx of jobseekers to the area and social interaction with the local population.

Environmental pollution

If the construction sites are not properly managed it could result in negative impacts on the environment with related health impacts on the surrounding communities such as pollution of water sources due to improper sanitation facilities, solid waste management, or wastewater management, these risks must be managed line with the requirements of the EMPr.

Health services and infrastructure

Clinics in the area are not necessarily equipped to deal with emergencies, with only the Mathibidi hospital near the site. There is a further lack of sufficient emergency vehicles servicing the larger area.

It is unlikely that the existing health services will be able to effectively deal with major construction-related accidents and emergencies due to the lack of sufficient localised services. It is for this reason TGME has contracted Netcare to provide mine related medical services Their

service will include full-time trained medical personnel on-site which includes full-time ambulance on site and air transport support.

Table 17: Community Health: Impact Assessment

Impact Name	Community Health	
Environmental Risk		
Attribute	Pre-mitigation	Post-mitigation
Nature	Negative	Negative
Probability	2	2
Duration	4	4
Scale	3	3
Magnitude	6	2
Environmental Risk (Pre-mitigation)		26
		Low
Mitigation Measures:		
<ul style="list-style-type: none"> • Prioritise recruitment of local labour as far as possible. • All construction vehicles should be in a good condition and adhere to road-worthy standards. • Maintenance of vehicles and machinery should be done regularly. • Construction site management to adhere to the Theta SHEQ requirement. • Dust monitoring to be undertaken at Brown's Hill settlement, Pilgrim's Rest, Darks Gully and Schoonplaas/Newtown • First aid and/or emergency supplies should be available at various points at the construction site • HIV/AIDS, TB, and Covid-19 awareness and support programmes to be supported and to be implemented as part of induction procedures • Safety measurements to be communicated to employees on a continuous basis • Covid-19 regulations to be adhered to and to be communicated to construction workers • The general health of construction workers should be monitored on an ongoing basis • Emergency action plans to be developed in consultation with localised health and emergency services • Resettlement of Brown's Hill community members to be considered during this phase or prior to construction 		
Monitoring:		
<ul style="list-style-type: none"> • Construction activities and site management to adhere to EMPPr • Construction site management to adhere to Theta SHEQ requirements • No additional health services and infrastructure required • Monitor impact on residents of Brown's Hill 		
Environmental Risk (Post-mitigation)		18
		Negligeable
Cumulative Impacts		No
-		
Potential for residual risk		Low

9.2.1.6. Impacts on Community Safety

During the construction phase, community safety can be at risk, mainly due to the movement of construction vehicles on the R533, safety hazards, increased fire risks, and the possible increase in criminal activities due to the movement of more people in the area. The conflict between locals, jobseekers, and illegal miners can also occur.

Construction activities

On-site, construction workers would furthermore be exposed to operational safety risks. These risks should be addressed as part of the Mine Health and Safety Act 29 of 1996 (MHSA) and the regulations as part of the MHSA. Other safety aspects, not included as part of the forementioned, will have to be dealt with as part of the Occupational Health and Safety Act (1993). Adherence to the EMPr and Theta SHEQ requirements would also be required.

Fire Risks

Fires, could pose a serious risk for timber plantations as they would result in long-term negative impacts (growth span of tree stock) with severe financial consequences for the land/business owner.

Illegal Mining

There appears to be a significant increase in illegal mining activities which already poses community safety risks, especially in the Moremela and Pilgrim's Rest areas. These activities are undertaken by ex-mineworkers and/or immigrants who resort to artisanal or subsistence mining at non-operational mining sites, the various old adits, and the shallow reefs in some areas of the study area. These mining activities are undertaken without state permission and mining rights.

Illegal miners are armed and conflicts between the different factions have previously led to violence and in some unfortunate events, the death of illegal miners and even community members. There is the risk that the formally appointed mine workers could come into conflict with illegal miners during the construction phase. More intensive security measures to deal with the illegal miners would also result in increased costs, but will improve the livelihood of the workforce and the surrounding communities.

Community members are of the opinion that formal mining and the associated security measures implemented will decrease the presence of illegal miners with possible positive socio-economic impacts.

Influx of Jobseekers

An influx of jobseekers to an area could result in negative social impacts such as:

- the development of illegal and/or informal settlements (especially on state-owned land),
- possible sub-letting with associated environmental pollution,
- the social conflict between the jobseekers and locals to secure employment, especially due to jobs being a scarce resource in the area,
- conflict between informal vendors (also seen as jobseekers) for new business,
- misbehaviour of jobseekers (e.g., possible increase in alcohol use),
- possible increase in crime due to these jobseekers being unemployed,
- increased pressure on already strained infrastructure; and
- additional pressure on health and community services.

It should be noted that the number of construction vehicles, driver conduct, as well as the actual number of outside construction workers would influence the intensity of the different community safety impacts. Due to the anticipated sizes of the construction workforce and the phasing of the construction activities, these temporary impacts are perceived to be of limited significance.

Table 18: Community Safety: Impact Assessment

Impact Name	Community Safety	
Environmental Risk		
Attribute	Pre-mitigation	Post-mitigation
Nature	Negative	Negative
Probability	4	4
Duration	4	4
Scale	3	3
Magnitude	6	2
Environmental Risk (Pre-mitigation)		52
		Moderate
Mitigation Measures:		
<ul style="list-style-type: none"> Recruitment of local labour must be prioritised. Unauthorised entry to the mining area must not be allowed. Access control should continue to be implemented. Mining areas must be secured and fenced. All construction vehicles should be in a good condition and adhere to road-worthy standards. Construction vehicles operators must adhere to the speed limit parameters at all times. Traffic control and direction indication, visible roadworks signs as well as pedestrian occurrence signs must be implemented The South African Police Service (SAPS) and forums such as the Mpumalanga Illegal Mining Stakeholder Forum and the DMRE to curb illegal mining through their preventative measures that include: Demolishing illegal mining infrastructure; confiscating gold-bearing material; arresting illegal miners; deporting illegal immigrants; introducing biometric scanners at mines; additional security guards at shaft entrances; inspection of material cars on shaft heads for food parcels and illegal entries; involving stakeholders, such as the surrounding communities at mines, businesses, and the local council, to participate in combating illegal mining; and establishing whistle-blower channels. TGME developed a comprehensive security strategy dealing with the illegal miners in and around the proposed mining areas. This strategy will be implemented as part of the start-up phase of the mines. A Fire/Emergency Management Plan and associated communication channels should be developed and implemented (in conjunction with neighbouring landowners and timber companies operating in the areas surrounding the construction sites). Appropriate firefighting equipment should be on-site and construction workers should be appropriately trained for firefighting. Visible policing in the settlements in close proximity to the construction sites is required. Security teams to regularly patrol areas around construction sites. Transparent procurement processes to be implemented with regards to potential vendors 		
Monitoring:		
<ul style="list-style-type: none"> Construction activities and site management to adhere to EMPr Construction site management to adhere to the Theta SHEQ requirements Monitor levels of social conflict Monitor reports of criminal activities Monitor traffic movements of construction vehicles and related accidents Review the functionality and efficiency of the Fire/Emergency plan in conjunction with the local emergency teams, mine management and affected communities as well as neighbouring landowners (timber companies) 		
Environmental Risk (Post-mitigation)		36
		Low
Cumulative Impacts		No
-		
Potential for residual risk		Medium

9.2.2 OPERATIONAL PHASE

9.2.2.1. Introduction

During the operational phase, the mine is to exploit the ore body using underground mining. Development is conducted with development drill rigs. Long hole drill rigs are used to drill production holes from one drill drive to another. Eight holes are drilled horizontally, through the 15 m panel to be blasted daily, with minimum waste dilution. Blasted ore is cleaned to the advance strike drive at the bottom of the mined panel by a water jet. The mining method involves selective blasting mining ("SBM") that involves a blasting sequence that takes place in two consecutive steps. The waste rock above (or below) the reef is blasted separately from the reef. After the waste blast, the reef is blasted to produce material with minimum waste dilution. The ore is loaded by means of a Load Haul Dump (LHD) loader which transports the ore from a tipping onto the conveyor belt. The conveyor belt transports ore from underground to the silos onto the surface.

The processing plant will produce gold doré, a semi-pure gold alloy that will be sent to Rand refinery in Germiston for further purification. Rand refinery has liaison arrangements with members of the London Bullion Market Association for the sale and distribution of their products. The finished product customers include bullion banks, jewellery manufacturers, distributors, and mints. Tailings material will be deposited into an existing tailings storage facility (the TSF) which includes a gravity decant system that recovers water back to the plant.

The Life of Mine (excluding the construction period) is between 7 and 8 years. TGME will be the mining operator and will make use of external service providers for the Tailings Dam Management as well as Gold Handling and Refining.

9.2.2.2. Positive impacts on local income and employment

Direct employment and income: The operational phase related to the mining application is expected to last between 7 and 8 years. As indicated in Table 19 below, 426 direct employment opportunities, could, on average, be created over the 10 years, representing close to an increase of 1% of total employment across the entire TCLM - a very high percentage for any single project. The employment is directly related to the proposed mining activities and will be created as in-house employment by the mining license holder itself, as service providers (e.g. security, tailings facility management, administration, and gold handling). Of the direct employment, 23% could be skilled; 55% semi-skilled and 22% could be elementary (elementary) employment positions.

The operations will invest 1.2% of its annual payroll in skills development activities as provided for in a Social and Labour Plan (SLP) budget. The SLP should also make provision for a Skills Development Programme, career progression, mentorship, bursary and internship, and employment equity plans.

As indicated in Table 19 below, the direct contribution of the mining operations to the Gross Value added (GVA) of TCLM could be in the region of R 425million on average per annum, representing close to 3% of the current economic output of TCLM. A relatively small portion of the GVA however consists of salaries and wages, and of the total labour bill. A relatively small portion is expected to be earned by semi-skilled and elementary employees potentially originating from Pilgrim's Rest. TGME aims to ensure that 70% of its workforce will be sourced from local residents (predominantly elementary and semi-skilled, the result is the potential number of local employment due to the mine redevelopment would significantly improve formal employment figures in Pilgrim's Rest.

Table 19: Forecasted employment and income impacts during operations

CATEGORY	Average per year over 10 years
DIRECT IMPACT	
Direct gross value added R million	425
Direct employment (number)	426
Skilled employment (managers, professionals) (%)	23%
Semi-skilled employment (artisans, foreman) (%)	55%
Elementary employment (elementary occupations) (%)	22%
FLOW-ON IMPACT (SUPPLY LINKED AND INDUCED)	
Direct gross value added (profits, salaries, and wages) R million	210
Flow-on employment (number)	100
Skilled employment (managers, professionals) (%)	20%
Semi-skilled employment (artisans, foreman) (%)	60%
Elementary employment (elementary occupations) (%)	20%

Source: Estimates based on information supplied by TGME Mine Works Programme (2021), Mpumalanga Social Accounting Matrix (2018); Quarterly Employment Stats (2021); Bhorat and Rooney (2017), and Reddy et.al. (2016)

Flow-on employment and income: In addition to the direct employment and income generation of the mine, its supply spending and further induced spending due to higher income levels could add some flow-on income of R 210m on average per annum and flow-on employment in the region of 100 jobs for the larger regional economy during mining operations. Most of the additional income and employment will be generated in the larger regional economy due to the limited economic activity in Pilgrim’s Rest. There are a few local/ Pilgrim’s Rest procurement opportunities for the mine in terms of its spending on alien vegetation removal, procuring basic hardware supplies, catering, and accommodation services. While this spending could only contribute 2% or less of the total discretionary spending (excluding overheads and utility costs) of the project, it could still add significantly to income levels within Pilgrim’s Rest.

Furthermore, while a large portion of skilled and semi-skilled mineworkers might not stay in Pilgrim’s Rest, they will still spend their working days close to the town, and even if they should spend only a small portion of their income in town on fuel, restaurants and basic foodstuffs (bread, milk, etc.) could also have a relatively high impact on income levels in the town. It is estimated that this joint supply and induced spending impact could potentially increase total sales in Pilgrim’s Rest on average to around R2m per annum with the potential to create an additional 5 to 10 jobs in town.

Table 20: Rating of Impact on Local Employment and Income

Impact Name	Local income and employment	
Environmental Risk		
Attribute	Pre-mitigation	Post-mitigation
Nature	Positive	Positive
Probability	4	4
Duration	4	4
Scale	3	3
Severity	6	8
Environmental Risk (Pre-mitigation)		52
		Moderate
Enhancement Measures:		
Enhancement:		

Impact Name	Local income and employment	
	<ul style="list-style-type: none"> • TGME aims to ensure that 70% of its workforce will be sourced from local residents, with the focus on Pilgrim's Rest, Newtown/Schoonplaas, and Darks Gully, and secondly from rural areas in Wards 10, 9, and 8 • Up-skilling of the local labour force as per the requirements of the SLP • Develop a database of goods and services that could potentially be outsourced to the local community • Establish a supplier development programme as part of the Local Economic Development component of the SLP. The programme should focus on small businesses in Pilgrim's Rest that could supply non-core mining goods and services to the mine (e.g., catering and cleaning) as well as larger businesses within the region. • Focus on the local supplier development programme on creating sustainable local businesses that could continue to operate after mine closure, e.g., by assisting local businesses in market diversification strategies • Participate in the development of a regional mine supplier hub to promote the development of a local supply base (e.g., the current enterprise hub in Lydenburg that was launched by Glencore) • Put a contractor management plan (including direct service providers) in place to ensure that the local employment and procurement targets of the operations are met. The targets should also be aligned with the Mining Charter of 2018. 	
Monitoring:		
Though the SLP on an annual basis		
Performance indicators:		
<ul style="list-style-type: none"> • % Local labour employed in different skill categories • % HDSA in management positions • Training programmes completed by the local labour force • % Of goods and services procured from the local community by type of product 		
Environmental Risk (Post-mitigation)		60
		Moderate
Cumulative Impacts		Yes
<ul style="list-style-type: none"> • Due to the lack of other major projects within the immediate vicinity of the project limited cumulative impacts from outside projects are foreseen in the local area • 		
Potential for residual risk		Low

9.2.2.3. Increase in public revenues

Table 21 below shows the different contributions of the mining project to public revenues during the 10-year operational period of the mine.

Table 21: Average annual forecasted public revenues of the project

Public funds (Rm)	Total
Royalties	0,5
National skills fund (1% of labour costs)	0,8
Mine Health and Safety Regulations (1% of labour costs)	0,8
Occupational Health (0,5% of labour costs)	0,4
Local economic development funds (for eight years)	4,0
Taxes (personal, company, and indirect taxes) from mining activity (direct)	120,0
Taxes (personal, company, and indirect taxes) from suppliers and induced impacts (flow-on)	70,0
Total public revenues	196,5

Source: Estimates based on information supplied by TGME Mine Works Programme (2021), Mpumalanga Social Accounting Matrix (2018); Quarterly Employment Stats (2021).

The table shows that the project could possibly create close to R 2 billion in public revenues over the 10-year period. The contribution of the project to central government tax and royalty revenues is particularly high and contributes around 30% towards the total GVA (direct and flow-on) of the project compared to the 26% contribution that taxes, in general, contribute to national GVA. The 26% contribution is furthermore already considered high in terms of international standards. This high tax ratio signifies to a strong emphasis on rectifying the generally low contribution of low-income households in the total income generated during mining operations

as well as compensating local communities for potential negative social and environmental impacts associated with hosting mining projects in general. The benefits of additional taxes, royalties as well as an increase in the National Levy is a benefit for the larger national economy Pilgrim’s Rest and surrounds, as the affected mining community close to the project, will be the focus of the Local Economic Development Fund that forms part of the SLP.

In terms of local contributions, mining legislation specifies that mining operations should contribute to the economic development of the affected local community as per a SLP. The Local Economic Development plan should be aligned with the local, provincial and national development priorities. The local communities should furthermore be consulted. Both income generating activities and social infrastructure should be implemented as part of the plan.

While the old (2010) mining guidelines did not specify a specific portion of turnover or profit to be allocated to such a fund, a generally good practice among mining companies was to set aside 1% of net profits after tax. The 2018 Mining Charter targets an equity equivalent benefit to the minimum of 5% to be allocated to the socio-economic development of local communities. Mining legislation furthermore specifies that 0.5% of income that multinational suppliers receive from the mining operations must be contributed to a social development fund.

The MWP for this project makes provision for some R 40 million to the local community for local economic development over the lifetime of the project (from year 3 to year 9 of the project).

Table 22: Rating of Increase in Public Revenues

Impact Name	Public revenues	
Environmental Risk		
Attribute	Pre-mitigation	Post-mitigation
Nature	Positive	positive
Probability	4	4
Duration	4	4
Scale	3	3
Severity	6	8
Environmental Risk (Pre-mitigation)		48
		Moderate
Enhancement Measures:		
<ul style="list-style-type: none"> Develop an updated Local Economic Plan as part of an updated SLP for the project in consultation with the local community Ensure that the current allocation as per TGME’s Mine Works Programme for the updated SLP is in line with the targets of the Mining Charter of 2018 Monitor and manage the social contribution of multinational suppliers (in-house as well as suppliers to contractor and direct service providers) 		
Monitoring:		
<ul style="list-style-type: none"> As per the requirements of the SLP; Mineral and Petroleum Resources Royalty Bill and SA tax laws on an annual basis 		
Environmental Risk (Post-mitigation)		56
		Moderate
Cumulative Impacts		No
<ul style="list-style-type: none"> None 		
Potential for residual risk		Low

9.2.2.4. Impact on other local non-mining sectors

As discussed above main economic activities in the local area are mainly centred around tourism, forestry, and to a more limited extent, agriculture. This section focuses on potential spin-offs that the project might have on these dominant local economic sectors.

The forestry sector:

The timber companies operating in the area have to comply with the principles of the Forest Stewardship Certification (FSC). Compliance is thus critical for their economic sustainability and to maintain their current markets. As part of these principles, some of the forestry companies conserve and manage grasslands and wetlands within and around their plantations. Although these areas are managed and operated as nature reserves, these areas are not proclaimed as nature reserves.

Negative impacts associated with mining activities such as the following could occur:

- Intrusion on forestry and conservation areas as a result of the presence and movement of workers in close proximity to these areas;
- Illegal harvesting of trees;
- Environmental pollution (impacts on water quality and quantity, soil, littering, and so forth);
- Dust pollution as a result of mining activities and vehicle movement on gravel roads;
- Increased fire risks;
- Possible congestion on local gravel and tar roads, affecting transport time;
- Fuel emissions;
- Possible subsidence where underground mining is taking place;
- Risk of increase in illegal mining with illegal miners trespassing on forestry and conservation areas with the associated security risks involved.

The above-mentioned negative impacts could undermine the companies' adherence to the FSC principles, these risks must be managed in line with the requirements of the EMPr.

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The tourism sector:

As was discussed in the baseline section above, the tourism sector plays a dominant role in the Pilgrim's Rest economy. While the stakeholders interviewed in Pilgrim's Rest all maintain that the mine will have net positive impacts on the local economy, potential negative impacts on the local tourism industry should be considered:

- Visual impacts on Mount Sheba's walking trails could for instance impact negatively on visitors (identified as sensitive visual receptors by the VIA) to Mount Sheba Forever Resorts and Mount Sheba ShareBlock Company (timeshare units, which in turn could reduce the number of visitors to Pilgrim's Rest). Since the main mining method is underground mining, and the fact that mining and its infrastructure have historically been associated with the area, the visual impacts of the mining infrastructure is anticipated to have minimal impacts on the local sense of place.
- From a transport point of view, mining activities during the operational phase will contribute marginally to increased traffic flow in the area since gold will be airlifted to Germiston. Workers staying in Graskop, Sabie, or Lydenburg will contribute marginally to current traffic flows on these roads. It is therefore anticipated that the project will have a low impact on road users such as tourists or cyclists.

- Negative impacts on tourism due to nuisance factors will mainly emanate from increased noise due to mining activities. The mining operating times will consist of two shifts a day (excluding Sundays) from 6 am to 4 pm and from 4 pm to 2 am. The process plant will run on a 24 hour per day, 7 days a week basis.
- In terms of impact on the crime level, it could be argued that unemployment levels should decline substantially once mining starts and hence could have a positive impact on lowering crime rates in the local area. It could also be argued that TGME's resuming the active control of illegal mining activities in the neighbourhood could also reduce crime rates in Pilgrim's Rest. However, anticipated project-induced in-migration (as mentioned above) could somewhat defeat this objective. In some mining areas in South Africa, unemployment and crime rates have risen despite high rates of local employment growth.
- There is a risk that the mining project could crowd-out long-term tourism jobs while offering only short-term benefits to the town. It is however highly probable that this project, once successful, will lead to further investment in mining projects in the area by TGME that could last for another 20 years. Follow-up projects would furthermore focus on underground mining with less associated negative socio-economic impacts. While these projects could last up to two decades it should however still be noted that there is a limited lifespan to any mining project and it is therefore crucial that any mining company operational in this area should prioritise the long-term sustainability and conservation of the tourism industry in Pilgrim's Rest.

The agricultural sector:

Potential negative impacts on the local agriculture sector include:

- Recruiting informally skilled agricultural or forestry workers could increase the training and recruiting costs for these sectors.
- The livelihood of the farmers, community members (as well as the timber industry in the area and the residents in the towns) depends on their water quality and quantity. Water remains a scarce commodity and any decrease in the water tables would result in severe negative impacts with subsequent economic losses. The possible impact of the project on water quality and quantity is a definite concern for the local community and economy. According to the Geohydrological Report related to the project (MvB Consulting, 2022) the biggest concern regarding the groundwater is the potential seepage of contaminants from the mining site, specifically the TSF, to the groundwater. The risk posed by the waste material and the mining in general there however considered low and there are currently no additional management requirements, other than groundwater monitoring. The planned post-closure rehabilitation of the TSF will further protect the underlying groundwater resource.

The downstream regional economy:

As was discussed in the baseline section above, pollution of the Blyde River could have dire consequences for the economy of the Blyde River catchment area that relies heavily on the health of the river for agricultural and tourism activities. From a socio-economic perspective, it must still be noted that any possible negative impacts on ground and surface water could permanently damage the economy that supports the economic livelihood of an estimated 2 000 people. In this regard, it should however be noted that the geohydrology assessment's groundwater model concluded that the "contaminant risk to the aquifer system and the Blyde River is minimal".

Table 23: Assessment of Impact on Non-Mining Related Economic Activities

Impact Name	Impact on non-mining related local economic sectors	
Environmental Risk		
Attribute	Pre-mitigation	Post-mitigation
Nature	Negative	Negative
Probability	4	2
Duration	4	4
Scale	3	3
Magnitude	6	6
Environmental Risk (Pre-mitigation)		52
		Moderate
Mitigation Measures:		
<ul style="list-style-type: none"> • Engage on a regular basis with the business sector through the local business chambers (Sabie, Graskop, and Pilgrim’s Rest) to address issues that could negatively impact on local businesses, specifically tourist businesses. • Mitigation measures as stipulated in the EMPr must be strictly adhered to, to avoid and minimise any environmental pollution Effective management of the mining activities to avoid any environmental pollution focusing on water, and dust pollution, and limiting any increase in noise levels as per the respective environmental management plans (high priority) • An integrated Fire/Emergency Management Plan should be developed and implemented. It would be important to regularly review the functionality and efficiency of such a plan in conjunction with the local emergency teams, mine management, forestry industry, and affected communities as well as neighbouring landowners • Pro-active security measures should be put in place to avoid unauthorised entry onto mining sections, as well as forestry and conservation areas • Specify the conduct of contract workers in worker related management plans and employment contracts • Security companies employed by the mining sector to develop an integrated security management plan with the focus on unauthorised entries and issues associated with illegal mining. • Operational mining activities with potential noise impacts should be mitigated and should not be undertaken during night time. Noise generating activities should thus be kept to normal working hours (e.g. 7 am until 5 pm) where possible • Heavy machinery and heavy vehicles should be kept in a good working order. Also, ensure that all vehicles and equipment comply with generally accepted noise levels and noise abatement regulations • Dust suppression measures should be applied if and when necessary • Sequence the operations phase to commence after the construction phase, if possible, to avoid negative cumulative impacts • TGME should proceed in facilitating the development of a detailed tourist strategy for Pilgrims Rest as part of its LED programme in close consultation with the local community and local tourism sector. Some ideas that could be explored further include: <ul style="list-style-type: none"> ○ Commitment from business visitors to the mine to use the overnight facilities in Pilgrim’s Rest or the immediate surroundings ○ Caravan Park space development (one-part offices, the other ablution blocks, and ground clearance and maintenance for caravan standing areas) – TGME already assisting with the management of the golf course ○ Assist with maintenance of e.g. the road between Graskop and Pilgrim’s (bush clearance and some repairs) ○ Museum support (gold panning) ○ Assist and liaise with SAFCOL in promoting and re-establishing their hiking trails ○ Facilitate the establishment of an ATM in town ○ Expanding their existing involvement in the Pilgrim’s Rest Golf Club by assisting with the management and maintenance of the club, and by providing the impetus for capacity building and skills transfers • Liaise and assist with the promotion of Road safety on the R533 • Involve the SAPS and other relevant stakeholders (e.g. other business entities operating in the area, as well as Police Forums and Sector Forums) in the preventative security measures to be undertaken 		
Monitoring:		
<ul style="list-style-type: none"> • Mining activities and site management to adhere to EMPr • Monitor impact on adjacent timber companies • Monitor impact on the local and regional tourism sector 		

Impact Name	Impact on non-mining related local economic sectors
<ul style="list-style-type: none"> Monitor impact on the local agricultural sector 	
Environmental Risk (Post-mitigation)	26
Degree of confidence in impact prediction:	Low
Cumulative Impacts	None
-	
Potential for residual risk	Medium

9.2.2.5. Increased economic concentration of the local economy

The local economy of Pilgrim's Rest is already over-exposed to one (tourism) sector. However, whether mining or the (foreign) tourism sector dominates, Pilgrim's Rest's economy will remain highly dependent on economic sectors that, in turn, are highly dependent on external factors (i.e. international commodity prices in the case of the mining sector and the number of foreign tourists visiting the country in the case of the local tourism sector). For long term stability, Pilgrim's Rest's economy will need to develop a more diversified economic base in terms of the development of other sectors as well as other markets. The situation in the broader TCLM is no better since mining dominated the municipal area with platinum mining and smelter activities concentrated in the Lydenburg, Steelpoort, and Burgersfort areas.

It should be noted that the mine's involvement in the local economy through their social funds and SLP and local procurement programmes could result in certain positive opportunities for economic diversification.

Table 24: Assessment of Impact on Economic Diversity

Impact Name	Economic Diversity	
Environmental Risk		
Attribute	Pre-mitigation	Post-mitigation
Nature	Negative	Negative
Probability	4	4
Duration	4	4
Scale	3	3
Severity	8	6
Environmental Risk (Pre-mitigation)		60
		Moderate
Mitigation Measures:		
<ul style="list-style-type: none"> Focus on the support of non-mining related activities in community development programmes Focus on the development of the local tourist market in community development programmes Focus the local procurement programme on non-core mining inputs in Pilgrim's Rest with a broader regional market (e.g. catering, accommodation) If a supplier development programme is established, focus the programme on non-core mining inputs in Pilgrim's Rest with a broader regional market 		
Monitoring:		
<ul style="list-style-type: none"> As per the requirements of the SLP on an annual basis 		
Environmental Risk (Post-mitigation)		52
		Moderate
Cumulative Impacts		Yes
Other mining applications of TGME, other possible mining developments proposed by different applicants within the area, and other companies in TCLM have a cumulative impact on mining construction supplies		
Potential for residual risk		Low

9.2.2.6. Increased use of scarce natural resources

The mining sector is highly energy intensive relative to its economic output. In 2019 the South African mining sector only produced a GVA of R7,450 for every MWh of energy consumed compared to GVA of R 16, 500 for every MWh of energy consumed in the national economy at large. In contrast, the mining sector is relatively water efficient meaning that it produces a fair amount of GVA (R 530 at 2019 prices) for every cubic metre of water consumed compared to a national average of R200 (Connigarth, 2019 and Inglesi-Lotz et.al.,2011).

Table 25: Assessment of Impact on Resource Use

Impact Name	Resource Intensity	
Environmental Risk		
Attribute	Pre-mitigation	Post-mitigation
Nature	Negative	Negative
Probability	4	4
Duration	4	4
Scale	1	1
Severity	8	6
Environmental Risk (Pre-mitigation)		52
		Moderate
Mitigation Measures:		
<ul style="list-style-type: none"> • TGME to develop a strategy to cause minimal disruptions to electricity supply in the local area. For example, continue discussions with ESKOM to resolve supply of energy to the mine and use off-grid solutions until agreement for stable local supply is reached • Develop a resource use plan with the specific objective to minimize the mining operations' energy and water use as far as practical. For example, treated discharge water could possibly be used for irrigation purposes e.g. at the golf course and caravan park if such a proposal adheres to environmental regulations. • Ensure that water quality and quantity issues are managed appropriately through engineering controls and through regular and required quality and quantity groundwater monitoring • Mitigation measures of the Geohydrology and Surface Water Hydrology Impact Assessments must be strictly implemented. 		
Monitoring:		
<ul style="list-style-type: none"> • Annually as part of the resource use plan 		
Environmental Risk (Post-mitigation)		44
		Moderate
Cumulative Impacts		Yes
Other mining applications in the Blyde River Catchment, as well as agricultural and human settlement expansions in the Olifant's River catchment area.		
Potential for residual risk		Low

9.2.2.7. Potential influx of people to the project area

The formal inflow of workers coupled with an informal inflow of jobseekers to the area could start during the construction phase and peak just before operation and at the onset of operational activities.

Such an increase over a short timeframe could have negative impacts on the provision of infrastructure (water and sanitation, health, roads, accommodation, schools, and so forth) and services in the towns. Furthermore, the area is largely characterised by low-density, rural residential and farming areas or vacant land and the inflow of such a large workforce over time, apart from the normal increase can also introduce new social classes, together with densification, which could lead to discontentment.

During the operational phase of the mine, temporary, migrant, and/or foreign employees would require accommodation. This additional demand (depending on the number of locals that are employed) would place pressure on the existing housing infrastructure and settlement arrangements in the area within a very short period of time. Overcrowding, sub-letting, and the development of informal settlements could indicate that the increased housing needs have not been met.

The employment of locals will be a key mitigation measure to limit the increased pressure on the provision of accommodation, local infrastructure, and services and will assist to avoid social conflict and discontentment. It can further assist in limiting a continuous inflow of jobseekers for the entire Life of Mine. TGME indicates that 70 % of the workforce should be sourced from local residents.

The employment of locals as far as possible is thus critical. It would furthermore result in increased local purchasing power with vast indirect positive impacts for small businesses and entrepreneurs with even further trickle-down positive impacts for the local communities.

Table 26: Potential Population Change: Impact Assessment

Impact Name	Population Change	
Environmental Risk		
Attribute	Pre-mitigation	Post-mitigation
Nature	Negative	Negative
Probability	4	4
Duration	4	4
Scale	3	3
Magnitude	8	6
Environmental Risk (Pre-mitigation)		60
		Moderate
Mitigation Measures:		
<ul style="list-style-type: none"> • Prioritise recruitment of local labour as far as possible • Access skills databases currently being drawn up by local community representatives such as ward councillors and TCLM. • Develop a procurement strategy as well as a contractor management plan (if relevant) to ensure that local employment is enhanced as far as possible within the semi-skilled and skilled categories and that all elementary labour is recruited from local communities of the larger Pilgrim's Rest area, the larger Moremela area, Leroro, Mathibidi, Graskop and Sabie • Employment of locals would limit the negative impacts (e.g. Infrastructure requirements) associated with a sudden or additional population increase. • The local labour procurement strategy as well as proof of residence required should be clearly communicated through community structures well in advance. The communication strategy should ensure that unrealistic employment expectations are not created. • TGME to discuss the infrastructure requirements of the operational phase with the TCLM and DPWRT to pro-actively deal with the possible negative impacts • Maintenance of the roads frequently used by mine related traffic should be discussed and negotiated with the DPWRT. 		
Monitoring:		
Develop a procurement strategy to ensure that local employment is enhanced as far as possible within the semi-skilled and skilled categories and that all elementary labour is recruited from local communities		
Environmental Risk (Post-mitigation)		52
		Moderate
Cumulative Impacts		Yes
<ul style="list-style-type: none"> • Due to the lack of other major projects within the immediate vicinity of the project limited cumulative impacts from outside projects are foreseen in the local area 		

Impact Name	Population Change
<ul style="list-style-type: none"> • If construction activities however run parallel to the mine's operations this could have cumulative impacts that could specifically place pressure on the availability of skilled and semi-skilled labour • Other mining applications of TGME, other possible mining developments proposed by different applicants within the area, and other companies in TCLM have a cumulative impact on mining construction supplies 	
Potential for residual risk	High

9.2.2.8. Increase in nuisance factors (noise and dust)

Noise

Noise created by the mining activities and equipment, employees, and vehicular movement will have some impact on the rural, low-density environment with relatively low ambient noise levels. Due to the distances of sensitive receptors at the Frankfort mining site (e.g. Moremela), the impact in this area is anticipated to be of a low significance (with mitigation).

The significance of the impacts have been determined by the Noise Impact Assessment, but should be noted in context of the area being a historical mining area.

Traffic flow

Employees would have a daily commute from the local area, wider municipal area, and even the district. This can be undertaken via private vehicles and public transport (taxis and busses). The main roads in the local study area that would be affected are the R533 (Ohrigstad - Graskop - Pilgrim's Rest) and the R532 (Graskop - Moremela). The gravel road (D1056) between Pilgrim's Rest and Moremela would serve as a secondary road to access the Frankfort site from either Pilgrim's Rest or the Moremela area. The increase in the traffic will have an impact on travel time, the safety of the commuters, general community, cyclists, and pedestrians due to an increased accident risk, as well as on the movement of heavy vehicles making use of these.

According to the Traffic Impact Assessment, a maximum of thirty 25-ton trucks will travel between the Frankfort and CDM sites to the processing plant on a daily basis. This will result in three trucks per hour in both directions. Further trips to transport workers are estimated. Mining material will only be transported between the Beta North adit area and the processing plant (Infratrans, 2021), but the access road to the plant will also have to accommodate the vehicles from the Frankfort and CDM Mines. Overall, 12 additional vehicular trips per hour are expected at Frankfort and CDM mines and 24 trips per hour on the access road to the plant. These vehicle movements will result in an increase in the traffic volumes on these localised roads compared to the existing situation with resultant noise and dust impacts, as well as impacts on the road surfaces. Roads will be treated with Dust-A-Side to control the dust levels. Maintenance will be done on all roads daily

Dust

Dust from the above-mentioned vehicle movement on gravel roads and general mining activities could be a nuisance to surrounding land uses, as well as a potential health risk in worst-case circumstances. Dust fallout must be managed in line with the requirements of the EMPr.

Blasting

Blasting at the mining sites can have negative impacts on nearby structures or dwellings. Blasting could impact on property values if it was scientifically found to impact on the stability of the structures.

Blasting could furthermore result in disturbing negative noise impacts, especially in this rural type of area characterised by relatively low ambient noise levels. The Blasting Study that was undertaken indicated that the construction workers, residents of nearby communities such as Brown’s Hill, Darks Gully, Pilgrim’s Rest (residents and tourists), and Schoonplaas/Newtown will not be affected by blasting related noise and that the stability of infrastructure will not be affected.

Impact on sense of place

Sense of place relates to the way individuals and/or communities experience their living environment. This is not a static concept as it is influenced by past and present experiences and current perspectives, and thus has the potential to change over time and could have different relevance for various groups of people that share the same environment.

The northern areas fall under the jurisdiction of Tribal Authorities. Land Claims have also been awarded which indicate a strong traditional tie of residents with the area, associated with a rural sense of place and peacefulness. The mining activities and infrastructure could change the visual character and rural isolated ambiance of the study area and can contribute to lighting pollution at night. The surface infrastructure at the different mining sites, however, will be contained within relatively small areas and on previously disturbed mining footprints. Thus far there appears to be significant community support for the project.

Tourists can be classified as sensitive receptors focused on the scenery and sense of place. The undulating landscape and presence of large sections of forestry areas would also assist in limiting the visibility of some of the infrastructure. The Frankfort mining site is not located in close proximity to routes frequently used by tourists, and the CDM and Beta North mining areas can be mitigated by the hilly landscape.

Given the extent of this and the historical mining character within the Pilgrim’s Rest area, the overall impact on the sense of place would be of a moderate significance.

The permanent visual impact on property owners and other receptors in the area was further assessed as part of the Visual Impact Assessment.

Table 27: Nuisance Factors: Impact Assessment

Impact Name	Nuisance Factors	
Environmental Risk		
Attribute	Pre-mitigation	Post-mitigation
Nature	Negative	Negative
Probability	4	4
Duration	4	4
Scale	3	3
Magnitude	6	2
Environmental Risk (Pre-mitigation)		52
		Moderate
Mitigation Measures:		

Impact Name	Nuisance Factors
	<ul style="list-style-type: none"> Mitigation measures with regards to noise impacts as per the EIA Report should be implemented. All vehicles should be in a good condition and adhere to road-worthy standards. Maintenance of vehicles and machinery should be done regularly. Movement of mining-related vehicles to be scheduled outside peak traffic hours where possible. Mining site management to adhere to the Theta SHEQ requirements Dust control measures e.g. wetting of gravel roads to be implemented where feasible. Public Transport options to be provided to the employees during the operational phase of the project Positioning of lights to be carefully considered. The mitigation measures proposed by the Visual Impact Assessment must be implemented.
Monitoring:	
	<ul style="list-style-type: none"> Mining activities and site management to adhere to EMPr Monitor impact on residents of areas surrounding the sites.
Environmental Risk (Post-mitigation)	36
	Low
Cumulative Impacts	1
Medium	
Potential for residual risk	Medium

9.2.2.9. Impact on Community Health

Inflow of workers

In mining areas, there are concerns relating to migrant employees bringing health risks and nowadays the threat of Covid-19 infection to small towns. Pilgrim's Rest and surrounds, as well as the northern areas, are already characterised by vulnerable households and inadequate public health services that cannot always effectively deal with the health risks associated with the pandemic. With regards to the proposed mining, in-migration (controlled/formalised and uncontrolled/jobseekers) is anticipated which will have negative impacts on local residents. It will remain the responsibility of the authorities and the mining companies to continue their support to surrounding communities to reduce vulnerability.

Mining activities

Further concerns revolve around the possible public health impact of the general mining activities (including the tailings facility and waste rock dumps) on the health of the surrounding landowners and communities due to possible air/dust pollution (vehicle emissions, windblown particulates), as well as noise pollution and the impact on the water quality.

Care should, however, be taken to limit any possible health related impacts by striving towards international best practice.

Water quality

The possible impact on the water quality and quantity would remain of concern. The livelihood of community members within the area, as well as the timber industry in the area and the residents in the towns, depends on their water quality and quantity. Various households in the area were still depended on borehole water as well as on springs, rivers/streams to serve their daily needs. The issue of water and the possible impact on the water sources would remain a critical issue and needs to be addressed to avoid social mobilisation against the proposed project.

Should it be found that any pollution occurs, the existing health services as such would come under additional pressure, especially in light of the Covid-19 pandemic which also puts strain on the local health services.

As illegal miners are currently impacting on the water quality, the perception exists that formal mining would drive illegal miners out of the area with subsequent positive impacts on the water quality.

Hazardous substances

Not only the mining activities but also the storage of hazardous substances (diesel and explosives) on site creates safety risks. Even though all precautionary safety measures will be implemented with regard to the storage, transportation, and handling of these substances, this remains a concern.

It is thus clear that the way in which the mine attends to health and safety issues will influence the quality of life of the communities.

Table 28: Community Health: Impact Assessment

Impact Name	Community Health	
Environmental Risk		
Attribute	Pre-mitigation	Post-mitigation
Nature	Negative	Negative
Probability	4	2
Duration	4	4
Scale	3	3
Magnitude	6	6
Environmental Risk (Pre-mitigation)		52
		Medium
Mitigation Measures:		
<ul style="list-style-type: none"> • Prioritise recruitment of local labour as far as possible. • Reduce vulnerability by providing and supporting HIV/AIDS, TB, and Covid-19 awareness and support programmes • Covid-19 regulations to be adhered to and to be communicated to workers • The general health of workers should be monitored on an ongoing basis • Emergency action plans to be developed in consultation with localised health and emergency services • Dust control measures e.g. wetting of gravel roads to be implemented where feasible • Mining site management to adhere to the Theta SHEQ requirements. • The mine could, through LED programmes and infrastructure development assist in improving the overall health services within the communities • Continuous water monitoring to be undertaken at specific locations as determined by the relevant specialist studies. • Reporting on the water monitoring and the findings must be regularly undertaken through formalised communication channels. 		
Monitoring:		
<ul style="list-style-type: none"> • Mining activities and site management to adhere to EMPr • Site management to adhere to the Theta SHEQ requirements • No additional health services and infrastructure required 		
Environmental Risk (Post-mitigation)		26
		Low
Cumulative Impacts		No
None foreseen		
Potential for residual risk		Medium

9.2.2.10. Impact on community safety

Social conflict

Unfulfilled community expectations in terms of employment creation and the distribution of community development funds could cause discontent. Local residents must be employed to limit the inflow of outsiders..

Criminal activities

It could be argued that unemployment levels should decline substantially once mining starts and hence could have a positive impact on lowering crime rates in the local area. It could also be argued that as TGME would be resuming the active control of illegal mining activities in the neighbourhood, this could also reduce crime rates in Pilgrim's Rest and Moremela directly related to these illegal activities.

Overall, the mining activities will lead to an increase in the population profile which will likely have a negative impact on the crime rate in the towns. In some mining areas in South Africa, unemployment and crime rates have risen despite high rates of local employment growth.

Resettlement of Brown's Hill

Phase 2 of the expansion of the existing TSF will extend onto the Brown's Hill Settlement. The movement of mining vehicles, mining activities, as well as the increase in traffic on the access road, will create safety risks for the residents of this settlement. To limit the safety risks and impacts as a result of the expansion and mining activities, it is important that the resettlement of the Brown's Hill community be undertaken prior to the operational phase.

Resettlement of these residents would result in further negative impacts on their sense of place, their social networks, and their quality of life. It could include the following:

- Disruption in their small social network, and social relationships with possible negative psychological consequences;
- Loss of community cohesion and loss of "sense of place" by residents;
- Periods of uncertainty due to negotiations and finalisation of resettlement process; and
- Conflict between parties involved in the process and conflicting viewpoints/attitudes regarding resettlement within the community.

It should however be noted that positive economic implications could result for those residents that would be resettled such as:

- Proximity to work or employment opportunities;
- Proximity to amenities such as health and educational facilities;
- Closer proximity to the town of Pilgrim's Rest;
- Once resettled, infrastructural improvements such as proper housing facilities, as well as access to water and sanitation facilities could positively impact on their quality of life.

Resettlement and the process to be followed such as the compilation of a Resettlement Action Plan (RAP) and the actual resettlement of residents do not form part of the EIA process..

Illegal Mining

The communities in the study area put a high level of confidence in the fact that criminal activities and socio-economic problems created by illegal mining activities will be halted by formal mining activities.

Mineworkers and mine security could come into conflict with the existing illegal mining activities which could pose safety and security hazards for the mineworkers, as well as communities near these activities.

Fire Risks

Fires spreading from mining sites to forestry areas will result in severe negative financial impacts for the timber production companies.

Table 29: Community Safety: Impact Assessment

Impact Name	Community Safety	
Environmental Risk		
Attribute	Pre-mitigation	Post-mitigation
Nature	Negative	Negative
Probability	4	4
Duration	4	4
Scale	3	2
Magnitude	6	2
Environmental Risk (Pre-mitigation)		52
		Moderate
Mitigation Measures:		
<ul style="list-style-type: none"> • A comprehensive Resettlement Action Plan (RAP) must be developed in consultation with the affected inhabitants. This plan would include the number of dwellings and individuals to be affected, timeframes, and the availability of a site where resettlement could occur. • Representatives of the DPWRT and TGME must liaise with the inhabitants and local councillor with regard to the resettlement process and timeframes. This communication must further ensure that the correct information regarding this issue is portrayed to the community members. • It would be desirable to address issues relating to resettlement as a matter of urgency and also to provide definitive timeframes linked to any possible resettlement • Recruitment of local labour must be prioritised. • Unauthorised entry into the mining area must not be allowed. Access control should continue to be implemented. Mining areas must be secured and fenced. • Livestock should be moved to other grazing areas away from the mining activities. • The South African Police Service (SAPS) and forums such as the Mpumalanga Illegal Mining Stakeholder Forum and the DMR to curb illegal mining through their preventative measures that include: Demolishing illegal mining infrastructure; confiscating gold-bearing material; arresting illegal miners; deporting illegal immigrants; introducing of biometric scanners at mines; additional security guards at shaft entrances; inspection of material cars on shaft heads for food parcels and illegal entries; involving stakeholders, such as the surrounding communities at mines, businesses, and the local council, to participate in combating illegal mining; and establishing whistle-blower channels. • A Fire/Emergency Management Plan and associated communication channels should be developed and implemented (in conjunction with neighbouring landowners and timber companies operating in the areas surrounding the construction sites.) • Appropriate firefighting equipment should be on-site and workers should be appropriately trained for firefighting. • Visible policing in the settlements in close proximity to the mining sites is required. 		

Impact Name	Community Safety	
	<ul style="list-style-type: none"> Security teams to regularly patrol areas around mining sites. 	
Monitoring:		
	<ul style="list-style-type: none"> Mining activities and site management to adhere to EMPr Site management to adhere to the Theta SHEQ requirements Monitor levels of social conflict Monitor reports of criminal activities Monitor traffic movements of mining related vehicles and related accidents Review the functionality and efficiency of the Fire/Emergency plan in conjunction with the local emergency teams, mine management, and affected communities as well as neighbouring landowners (timber companies) 	
Environmental Risk (Post-mitigation)		44
		Moderate
Cumulative Impacts		No
-		
Potential for residual risk		Medium

9.2.3 DECOMMISSIONING AND CLOSURE

9.2.3.1. Introduction

Decommissioning refers to the actual closure of the mine, the dismantling of the infrastructure, and/or replacement of the infrastructure with newer technology. This would depend on the economic feasibility of the various options at that stage.

9.2.3.2. Decrease/cessation of employment

When the mining project nears the end of LoM, about 426 direct employment opportunities in the local economy will become redundant,. However, should there be other operational mining sites, the consideration of an internal transfer to these sites is highly considered in order to keep the percentage of unemployment as low as feasibly possible.

Table 30: Job losses due to scaling down of mining activities and mine closure

Impact Name	Job Losses	
Environmental Risk		
Attribute	Pre-mitigation	Post-mitigation
Nature	Negative	Negative
Probability	5	4
Duration	4	4
Scale	1	1
Magnitude	8	8
Environmental Risk (Pre-mitigation)		65
		High
Mitigation Measures:		
	<ul style="list-style-type: none"> As per the requirements of the SLP develop mechanisms to assist employees, prior to the retrenchment date in the transition phase and after the closure of the operations. This would include providing portable skilled development programmes during the operational phase of the mine, providing assistance in accessing available and suitable jobs with other local mines or companies, etc. 	

Impact Name	Job Losses	
<ul style="list-style-type: none"> Focus on supporting non-core local supply links in procurement strategies as well as potential local enterprise development programmes during the operational phases of the mine to facilitate easier transitioning of local suppliers to other customers 		
Monitoring:		
Through SLP on an annual basis two years before decommissioning		
Environmental Risk (Post-mitigation)	52	
Degree of confidence in impact prediction:	Moderate	
Cumulative Impacts	No	
None foreseen		
Potential for residual risk	Yes, the Workforce without alternative employment	

9.2.3.3. Termination of local social funds

The commitment with regards to the economic development of between R 4 million per annum is expected to cease over the course of the decommissioning and closure of mining operations. In addition, any other non-tacit support to government structures in the running of Pilgrim's Rest and other local areas will come to an end. The risk exists that projects and local government structures become dependent on the funding that they receive from the proponent and projects will fail and local governance could be negatively affected due to the decrease in funding.

Table 31: Decrease /termination of community investment funds to local communities

Impact Name	Termination of local development funds	
Environmental Risk		
Attribute	Pre-mitigation	Post-mitigation
Nature	Negative	Negative
Probability	5	5
Duration	4	4
Scale	1	1
Magnitude	8	6
Environmental Risk (Pre-mitigation)	65	
	High	
Mitigation Measures:		
<ul style="list-style-type: none"> Focus on community support programmes with that build local capacity and sustainability in the local community Plan projects with an exit strategy and follow a clear communication strategy with beneficiaries 		
Monitoring:		
Through SLP on an annual basis two years before decommissioning		
Environmental Risk (Post-mitigation)	55	
Degree of confidence in impact prediction:	Moderate	
Cumulative Impacts	No	
None foreseen		
Potential for residual risk	Yes, Workforce without alternative employment	

9.2.3.4. Permanent loss of agricultural land

According to the MWP (TGME,2021), the total mining area is 230 hectares of which 72 hectares will be developed for infrastructure. At 0,072 square kilometres the surface infrastructure represents less than 0,05% of the joint surface area of Wards 13 (1,055 sqm) and Ward 10 (1,098).

Table 32: Loss of Agricultural Land

Impact Name	Loss of Agricultural Land	
Environmental Risk		
Attribute	Pre-mitigation	Post-mitigation
Nature	Negative	Negative
Probability	4	2
Duration	5	5
Scale	2	2
Magnitude	2	2
Environmental Risk (Pre-mitigation)		36
		Low
Mitigation Measures:		
<ul style="list-style-type: none"> Dismantle infrastructure and rehabilitate as far as possible land to original land use 		
Monitoring:		
Through SLP on an annual basis two years before decommissioning		
Environmental Risk (Post-mitigation)		18
Degree of confidence in impact prediction:		Negligible
Cumulative Impacts		Yes
Previous/historic mining in the area		
Potential for residual risk		Medium

9.2.3.5. Nuisance factors

Noise

During the decommissioning phase, general decommissioning activities, similar to construction activities create different types of noise, such as noise associated with the movement of heavy vehicles, the reverse indicator of trucks, the loading or movement of material, and equipment, as well as the decommissioning activities. These types of noises would have different nuisance impacts on those within the construction site.

It is unlikely that the noise impacts will have negative impacts on nearby dwellings and residents within Darks Gully, Pilgrim’s Rest, and Schoonplaas/Newtown. Some negative noise impacts can be experienced at the Pilgrim’s Rest Golf course and by visitors at the Caravan Park. These noise impacts will be intermittent and of short duration.

It is unlikely that decommissioning at Frankfort Mine will result in noise impacts on neighbouring areas. It should also be noted that there are no sensitive receptors located near the site.

Dust

As with the construction phase, dust will be created by vehicular movement on gravel roads and some decommissioning activities. The dust fallout is not anticipated to have any long-term negative impacts on the health of residents.

Dust fall-out from the TSF can impact on the air quality for a long period after the actual decommissioning of above ground infrastructure. Proper rehabilitation according to the environmental regulations would have to address any possible negative impacts in this regard. Ongoing health risks for residents in Dark's Gully and Pilgrim's Rest can thus remain.

Impact on sense of place

Decommissioning of the above ground infrastructure will include re-vegetation of the area and the removal of mining related infrastructure. This can have a positive impact on the overall sense of place as the area can return to its pre-project state with less mining related infrastructure and visual impacts thereof. Rehabilitation of gravel haul roads will be a long process and the visual impacts in this regard will remain for some time after decommissioning of the infrastructure. Rehabilitation will be undertaken at the TSF, but the impact on the sense of place will remain in the long term.

The end land use has not yet been determined, but it is usually the aim of the rehabilitation process to rehabilitate the land back to its original grassland status. Consultation with landowners as part of the finalisation of the rehabilitation plan and end-land use is thus important to determine what is required from an environmental perspective but to also address localised community needs.

If the rehabilitation is not successful, negative permanent visual impacts would remain.

Table 33: Nuisance Factors: Impact Assessment

Impact Name	Nuisance Factors	
Environmental Risk		
Attribute	Pre-mitigation	Post-mitigation
Nature	Negative	Negative
Probability	4	2
Duration	3	3
Scale	2	2
Magnitude	6	6
Environmental Risk (Pre-mitigation)		44
		Moderate
Mitigation Measures:		
<ul style="list-style-type: none"> • Dust control measures to be implemented on gravel roads during the active decommissioning phase • Mining areas should be rehabilitated as soon as the Mining Works Programme allows • The recommendations made by the Visual Impact Assessment should be adhered to • Mining infrastructure must be removed or where applicable should be maintained and incorporated into a mining tourism strategy • Re-vegetation and landscaping options should be considered but should aim to re-establish the area to its pre-mining state as far as possible. • The end land use should be determined in consultation with the local community and relevant government departments to determine what is required from an environmental perspective but to also address localised community needs. • On-going dust fall out monitoring must be undertaken to monitor emissions • Pollution control measures must be implemented over a long period of time • The TSF must be stabilised, rehabilitated or removed to prevent erosion 		
Monitoring:		
<ul style="list-style-type: none"> • Decommissioning activities and site rehabilitation to adhere to EMP and Rehabilitation Plan 		

Impact Name	Nuisance Factors	
	<ul style="list-style-type: none"> Monitor impact on residents of areas surrounding the sites. 	
Environmental Risk (Post-mitigation)		22
		Low
Cumulative Impacts		None
-		
Potential for residual risk		Medium

9.2.4 Community safety

Some residual environmental impacts might pose safety risks to the local communities close to the mine including the risk of sinkholes, and subsidence due to historical underground mining, ground or surface water pollution, as well as illegal mining activities, continuing in the area.

Illegal Mining

Once formal mining ceases, the risks remain that illegal miners can either continue their illegal activities or return to the area to again mine at the adits that were re-established as part of the underground mining activities of TGME.

Such illegal mining activities will again create community safety risks and can result in the unauthorised sub-letting of rooms or houses to these foreigners.

Financial provisions must include funds for additional safety and security to be established once rehabilitation of the sites has been completed.

Health risks and concerns

Closure and decommissioning of a TSF can continue to release harmful substances through seepages and windblown dust. Pollution of soils and water resources (e.g. boreholes, and the Blyde River) would therefore remain a concern as contaminants can affect the downstream water quality with further impacts on the health of communities and downstream farming activities. Inhalation of windblown dust could also continue to cause health risks.

These types of waste facilities must be properly attended to through pollution control systems and rehabilitation measures. It would thus be imperative to ensure public health and safety through compliance with environmental standards and regulations. Possible seepage, impacts on ground water quality, air quality, and radioactivity compliance levels must be monitored and sufficiently addressed.

The main objective during decommissioning and rehabilitation would be to ensure a safe facility that is stable and non-contaminating, with minimal requirements for ongoing maintenance after closure.

Table 34: Community Safety: Impact Assessment

Impact Name	Community Safety	
Environmental Risk		
Attribute	Pre-mitigation	Post-mitigation
Nature	Negative	Negative
Probability	4	4
Duration	4	4

Impact Name	Community Safety	
Scale	3	2
Magnitude	6	2
Environmental Risk (Pre-mitigation)	52	
	Moderate	
Mitigation Measures:		
<ul style="list-style-type: none"> Rehabilitation and closure must ensure that the future risk of failure to the environment and public is reduced The TSF must be rehabilitated to minimise the seepage of contaminated water to the surface and ground water sources The TSF must be stabilised and rehabilitated to prevent erosion Pollution control measures must be implemented over a long period of time On-going dust fall-out monitoring must be undertaken to monitor emissions after rehabilitation of the areas in line with the requirements of the Air Quality Assessment. Long-term security measures must be implemented to avoid unauthorised entry to decommissioned sites and to prevent illegal miners from entering these areas. 		
Monitoring:		
<ul style="list-style-type: none"> Decommissioning activities and site rehabilitation to adhere to EMP Monitor reports of criminal activities and illegal mining activities 		
Environmental Risk (Post-mitigation)	32	
	Low	
Cumulative Impacts	No	
-		
Medium: Where the impact can result in irreplaceable loss of resources.		
Potential for residual risk	Medium	

10. SUMMARY AND CONCLUSION

The socio-economic impacts of the proposed project are summarised below. The table shows that most socio-economic impacts are rated low to medium before mitigation apart from the closure risks of job losses and loss of social funds. The latter two risks are particular to mining projects that play a large role in local economies and could be mitigated to moderate risks.

The project is expected to bring moderate advantages to the local and regional economy during the construction and operational phases due to local employment creation and an increase in social spending (including taxes and local economic development funds).

Table 35: Summary of Socio-Economic Impacts

Socio-economic Impact	Phase	Significance of Impact	
		Pre-mitigation	Post-mitigation
Employment and income generation	Construction	Moderate (52) +	Moderate (62) +
Project induced in-migration	Construction	Moderate (52) -	Moderate (44) -
Nuisance factors	Construction	Moderate (48) -	Low (22) -
Community health risks	Construction	Low (26)-	Negligible (18)-
Safety and Health Risks	Construction	Moderate (52) -	Low (36) -
Local employment and income	Operations	Moderate (52) +	Moderate (62) +
Increase in Public revenues	Operations	Moderate (48) +	Moderate (56) +
Impact on non-mining sectors	Operations	Moderate (52) -	Low (36) -
Decline in economic diversity	Operations	Moderate (60) -	Moderate (52) -

Socio-economic Impact	Phase	Significance of Impact	
		Pre-mitigation	Post-mitigation
Impact on resource use (mainly energy)	Operations	Moderate (52) -	Moderate (44) -
Project Induced in-migration	Operations	Moderate (60) -	Moderate (52) -
Nuisance factors	Operations	Moderate (51) -	Low (36) -
Impact on community health	Operations	Moderate (52) -	Low (26) -
Impact on community safety	Operations	Moderate (52) -	Moderate (44) -
Loss of jobs	Closure	High (65) -	Moderate (52) -
Decrease/Termination of social funds	Closure	High (65) -	Moderate (52) -
Permanent loss of agricultural land	Closure	Low (36)-	Negligible (18)-
Nuisance factors	Closure	Moderate (44) -	Low (22) -
Impact on community safety	Closure	Moderate (52) -	Low (36) -

As indicated in the table above, the Project is expected to have both positive and negative socio-economic impacts on the local environment. The most critical negative impacts that can be highlighted are:

- The potential negative impacts associated with the construction phase are typical of general construction-related projects. These relate to the inflow of jobseekers, impact on daily living and movement patterns of nearby residents (e.g. noise pollution, increased vehicle movement and so forth), as well as safety and security issues.
- The inflow of workers to the different mining sites and subsequent intrusion impacts would mainly be felt by the residents of the northern areas such as Moremela, Leroro and Mathibidi, but even more so in Pilgrim's Rest, Schoonplaas/Newtown and Darks Gully. These settlements are in close proximity to the mining sites and activities.
- The inflow of jobseekers is difficult to mitigate and control, but it is expected that through proper communication on the recruitment methods and by the employment of local community members this impact can be mitigated to some extent.
- The social impacts associated with an inflow of a workforce and jobseekers (temporary and permanent), however, also in nearby towns such as Pilgrim's Rest, and Graskop. In this regard, the impacts could be minimised should local residents be employed.
- Development of the various mining sections and the associated change in the population profile will increase the pressure on the provision of infrastructure, especially housing, and services in the area. This could have further far-reaching impacts on the entire northern region of the study area, the town of Pilgrim's Rest, Schoonplaas/Newtown, and Darks Gully. The employment of locals must be pursued to mitigate this negative impact.
- A Resettlement Action Plan needs to be developed for the Brown's Hill Community (approximately 10 permanent residents) and the proposed process and possible implications should be discussed with the residents of the Brown's Hill Community.
- The proposed project could result in illegal mining extending to other areas not used for mining. It is unlikely that illegal mining in the area would be successfully halted, but through the proposed project it should be aimed to minimise illegal mining as far as possible.
- The mining project should be to the benefit of the overall community and not only for select individuals. The implementation of social services support and LED programmes should thus take this requirement into consideration.

- The socio-economic development programmes and efforts should aim to establish an additional employment sector, create food security, develop infrastructure and even provide support to agricultural projects.

In conclusion, the proposed Project is in line with development priorities to support the mining sector in the district and province. The project should also be considered within the broader context of the negative economic impacts of the COVID-19 pandemic and the slow recovery anticipated for the South African economy. In this context, the proposed project will make a significant positive contribution to providing much needed employment opportunities and tax income, not only for the local but also for the larger regional and national economy. Based on the findings of the socio-economic impact assessment for the project it is therefore recommended that the proposed Project be approved.

11. SOURCES

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11.2 INTERVIEWS

Person interviewed	Institution	Interview date
Quinton Lawrence	Councillor Ward 10	19 January 2022
Joseph Khumalo	Ward Committee member: TCLM	19 January 2022

Person interviewed	Institution	Interview date
Timothy Mashile	Maorabajang CPA	19 January 2022
Dell Mapahango	Councillor Ward 10	19 January 2022
Phiona Khoza	Pilgrim's Rest Community Board	20 January 2022
Lorraine Phiri	Pilgrim's Rest Community Board	20 January 2022
Jeofrey Phelepe	Pilgrim's Rest Community Board	20 January 2022
Cornelius Mohlala	Councillor Ward 8	1 February 2022
Gregory Mashile	Councillor Ward 9	1 February 2022
Rene and John Reinders	Business owners – the Vine and Johnny' pub	19 January 2022
Bruce Esser	Ponieskrants pottery	19 January 2022
Juanita Philpott	Highwayman's Garage and Clewer General dealer	19 January 2022
Leone Oosthuizen	Pancakes at the Stables	31 January 2022
Dirk Swart	Pilgrim's Place	19 January 2022
Samantha van Niekerk	Business owner: Kozulus	19 January 2022
Llewelyn Baarten	Kruger on Sabie (Caravan Park)	19 January 2022
Christina Mbenga	Pilgrim's Rest Info centre	19 January 2022
Ward 13 Steering Committee members (Clinton Mabana / Kgaugelo Shima / Joseph Khumalo)	Ward 13 Steering Committee	19 January 2022
Pretty Makubedu	Mpumalanga Public works, Roads and Transport	7 February 2022
Johan Mdaka (Manager)	Royal Hotel	31 January 2022

APPENDIX 1: DETAILED CURRICULUM VITAE OF ECONOMIC SPECIALIST

Profession:	Economic Specialist	Development	Name of firm:	Southern Economic Development
Years of Experience:	20 years			

KEY QUALIFICATIONS

- Economic impact assessments
- Applied economics (macro-economic and social impact analysis, economic cost-benefit analysis, economic incidence analysis, scenario planning)
- Skills development in development profiling and strategies
- Economic databases & economic reviews
- Local social and economic development strategies
- Industry and market analysis
- Analyses of higher education systems in Africa (analyses of demand and supply factors)

EDUCATION

1985:	B. Admin (Hons) (Economics) (University of Pretoria)
1992:	M. Admin (Economics) (University of Stellenbosch)

EXPERIENCE RECORD (1998- current): Examples of similar projects

Socio-Economic impact analyses:

- High-level economic impact assessment for various projects (including tourism projects) related to the mine closure programme for Sishen Mine, Northern Cape (South Africa (2019)
- High level economic impact assessment including economic cost-benefit assessment, direct and flow-on impacts for a number of tourism projects for the national tourism department South Africa (2018)
- Cost-effectiveness assessment of a space technology applied for early fire detection in South Africa (BDO-UK, 2018)
- Socio-economic impact assessment of the Animal Health Technology Innovation Programme of the Technical Innovation Agency, South Africa (2017)
- Socio-economic impact assessment for the Cape Health Technology Park (South Africa (2016)
- Socio-economic impact assessment for the closure of Ezulwini gold mine, Gauteng (2016)
- Socio-economic impact assessment for Rustenburg Smelter Ferrochrome Complex, Northwest (2016)
- Socio-economic impact assessment of the Cape Health Technology Park, Western Cape (2016)
- Socio-economic impact assessment for route selection of power lines in Mpumalanga (2016)
- Study lead for revenue management study, entailing the identification of mitigation strategies related to project-related revenues (employment and public revenues) for a large-scale gas project for Anadarko petroleum in Mozambique (2012-2014)
- Socio-economic impact assessment for Jeanette mine, Free State (2015)

- Economic Study for a waste disposal site in Tshwane, Gauteng (2014)
- Economic impact assessment as part of Social Impact Assessment (SIA) of a Glencore/Xtrata chrome mine in Rustenburg, Mpumalanga (2014)
- Economic impact assessment as part of Social Impact Assessment (SIA) for the extension of a mining right application for Boschmanspoort coal mine in Mpumalanga (2014)
- Economic impact assessment as part of Social Impact Assessment (SIA) for a casino/retail project in Delmas, Mpumalanga (2014)
- Economic Study for a private regional landfill in the Ga-Rankuwa area of the City of Tshwane (2014)
- Economic impact assessment as part of SIA for a CFB coal plant in Delmas area, Mpumalanga, South Africa (2013)
- Economic impact assessment as part of SIA of a coal mine in Chrissiesmeer, Mpumalanga, South Africa (2013)
- Economic impact assessment as part of SIA for an existing vanadium mine in the Brits area (2012)
- Economic impact assessment as part of SIA for selected wind farms and solar plants in the Northern Cape, Sivest (2012)
- Economic impact assessment as part of SIA for a diamond mine in Alexander Bay area, West Coast, South Africa (2012)
- Measured the impact of the global financial crisis on the mining industry of 8 SADC countries including South Africa (SADC countries; 2009)
- Conducted an analysis of the economic contribution of state-owned enterprises to the Namibian economy (Namibia; 1999 and 2009)
- Conducted a socio-economic impact analysis for the development of an Africa centre and sustainable housing development project in the Western Cape (South Africa; 2007)
- Developed economic criteria for the evaluation of projects for the Strategic Infrastructure Programme (SIP) for the Western Cape Province (2005)
- Conducted the economic evaluation of an infrastructure project in the Mosselbay area (South Africa; 2001).
- Economic impact assessment for horse-mackerel industry (Namibia 2003)

APPENDIX 2: DETAILED CURRICULUM VITAE OF SOCIAL SPECIALIST

Name: Ingrid Helene Snyman
Profession: Social Development Consultant **Name of firm:** Batho Earth
Years of Experience: 20 years

KEY QUALIFICATIONS

- Social Impact Assessment (SIA)
- Public Participation programmes
- Communication, development of community structures, and community facilitation
- Community-based training and
- Workshop reports

EDUCATION

1992: B A (Political Science) University of Pretoria
1995: B A (Hons) Anthropology University of Pretoria
1996 - 1997: Train the Trainers Centre for Development Administration - UNISA

EXPERIENCE RECORD

2000 to date **Independent Development Consultant: Batho Earth**

Mining Industry

- SIA for the proposed Vandyksdrift Central (VDDC) Mining: Infrastructure Development, Mpumalanga (ongoing)
- PPP for the development of various additional listed activities at the Dwarsrivier Chrome Mine, near Steelpoort, Limpopo Province
- SIA and Public Participation for the proposed Project 10161 and Project 10167 (Gold Mining) by Stonewall (Pty) Ltd., near Sabie and Pilgrims Rest, Mpumalanga
- SIA for the proposed Tharisa Mine UG1 Project, near Marikana, Northwest Province
- SIA for the Manganese Mine Northwest of Hotazel, Northern Cape (Mukulu Environmental Authorisation Project)
- SIA for the proposed South32 SA Coal Holdings Middelburg Colliery Environmental Management Plan (EMP) and Water Use Licence (WUL) Application Project (Life of Asset Open Cast Expansion and Dispatch Rider Project), Middelburg, Mpumalanga
- SIA for the proposed Manganese Mine on the Remaining Extent of the Farm Paling 434, Northern Cape Province: Revision and Amendment of Existing Approved Environmental Management Programme (EMP) For A Mining Right
- SIA and Public Participation for the proposed Western Bushveld Joint Venture Project (Maseve Platinum Mine), Northwest Province
- Public Participation for Sable Platinum for the proposed prospecting application on the farm Doornpoort, Pretoria, Gauteng
- Public Participation for the prospecting application on the farms Frischgewaagd and Kleinfontein, Mpumalanga Province for PTM

- SIA to determine the impact of the Tharisa Mine on the neighbouring properties and property owners, Buffelspoort area, near Marikana, Northwest Province
- Public Participation for the prospecting application on the farm Klipfontein, Gauteng for PTM
- SIA as part of the Basic Assessment for the extension of the Komati coal stockyard, Mpumalanga
- SIA for the proposed Dorstfontein Mine Western Expansion Project, Kriel, Mpumalanga
- SIA for the proposed Grootboom Platinum Mine, Steelpoort, Limpopo Province
- SIA for the proposed Dorstfontein Mine Expansion Project, Kriel, Mpumalanga

Bulk Infrastructure and Supply

- SEIA for the proposed K43 Road Construction near Lenasia, Gauteng (ongoing)
- SIA for the proposed Mangaung Bus Depot for the Integrated Public Transport Network (IPTN) in Bloemfontein, Free State
- SEIA for the proposed Greenwich Landfill Site, Newcastle, KwaZulu Natal
- SIA for the proposed Mangaung Gariep Water Augmentation Project, Free State
- SIA for the proposed development of the new Tshwane Regional General Waste Disposal Facility (Multisand Landfill), Pretoria, Gauteng Province
- SIA as part of the Basic Assessment for the proposed K97 Road northbound of the N4 at Bon Accord and investigation with regards to the possible resettlement of business premises, Pretoria, Gauteng
- SIA for the proposed extension of the Wemmershoek Wastewater Treatment Works (WWTW), decommissioning of the Franschoek WWTW, and construction of a transfer and outfall sewer between the two works, Franschoek, Western Cape
- SIA for the proposed Lefaragathle, Mogono, Rasimone, Chaneng outfall sewer, and Chaneng sewer treatment plant, Rustenburg (Phokeng), Northwest Province
- SIA for the proposed upgrading of railway stations and railway lines for Metrorail in Mamelodi, Gauteng
- SIA for the proposed ACSA Remote Aprons Project, O.R. Tambo International Airport, Gauteng
- Public Participation and SIA as part of the Environmental Scoping Study for the proposed upgrading of the Waterval Water Care Works

Ecosystem Services Review

- Proposed Ngonye Falls Hydro-Electric Power Plant Project, Western Province, Zambia: Biodiversity Assessment: Stakeholder Engagement Plan and Social Assessment for the Ecosystem Services Review (ESR)

Projects related to electricity generation, transmission, and distribution

- SIA for the proposed Crowthorne-Lulamisa power line, Midrand, Gauteng
- SIA as part of the Basic Assessment for the proposed Crowthorne Underground Cable, Gauteng
- SIA as part of the Basic Assessment for the proposed Diepsloot East Servitude and substation, Gauteng
- SIA for the proposed Mitchells Plain-Firgrove-Stikland Transmission Line project and investigation with regards to the possible resettlement of individuals within Mitchells Plain, Western Cape

- SIA for the proposed 400 kV Transmission Power Line for approximately 10km to the west of the existing Marathon Substation and possible resettlement of homesteads, Nelspruit area, Mpumalanga
- SIA as part of the Basic Assessment for the proposed construction of a 400 kV transmission line between the Ferrum substation (Kathu) and the Garona substation (Groblershoop), Northern Cape Province
- SIA as part of the Basic Assessment for the proposed construction of the Eskom Rhombus-Lethabong 88kv Powerline and Substation, Northwest Province
- SIA for the proposed Aberdeen-Droerivier 400 kV Transmission Power Line, Eastern, and Western Cape Province
- SIA for the proposed Houhoek Substation Upgrade and Bacchus-Palmiet Loop-In and Loop-Out, near Botrivier, Western Cape Province
- SIA for the proposed Arnot-Gumeni 400 kV Transmission Power Line, Mpumalanga
- SIA for the proposed Aggeneis-Oranjemond Transmission Line project, Northern Cape Province
- SIA for the proposed Ariadne-Venus Transmission Line, KwaZulu Natal
- SIA for the proposed Dominion Reefs Power Line project, Northwest Province
- SIA for the proposed Kyalami Strengthening Project, Kyalami, Gauteng
- SIA for the proposed Apollo Lepini 400 kV Transmission Line Project, Tembisa, Gauteng
- Public Participation for the proposed new Medupi (then referred to as Matimba B) coal-fired power station in the Lephalale area, Limpopo Province
- Public Participation and SIA for the proposed Poseidon-Grassridge No. 3 400 kV Transmission line and the extension of the Grassridge Substation, Eastern Cape Province
- Public Participation and SIA for the proposed construction of power lines between the Grassridge Substation (near Port Elizabeth) and the Coega Industrial Development Zone, Eastern Cape Province
- Public Participation and SIA for the Matimba-Witkop No. 2 400 kV Transmission line in the Limpopo Province

Photovoltaic and Wind Energy Facilities

- SIA for the proposed Christiana PV facility on the farm Hartebeestpan, Northwest Province
- SIA for the proposed Hertzogville PV facility on the farms Albert and Wigt, Free State Province
- SIA for the proposed Morgenzon PV facility on the farm Morgenzon, Northern Cape Province
- SIA as part of the Basic Assessment Process for the Exxaro Photovoltaic Facility, Lephalale, Limpopo Province
- SIA for the Upington Solar Energy Facility, Northern Cape Province
- SIA for the Kleinbegin Solar Energy Facility, Northern Cape Province
- SIA for the proposed Ilanga solar thermal power plant facility on a site near Upington, Northern Cape Province
- SIA and public participation for the proposed Karoo Renewable Energy Facility, Northern Cape
- SIA for the Wag'nbiekiespan Solar Energy Facility, Northern Cape Province
- SIA for the proposed Kathu and Sishen Solar Energy Facilities, Northern Cape Province
- Public Participation and SIA for the proposed Thupela Waterberg Photovoltaic Plant, Limpopo Province
- SIA for the proposed Kannikwa Vlakte Wind Farm Project, Northern Cape

Township Developments

- SIA for the proposed Wildealskloof Mixed-Use Development near Bloemfontein, Free State
- SIA for the proposed Mixed Land Use Township Establishment on the Remainder of Portion 406 of the Farm Pretoria Town and Townlands 351 JR, and investigation with regards to the possible resettlement of households, Salvokop, Tshwane CBD
- SIA for the proposed Mixed Land Use Development situated on the Remainder of Allandale 10 IR, known as Rabie Ridge Ext 7, Midrand, Gauteng
- SIA as part of the Basic Assessment for the proposed development of Project One (1) of the Vosloorus Extension 9 High-Density Housing Project, Ekurhuleni Metropolitan Municipality
- SIA for the proposed Mapochsgronde Residential Development, Roossenekal, Limpopo Province
- SIA for the proposed Cullinan Estate Development, Cullinan, Gauteng
- SIA for the proposed Vlakfontein Residential Development and investigation with regards to the possible resettlement of individual households, Brakpan, Gauteng
- SIA for the proposed township development/eco-estate on the farm Grants Valley, Eastern Cape

Public Participation

- Public Participation for Dwarsrivier Chrome Mine (Pty) Ltd.: Environmental Authorisation Application for various Listed Activities at the Dwarsrivier Chrome Mine, Near Steelpoort, Limpopo Province (ongoing)
- Public Participation for the proposed piggery near Modimolle, Limpopo Province
- Public Participation for the proposed development of a Truck Stop, Buffelspoort, Northwest Province
- Public Participation for the upgrading of the Menlyn Road Network and the investigation, as well as negotiations with regards to the resettlement of households, Pretoria, Gauteng
- Public participation and SIA for the proposed Platinum Highway Project from the N1 (Gauteng) to the Botswana Border (Northwest Province), including investigations with regard to the possible resettlement of individual households
- Public participation assistance for the proposed construction of a brewery and associated industrial activities for Heineken Supply Co (Pty) Ltd, Kempton Park, Gauteng.

APPENDIX 3: FIELD TRIP REPORT

A. BACKGROUND:

The SEIA project team undertook a visit to the local area including visits to Pilgrim's Rest town, Graskop and Moremela from 18 to 21 January 2022 as well as follow-up telephonic interviews. The field trip consisted of:

- A walkthrough through Pilgrim's rest historic town (including interviews with various local businesspeople)
- A field visit to Moremela
- Interviews with various local representatives from the different wards relevant to the local area of MR86

B. WALKING THROUGH DOWNTOWN AND UPTOWN PILGRIM'S REST:

- Since September 2020 the local business forum has been more active and formalised
- Only 8 formal businesses do not have owners (2 Downtown; 6 uptown)
- The business sector of Pilgrim's Rest in general feels positive about the mine

Downtown businesses (from south to north):

1. Thelwalls museum (only open in afternoons) – public works?
2. Ponieskrants pottery (Bruce Esser) currently consists of an owner and 3 people working for him– there were 6 employed people before ownership changes. They changed their whole product range away from the international tourist market and current market online to sell elsewhere in SA. He took over the business just before COVID-19 lockdowns. Still, sort-off survives
3. 16 informal stalls – only 4 open
4. Pilgrim's pantry – still operational
5. Highwayman's Garage and
6. Clewer General dealer. They survived COVID-19 due to locals from Lydenburg and Ohrigstad supporting the local tourism industry. The mine will be a boon to the town. Currently, they stock bare essentials but could diversify. Informal stalls most badly affected



Photo: Clewer General Dealer also owns Highwayman's Garage. A proposal to install an ATM in town (and in Clewer who owned one of the few cement buildings in town) was recently rejected by Clewer since the robbery and sabotage risk is too high for them. The scale advantages for an ATM are

also considered to 0 low at present with the limited number of current visitors.

7. Leather shop on the other side of the road- is still operational
8. General dealer (small blue building below) – no owner currently and not operational



9. Pilgrim's Place – 1 worker and 1 owner – the business sell locally produced (jams, fudge, etc) – struggle to stay afloat.
10. General dealer - operational
11. Pub-restaurant (below)- was planned as a community bakery but due to fire risks was closed down- the building needs revamping before it can be operational again



12. 11 Informal stalls – only 4 open (below)



13. The vine and Johnny's pub (8 workers and 3 owners). Rene and Johnny Reinders. They retained their workers during COVID-19 as did most of the formal businesses (apart from

Ponieskrantz that changed ownership). Mpumalanga tourists and from further afield in South Africa kept them afloat during COVID-19. December 2021 the business did not bear the severe impact of COVID-19 as much. They are positive about the mine, only concerned about traffic and water quality (although illegal miners already are compromising the water quality to the detriment of the angling industry in the area). Around 200-300, Zama-Zama's entered the area in the past 3 years (up from 80 some 2 years ago). Social services in the town are OK, and Newtown has 3 general dealers. Public works in general do respond to their needs but have severe funding constraints. The High School and Primary School have 230 and 455 learners respectively.

14. Kozulus – 1 owner and 1 worker – also owns the film studio at the back (Samantha van Niekerk). Local tourism was not that bad even during COVID-19 and her shop was always more dependent on locals anyway.

The Caravan Park:

Kruger on Sabie (Llewelyn Baarten) – a private company whose owner is Mbombela took over a 20-year lease and is waiting for water license approval. The company plan to have the Caravan Park up and running by mid-2022. The buildings are currently in disrepair (see below). No work has been done yet by January 2022. Llewelyn plans on constructing 176 stands and revamping the swimming pool area etc. He is concerned about noise from trucks and cars on the road that could spoil the rustic experience for campers. He thinks he might employ an estimate of 10 people. The lease agreement is for approximately 10 years however the lease is on renewable terms. ~~He needs to pay for the renovations.~~ The costs to be incurred will be the responsibility of Llewelyn according to the lease agreement and can be recuperated by capital expenditure through business income – Llewelyn currently rents the space from Public Works. All the permanent structures are abluition blocks apart from one office building. He could sign an agreement with the mine to provide temporary accommodation (container houses) on one section of the property if they are interested. Contact with the mine is yet to be made by Llewelyn.





UPTOWN from north to south):

1. Mountain View B&B (operational)
2. Bertha's B&B (operational)
3. Dredzen museum (public works operations)
4. 11 stalls on the other side of the road (only 5 operational)
5. Scott's café (operational times vary during the week)
6. Victorian cottage – public works ops (opposite side of the road)
7. Old Bank - public works operations (opposite side of the road)
8. House Museum- public works operations (opposite side of the road)
9. Arts and Crafts (operational) (opposite side of the road)
10. African crafts (not operational- closed) (opposite road)
11. Info centre. Spoke to Christina Mbenga (opposite road) December 2021 visitor numbers increased from the previous year (791 visitors per month) although still much lower than the pre-Covid figures of 2000 plus visitors per month. The average number of visitors per month is currently 500; before COVID it varied between 800 to 900 visitors per month
12. The Stables/Pancakes (Leone Oosthuizen) opposite road. Had 3 employees but laid off 2 employees during COVID-19. 2 downtown businesses without owners and 3 uptown businesses – officially 5 and 2 businesses more that have people that tendered but without any agreement on any tenders that were submitted. The Mine will only have a positive influence. If the mine wants to support the town, they will assist the business chamber in the upkeep and maintenance of the place, e.g., providing workers to assist during clean-up periods, the filling of potholes, cutting grass, and so on. Public Works are not currently upholding the maintenance but rather the business chamber.
13. Garage museum - public works operations (opposite side of the road)
14. Apothecary museum- public works operations (opposite side of the road)
15. Pilgrim's hotel annex (opposite side of the road) (operational)



16. 18 informal stalls – only 5 operational



17. Post Office (operational)

18. Royal Hotel – Chester Mtombeni MRTT Mpumalanga Regional Tourism Trust operated the RH on behalf of Mpumalanga Tourism -95% overseas market. The initial employment amounted to 60 employees but unfortunately, they had to downscale to 53 employees due to the salaries that could not be met. Bonn local hotel group wants to take over the hotel – this motion is still in the negotiation phase. Johan Mdaka (manager) – had a 17% occupancy rate in December 2022 and only 5% in Feb 2022. The RH and its annexes currently consist of 50 room capacity. The restaurant is also experiencing a quiet phase in business although the restaurant luckily still receives visitors other than just hotel guests.



Photo: The street before the Royal Hotel was neat but quiet during the field trip with limited visitors observed over the 3-day field trip

19. General store – not operational (closed)
20. Liquor store (operational)
21. 11 stalls (only 3 open)
22. Store (operational)
23. News agency (operational)
24. Shop (operational)

C. FIELD TRIP TO MOREMELA:



Photo: Houses in Moremela



Photo: A popular multi-purpose sports stadium in Moremela with Lerero houses in the background



Photo: Primary School in Moremela

D. INTERVIEWS:

WARD 10 COUNCILLOR (Quinton Lawrence 8:00 Royal Hotel Wednesday 19 Jan 2022)

- Include wards 8, 9, and 10 on top of ward 13
- Only Sabie has a hospital



Photo: Sabie Hospital described as the 'worst hospital in the province in 2015

- People shop in Graskop and Sabie (everyday non-durables) and further afield Mbombela for large articles
- There is a PHC clinic in Graskop and Pilgrims Rest and Bourkes' Luck (Moremela)
- Still no ambulance service available
- The nearest hospitals are at Sabie and Mothibidi
- There is currently 85% unemployment in Moremela; Grants are the main source of income
- They are busy compiling a database of SMME's and unemployed individuals with skills. There are various skilled labourers but without documentation to indicate skills. Community members have mining-related skills, and some have worked at mines in Marikana and Burgersfort area
- The area has seen some population growth since the closures of mines in other areas – thus people moving to their area in search of employment OR some individuals coming back after working in other mining areas.
- In Graskop, there are restaurants and a wooden pellet production factory close to Graskop,
- people coming in from Ohrigstad to do road construction
- Restaurants in Graskop decreased from from 30-40 down to only five
- Numerous curio sellers as well as spaza shops severely affected during COVID-19 as they received mostly international tourists which went down to almost '0' during Covid-19
- Moremela has some spaza shops, but this sector employs select individuals only – no real opportunities there
- There was road construction in 2021 and is still continuing – has some employment opportunities
- Very few individuals are employed in the forestry industry e.g., Safcol and York. Employs approximately 10 individuals from the ward. These industries use outside contractors from e.g., Mbombela and further afield
- Migrants from as far as Mozambique, Zimbabwe, and Bushbuckridge enter the area
- Illegal mining in ward 9 is close to Colvyn's pass – mostly foreigners from Lesotho, Zimbabwe, and Mozambique
- Illegal miners stay in the local area and sub-let from locals – the only source of income for some individuals is to sub-let
- People from Pretoria and Joburg buy the illegal gold
- Pressure on illegal miners will most likely create spill-over into forestry areas
- Some local people worked at Marikana and Barberton mines and are now returning home
- No prior skills recognition but there are mining skills in the local area
- Back-migration from other mining towns and further in-migration
- There are SMMEs in Graskop and Moremela
- No more busses or international tourists are coming to the Pilgrim's Area anymore mainly due to covid. Before Covid it was ~~okay~~ Active. These busses also visited Graskop and Bourke's Luck
- Sections of Moremela and Leroro are in ward 9
- Phiring is an area north of Mothibidi
- Mankolehloto indicated that on Google Earth is the name of the mountain in that area. There is no settlement in that area
- Bourke's Luck falls within Ward 10. The clinic at Bourke's Luck (Moremela) functions as an area clinic

- Want the clinic in Graskop open 24/7 – the current opening operational hours from 7 am to 4 pm are not sufficient
- There are 2 medical doctors in Graskop: 1 dentist but no vet. The closest vets are in Lydenburg.

WARD 13 STEERING COMMITTEE MEMBERS (Clinton Mabana / Kgauelo Shima / Joseph Khumalo Royal Hotel Wednesday 19 Jan 2022)

- The Clinic is only operating from 7 am to 4 pm – clinic must be operational 24/7
- Mine clinics are only for mine employees. We need agreements so that family members can also utilize these clinics.
- Graskop - 2 Primary and 1 Secondary school
- Moremela – 1 primary and one secondary (latter in Ward 9)
- The teacher-pupil ratio is problematic. There is overcapacity at the schools.
- Graskop has no recreational areas. No parks and/or soccer fields
- Pilgrim’s Rest only has a school soccer field at Schoonplaas/Newtown
- Children from Graskop also attend Pilgrim’s Rest Secondary School
- The Primary school in Schoonplaas- still old asbestos buildings – this is a health concern. The community feels the mine can invest in the school infrastructure
- Relocation of Schoonplaas is still on the cards. A site has been identified to the (east) of Schoonplaas. The Government is attending to the matter.
- Employment of local labour is key to the success of the project.
- There is an agreement amongst community members and towns that Pilgrim’s and Schoonplaas are seen as local and that the employment focus will be on local, whereafter it would extend further to areas further away from the mine.
- Ward 13 is busy compiling a database of residents and the local available skills.
- The voter’s roll can also be used as proof that residents are actually confirmed local residents.
- Identity documents (IDs) submitted at local municipality – can get proof of residency. There is such a database at Thaba Chweu LM.
- Length of permanent residency must be considered when employment opportunities are made available. Thus residents feel – that the longer they have lived in the area, the more benefits /employment opportunities they are entitled to.
- Residents feel illegal miners cannot be eligible for employment at TGME as these individuals are illegal foreigners without RSA ID’s. and therefor they can also not own property in SA. Illegal miners should thus not form part of “local labour”.
- Once adits that illegal miners’ use becomes operational, it is anticipated that illegal miners would move out of the area.
- Security will be more visible and illegal miners would not have easy access to adits and movement will have to be more restricted and not as ‘Open” as currently the case.
- The Steering committee in Ward 13 has monthly meetings to discuss issues in the Ward.
- Sabie area also has such a steering Committee
- The existing TSF is a health concern. Autumn months – wind/air quality impacts. The issue for Brown’s Hill residents, Darks Gully and Schoonplaas/Newtown.
- The community claims that the tailings dam is unfenced and that the cattle drink from the dam. However when the site visit was conducted in Feb 2022, the site area was fenced.
- Water quality issues in Pilgrim’s are of concern – the clinic is flooded with patients due to poor water quality/water-related issues. This is an infrastructure maintenance issue

- According to the community Ponieskranz and Golden Jubilee adits still affect water
- Illegal mining is affecting the quality of the Blyde River – There are no longer fishing activities due to the lack of quality. Fishing was done as a source of income and for household use.
- Mining will have a positive impact on tourism.
- Mining can have a negative impact on local roads – e.g., the road between Pilgrim’s and Graskop
- Hiking trails have been destroyed by illegal miners.
- Illegal diggings are undertaken along old tram rails.
- Horse trails and horse riding stopped – due to crime in the area
- Dept of Public Works set out a tender for renovation/maintenance at Old Caravan Park. The successful tenderer will lease the caravan park.

MAORABJANG COMMUNAL PROPERTY ASSOCIATION (CPA): TIMOTHY MASHILE 19

January 2022

- Current land-use on farms (approximately 13 farms) allocated to them: farming/agriculture
- There are some dwellings (appr. 7 units) on some of the properties that can be used for tourism (they said: “hotels”) need upgrading
- Frankfort is only used for informal cattle grazing at the moment. No fencing or camps – no kraals/areas for dipping, etc.
- Fencing is required for cattle grazing and to avoid unauthorised entry to the mining area
- Mankelothloto – the name of the mountain on farm Ledovine. No settlement there as indicated on Google Earth
- Maorabjang properties fall within Ward 10 and 13
- Moremela / Leroro / Mothibidi – 90% of the community living in these areas are represented by Maorabjang CPA
- Chief Mogane is chief at Moremela
- Chief Mashile is chief at Mothibidi
- Their claim was from Moremela to Hendriksdal. Claims were settled for farms not used for forestry or mining areas. That claim is still outstanding.
- Pilgrims Development Trust (PDT) initiated the original claim. Govt. then advised that needs to establish a CPA – then Maorabjang CPA was formed to take claims forward
- Govt. bought land from Barloworld
- Many problems with illegal mining – cut fencing / fires / security / vandalism / cattle theft
- Illegal miners are armed with various types of ammunition
- Strong security measures are required to curb illegal mining
- No direct conflict between illegal miners and the community in Moremela areas yet
- Gravel road to site – will it be tarred? If so – additional job creation
- An unplanned/unauthorized Graveyard is being developed by the community on the farm nearest to Moremela.

COUNCILLOR WARD 13: DELI MAPHANGA 19 January 2022

- Recently appointed. Do not stay in Pilgrim’s but near Lydenburg
- Would have established ward committee on evening of interview (19 Jan 2021)
- 70-80% unemployment
- Skills database to be developed
- Need security and fencing to combat illegal mining

- The closure of Glencore smelter (???) led to more people being unemployed.
- Need larger companies to link with smaller companies to capacitate and to ensure skills transfer. TGME needs to do that
- There are individuals with skills that can be utilized in mining-related fields or supplementary projects. E.g., Renovating / artisan skills

Pilgrim's Rest Community Board: Thursday 20 January Phiona Khoza; Lorraine Phiri, Jeoffrey Phelege) 10 pm

- They are trustees of Community Trust Board formed in 2021 – every 5 years evaluated
- They will link with councillor of wards and their ward committees – mainly responsible for information flow between TGME / TCLM and communities through councillor and ward committees
- Responsible for identification of community projects that will form part of SLR – They represent PR; Ward 8 and 9 while Jeoffrey claims he will represent ward 10 as well
- They evenly split benefits among wards – no prioritisation
- Maorabjang CPA part of trust – representation unknown
- They indicated that Maorabjang CPA has 5% shares in mine?? (Compare with shareholding info from TGME)
- The focus is on rural areas around the mine so Graskop will not so much be a focus
- They link to the municipality through councillors and have ad hoc meetings with the community
- Unemployment in the area is 75% or higher during COVID-19
- Also indicated that the main source of income: grants
- Estimated number of residents of Moremela/Leroro and Mathibidi is currently at 10 000 to 15 0000 individuals
- 1 creche in Pilgrim's Rest in an old church – an environment not conducive
- Moremela approximately 10 pre-schools/creches
- They are busy developing a database of skills and businesses for ward 13 (Phiona)
- Moremela has 1 high school and 2 primary schools; PR =1 primary and 1 high school; Leroro = 2 primary and 1 high school; Matibi= 3 primary and 3 high schools
- School infrastructure and personnel are a challenge
- There are limited recreational facilities iMoremela (sportsfield and netball fields planned); Leroro is planning a facility, but Mathibidi has nothing
- A high influx of illegal miners in PR and Moremela started at 10 illegal miners but now coming in groups of 200-300 miners. There is a turf war among miners and lead to 3 killings last year
- Ward committees get paid but steering committee members do not – they work through both
- People in the area are mainly concerned about roads, water, air quality (and possible relocation of Brown's Hill residents to TSF)
- Crime in PR area – is relatively low – mainly housebreaks and GBV crime. Crime in Moremela / Mothibidi / Leroro is also low
- They plan to invest in agricultural community projects as CSI programmes to diversify the economy away from mining. Barlow's farms had maize and various vegetables. Focus on nutrition (Phiona) and can link with Homebased Care and their nutritional programmes (assistance with food parcels to some households)

- A very limited number of NGOs in the area (only home-based care groups) while forestry guys are largely absent from Corporate Social Investment in the area – only sponsor a few events from time to time.

WARD 8 COUNCILLOR (Cllr. Cornelius Mohlala: Telephonic interview: 2 February 2022)

- Unemployment in the area is estimated at 60%. Covid-19 had a negative impact
- Employment is localised, but some work elsewhere e.g., Graskop, Sabie, Lydenburg
- A limited number of workers in the forestry sectors
- Mining related skills are present especially in older age groups e.g., 40+ years
- The younger generation has skills and diplomas in various sectors: artisanal and mining
- Busy compiling database of skills in cooperation with TCLM
- Do have an inflow of outsiders, especially illegal miners. Safety risks increased as a result
- SAPS did act against these outsiders – the inflow of illegal miners decreased a bit but is still present.
- Illegal miners do rent rooms from locals
- The area has 3 secondary and 3 primary schools
- Schools can accommodate all learners
- One clinic and Mathibidi hospital in the area
- Not anticipating any construction-related impacts due to distance from the Frankfort site
- Crime is presently manageable
- CPFs are active
- Nearest Police station at Leroro
- General crime: housebreaks and theft in the area. No violent crimes
- During operations, no negative impacts are foreseen.
- Ongoing communication with the community is important.
- Public to be involved in terms of development

WARD 9 COUNCILLOR (Cllr. Mashile: Telephonic interview: 2 February 2022)

- Unemployment is high: 75%
- No nearby employment sectors
- Only Potholes, the Blyde River Resort – tourist sector as employment sector in the ward
- There are individuals with mining-related skills – old miners e.g., Lydenburg smelter that closed 2 years ago
- Majority dependent on grants for income
- Main economic spending on foodstuff
- Ward 9 schools: five primaries and one secondary
- Schools shared with Ward 10 as well
- Clinic at Moremela
- Hospitals Mathibidi
- The influx of outsiders – illegal miners (foreigners) more so in Moremela than Leroro area due to various old adits in area
- Illegal miners rent rooms from locals
- Safety concerns due to fighting between illegal mining groups
- Household thefts – regard it as work of illegal miners
- Crime mainly relates to theft and housebreaks

- Illegal miners will remain in the area due to various old adits
- The impact of the mine on water quality is a concern
- Most residents in Ward 9 use borehole water: Leroro and Moremela areas
- 1 Police Station that has to cater to Leroro and Moremela areas. Another nearby station at Graskop
- Area in need of libraries
- People must be made aware of employment opportunities
- Busy compiling labour skills list – liaise with all councillors

Department of Public Works (DPW) (Ms. Pretty Makhubedu: Telephonic interview: 7 February 2022)

- DPW appointed contractor for refurbishment, maintenance, and operations of Caravan Park in Pilgrim's Rest – the 10-year basis of the contract to be reviewed after 10 years
- Fencing across the river is required. Need to go ahead and require approval from DWS
- Ideally, it would be beneficial if more recreational areas can be developed in the area to stimulate tourism potential e.g., a Picnic area next to a gold panning area
- Royal Hotel under business rescue – contract expires soon. DPW is busy with negotiations with a new group to take over management of the hotel
- Covid-19 impacted on tourism and tourist bussed coming to town
- Part of the marketing strategy of the Royal Hotel would be to revive contracts with tour operators
- MTPA is responsible for the marketing of the town as part of the Panorama route
- Have seen an increase in local tourists since Covid-19
- DPW is upgrading pumps for water purification at Watercare works
- Budget constraints and aging infrastructure is problematic
- The electricity infrastructure is overloaded. DPW is in negotiations with Eskom to take over the electricity supply to town so that can fall under Eskom.
- Schoonplaas issue: DPW and Dept of Human Settlement are responsible. Challenges in terms of available land for relocation.
- The influx of outsiders to the area led to mushrooming of shacks
- Currently, there is not sufficient water supply and electricity infrastructure at capacity
- The sewer plant is at capacity
- Mine will have positive economic impacts, but challenges with regards to services and infrastructure are of concern.
- Individual houses that burnt down in town can be upgraded by TGME for accommodation purposes for employees