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Dagsoom Twyfelaar Coal Mining Project near Ermelo, Mpumalanga

Social Impact Assessment

Project Number:

DAG5603

Prepared for:

Dagsoom Coal Mining (Pty) Ltd

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EXECUTIVE SUMMARY

Project Description

A Socio-economic Impact Assessment (SIA) was prepared for Dagsoom Coal Mining (Pty) Ltd (hereafter Dagsoom) for the proposed Twyfelaar Coal Mining Project. Digby Wells Environmental (hereinafter Digby Wells) has been appointed by Dagsoom Coal Mining (Pty) Ltd (hereinafter Dagsoom) to aid in the Mining Right Application and National Environmental Management Act, 1998 (Act No. 107 of 1998) (NEMA) Application Process for the proposed Twyfelaar Coal Mine (hereinafter the Project) situated approximately 6 km from the town of Sheepmoor in Mpumalanga, South Africa.

Dagsoom has applied for a Mining Right in terms of the Minerals and Petroleum Resources Development Act, 2002 (Act 28 of 2002) (MPRDA), reference number MP 30/5/1/2/2/10236 MR.

The construction phase is expected to start in in the first quarter of 2021 and the production ramp up is expected to start in in the first quarter of 2022 with full production on Twyfelaar North to last from 2023 to 2026.

The SIA considers the potential socio-economic impacts for the Construction and Operational Phase activities that will be undertaken on Twyfelaar North, Northern Underground Access point, Block A (see Figure 3-1).

Methodology

The study was designed to comply with the relevant national legislative requirements, such as those stipulated in the National Environmental Management Act, 1998 (Act No. 107 of 1998) (NEMA) and the MPRDA, as well as international best-practice standards (e.g. International Finance Corporation Performance Standards, IFC PS).

The activities undertaken as part of the study included the definition of study areas and the collection of primary and secondary data.

Three study areas were defined: The primary study area, the secondary study area and the regional study area. The primary study area was defined as the properties that fall within the Mining Right boundary (Figure 3-1). The secondary study area was defined as Ward 11 of Msukaligwa Local Municipality, Gert Sibande District Municipality, which encompasses the primary study area (Figure 3-2). The regional study area was defined as the seven local municipalities of the Gert Sibande District, followed by the Mpumalanga Province, which encompass both the primary and secondary study areas (Figure 3-3).

The primary data collection entailed focus group discussions and interviews with members of affected households¹ and communities² and other key stakeholders. A socio-economic

¹ A group of people who live together at least four nights a week, eat together and share resources, or a single person who lives alone.

survey of affected households in the primary study area was not undertaken as part of the study.

The secondary data was derived from a number of sources (Section 3.3). Socio-economic indicators for the households and populations within the primary and secondary study areas, located within Ward 11 of the Msukaligwa Local Municipality, were derived from official Statistics South Africa (StatsSA) data sources. These sources included the Census 2011 and Community Survey 2016 statistics, accessed through Wazimap. It is acknowledged that the official statistics cited in the report may not reflect the current socio-economic status of households and populations within Ward 11 of the Msukaligwa Local Municipality.

The assessment of the socio-economic impacts identified for the proposed Project is based on an impact rating process designed to provide a numerical rating of the significance of each impact. The significance rating process follows the established impact / risk assessment formula where significance is a function of the consequence of an event multiplied by the probability of its occurrence.

Several potential socio-economic impacts were identified for each phase of the Project and realistic measures were developed for mitigating, and if possible, avoiding the negative socio-economic impacts, and enhancing the benefits of positive socio-economic impacts.

² A social group, regardless of size, living in a specific locality and sharing a common cultural and / or historical heritage.



Baseline Socio-Economic Profile

The baseline socio-economic data presented for the populations and households in Ward 11 of the Msukaligwa Local Municipality, which encompasses the primary and secondary study areas, was derived from official StatsSA data sources. The data collected through focus group discussions, interviews and site visits provided additional information on the socio-economic context of the primary study area.

The population in Ward 11 is worse off than the populations at local municipal, district municipal and provincial levels in terms of security of tenure, housing, unemployment, income levels, vulnerable households, education levels, and access to basic services.

Forty-five percent of households in Ward 11 owned their houses and 40% of these households were categorized as traditional dwellings. Forty-four percent of households in the ward access water from rivers and dams, 24% do not have access to sanitation facilities, and 0.2% have access to refuse disposal by government or private companies. Fifty-seven percent of households in the ward have access to electricity for lighting but households are heavily dependent on wood for cooking (69% of households) and heating (73% of households).

Eighteen percent of households were unemployed and 49% were categorized as low-income households, earning an annual income of R1 to R20 000. Education levels in Ward 11 were lower than at local, district and provincial levels with only 17% of the population 20 years and older having a Grade 12 (matric) qualification, and 25%, no formal education.

Ward 11 had a higher percentage of female- and child-headed households than at local, district and provincial levels. Female and child-headed households may be more vulnerable to negative socio-economic impacts.

The primary study area is rural in nature with households sparsely located across the area. The primary livelihood activities are subsistence and commercial crop farming (maize and legumes) and livestock keeping of cattle, sheep, goats and chickens. There were reportedly approximately 200 head of cattle grazing in the primary study area.

It was reported that many of the household members in the primary study area are unemployed.

Building structures include brick structures, both old and newly-built, as well as buildings constructed with mud and thatch.

Households in the primary study area source water primarily from rivers, streams and dams, although some do have access to boreholes with hand pumps. Many households do not have access to flush toilets or improved pit latrines, and do not benefit from refuse removal by a municipal or private service provider.

The road infrastructure within the primary study area is poor and it was reported that this impedes access to other areas and social services.

Potential Socio-Economic Impacts

A total of eleven socio-economic impacts were identified for the proposed Project, five positive and six negative impacts.

The positive impacts associated with the proposed Project include: Employment creation (Construction and Operational Phases); multiplier effects on the local and regional economy; growth of the local economy; and community development. The successful implementation of the enhancement measures listed for each of these positive impacts in Section 5 will enhance their significance from minor-positive to moderate-positive.

The negative impacts associated with the proposed Project include: Community health, safety and security impacts; loss of grazing land; disruption of movement patterns and access; traffic impacts; disturbance of sense of place; and mine closure impacts. While none of the negative impacts can be avoided if the Project is approved, their intensity, duration and significance can be reduced if the mitigation measures listed for each impact are successfully implemented.

With mitigation, the significance of impacts related to community health, safety and security, and traffic impacts can be reduced from minor-negative to negligible-negative. Similarly, with mitigation, the significance of negative impacts related to sense of place and mine closure can be reduced from moderate-negative to minor-negative.

Finally, the intensity and probability of negative impacts related to disruption of movement patterns and access can be considerably reduced with the implementation of the recommended mitigation measures.

The significance of the loss of grazing land remains minor-negative for both pre-mitigation and post-mitigation scenarios given the limited impact on available grazing land.

A summary of the socio-economic impacts, the recommended mitigation / enhancement measures, and the pre-mitigation and post-mitigation significance is presented in Table A.

Table A: Potential Socio-Economic Impacts

Impact	Significance: Pre-mitigation	Mitigation / Enhancement Measures	Significance: Post-mitigation
Construction Phase			
Employment creation during construction	Minor positive (40)	<ul style="list-style-type: none"> ▪ Develop and implement an abbreviated Stakeholder Engagement Plan (SEP), inclusive of a communications plan and grievance mechanism, as well as the appointment of community liaison personnel; ▪ Undertake a skills survey of the communities located in the primary and secondary study areas, allowing residents to register their interest and particular skills for upcoming employment and skills training opportunities; ▪ Use the results of the skills survey to develop a skills register to inform the Skills Development Plan to maximize employment opportunities for residents in the primary and secondary study areas; ▪ Provide skills training prior to and during the Construction Phase to improve local employability during both Construction and Operational Phases; ▪ Explore the possibility of expanding job opportunities beyond mining-related work to also include hiring contract workers to assist with community development projects; ▪ Comply with minimum wage requirements for unskilled labour and all other requirements, including gender equity, of the Employment Equity Act to ensure maximum benefits accrue to workers; ▪ Monitor Dagsoom and its subcontractors in terms of the commitments stipulated in Dagsoom’s Social and Labour Plan (SLP) on an annual basis through an external auditor; ▪ Ensure that local communities understand the Project’s employment requirements in terms of skills and type of employment, by communicating 	Moderate positive (78)

Impact	Significance: Pre-mitigation	Mitigation / Enhancement Measures	Significance: Post-mitigation
		<p>relevant aspects of the SLP and its overarching objectives at community forums in the primary and secondary study areas; and</p> <ul style="list-style-type: none"> ▪ Prepare for the Operational Phase by updating the Project's local labour database to include local community members employed during the Construction Phase. 	
Multiplier effects on the local and regional economy	Minor positive (48)	<ul style="list-style-type: none"> ▪ Compliance with SLP commitments to make maximum use of local small, medium and micro enterprises (SMMEs) and BBBEE companies; ▪ Include local procurement targets in contractors' Special Conditions of Contract where appropriate; ▪ Monitor contractors and sub-contractors on local procurement; ▪ Compile a database of services or procurement opportunities, which could be delivered by local providers, e.g. provision of foodstuff, security, maintenance; ▪ Develop a register of local SMMEs; ▪ Establish linkages with skills development / SMME development organizations and other mining operations; ▪ Clearly advertise the nature and extent of local procurement opportunities during the various project phases; and ▪ Establish appropriate communication mechanisms with surrounding communities. 	Moderate positive (90)
Community development	Minor positive (40)	<ul style="list-style-type: none"> ▪ Consult with Project beneficiaries regarding proposed development initiatives; ▪ Design community development initiatives that will be sustainable beyond the life of the Project and independent of mining operations; ▪ Early identification of community members for enrolment in Adult Basic 	Moderate positive (78)

Impact	Significance: Pre-mitigation	Mitigation / Enhancement Measures	Significance: Post-mitigation
		<p>Education Training (ABET) and portable skills training to improve likelihood of employment on the mine;</p> <ul style="list-style-type: none"> ▪ Conduct baseline socio-economic survey of households located within primary study area prior to commencement of community development initiatives to enable accurate identification of eligible Local Economic Development (LED) project and skills training beneficiaries and measure impacts of development initiatives on households; ▪ Collaborate with other developmental role players during implementation; ▪ Ensure that the service provider that will implement the Agricultural Livelihoods Programme (ALP), as per the Dagsoom SLP, has the requisite expertise and experience to successfully implement the ALP; ▪ Establish an external monitoring programme to monitor and evaluate community development initiatives as well as the Human Resources Development Programme (HRDP) and procurement policy implemented by the mine and its contractors, as per the Dagsoom SLP; ▪ Expand skills development and capacity building programmes to non-employees; and ▪ Maintain a record of training courses completed per individual and community. Where training is offered to non-employees, their contact information and qualifications can be shared with other industries. 	
Loss of grazing land	Minor negative (-63)	<ul style="list-style-type: none"> ▪ Minimise the extent of the loss of grazing land through consolidation of infrastructure where feasible; ▪ Finalise the infrastructure layout, including the radius of the buffer zones to be implemented around the infrastructure area, to determine the extent of the 	Minor negative (-63)

Impact	Significance: Pre-mitigation	Mitigation / Enhancement Measures	Significance: Post-mitigation
		<p>loss; and</p> <ul style="list-style-type: none"> ▪ Ensure that owners and communities within the primary and secondary study areas are informed that crop cultivation and livestock grazing will not be permitted in the affected area. 	
Disruption of movement patterns and access	Minor negative (-66)	<ul style="list-style-type: none"> ▪ Consider access routes as well as land-take when consolidating infrastructure to minimise displacement impacts; ▪ Where access and haul roads or other Project infrastructure will be fenced, establish appropriate crossing points for community members. The location of these should be decided in consultation with affected communities; ▪ For temporary disruption during construction: <ul style="list-style-type: none"> ▪ Keep communities and individual landholders informed of construction progress and of when access will be blocked by the mining and transport activities; and ▪ Facilitate the safe crossing, through traffic calming measures or walkways, for pedestrians at intersections experiencing increased traffic volumes. 	Minor negative (-36)
Community health, safety and security impacts	Minor negative (-65)	<ul style="list-style-type: none"> ▪ Enforce the required buffer zones around all Project infrastructure in accordance with national legislation; ▪ Control access to all Project elements, including fencing and physical / electronic security where necessary; ▪ Sensitise communities and individual landowners in primary and secondary study areas about health and safety risks and mitigation measures prior to commencement of construction activities; 	Negligible negative (-30)

Impact	Significance: Pre-mitigation	Mitigation / Enhancement Measures	Significance: Post-mitigation
		<ul style="list-style-type: none"> ▪ Ensure all visitors to the mine undergo health and safety induction and have appropriate PPE; ▪ Undertake blasting modelling and implement resulting mitigation and management measures, including enforcement of a 500 m buffer zone and evacuation of humans and animals within the buffer zone during blasting activities; ▪ Undertake a housing baseline survey of houses located within the primary study area to establish the pre-Project condition of structures and provide means of verifying claims of Project-related damages; ▪ In consultation with communities and individual landowners, establish the most appropriate ways to notify communities prior to any blasting activities and ensure that notification of all affected parties is done timeously; ▪ Adhere to the prescribed regulation and standards on the storage and disposal of hazardous materials, including explosives; ▪ Implement mitigation measures stipulated in the specialist reports undertaken for this EIA to mitigate dust, blasting, and water and air quality impacts; and ▪ Implement HIV / AIDS and substance abuse prevention campaigns for the Construction and Operational Phase workforce in collaboration with local authorities and relevant NGOs. These campaigns can be expanded to the broader community at a later stage. 	
Traffic impacts	Minor negative (-65)	<ul style="list-style-type: none"> ▪ Develop and implement a Traffic Management Plan based on the recommendations in Traffic Impact Assessment. This plan should also include provisions on how the Project will select and manage its drivers (by means of training, a driver Code of Conduct, spot checks, etc.); 	Negligible negative (-33)

Impact	Significance: Pre-mitigation	Mitigation / Enhancement Measures	Significance: Post-mitigation
		<ul style="list-style-type: none"> ▪ Implement road maintenance measures to ensure that the quality of the access and haul road constructed by the mine is maintained; ▪ Conduct regular road quality inspections; ▪ Regulate Heavy Motor Vehicle traffic by implementing safe travelling speeds, restricting traffic to daylight hours; ▪ Prevent speeding by installing traffic management and calming measures (e.g. speed humps); and ▪ Sensitise community members, especially children, to potential traffic safety risks through community education. 	
Disturbance of sense of place	Moderate negative (-105)	<ul style="list-style-type: none"> ▪ Implement mitigation measures stipulated in specialist studies (Surface and Ground Water Impact Assessment, Noise Impact Assessment, Air Quality Impact Assessment, Blasting and Vibration Impact Assessment and Traffic Impact Assessment) undertaken for this EIA; ▪ Optimise mine plan / infrastructure placement to avoid / minimise negative impacts, especially in terms of visual intrusion, loss of land, air quality and access disruptions; ▪ Prioritise successful implementation of SLP to ensure that affected communities benefit from the Project; ▪ Establish a grievance mechanism to record grievances (related to air quality, water quality, traffic safety etc.) from affected communities and individual landowners; and ▪ Implement corrective measures promptly. 	Minor negative (-66)
Operational Phase			

Impact	Significance: Pre-mitigation	Mitigation / Enhancement Measures	Significance: Post-mitigation
Employment creation during operation	Minor positive (48)	<ul style="list-style-type: none"> ▪ Continue enforcement of SLP commitments for giving preference for employment to suitably qualified members of local communities; ▪ Monitor the contractors and sub-contractors to ensure their compliance with SLP commitments on an annual basis through external auditors; ▪ Ensure the skills development initiatives proposed in the SLP are targeted at as many local community members as possible, thereby improving skills training beneficiaries' chances at employment on the Project; and 	Moderate positive (84)
Growth of local economy	Minor positive (52)	<ul style="list-style-type: none"> ▪ Continue implementation of the measures recommended to enhance local employment, skills development, community development, and multiplier effects on the local economy for the Construction Phase; ▪ Set targets to progressively increase local and regional procurement over the life of the Project; and ▪ Incorporate SMME capacity development programmes into future iterations of the SLP to enable local suppliers to take maximum advantage of procurement opportunities during the Operational Phase. 	Moderate positive (96)
Decommissioning and Mine Closure			
Dependency on the Project to sustain the local economy	Moderate negative (-84)	<ul style="list-style-type: none"> ▪ Develop a detailed Social Closure Plan at least five years prior to decommissioning, that includes a retrenchment plan for Project staff as well as a communication strategy that will keep employees and surrounding communities informed about closure timing and management strategies; ▪ Develop and implement the required Human Resource systems to provide references for employees; ▪ Ensure that employment contracts release employees from non-compete clauses following the closure of the Project; ▪ Design community development initiatives that will be sustainable beyond the 	Minor negative (-52)

Impact	Significance: Pre-mitigation	Mitigation / Enhancement Measures	Significance: Post-mitigation
		life of the Project and independent of mining operations; <ul style="list-style-type: none"> ▪ Increase opportunities for ABET, portable skills training, and mining skills-related skills development during the Operational Phase; and ▪ Proactively assess and manage the social and economic impacts on individuals, regions and economies where retrenchment and/or closure of the Project are certain. 	



Conclusion and Recommendations

The proposed Project has the potential to benefit local, regional and national economies. From a socio-economic perspective, it is recommended that the proposed Project proceed due to the associated positive socio-economic impacts. This recommendation is however subject to the condition that the mitigation and enhancement measures listed for each potential socio-economic impact, negative and positive, be implemented, and that a social management and a social monitoring plan be developed to manage and monitor the implementation of these measures.

The most important enhancement measures for enhancing the positive socio-economic impacts associated with the Project include the successful implementation of the Dagsoom SLP (Appendix B) to ensure that members of local communities as well as local businesses and SMMEs benefit from the Project. Local communities are characterized by poverty and underdevelopment and expectations regarding employment and other Project benefits are high. Stakeholder engagement and consultation with local communities regarding skills training and employment opportunities as well as community development programmes are also essential to enhancing positive socio-economic impacts, in terms of prioritizing members of local communities for skills training and employment opportunities, successfully implementing community development programmes and managing expectations around Project benefits. Undertaking a skills survey and developing a skills register will assist the Project to achieve these SLP commitments. Dagsoom can enhance the positive Project impacts for women by ensuring that a policy of gender equity is adhered to for employment opportunities, skills training, learnerships, ABET training, bursaries and community development projects. Further, it will be necessary to monitor contractors and sub-contractors to ensure their compliance with SLP commitments.

The most important mitigation measures for ameliorating negative socio-economic impacts include the consolidation of surface infrastructure and the considered placement of access and haul roads to minimize loss of land (arable and grazing) as well as disruption to movement patterns and access and disturbance of sense of place. Additionally, community health, safety and security impacts and disturbance of sense of place can be minimized if the mitigation measures recommended in the other specialist studies are implemented. Such studies will include the following impact assessments: Noise, air quality, blasting and vibration, traffic, and water. Negative socio-economic impacts associated with decommissioning and mine closure can also be minimized with adherence to the commitments in the SLP.

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Appendix A: Impact Assessment Methodology

Appendix B: Dagsoom SLP



LIST OF ACRONYMS

ABET	Adult Basic Education Training
ALP	Agricultural Livelihoods Programme
CSI	Corporate Social Investment
CPA	Communal Property Association
DMR	Department of Mineral Resources
EIA	Environmental Impact Assessment
GDP	Gross Domestic Product
GSDM	Gert Sibande District Municipality
GVA	Gross Value Add
Ha	Hectare
HIV/AIDS	Human Immunodeficiency Virus / Acquired Immune Deficiency Syndrome
HMV	Heavy Motor Vehicles
HRDP	Human Resources Development Plan
IDP	Integrated Development Plan
IFC PS	International Finance Corporation Performance Standards
km	Kilometre
km ²	Square Kilometre
LED	Local Economic Development
LoM	Life of Mine
MLM	Msukaligwa Local Municipality
MPRDA	Mineral and Petroleum Resources Development Act
MRA	Mining Right Application
MWP	Mining Works Programme
NDP	National Development Plan
NEMA	National Environmental Management Act
NGO	Non-governmental Organisation
PPP	Public Participation Process
PR	Prospecting Right
RoM	Run of Mine
SIA	Social Impact Assessment



SLP	Social and Labour Plan
SMME	Small, medium and micro enterprises
StatsSA	Statistics South Africa
STI	Sexually Transmitted Infection
ToR	Terms of Reference
ZAR	South African Rand



1 Introduction

1.1 Project Background

Dagsoom Coal Mining (Pty) Ltd (hereafter referred to as Dagsoom). has made an application for a Mining Right over the remaining extent of the farm Klipfontein 283 IT and Portions 1, 2, 5, 7, 8, 9 and remaining extent of the farm Twyfelaar 298 IT, situated in the magisterial district of Ermelo, Mpumalanga Province in terms of the Minerals and Petroleum Resources Development Act, 2002 (Act 28 of 2002) (MPRDA). The proposed Twyfelaar Coal Mining Project is herein referred to as “the Project”.

It is expected that the mining right will be granted towards the end of 2020. During this time, Dagsoom will continue with the environmental authorisation process; which includes the Environmental Impact Assessment and Environmental Management Plan (EIA/EMP), and a Water Use Licence (WUL). As soon as the Mining Right, Environmental Authorisation and WUL have been granted, Dagsoom will secure financing and commence with construction (expected to start in Q1 2021). Production ramp up is expected to start in Q1 2022 with full production on Twyfelaar North to last from 2023 to 2026. Future mining areas include Twyfelaar South and Klipfontein sections, and the socio-economic baseline report considers these two extension areas.

This Socio-economic Impact Assessment (SIA) considers the potential socio-economic impacts for the Construction and Operational Phase activities that will be undertaken on Twyfelaar North (see Figure 3-1, Block A).

1.2 Project Description

The Project, situated on the eastern escarpment of the Mpumalanga Highveld coalfield, is a “greenfields” project with no mining infrastructure or mining activity currently taking place on the proposed site. Current land use activities within the proposed Mining Right boundary, which encompasses the remaining extent of the farm Klipfontein 283 IT and Portions 1, 2, 5, 7, 8, 9 and remaining extent of the farm Twyfelaar 298 IT, are residential and agricultural land uses (subsistence and commercial farming and livestock keeping).

Dagsoom proposes to extract coal through underground mining accessed through an adit. Bord and pillar mining with continuous miners is the preferred mining option for this operation. The Run of Mine (RoM) coal will be conveyed from the mine adit to the processing plant.

The mine will consist of one underground section with associated infrastructure around the mine access area on the northern side of the Project Area on Twyfelaar North (see Figure 3-1, Block A).

According to the Dagsoom Social and Labour Plan (SLP), attached hereto in Appendix B, Dagsoom will employ a workforce of 173 persons, of which approximately 53% (or 92

employees) will be permanent employees of Dagsoom and 47% (or 81 employees) will be contractors.

1.2.1 Project Location

The proposed mine is located on the Farm Twyfelaar 298IT, approximately 30 km southeast of Ermelo in the Msukaligwa Local Municipality, Gert Sibande District Municipality, Mpumalanga Province. The closest town is the settlement of Sheepmoor, approximately 4 km to the east of the Mining Right boundary. The site is accessed from the N2 between Ermelo and Mkhondo (Piet Retief). Table 1-1 below indicates the Project location details.

Table 1-1: Project Location Details

Province	Mpumalanga Province
District Municipality (ies)	Gert Sibande District Municipality
Local Municipality (ies)	Msukaligwa Local Municipality
Ward(s)	Ward 11
Primary Town	Sheepmoor Town / Ermelo
Primary Access Routes	N2
Coordinates of approximate centre of the Project Area	26°41'16.78"S
	30°14'0.95"E

1.2.2 Infrastructure and Activities

The proposed Project activities per project phase are indicated in Table 1-2 below. At the time of writing, the location of the power line was not known.

Table 1-2: Project Activities per Project Phase

Project Phase	Project Activity
Construction Phase	<ul style="list-style-type: none"> ▪ Site / vegetation clearance; ▪ Access and haul road construction; ▪ Infrastructure construction; ▪ Development of a box cut; ▪ Power line construction; ▪ Diesel storage and explosives magazine; and ▪ Topsoil stockpiling.
Operational Phase	<ul style="list-style-type: none"> ▪ Removal of rock (blasting); ▪ Stockpile (rock dumps, soils, ROM, discard dump) establishment and operation; ▪ Diesel storage and explosives magazine;



Project Phase	Project Activity
	<ul style="list-style-type: none"> ▪ Operation of the underground workings; ▪ Operating processing plant; ▪ Operating sewage treatment plant; ▪ Water use and storage on-site – during the operation water will be required for various domestic and industrial uses. Dams will be constructed that capture water from the mining area which will be stored and used accordingly; ▪ Storage, handling and treatment of hazardous products (including fuel, explosives and oil) and waste; and ▪ Maintenance activities – through the operations maintenance will need to be undertaken to ensure that all infrastructure in operating optimally and does not pose a threat to human or environmental health. Maintenance will include haul roads, pipelines, processing plant, machinery, water and stormwater management infrastructure, stockpile areas.
Decommissioning Phase	<ul style="list-style-type: none"> ▪ Demolition and removal of infrastructure – once mining activities have been concluded infrastructure will be demolished in preparation of the final land rehabilitation; ▪ Rehabilitation – rehabilitation mainly consists of spreading of the preserved subsoil and topsoil, profiling of the land and re-vegetation; and ▪ Post-closure monitoring and rehabilitation.

1.2.3 Dagsoom SLP

The amended Dagsoom SLP (Appendix B) was submitted to the Department of Mineral Resources (DMR) for approval on 13 September 2019.

Dagsoom's SLP outlines several actions that have the potential to enhance socio-economic development among surrounding communities, particularly the following:

- Human Resources Development Programme (HRDP) that encompasses a skills development plan, career progression plan, a mentorship plan, a bursary and learnership plan, and an employment equity plan. The skills development plan will include the development of mining and managerial-related skills, portable skills development, and Adult Basic Education Training (ABET). The HRDP will be mainly focused on the mine workforce, employees and contractors;
- Community development initiatives that include:
 - Water infrastructure development that will entail the installation of boreholes and handpumps in the primary study area to provide clean water to households that currently access water primarily from rivers, streams and dams;



- Work readiness programme that will prioritize members of communities in the primary and secondary study areas for ABET and portable skills training;
- Agricultural Livelihoods Programme (ALP) that will focus on the four communities in the primary study area whose members are primarily engaged in agriculture (subsistence farming and livestock keeping). The aim of the ALP is to strengthen the capacity of farmers and communities to address food insecurity as well as support farmers to integrate into small scale commercial markets, where appropriate.

1.3 Terms of Reference

The Terms of Reference (ToR) for the SIA are to:

- Describe the baseline socio-economic characteristics of the proposed Project site and surrounding area;
- Identify, describe and assess the expected significance of potential socio-economic impacts that may arise as a result of the proposed Block A mining activities that will be undertaken on Twyfelaar North (Figure 3-1); and
- Recommend appropriate mitigation measures and management actions to avoid or minimise potential negative impacts, and to enhance the positive impacts associated with the proposed Project.

1.4 Scope of Work

The primary aim of the SIA is to assess the Project and associated activities in terms of critical socio-economic considerations and potential positive and negative impacts as required by Section 24 of the National Environmental Management Act (NEMA) and Section 39 of the MPRDA.

The development of the SIA involved two phases, namely a Scoping Phase and an Impact Assessment (EIA) Phase, with each phase including specific objectives. The objectives of the Scoping Phase were:

- To gain an understanding of the baseline socio-economic conditions in the general project area; and
- On the basis of the above, identify potential socio-economic impacts and benefits that may result from the proposed Project that will require further investigation during the EIA Phase.

The objectives of the impact assessment are to:

- Assess the likely socio-economic impacts of the proposed Block A mining activities that will be undertaken on Twyfelaar North (see Figure 3-1); and
- Design appropriate mitigation measures to reduce and, where possible, avoid negative impacts, as well as to enhance positive impacts.



1.5 Expertise of the Authors

Table 1-3 presents a summary of the expertise of the specialists involved in the compilation of this report. The full CVs of these specialists can be provided on request.

Table 1-3: Expertise of the Specialists

Team Member	Bio Sketch
Jennifer Grant Social Consultant	<p>Jennifer is a social scientist with over nine years' experience in the applied research and consultancy fields with regard to community engagement, social development, and land acquisition and resettlement. She has worked as a social consultant on a wide range of projects within the mining, oil and gas, hydropower, and conservation sectors across Africa. Jennifer has participated in the development and implementation of resettlement action plans to IFC, Equator Principles, and World Bank standards for several large-scale resettlement projects in South Africa, Kenya, Mozambique, Tanzania and Zambia. As such, she has expertise in resettlement planning and implementation, community engagement and liaison, social development, social impact assessment, livelihood impact assessment and monitoring and evaluation.</p>
Dr Jan Perold Principal Social Consultant	<p>Jan has 16 years' experience ranging over several aspects of social research, including social impact assessment, resettlement planning, social and labour plans, social surveys and statistics, tertiary education and science communication. He has been involved in a variety of projects in the following countries: Angola, Botswana, Burundi, Central African Republic, Cote d'Ivoire, Ghana, Lesotho, Liberia, Malawi, Mozambique, Namibia, Nigeria, Rwanda, Sierra Leone, South Africa, Southern Sudan, Swaziland, Tanzania and Zambia. Jan is registered at the Health Professions Council of South Africa as a research psychologist. His doctoral thesis focused on the application of systems theory to analyse the psychosocial dynamics of public participation. He also has a strong natural science background, having attained an Honours Degree in Physics. Jan was a contributor to the book <i>New Directions in Social Impact Assessment: Conceptual and Methodological Advances</i> (Ed. Frank Vanclay and Ana Maria Esteves, Edward Elgar: 2012). He also currently acts as guest lecturer and research co-supervisor for the MA (Research Psychology) course at the University of Pretoria, South Africa. In addition, he was previously involved in lecturing on statistics and research methodology at various universities in South Africa.</p>

1.6 Structure of the Report

The report is structured as follows:

- Section 1 offers an introduction to the report that includes the Project description, the Terms of Reference and Scope of Work for the report, and a summary of the professional expertise of the authors;



- Section 2 identifies the constraints and limitations of the report;
- Section 3 outlines the methodology used to complete the report;
- Section 4 describes the socio-economic environment of the Project area;
- Section 5 presents the results of the impact assessment as well as mitigation or enhancement measures for each impact identified;
- Section 6 presents the potential cumulative impacts that may arise as a result of the Project;
- Section 7 offers a discussion of the impact assessment results;
- Section 8 provides recommendations based on the results of the impact assessment results; and
- Section 9 presents the conclusions of the report.

2 Constraints and Limitations

The constraints and limitations to the impact assessment are presented in Table 2-1:

Table 2-1: Applicable Constraints and Limitations and Their Consequences

Constraint or Limitation	Consequence
No primary data was collected during impact assessment phase.	Impact assessment based on primary data collected during site visits undertaken for the socio-economic baseline report, the Public Participation Process (PPP), and the SLP.
A socio-economic survey not conducted with households located in primary study area. The socio-economic indicators for these households are derived from official census data (2011; 2016).	The socio-economic indicators for the population and households in Ward 11, the secondary study area within which the primary study area is located, are assumed to be indicative for the households residing within the primary study area.

3 Methodology

The study was designed to comply with the relevant national legislative requirements, such as those stipulated in NEMA and the MPRDA, as well as the international best-practice standards (e.g. International Finance Corporation Performance Standards – IFC PS).

The activities undertaken as part of the study are described below.

3.1 Defining Study Areas

The study area for an impact assessment can be defined as the area that is likely to experience impacts arising from, or exert influence on, the project or activity being assessed (IFC, 2012). Three concentric and interdependent study areas were identified for the



purposes of this study and correspond, where relevant, to the existing administrative boundaries:

- The **primary study area** – the area likely to experience impacts related to the physical intrusion of the Project infrastructure and Project-related activities. This study area is defined as the extent of the properties that fall within the proposed Mining Right boundary (see Figure 3-1).
- The **secondary study area** – the area likely to experience impacts related to the economic pull exerted by the Project. This area is defined as Ward 11 within the Msukaligwa Local Municipality, Gert Sibande District Municipality, that encompasses the proposed Project area (see Figure 3-2); and
- The **regional study area** – the area likely to experience the indirect or induced impacts of the proposed Project. This area is defined as the Gert Sibande District Municipality in its entirety as well as the Mpumalanga Province (see Figure 3-3).

3.1.1 Primary Study Area

The primary study area was defined as the properties situated within the proposed Mining Right boundary. The land owners (including private individuals, CPA, and government) and households and communities residing on the properties in the Mining Right application area are described below.

On the farm Twyfelaar 298 IT

- Bambanani-Sakhisizwe CPA (Surface right holder on the RE of Twyfelaar 298 IT);
- Mpheti M.J (Surface right holder of Portion 7 of Twyfelaar 298 IT);
- National Government of the Republic of South Africa (RSA) (Surface right holder of Portions 2, 5 and 1; the Phakamani community / households reside on Portion 1); and
- Transnet Limited (surface right holder on Portion 8 and 9 of Twyfelaar 298 IT).

On the farm Klipfontein 283 IT

- National Government of the RSA (Surface right holder of Portions 1 and 2 of Klipfontein 283 IT on which the Kliphoek Pump Station is located); and
- Vorster N.W.J (Surface Rights holders on Remaining Extent of Klipfontein 283 IT).

The portion of land that will be affected by initial mining activities (Block A, Northern Underground Access) is owned by the National Government of the RSA (Twyfelaar 298 IT, Portion 2), as indicated in Figure 3-1.

The Mpheti land owners do not currently live on their farm but will reportedly be returning to the farm in the near future to practice crop farming.

The Vorster landowners live on their farm and practice commercial agriculture.



The tenure status of the Phakamani community / households is currently uncertain but the Department of Rural Development and Land Restitution has advised Dagsoom that the tenure status of these occupants will be clarified in due course. Households with insecurity of tenure are more vulnerable to Project-related land losses. During the consultation process, land owners and occupants in the primary study area stated that they do not want to be relocated due to Project activities. While no households will need to be relocated during the mining activities that will be undertaken on Twyfelaar North (Block A), future expansion into the other two mining areas may require the relocation of households within the primary study area.

Transnet owns a rail reserve and associated structures. A railway line traverses the site near its southern border and trains were seen using the track during the site visit.

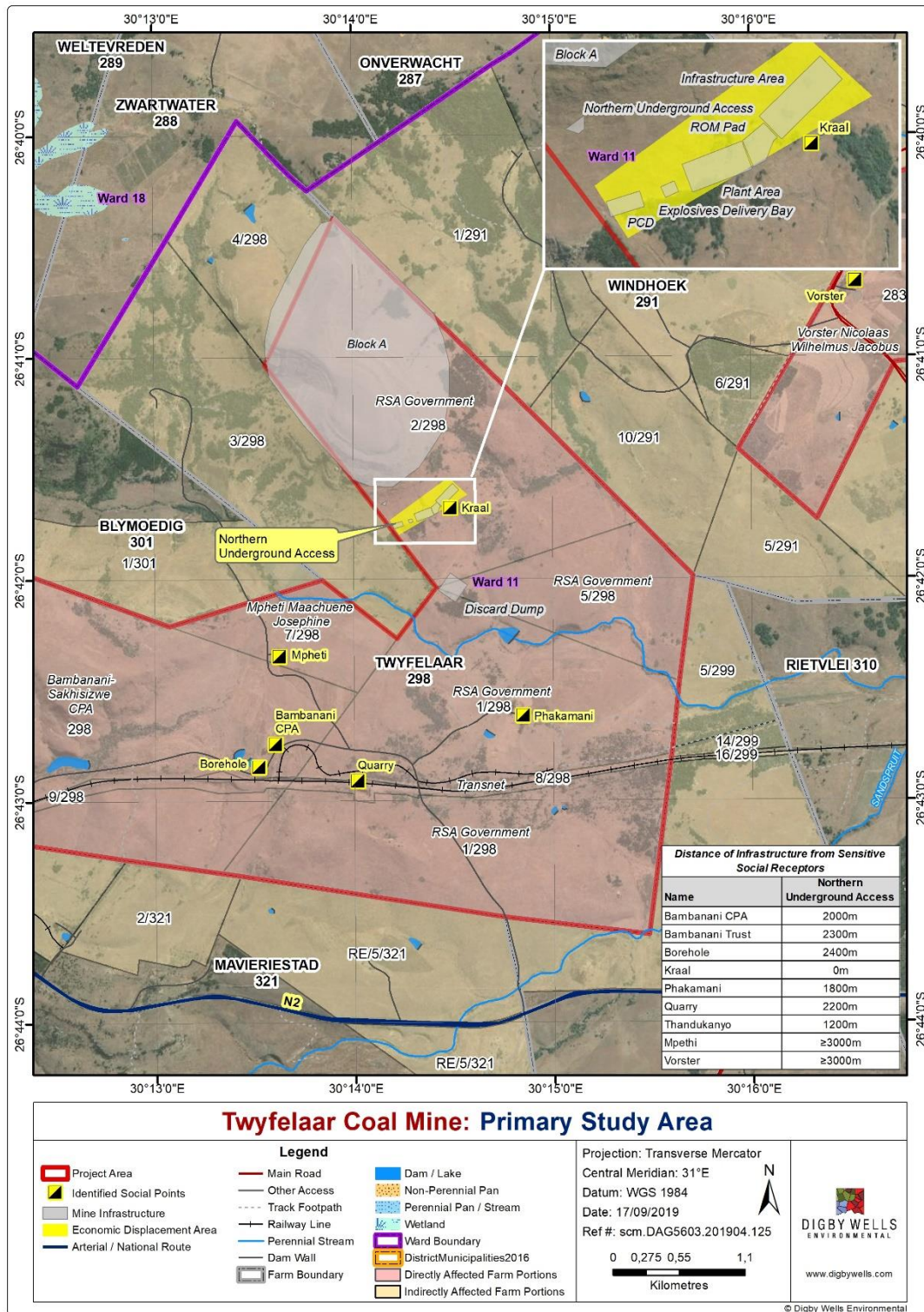


Figure 3-1: Primary Study Area



3.1.2 Secondary Study Area

The secondary study area is comprised of Ward 11 of Msukaligwa Local Municipality, Gert Sibande District Municipality, which encompasses the properties within the Mining Right boundary. As indicated in Figure 3-2, the secondary study area includes the Nsibande and Thandukanyo households, located approximately 1,200 m from Block A, where the mining activities will take place, the Bambanani Trust households located in close proximity to the boundary, as well as other private and commercial land owners adjacent to the Mining Right boundary. Sheepmoor Town is located in the secondary study area.

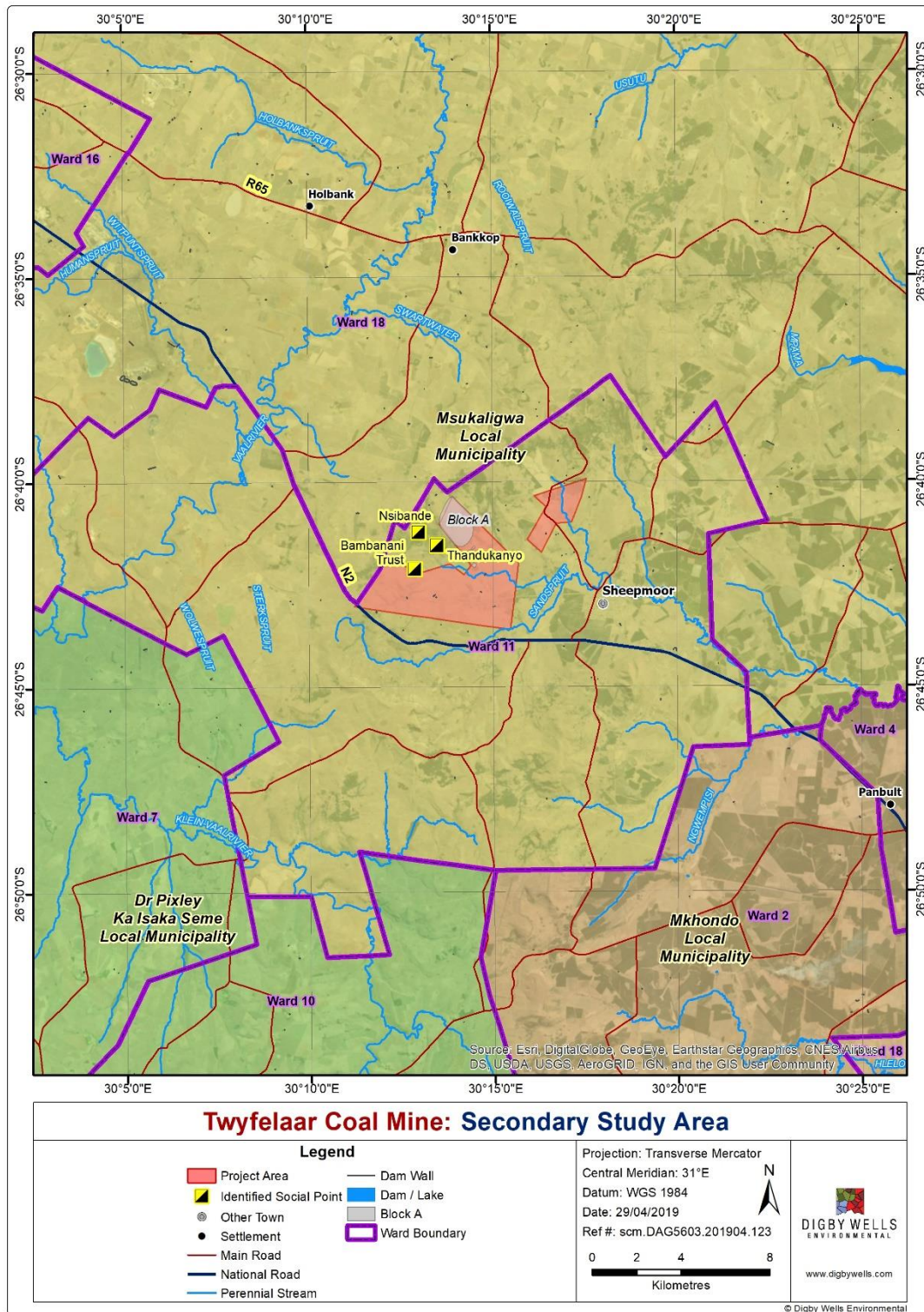


Figure 3-2: Secondary Study Area



3.1.3 Regional Study Area

The regional study area is comprised of the seven local municipalities of the Gert Sibande District, followed by the Mpumalanga Province (Figure 3-3).

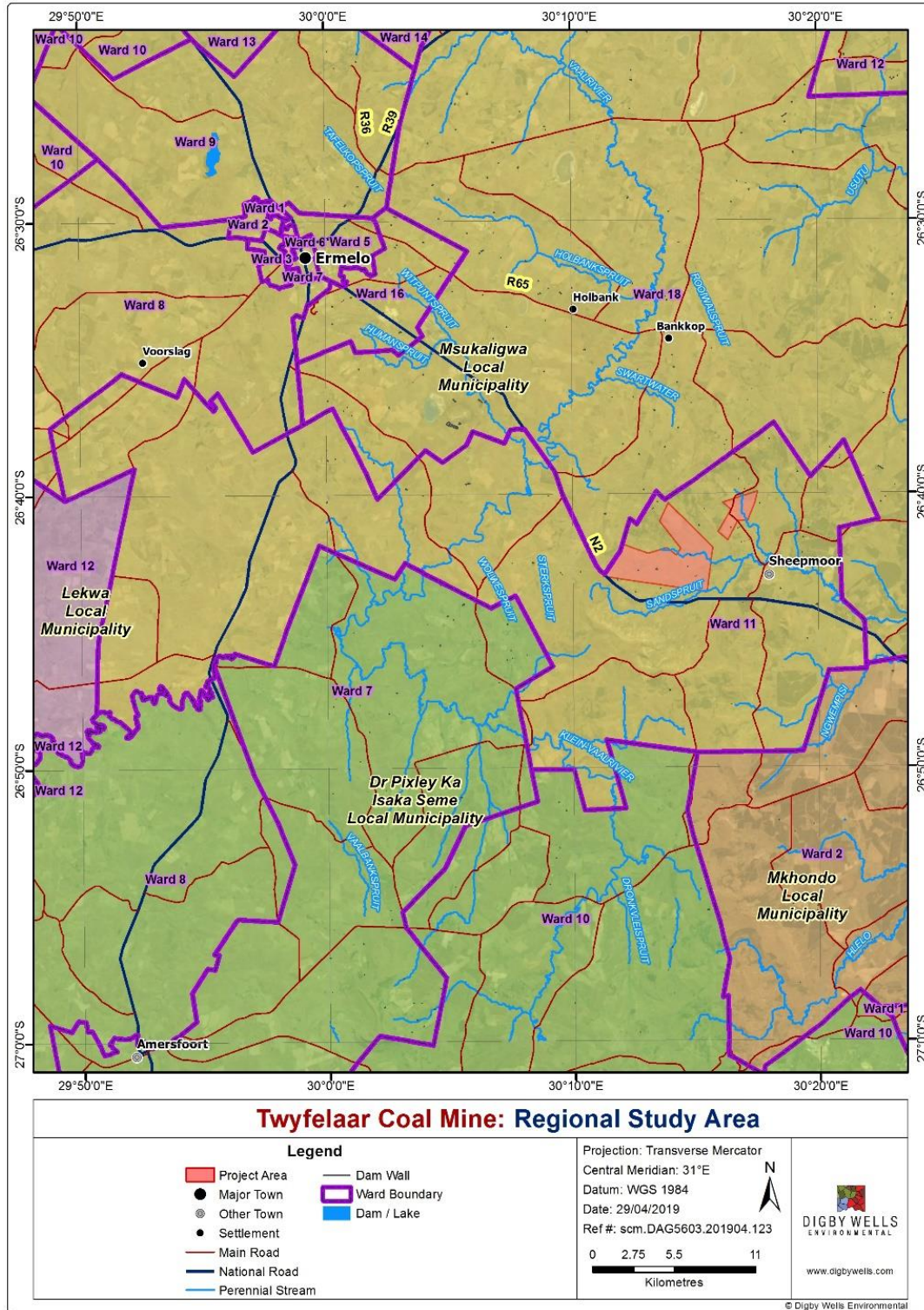


Figure 3-3: Regional Study Area



3.2 Data Collection

The information presented in this report was obtained through the following data collection activities:

3.2.1 Primary Data Collection

This impact assessment was informed by the primary data collected by Digby Wells during site visits for the following:

- Focus group discussions and interviews conducted with communities, individual landowners, local municipal authorities and other interested and affected parties for the socio-economic baseline assessment and report (March 2019);
- Focus group discussions and interviews conducted with communities located within the primary study area as well as local municipal authorities for the development of the Dagsoom SLP (April 2019);
- Stakeholder meetings conducted with interested and affected parties during the public participation process for the EIA; and
- Consideration of information from the EIA documentation produced as part of the EIA for the Project was reviewed to identify potential bio-physical impacts that might have significant, although indirect, socio-economic implications.

3.3 Secondary Data Collection

A desktop review of available documents to obtain relevant socio-economic baseline information on the defined study areas. Documents reviewed include:

- National legislation and international good practice policies and standards;
- Provincial reports, district and local municipal Integrated Development Plans (IDPs) and Local Economic Development (LED) Plans;
- StatsSA census data from Wazimap (2019)³ as the primary source of desktop data to prepare the baseline socio-economic profiles of potentially affected areas;
- Previous studies and reports concerning the proposed Project, specifically the Environmental and Socio-Economic Scoping report and Dagsoom SLP compiled for the proposed Project; and
- Available maps and satellite imagery.

³ Wazimap data is supported by the South African government, specifically through the Department of Public Service and Administration's (DPSA's) initiative to develop www.data.gov.za as a central point for accessing public government data. Wazimap is a featured app on the website (South Africa National Data Portal, 2019) and provides Census 2011 and Community Survey 2016 socio-economic data adjusted to 2016 ward boundaries. <https://wazimap.co.za/>, Retrieved between 2019/08/15 and 2019/09/20.



3.4 Compilation of a Socio-Economic Baseline Profile

On the basis of the information collected through the desktop review, engagement with and information from other specialist studies, a socio-economic baseline profile was compiled for the respective study areas defined in Section 3.1. Topics considered as part of this profile include (but are not limited to) the following:

- Demographics, including population size and density as well as population distribution in terms of age and gender;
- Education levels;
- Employment status and income profiles;
- Economic sectors;
- Infrastructure and services (housing, energy, water and sanitation); and
- Community needs and development.

3.4.1 Analysis and Reporting

The assessment of the socio-economic impacts identified for the proposed Block A mining activities that will be undertaken on Twyfelaar North (see Figure 3-1) is based on an impact rating process designed to provide a numerical rating of the significance of each impact. The significance rating process follows the established impact / risk assessment formula where significance is a function of the consequence of an event multiplied by the probability of its occurrence. A detailed description of the impact assessment methodology used is presented in Appendix A.

The following steps were undertaken as part of the impact assessment:

- Impact identification and assessment: Based on the anticipated interaction between specific and / or collective project activities and baseline socio-economic conditions, several potential impacts were identified for each phase of the Project;
- Impact mitigation: realistic measures were developed aimed at mitigating, and if possible, avoiding the negative social impacts, and enhancing the benefits of positive social impacts.

4 Socio-Economic Environment

4.1 The Regional Study Area

The Regional Study Area comprises Mpumalanga Province, the Gert Sibande District Municipality (GSDM) and Msukaligwa Local Municipality (MLM).



4.1.1 Mpumalanga Province

Mpumalanga Province covers an area of 76 495km² and has a population of 4 335 963. It is strategically located with access to inland provinces and proximity to Swaziland and Mozambique, including the Maputo port.

Mpumalanga is rich in coal reserves and home to South Africa's major coal-fired power stations. eMalahleni is the biggest coal producer in Africa and is also the site of the country's second oil-from-coal plant after Sasolburg. The best-performing sectors in the province include mining, manufacturing and services. Tourism and agro-processing are potential growth sectors.

The Mpumalanga Strategy⁴ identifies five prioritised economic sectors in the province, namely, agriculture for the promotion of agro-processing, mining for value addition through beneficiation and energy generation, manufacturing, Information Communication Technology, the Green Economy, tourism and cultural industries for job creation, and growth of Small, Medium and Micro Enterprises (SMMEs).

Mpumalanga is divided into three district municipalities, which are further subdivided into 17 local municipalities⁵.

There are four other mines within a 30km radius of the proposed Twyfelaar mine. These are:

- Mooiplaats Colliery approximately 15km northwest of the proposed mine.
- Vunene Mine across from the Camden power station, approximately 26km northwest of the proposed mine and 12km southeast of Ermelo along the N2;
- La Brie Colliery, approximately 31km northwest of the proposed mine and 6.5km southeast of Ermelo along the N2; and
- Penumbra coal mine, approximately 45km north-northwest of the proposed mine and 6km south of Ermelo, along the N11.

4.1.2 Gert Sibande District Municipality

GSDM comprises seven local municipalities, including MLM. Spatially, Gert Sibande District Municipality is the largest of the three districts in Mpumalanga Province. The manufacturing sector, dominated by mining products, electricity generation and petrochemicals, is the leading industry (57.4%) in terms of gross value added (GVA) contribution to the district economy, followed by mining (14.1%) and community services (12.3%). Overall, GSDM was the second largest contributor to GVA in Mpumalanga in 2012 after Nkangala, and four of the ten coal-fired power stations in Mpumalanga are in the GSDM.

⁴ http://www.dedtmpumalanga.gov.za/sites/default/files/publications/STRAT%20PLAN%202015-2020_2.pdf. Sourced on 2019/09/05.

⁵ <https://municipalities.co.za/provinces/view/6/mpumalanga>. Sourced on 2019/09/05.



GSDM also accommodates the largest agricultural sector in the province, supported by strong service centres such as Standerton, Ermelo, Bethal and Piet Retief. Almost 23% of the district land is under cultivation, 80% of which is under commercial dry land cultivation for producing grains. Other significant economic sectors in the GSDM are commercial forestry and tourism.

4.1.3 Msukaligwa Local Municipality

The municipality has identified the municipal and private sector projects under its two LED programmes. Examples of projects are provided below:

- Programme 1: SMME and Community Development and Support:
 - Municipal Project: Municipality to assist communities to organise themselves into co-operatives for opportunity to uptake and capacitate them; and
 - Private Sector Project: Mines and other ventures to avail procurement opportunities to SMMEs; and mines to identify and capacitate selected community members on economic opportunities as part of their social spend.
- Programme 2: Branding, Marketing and Promotion of Investment Initiatives:
 - Municipal Project: Conduct LED summits and investment promotion conferences; and
 - Private Sector Project: Private sector to finance and participate in LED summits and conference.

4.2 The Secondary Study Area

The secondary study area is comprised of Ward 11 of the MLM. The section below presents key socio-economic indicators for Ward 11 in relation to provincial, district, local municipal levels as derived from StatsSA data (Census 2011; Community Survey 2016) accessed via Wazimap (2019)⁶.

4.2.1 Demographics

4.2.1.1 *Population and Population Density*

Ward 11, within which both the primary and secondary study areas are located, covers a geographical area of approximately 809 km², which represents 13.4% of the MLM. The ward has a population of 5 924 people (2011) with a population density of 7.3 persons per km². Considering the municipality's estimated growth rate of around 2.04% per annum, the

⁶ Wazimap data is supported by the South African government, specifically through the Department of Public Service and Administration's (DPSA's) initiative to develop www.data.gov.za as a central point for accessing public government data. Wazimap is a featured app on the website (South Africa National Data Portal, 2019) and provides Census 2011 and Community Survey 2016 socio-economic data adjusted to 2016 ward boundaries. <https://wazimap.co.za/>, Retrieved between 2019/08/15 and 2019/09/20.

population in Ward 11 in 2019 is approximately 6 297 people. The low population density is indicative of the rural nature of the ward. Refer to Table 4-1.

Table 4-1: Population and Population Density

Administrative Level	Population	Persons per km2
Mpumalanga Province	4 335 963	56.6
Gert Sibande District Municipality	1 135 409	35.4
Msukaligwa Local Municipality	164 408	27.3
Ward 11	5 924	7.3

4.2.1.2 Age and Gender

The percentage of the population in the under-18 age category is higher in Ward 11 (47.6%) than at the local, district and provincial levels. The percentage of the population in the 18 to 64 age category is lower in Ward 11 (47.9%) than at the local, district and provincial levels (Figure 4-1)

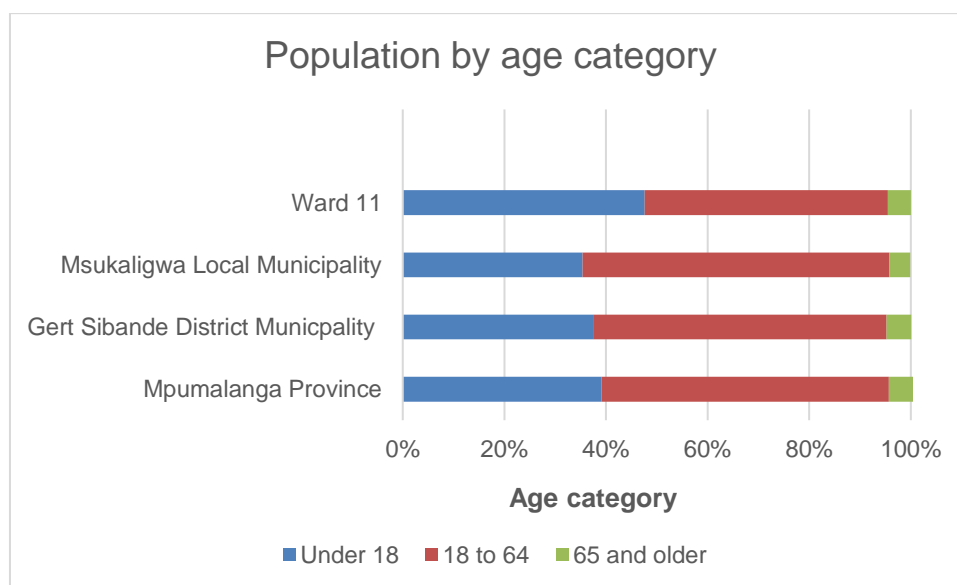


Figure 4-1: Population by Age Category

The proportion of females in Ward 11 (51.7%) is higher than the proportion of females at the local, district and provincial levels (Figure 4-2).

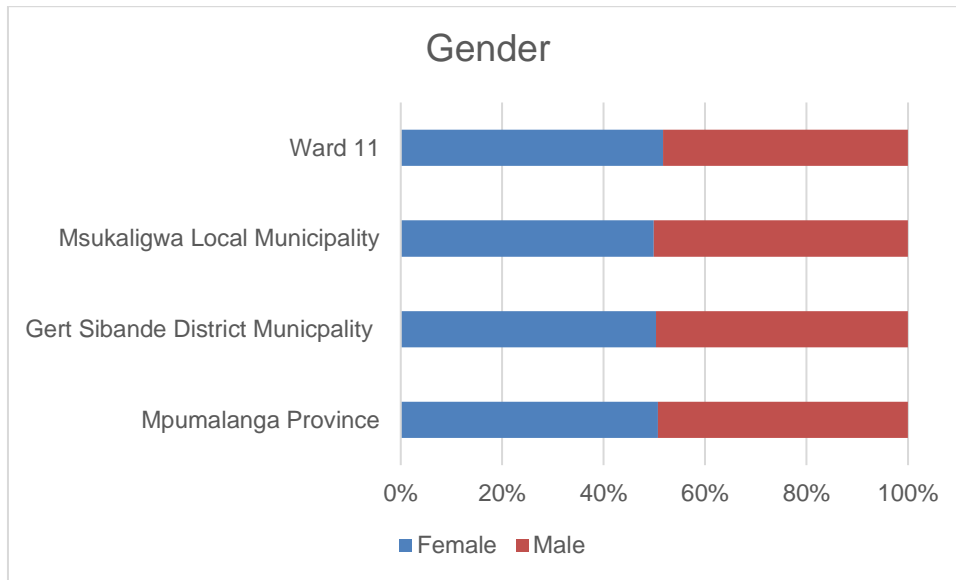


Figure 4-2: Gender Distribution

4.2.2 Education

The percentage of the population that has obtained a Grade 12, undergraduate or postgraduate qualification was significantly lower in Ward 11 than at the local, district and provincial levels. Similarly, the percentage of the population that has no formal education was significantly higher for Ward 11 than for the local, district and provincial populations (Figure 4-3).

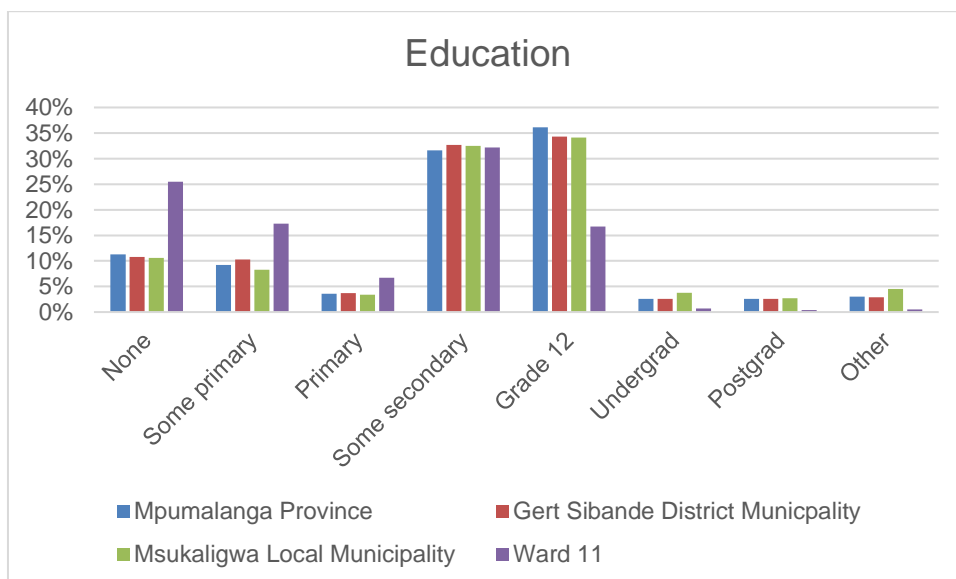


Figure 4-3: Education Levels

The Census 2011 data demonstrated that education plays a key role in reducing poverty, with the attainment of a Grade 12 qualification significantly reducing poverty amongst both men and women⁷. According to the SLP developed for the Project, the minimum education level for employment will be Grade 10 which will subsequently exclude those with lower education levels. The successful implementation of the other economic, education and community development initiatives listed in the SLP will therefore be crucial for ensuring that as many people as possible in the affected communities benefit from the Project.

4.2.3 Household Information

There were 1 236 households in Ward 11, constituting 2.4% of the households in MLM and 0.4% of the households in GSDM.

4.2.3.1 Households Headed by Women and Children

Forty seven percent of households in Ward 11 were headed by women, which is 10% higher than the district rate and 20% higher than the provincial rate. The percentage of households headed by children under 18 was also higher in Ward 11 (2.6%) than at local, district and provincial levels (Figure 4-4).

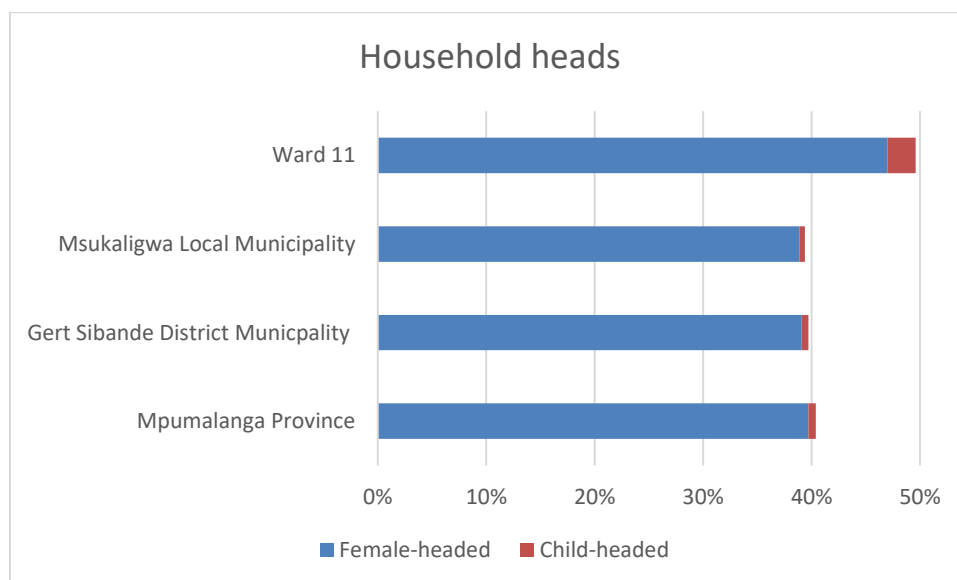


Figure 4-4: Female and Child-Headed Households

Female-headed households and child-headed households are considered vulnerable (IFC, 2012) and in the South African context, female-headed households are almost twice as likely to be poor than male-headed households⁸. Female and child-headed households, especially in the primary study area, may be more vulnerable to negative Project impacts than male-headed households. The Project may enhance the positive Project impacts for women by

⁷ <http://www.statssa.gov.za/?p=10334>

⁸ <http://www.statssa.gov.za/?p=10334>

ensuring that a policy of gender equity is adhered to for employment opportunities, skills training, learnerships, ABET training, bursaries and community development projects.

4.2.3.2 Tenure Status of Households

The percentage of households in Ward 11 that own their houses (45%) is lower than at local, district and provincial levels while the percentage of households that occupy their houses rent free (39%) is significantly higher than at local, district and provincial levels (Figure 4-5).

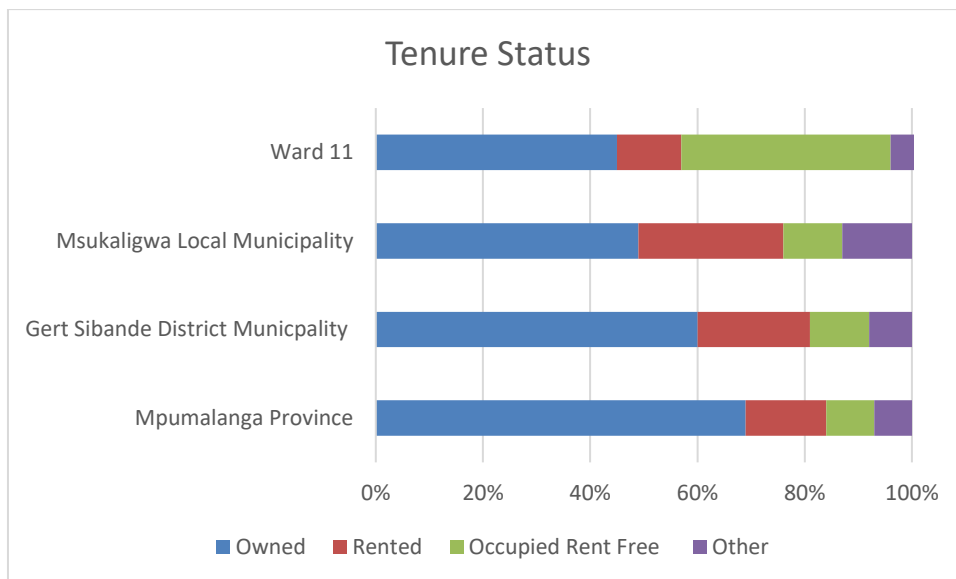


Figure 4-5: Tenure Status of Households

4.2.4 Economics

4.2.4.1 Employment

The percentage of the population over 15 years of age who were unemployed, not economically active and discouraged work seekers was higher in Ward 11 (17.8%, 44.5% and 9.4% respectively) than at the local, district and provincial levels (Figure 4-6). There was therefore a high level of dependency in Ward 11 households.

In terms of employment sectors, of the 28.4% of the population who were employed, 64.2% were employed in the formal sector, 24.6% in the informal sector, and 8.6% in private households.

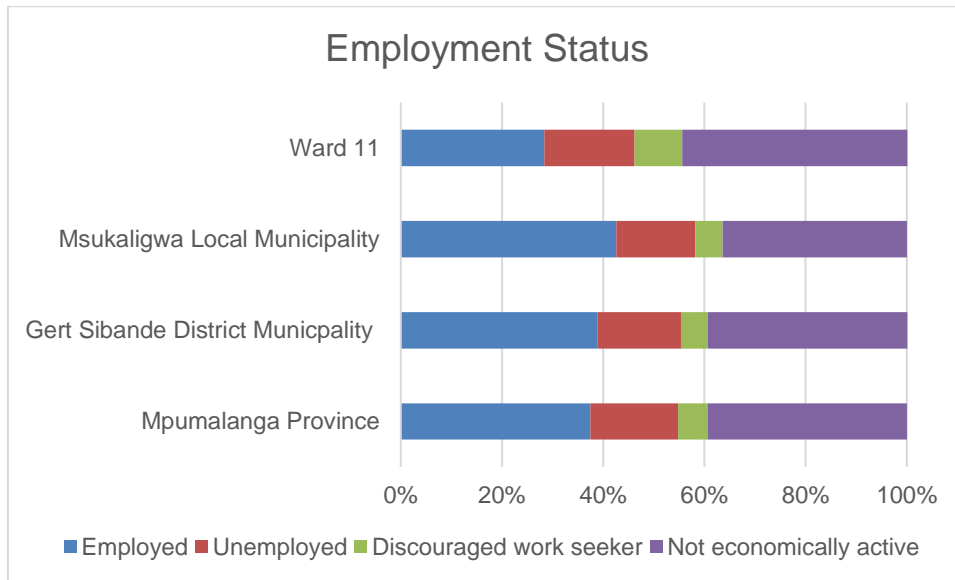


Figure 4-6: Employment Status

4.2.4.2 Income Profiles

Eleven percent of households in Ward 11 did not earn an income while 27% earned an annual income of less than R10 000 per annum, 22% earned an annual income of between R10 000 and R20 000, 23% an annual income of R20 000 to R40 000, and 16% an annual income between R40 000 to R 75 000. Thirty-eight percent of income earning households in Ward 11 are categorized as low-income households, earning an annual income of R1 to R20 000. The percentage of low-income households was higher in Ward 11 than at local, district, and provincial levels (Figure 4-7).

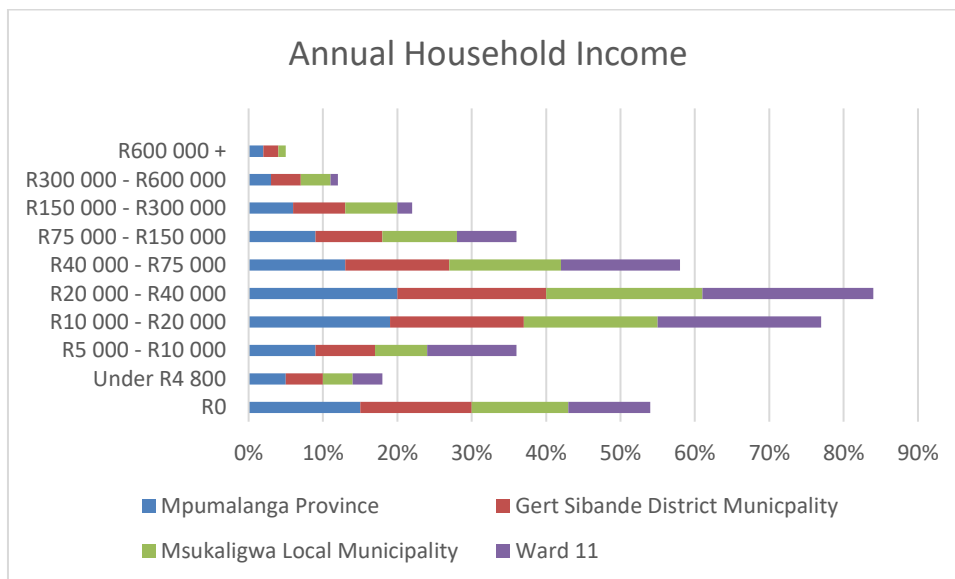


Figure 4-7: Annual Household Income Levels

4.2.5 Services and Infrastructure

4.2.5.1 Water

The percentage of the population that got water from a regional or local service provider was significantly lower in Ward 11 (28%) than at the local, district and provincial levels. The percentage of the population that sourced their water from a borehole was three times higher for Ward 11 (15%) than for the local, district and provincial levels. Forty-four percent of the population in Ward 11 sourced their water from rivers and dams which is 10 times higher than the local, district and provincial levels. Refer to Figure 4-8.

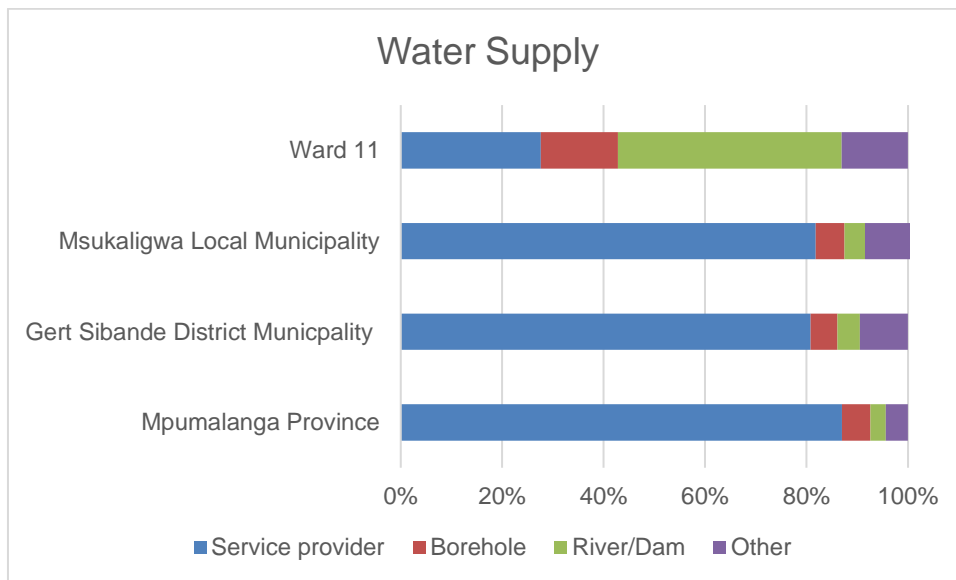


Figure 4-8: Water Supply

4.2.5.2 Sanitation

In Ward 11, 11% of the population had access to flush toilets, 62% used pit latrines and 24% did not have access to any sanitation facilities (Figure 4-9).

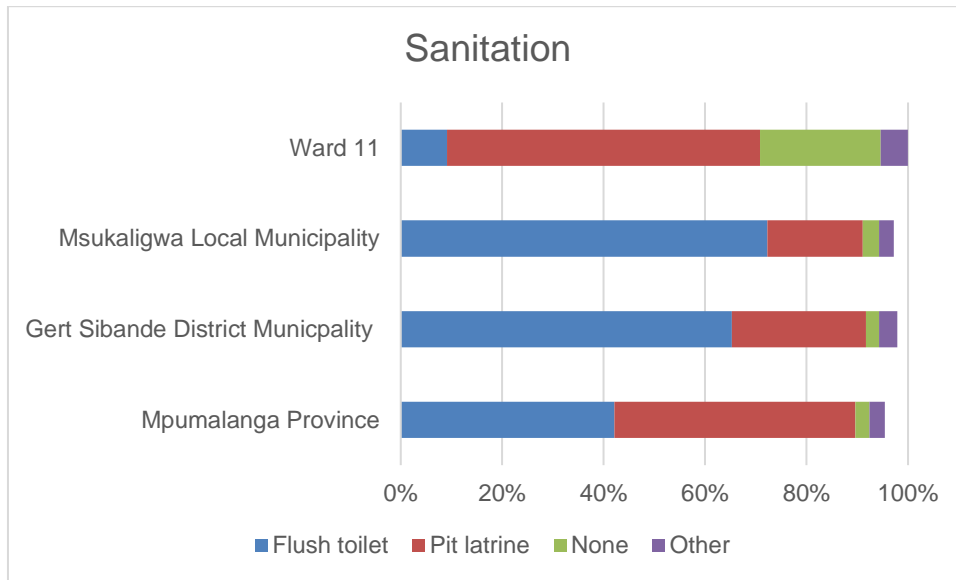


Figure 4-9: Sanitation Facilities

4.2.5.3 Refuse Disposal

The percentage of the population in Ward 11 who benefited from refuse removal by a local authority or private company (0.2%) was marginal in comparison to local, district and provincial populations (Figure 4-10).

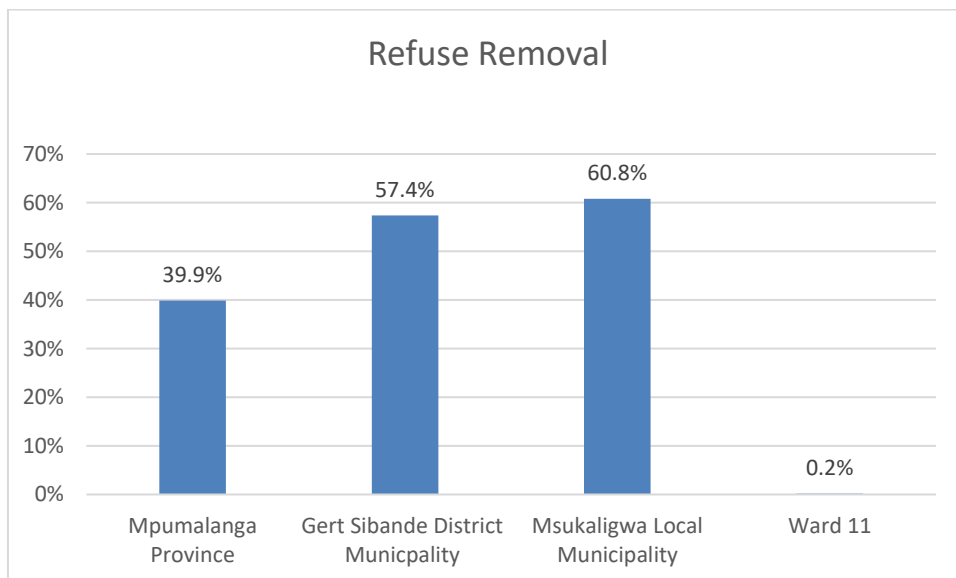


Figure 4-10: Refuse Removal by Local Authority or Private Company

4.2.5.4 Electricity

The percentage of households in Ward 11 that used electricity for cooking (25%), heating (17%) and lighting (57%) was significantly lower than for households at local, ward and provincial level.

Sixty-nine percent of households in Ward 11 used wood for cooking, 73% used wood for heating, and 41% used candles for lighting. Refer to Figure 4-11.

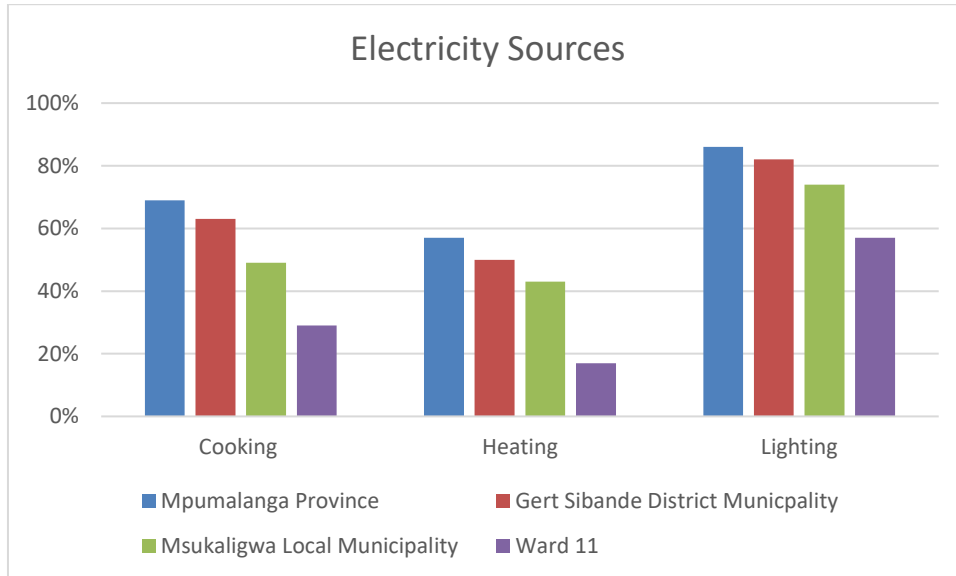


Figure 4-11: Electricity Sources

4.2.5.5 Housing

Forty-nine percent of households in Ward 11 indicated that they lived in a brick or concrete house, which was significantly lower than households at the local, district, and provincial levels. Ward 11 had the highest percentage of households living in traditional dwellings (40%) and the lowest percentage of households living in informal dwellings (shacks). Refer to Figure 4-12.

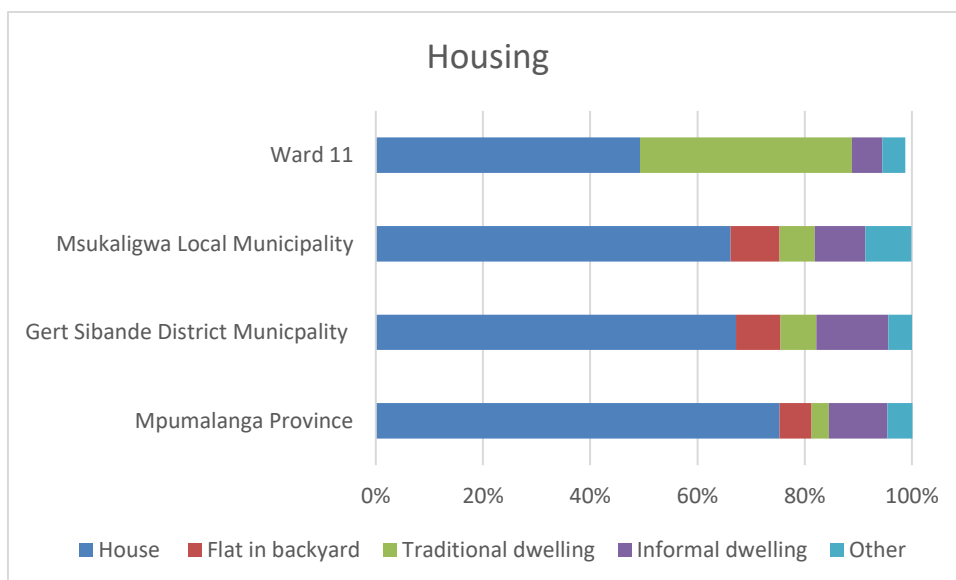


Figure 4-12: Housing Structures



4.3 Primary Study Area

A household socio-economic survey was not conducted with the households located within the primary study area and the socio-economic indicators for the population and households in Ward 11, within which the primary study area is located, are therefore taken as indicative for the households residing within the primary study area.

The primary data collected for the baseline socio-economic study and the SLP will be referred to, where relevant, for the households / communities in the primary study area.

4.3.1 Socio-Economic Context

The primary study area is rural in nature with households sparsely located across the area. The primary livelihood activities are subsistence and commercial crop farming (maize and legumes) and livestock keeping of cattle, sheep, goats and chickens. There were reportedly 200 head of cattle grazing in the primary study area.

It was reported that many of those living in the primary study area are unemployed and expectations regarding economic benefits such as employment opportunities, skills training, and SMME development were therefore high. Moreover, residents in the primary study area insisted that they be given preference in terms of employment and other economic opportunities. These competing expectations may potentially create conflict between primary and secondary study area residents as well as between residents in these study areas and job seekers from outside.

Dagsoom will implement an Agricultural Livelihoods Programme to improve agricultural production as part of its SLP commitments.

4.3.2 Social Services and Infrastructure

Building structures on the primary study area include brick buildings (that belonged to the previous occupants), newly-built brick structures, and buildings constructed with mud and thatch (Figure 4-13). There are expectations that the Project benefits will include improved housing, and also, concerns that the mud and thatch structures will be particularly vulnerable to the impacts of blasting and other mining activities.



Figure 4-13: Traditional Household Structures in the Primary Study Area

It was reported that households in the primary study area source water primarily from rivers, streams and dams, although some have access to boreholes with hand pumps. Many households do not have access to flush toilets and improved pit latrines, and do not benefit from refuse removal by a municipal or private service provider. Expectations regarding the Project’s assistance with service provision, especially in terms of clean water supply, sanitation facilities and a refuse disposal site were high. As indicated in the SLP, the Project has taken the decision to invest in water infrastructure development by installing two boreholes and associated handpumps at appropriate locations within the primary study area.

The road infrastructure within the primary study area is poor and it was reported that this impedes access to other areas and social services.

4.4 Applicable Stakeholder Comments

The stakeholder comments elicited during the consultation process with Project-affected communities and individuals are presented in Table 4-2.

Table 4-2: Stakeholder Comments Regarding Socio-Economic Indicators

Socio-Economic Indicators	Specific Issues	Stakeholder Comments
Human settlement and housing	Insecurity of tenure (Phakamani community)	Phakamani community has not yet been provided with title deed to land. Requested assistance from the mine.
	Relocation and resettlement	Do not want to be relocated and resettled.



Socio-Economic Indicators	Specific Issues	Stakeholder Comments
	Housing types	Houses in primary area are mud houses and will be very vulnerable to blasting.
	Improved housing	Project to assist with improvement of housing. Most of the houses located within the primary study area are traditional mud dwellings.
Economy	Employment opportunities	Unemployment very high and mine must improve employment opportunities.
		Employment opportunities must only be given to those living within the primary study area.
	SMMEs	The Project should provide opportunities for SMME development.
	Co-operatives	The Project should help strengthen co-operatives.
	Negative impact on agriculture and livestock	Loss of agricultural and grazing land due to Project activities.
		Mining activities may cause water shortages / water pollution which will reduce water for livestock.
Profit-sharing	Mine must share 5% of profit with mine communities.	
Education	Skills training	Local community members are disadvantaged in terms of employment opportunities due to lack of relevant skills.
	Learnerships	The mine must provide learnerships for children who cannot complete education or pursue further education due to financial constraints.
Infrastructure	Health and education	The mine to give back to community by constructing a school or clinic (school is far



Socio-Economic Indicators	Specific Issues	Stakeholder Comments
		away from primary communities).
	Roads	The mine must improve road networks in the primary and secondary study areas to ensure safe passage of Project vehicles.
Services	Electricity	Communities living within primary study area do not have electricity.
	Water	Communities living within primary study area do not have access to clean water and must collect water from the river. The mine must provide improved water source.
	Waste disposal	There is no waste site in Ward 11 and the mine must establish a waste disposal site.

4.5 Summary and Relevance

The socio-economic indicators presented above demonstrate that most of the households living in the primary and secondary study areas are characterised by poverty and underdevelopment. The population in Ward 11, which encompasses both the primary and secondary study areas, is worse off than the populations at local municipal, district and provincial levels in terms of security of tenure, housing, unemployment, income levels, vulnerable households, education levels, and access to basic services.

This renders these households more vulnerable to negative Project impacts and creates high expectations for employment and other economic and development benefits. On the other hand, the Project has the opportunity to have a significantly beneficial impact through providing employment opportunities, SMME development, education support (ABET, portable skills training, bursary programmes), as well as community development initiatives. The Dagsoom SLP outlines the employment, skills training, education support and community development initiatives that the mine has committed to implementing (see Appendix B).

Table 4-3 presents the relevance of the socio-economic indicators described above in relation to the Project's potential impacts, both positive and negative.


Table 4-3: Relevance of Socio-Economic Indicators for the Project

Aspect of Socio-Economic Context	Specifics	Relevance
Human settlement and housing	Only 45% of households in Ward 11 owned their houses.	Project-induced land loss and relocation may have greater negative impact on households without security of tenure.
	40% of households lived in traditional dwellings.	Project activities like blasting may have greater negative impact on traditional dwellings.
Economic	Unemployment in Ward 11 was 18%.	The Project has the potential to reduce unemployment.
	49% of households in Ward 11 were low income households.	The Project has potential to reduce poverty through employment, skills training, and development projects.
Age and gender	48% of the population in Ward 11 was in the under-18 age category.	The Project has potential to support education for under-18 population.
	47% of household heads in Ward 11 were female.	The Project has potential to increase employment opportunities and development benefits for women.
		Female-headed households may be more vulnerable to negative Project impacts.
Education	Only 17% of the Ward 11 population 15 years and older had a Grade 12 qualification.	Employment opportunities may be limited due to low education levels.
		The Project has the potential to support education and employment through ABET, learnerships, skills training, and, where appropriate, providing employment opportunities that do not require a Grade 12 qualification (minimum Grade 10).
Basic services	44% of households in Ward 11 sourced their water from rivers and dams.	The Project has potential to provide clean water source (e.g. borehole and handpump) to communities in the primary study area.



Aspect of Socio-Economic Context	Specifics	Relevance
	24% of households in Ward 11 had no access to sanitation facilities.	The Project has potential to provide improved pit latrines to primary mine community.
	Only 0.2% of households in Ward 11 benefited from refuse disposal by a local authority or private company.	The Project has potential to improve refuse disposal.
	41% of households in Ward 11 depended on candles for lighting, 69% depended on wood for cooking, and 73% depended on wood for heating.	The Project has the potential to reduce households' dependence on candles and wood by providing alternative energy sources.

5 Project Impact Assessment

Impacts are rated prior to mitigation or enhancement and again after consideration of the proposed mitigation or enhancement measures. Mitigation measures are formulated to avoid or mitigate negative impacts and enhancement measures to enhance positive impacts.

The post- mitigation / enhancement rating provides an indication of the significance of residual impacts, while the difference between pre- and post- mitigation / enhancement ratings represents the degree to which the recommended measures are expected to be effective in mitigating or enhancing an impact.

The impacts for each phase of the Project are considered.

5.1 Construction Phase

The sections below provide details and the significance of potential socio-economic impacts associated with the construction phase of the Project.

The potential construction related impacts on the socio-economic environment are as follows:

- Employment creation during construction;
- Community health and safety impacts;
- Impacts related to loss of grazing land;
- Disruption to movement and accessibility;
- Multiplier effects on the local and regional economy;
- Community development and social upliftment;
- Traffic impacts; and

- Impacts on sense of place.

The potential impacts on the socio-economic environment during the construction phase are further discussed in Table 5-1 to Table 5-8.

All the impacts discussed in this section except “Employment created during construction” will continue into the Operational Phase and beyond. They are therefore rated to reflect their duration across project phases.

5.1.1 Employment Creation

The socio-economic profile of the Project area⁹ indicates that households and communities are characterised by poverty, underdevelopment, and unemployment. There are widespread expectations that the Project will provide employment opportunities to members of communities in the Project area. Moreover, persons living in the primary study area are insistent that they be prioritized over persons and communities located in the secondary study area and beyond. The expectation is that the Project will contribute towards addressing high unemployment and low-income levels in the Project area and contribute to alleviating poverty and hardship.

The proposed Project will require the establishment of surface infrastructure and therefore has the potential to provide direct employment to people within the primary and secondary study areas during the construction phase, which is expected to span a period of one year. It is expected that many of these positions will last for a relatively short period and will largely involve unskilled and semi-skilled positions. However, the acquisition of new skills prior to and during the construction period will render individuals more employable for future phases of the Project.

The Dagsoom SLP has committed to giving preference for employment to suitably qualified members of communities in the primary, secondary and regional study areas (see Section 3.1). The SLP also outlines the mine’s skills training commitments for the different project phases and stipulates that the mine will prioritize community members from the primary and secondary study areas for ABET and portable skills training to increase their employability. Given the high number of female-headed households in the primary and secondary study areas the mine should ensure that women are provided with equal opportunities for employment and skills training.

In addition to potentially creating job opportunities for construction workers, the Project may also lead to indirect employment creation in the informal sector.

The potential employment impacts and enhancement measures are described in Table 5-1.

⁹ The Project area encompasses both the primary and secondary study areas and the communities, households and individuals residing therein.


Table 5-1: Potential Impact for Employment Creation

Activity and Interaction: Recruitment / Appointment of Construction Workforce			
Impact Description: Employment creation during construction			
Prior to Enhancement			
Dimension	Rating	Motivation	Significance
Duration	Medium term (3)	Construction activities will span 12 months.	Minor positive (40)
Extent	Regional (5)	The SLP has committed to giving preference for employment to suitably qualified members of local communities (Ward 11 of MLM) or others from the labour-sending area (communities within a 30 km radius of the mine).	
Intensity	Low positive (2)	Low skill levels within local communities may restrict these opportunities. Employment offered to people not from local communities will reduce benefits to members of local communities.	
Probability	Probable (4)	The SLP has committed to giving preference to suitably qualified members of local communities. However, without appropriate enhancement measures (skills development, monitoring of SLP employment commitments) local employment may be limited.	
Nature	Positive		
Enhancement Measures			
<ul style="list-style-type: none"> ▪ Develop and implement an abbreviated Stakeholder Engagement Plan (SEP), inclusive of a communications plan and grievance mechanism, as well as the appointment of community liaison personnel; ▪ Undertake a skills survey of the communities located in the primary and secondary study areas, allowing residents to register their interest and particular skills for upcoming employment and skills training opportunities; ▪ Use the results of the skills survey to develop a skills register to inform the Skills Development Plan to maximize employment opportunities for residents in the primary and secondary study areas; ▪ Provide skills training prior to and during the Construction Phase to improve local employability during both Construction and Operational Phases; 			



Activity and Interaction: Recruitment / Appointment of Construction Workforce			
<ul style="list-style-type: none"> ▪ Explore the possibility of expanding job opportunities beyond mining-related work to also include hiring contract workers to assist with community development projects; ▪ Comply with minimum wage requirements for unskilled labour and all other requirements, including gender equity, of the Employment Equity Act¹⁰ to ensure maximum benefits accrue to workers; ▪ Monitor Dagsoom and its subcontractors in terms of the commitments stipulated in Dagsoom's Social and Labour Plan (SLP) on an annual basis through external auditors; ▪ Ensure that local communities understand the Project's employment requirements in terms of skills and type of employment, by communicating relevant aspects of the SLP and its overarching objectives at community forums in the primary and secondary study areas; and ▪ Prepare for the Operational Phase by updating the Project's local labour database to include local community members employed during the Construction Phase. 			
Post-Enhancement			
Dimension	Rating	Motivation	Significance
Duration	Medium term (3)	Construction activities will span 12 months.	Moderate positive (78)
Extent	Regional (5)	The SLP has committed to giving preference for employment to suitably qualified members of local communities (Ward 11 of MLM) or others from the labour-sending area (communities within a 30 km radius of the mine).	
Intensity	Moderately high positive (4)	Measures may potentially increase employment from primary and secondary study areas, which will intensify positive change, especially among economically depressed households.	
Probability	Highly probable (6)	Mitigation will maximise probability, through monitoring, that local employment is maximised and benefits optimised.	
Nature	Positive		

¹⁰ The Employment Equity Amendment Act 47 of 2013, Government Gazette, RSA, Volume 583, 16 January 2014, Cape Town.



5.1.2 Community Health and Safety

Traffic impacts, which may affect workers as well as communities, are addressed in Table 5-7. This section deals with other types of potential Project-induced health and safety impacts, focusing specifically on those that may affect surrounding communities.

The most significant health and safety impacts to communities include:

- Fly rock from blasting during construction may cause injury and / or death of people and livestock;
- Dust from blasting and other Project activities may adversely impact human and animal health and may impact households, crops, grazing land and water;
- Damage to structures from vibrations caused by blasting or mine traffic. It is also possible that community members may incorrectly ascribe cracks in structures to Project-related vibration, when in fact these are due to poor building materials, weather conditions, etc.;
- Injuries and / or fatalities involving community members entering hazardous, access-restricted areas on the construction or mine site and / or being exposed to hazardous materials related to the Project;
- Pollution of water sources will affect the quality, quantity and availability of freshwater sources which and have adverse impacts on human and animal health;
- Subsidence risk if coal is mined under residential and other structures; and
- Increased incidence of HIV and STIs given the presence of the mine workforce.

The potential health and safety impacts and mitigation measures are described in Table 5-2.

Table 5-2: Potential Community Health and Safety Impacts

Activity and Interaction: All Construction and Operational Activities			
Impact Description: Community health and safety impacts			
Prior to Mitigation/Management			
Dimension	Rating	Motivation	Significance
Duration	Beyond project life (6)	Will continue for the duration of the Project, and likely continue during decommissioning when the Mine infrastructure is dismantled.	Minor negative (-65)
Extent	Limited (2)	Will affect community members living, working or travelling in the immediate vicinity of Project infrastructure.	



Activity and Interaction: All Construction and Operational Activities			
Intensity	High - negative (-5)	Could place the health and lives of community members at risk and lead to reputational damage for Dagsoom.	
Probability	Likely (5)	The nature of the Project requires the infrastructure and activities described, which entail an inherent risk.	
Nature	Negative		
Mitigation/Management Actions			
<ul style="list-style-type: none"> ▪ Enforce the required buffer zones around all Project infrastructure in accordance with national legislation; ▪ Control access to all Project elements, including fencing and physical / electronic security where necessary; ▪ Sensitise communities and individual landowners in primary and secondary study areas about health and safety risks and mitigation measures prior to commencement of construction activities; ▪ Ensure all visitors to the mine undergo health and safety induction and have appropriate PPE; ▪ Undertake blasting modelling and implement resulting mitigation and management measures, including enforcement of a 500 m buffer zone and evacuation of humans and animals within the buffer zone during blasting activities; ▪ Undertake a housing baseline survey of houses located within the primary study area to establish the pre-Project condition of structures and provide means of verifying claims of Project-related damages; ▪ In consultation with communities and individual landowners, establish the most appropriate ways to notify communities prior to any blasting activities and ensure that notification of all affected parties is done timeously; ▪ Adhere to the prescribed regulation and standards on the storage and disposal of hazardous materials, including explosives; ▪ Implement mitigation measures stipulated in the specialist reports undertaken for this EIA to mitigate dust, blasting, and water and air quality impacts; ▪ Implement HIV / AIDS and substance abuse prevention campaigns for the Construction and Operational Phase workforce in collaboration with local authorities and relevant NGOs. These campaigns can be expanded to the broader community at a later stage. 			
Post-Mitigation			
Dimension	Rating	Motivation	Significance
Duration	Beyond project life (6)	Will continue for the duration of the Project, and likely continue during decommissioning when the Mine infrastructure is dismantled.	Negligible negative (-30)
Extent	Limited (2)	Will affect community members living, working or travelling in the immediate vicinity of Project infrastructure.	



Activity and Interaction: All Construction and Operational Activities			
Intensity	Low – negative (-2)	Where such impacts still occur, mitigation / management measures are likely to reduce their severity.	
Probability	Unlikely (3)	Mitigation / management will reduce the risk of such impacts occurring.	
Nature	Negative		

5.1.3 Loss of Grazing Land

The owners and occupants residing within the primary study area are engaged in livestock keeping, albeit with a low level of stocking density, as well as commercial and subsistence farming. The activities that will be undertaken in Northern Underground Access area during the initial phase of the Project, as well as the associated infrastructure, will only impact a very limited area of the land that is currently utilized by members of households and communities for grazing livestock. Dagsoom estimates that only 32 ha of grazing land will be impacted by mining activities and mining infrastructure, including the access and haul road and power line. Approximately 2,450 ha of land will still be available for grazing.

The potential impacts and mitigation measures related to the loss of grazing land are described in Table 5-3.

Table 5-3: Potential Impacts Related to Loss of Grazing Land

Activity and Interaction: Project-related Land Acquisition			
Impact Description: Impacts related to loss of grazing land			
Prior to Mitigation/Management			
Dimension	Rating	Motivation	Significance
Duration	Permanent (7)	Affected grazing land will be permanently displaced.	Minor negative (-63)
Extent	Very limited (1)	Will impact the owners and occupants residing in the primary study area.	
Intensity	Very low negative (-1)	Mining related activities and infrastructure will only impact a very small area of available grazing land.	
Probability	Certain (7)	Nature and location of the Project will inevitably result in loss of some grazing land.	
Nature	Negative		
Mitigation / Management Measures			



Activity and Interaction: Project-related Land Acquisition			
<ul style="list-style-type: none"> ▪ Minimise the extent of the loss of grazing land through consolidation of infrastructure where feasible; ▪ Finalise the infrastructure layout, including the radius of the buffer zones to be implemented around the infrastructure area, to determine the extent of the loss; and ▪ Ensure that owners and occupants within the primary and secondary study areas are informed that crop cultivation and livestock grazing will not be permitted in the affected area. 			
Post-Mitigation			
Dimension	Rating	Motivation	Significance
Duration	Permanent (7)	Affected grazing land will be permanently displaced.	Minor negative (-63)
Extent	Very limited (1)	Minimising loss of grazing land by consolidating infrastructure may reduce the extent of the loss.	
Intensity	Very low negative (-1)	Mining related activities and infrastructure will only impact a very small area of available grazing land.	
Probability	Certain (7)	Nature and location of the Project will inevitably result in loss of some grazing land.	
Nature	Negative		

5.1.4 Disruption of Movement Patterns and Access

This impact refers to instances where households, assets or livelihood resources remain unaffected by the Project, but where people's access to such resources or assets is obstructed in some way by Project infrastructure or activities. According to the current Project infrastructure layout plan, access to households, agricultural land, grazing land and natural resources will not be obstructed by Project infrastructure. At most, the distance travelled to reach such resources may be marginally increased.

This impact will continue for the life of the mine and some temporary disruption of access routes may occur – for example, through temporary road closures during certain construction activities.

Disruption of farmers and community members' movement patterns could also occur as a result of Project-related traffic on local roads. This impact (along with other traffic-related impacts) is discussed in more detail in Table 5-7.

The potential impacts and mitigation measures related to the disruption of movement and access are described in Table 5-4.



Table 5-4: Potential Impacts Related to the Disruption of Movement Patterns and Access

Activity and Interaction: Access Restrictions during Construction and Operation Activities			
Impact Description: Disruption of movement patterns and access			
Prior to Mitigation/Management			
Dimension	Rating	Motivation	Significance
Duration	Project Life (5)	Will be most pronounced during construction phase but will continue through operations and into decommissioning.	Minor negative (-66)
Extent	Local (3)	Will mostly affect persons and households living within Project footprint and surrounding areas.	
Intensity	Moderate negative (-3)	Access roads and infrastructure are limited to isolated areas and existing roads are already in a deteriorated state.	
Probability	Highly probably (6)	Disruption impacts will stem from the physical intrusion of Project infrastructure, especially if these are fenced.	
Nature	Negative		
Mitigation/Management Actions			
<ul style="list-style-type: none"> ▪ Consider access routes as well as land-take when consolidating infrastructure to minimise land loss; ▪ Where access and haul roads or other Project infrastructure will be fenced, establish appropriate crossing points for community members. The location of these should be decided in consultation with affected communities; ▪ For temporary disruption during construction: <ul style="list-style-type: none"> ▪ Keep communities and individual landholders informed of construction progress and when access will be blocked by the mining and transport activities; and ▪ Facilitate the safe crossing, through traffic calming measures or walkways, for pedestrians at intersections experiencing increased traffic volumes. 			
Post-Mitigation			
Dimension	Rating	Motivation	Significance
Duration	Long term (4)	Mitigation measures will likely reduce impact to such a level that those affected will adapt to disruption over time.	Minor negative (-36)



Activity and Interaction: Access Restrictions during Construction and Operation Activities			
Extent	Local (3)	Will mostly affect persons and households living within primary study area and surrounding areas.	
Intensity	Low negative (-2)	Mitigation measures should be effective in reducing severity of impacts to a limited degree, and those affected will in time adapt to disruptions.	
Probability	Probable (4)	Measures would decrease the probability of impacts occurring to the extent predicted.	
Nature	Negative		

5.1.5 Multiplier Effects on the Local and Regional Economy

The proposed Project could result in several socio-economic benefits through direct and multiplier effects stimulated by capital expenditure on Construction and Operational Phase activities.

Generally, industrial construction activities increase the demand for a wide variety of goods and services, and as a result stimulate and / or sustain growth within the regional manufacturing and service sectors. Both these sectors are already well established within Mpumalanga Province, which has a highly developed coal mining industry. This economic environment has the potential to generate opportunities for SMMEs, provided they are formalised and able to meet the procurement requirements of the proposed mine. Dagsoom and its contractors are committed to making maximum use of local SMMEs and BBBEE companies (see Dagsoom SLP) but may need to procure from businesses elsewhere in the province to meet highly technical needs.

Finally, the capital spent on the HRDP for mine employees and community development initiatives could, if implemented effectively and sustainably, represent economic progress within the Project area, thereby also creating conditions conducive to economic growth.

The potential impacts and enhancement measures related to multiplier effects on the local and region economy are described in Table 5-5.

Table 5-5: Potential Impacts Related to Multiplier Effects on the Local and Regional Economy

Activity and Interaction: Construction Activities' Impact on the Socio-Economic Environment			
Impact Description: Multiplier effects on the local and regional economy			
Prior to Enhancement			
Dimension	Rating	Motivation	Significance



Activity and Interaction: Construction Activities' Impact on the Socio-Economic Environment			
Duration	Project Life (5)	Will peak during Construction Phase and continue throughout the remainder of the life of the Project.	Minor positive (48)
Extent	Regional (5)	Will include local and regional impacts.	
Intensity	Low positive (2)	Will derive from increased cash flow, stimulation of economic sectors, procurement, economic growth, increased demand in local markets, and community development and HRD initiatives.	
Probability	Probable (4)	Will primarily depend on the proportion of local spending by employees, capacity of local and regional enterprises to supply goods and services, and effectiveness of community development and HRD initiatives.	
Nature	Positive		
Enhancement Measures			
<ul style="list-style-type: none"> ▪ Comply with SLP commitments to make maximum use of local SMMEs and BBBEE companies; ▪ Include local procurement targets in contractors' Special Conditions of Contract where appropriate; ▪ Monitor contractors and sub-contractors on local procurement on an annual basis through external auditors; ▪ Compile a database of services or procurement opportunities, which could be delivered by local providers, e.g. provision of foodstuff, security, maintenance; ▪ Develop a register of local SMMEs; ▪ Establish linkages with skills development / SMME development organizations and other mining operations; ▪ Clearly advertise the nature and extent of local procurement opportunities during the various project phases; and ▪ Establish appropriate communication mechanisms with surrounding communities. 			
Post-Enhancement			
Dimension	Rating	Motivation	Significance
Duration	Project Life (5)	Will peak during Construction Phase and continue throughout the remainder of the life of the Project.	Moderate positive (90)



Activity and Interaction: Construction Activities' Impact on the Socio-Economic Environment			
Extent	Regional (5)	Will include local and regional impacts.	
Intensity	High positive (5)	Enhancement will likely increase and intensify multiplier effects as it may concentrate impact within the primary and secondary study areas.	
Probability	Highly probable (6)	Increased local employment and procurement as well as upskilling of local enterprises will enhance likelihood of benefits to local economy.	
Nature	Positive		

5.1.6 Community Development Initiatives

Dagsoom will contribute to community development and social upliftment through the implementation of its SLP (Appendix B). If implemented successfully, the SLP has the potential to facilitate and catalyse socio-economic development within the Project area. These initiatives, especially if implemented in consultation with other development stakeholders (such as local government, non-governmental development organisations), can contribute towards socio-economic development, sustainable jobs, food security and income stability of households within local communities.

Contributing toward community development and social upliftment is central to establishing a productive relationship between the mine and its surrounding communities and therefore to establishing and maintaining Social Licence to Operate (SLO). This is especially important for the communities in the primary and secondary study areas, both because households within these communities have a low socio-economic base and because members of these communities have very high expectations regarding Project benefits (Section 4.5).

As indicated in Section 1.2.3, Dagsoom has committed to a number of community development initiatives, including a Water Infrastructure Development Programme, an Agricultural Livelihoods Programme and a Work Readiness Programme.

The Water Infrastructure Development Programme, that entails the installation of two boreholes and handpumps at appropriate locations in the primary study area, will be implanted during the Construction Phase while the Agricultural Livelihoods Programme (ALP) and a Work Readiness Programme will be implemented during the Operational Phase.

As indicated previously, there are a high number of female-headed households in the Project area and the Project should ensure that women are given an equal opportunity to participate in the community development initiatives.

The potential impacts and enhancement measures related to community development initiatives outlined in the Dagsoom SLP are described in Table 5-6.


Table 5-6: Potential Impacts Related to Community Development Initiatives

Activity and Interaction: Implementation of Dagsoom's SLP			
Impact Description: Implementation of community development initiatives			
Prior to Enhancement			
Dimension	Rating	Motivation	Significance
Duration	Project Life (5)	SLP will be implemented during Construction and Operational Phases.	Minor positive (40)
Extent	Local (3)	Will benefit mine workforce and communities in the primary and secondary study areas.	
Intensity	Low positive (2)	The intensity of the benefits is determined by the scale and reach of the development initiatives.	
Probability	Probable (4)	Without adequate stakeholder involvement, development initiatives are unlikely to be sustainable.	
Nature	Positive		
Enhancement Actions			
<ul style="list-style-type: none"> ▪ Consult with Project beneficiaries regarding proposed development initiatives; ▪ Design community development initiatives that will be sustainable beyond the life of the Project and independent of mining operations; ▪ Early identification of community members for enrolment in ABET and portable skills training to improve likelihood of employment on the mine; ▪ Conduct baseline socio-economic survey of households located within primary study area prior to commencement of community development initiatives to enable accurate identification of eligible LED project and skills training beneficiaries and measure impacts of development initiatives on households; ▪ Collaborate with other developmental role players during implementation; ▪ Ensure that the service provider that will implement the ALP has the requisite expertise and experience to successfully implement the ALP; ▪ Establish an external monitoring programme to monitor and evaluate community development initiatives as well as HRDP and procurement policy implemented by the mine and its contractors on an annual basis; ▪ Expand skills development and capacity building programmes to non-employees; and ▪ Maintain a record of training courses completed per individual and community. Where training is offered to non-employees, their contact information and qualifications can be shared with other industries. 			
Post- Enhancement			
Dimension	Rating	Motivation	Significance



Activity and Interaction: Implementation of Dagsoom's SLP			
Duration	Beyond project life (6)	If sustainably managed, benefits could extend beyond the life of the mine.	Moderate positive (78)
Extent	Local (3)	Will benefit mine workforce and communities in the primary and secondary study areas.	
Intensity	Moderately high positive (4)	Recommended measures will enhance stakeholder buy-in and positive impact on beneficiaries.	
Probability	Highly probable (6)	Recommended measures will improve likelihood of Project sustainability.	
Nature	Positive		

5.1.7 Traffic Impacts

Dagsoom will construct a new access and haul road to connect mining areas to the N2 highway and intends to make this road accessible to communities and individual landowners. While the improvement of road infrastructure within the primary study area was cited as a community need during the stakeholder consultation process, allowing community members, landowners and other members of the public to use the mine's access road also entails health and safety risks that need to be mitigated.

Heavy traffic caused by construction and mine vehicles, if not effectively mitigated, will likely pose a safety risk for existing road users as well as pedestrians, livestock and other animals in the areas adjacent to the access and haul road. This impact may extend to regional or national roads. Further to this, measures will need to be taken to address the likely deterioration of existing roads due to mine traffic.

The potential traffic impacts and mitigation measures for construction are described in Table 5-7.

Table 5-7: Potential Traffic Impacts

Activity and Interaction: All Construction- and Mine-related Traffic			
Impact Description: Traffic impacts			
<i>Prior to Mitigation/Management</i>			
Dimension	Rating	Motivation	Significance
Duration	Project life (5)	Will continue for the duration of the Project.	Minor negative (-65)



Activity and Interaction: All Construction- and Mine-related Traffic			
Extent	Local (3)	Will mostly affect the population within the primary study area, some residents of nearby settlements and users of local roads, as well as Project employees and contractors.	
Intensity	High negative (-5)	Could place the lives of employees and community members at risk.	
Probability	Likely (5)	The nature of the Project requires the infrastructure and activities described, which hold an inherent risk.	
Nature	Negative		
Mitigation/Management Actions			
<ul style="list-style-type: none"> ▪ Develop and implement a Traffic Management Plan based on the recommendations in Traffic Impact Assessment. This plan should also include provisions on how the Project will select and manage its drivers (by means of training, a driver Code of Conduct, spot checks, etc.); ▪ Implement road maintenance measures to ensure that the quality of the access and haul road constructed by the mine is maintained; ▪ Conduct regular road quality inspections; ▪ Regulate Heavy Motor Vehicle traffic by implementing safe travelling speeds, restricting traffic to daylight hours; ▪ Prevent speeding by installing traffic management and calming measures (e.g. speed humps); and ▪ Sensitise community members, especially children, to potential traffic safety risks through community education. 			
Post-Mitigation			
Dimension	Rating	Motivation	Significance
Duration	Project life (5)	Will continue for the duration of the Project.	Negligible negative (-33)
Extent	Local (3)	Will mostly affect the population within the primary study area, some residents of nearby settlements and users of local roads, as well as Project employees and contractors.	
Intensity	Moderate negative (-3)	Appropriate mitigation will reduce the risk of this impact.	
Probability	Unlikely (3)	Probability of traffic accidents will be significantly reduced through mitigation / management.	
Nature	Negative		



5.1.8 Impacts on Sense of Place

Sense of place refers to the identity and character of a landscape as perceived by local inhabitants and incorporates both the natural and cultural environment.

As described previously, the Project area is rural in nature, sparsely populated, with agricultural production as the main economic activity. It is expected that the visual impact of surface infrastructure, including lighting at night, increased traffic activity, air quality and water quality impacts, and increased noise levels will alter inhabitants' sense of place.

These impacts, combined with actual or perceived changes in safety and security, are likely to negatively affect the quality of life and sense of well-being of the population living in the primary and secondary study areas. Moreover, the mine may negatively impact the property and land values in these areas.

The changes wrought by the construction and operation of the mine may be perceived as positive by communities whose quality of life is improved by the potential socio-economic benefits associated with employment opportunities and community development initiatives. They will not however be considered as positive by those community members or individual landowners who do not benefit from the Project.

Potential impacts related to sense of place and mitigation measures to address these, are described in are described in Table 5-8.

Table 5-8: Impacts on Sense of Place

Activity and Interaction: Impact on Sense of Place			
Impact Description: Impact of Project infrastructure and activities on inhabitants' sense of place			
Prior to Mitigation / Management			
Dimension	Rating	Motivation	Significance
Duration	Beyond Project life (6)	Consequences of impacts may continue beyond the Operational Phase of the Project.	Moderate negative (-105)
Extent	Local (3)	Will mostly affect settlements within the primary and secondary study areas.	
Intensity	Very high – negative (-6)	Mine may impact on inhabitants' sense of place and quality of life and result in a depreciation of property values for surrounding commercial farmers.	
Probability	Certain (7)	Impacts are largely unavoidable as a result of mining activities, especially if impacts are not mitigated.	
Nature	Negative		
Mitigation/Management Actions			



Activity and Interaction: Impact on Sense of Place			
<ul style="list-style-type: none"> ▪ Implement mitigation measures stipulated in specialist studies (Surface and Ground Water Impact Assessment, Noise Impact Assessment, Air Quality Impact Assessment, Blasting and Vibration Impact Assessment and Traffic Impact Assessment) undertaken for this EIA; ▪ Optimise mine plan / infrastructure placement to avoid / minimise negative impacts, especially in terms of visual intrusion, air quality and access disruptions; ▪ Prioritise successful implementation of SLP to ensure that affected communities benefit from the Project; ▪ Establish a grievance mechanism to record grievances (related to air quality, water quality, traffic safety etc.) from affected communities and individual landowners; and ▪ Implement corrective measures promptly. 			
Post-Mitigation			
Dimension	Rating	Motivation	Significance
Duration	Beyond Project life (6)	Consequences of impacts may continue beyond the Operational Phase of the Project.	Minor negative (-66)
Extent	Local (3)	Will mostly affect settlements within the primary and secondary study areas.	
Intensity	Moderately high – negative (-4)	Mitigation will lessen physical impacts; affected people likely to adapt over time.	
Probability	Highly probable (6)	Impacts will still occur, albeit not to pre-mitigation degree.	
Nature	Negative		

5.2 Operational Phase

Most the social impacts described in Section 5.1 in relation to the Project's Construction Phase will continue into its Operational Phase. These include:

- Community health and safety impacts;
- Loss of grazing land;
- Disruption of movement patterns and access;
- Multiplier effects on the local and regional economy;
- Benefits from community development initiatives;
- Traffic impacts; and
- Impacts on sense of place.



These impacts have been rated, and their associated mitigation and enhancement measures formulated, in recognition that these impacts will endure beyond the Construction Phase into the Operational and Closure Phases.

The impacts described for the Operational Phase are either specific to the Operational Phase or their mitigation / management / enhancement measures require a shift in focus with the transition from the Construction to the Operational Phase. These impacts are described in Table 5-9 to Table 5-10 and include:

- Employment creation during the Operational Phase; and
- Growth of the local economy.

5.2.1 Employment Creation During the Operational Phase

An estimated total of 173 individuals will be employed through the mine during the Operational Phase of the Project. Employment will have a positive impact on employees and their dependents.

It is expected that some of this workforce will be drawn from the local and district municipalities as well as Mpumalanga Province, given the region's well-developed coal mining industry. Members of the communities in the primary and secondary study areas are primarily engaged in agricultural livelihood activities and are unlikely to have the requisite skills to qualify them for semi-skilled and skilled employment. Nonetheless, the skills training provided to selected community members during the Construction Phase may qualify them for employment during the Operational Phase. This will allow some of the benefits of employment, such as wages, skills development and income security, to accrue to local communities. This is in line with the mine's commitment to give preference to suitably qualified members of communities in the primary and secondary study areas. As discussed in Section 4.5, providing employment benefits to these communities is essential to maintaining the mine's SLO. However, it should be recognised that employment of South Africans from elsewhere in the country still constitutes a beneficial impact.

As with the Construction Phase, the Operational Phase of the proposed Project could give rise to indirect employment opportunities, including jobs in the informal and formal sectors.

Potential impacts related to employment creation during the Operational Phase and enhancement measures to address these, are described in are described in Table 5-9.

Table 5-9: Potential Impacts Related to Employment Creation During Operation

Activity and Interaction: Recruitment / appointment of Operational Phase workforce			
Impact Description: Employment Creation during Operation			
Prior to Enhancement			
Dimension	Rating	Motivation	Significance



Activity and Interaction: Recruitment / appointment of Operational Phase workforce			
Duration	Project Life (5)	Equal to the duration of the Operational Phase.	Minor positive (48)
Extent	Regional (5)	Some positions will be filled by persons living in primary and secondary study areas; however, it is likely that most positions will be filled by persons originating from local and district municipalities and Mpumalanga Province.	
Intensity	Low positive (2)	Without appropriate measures to promote local employment, it is likely that limited numbers of operational employees will be recruited from communities in the primary and secondary study areas.	
Probability	Probable (4)	It is highly probably that at least some operational employees will be recruited from communities in the primary and secondary study areas and elsewhere in the district and province.	
Nature	Positive		
Enhancement Measures			
<ul style="list-style-type: none"> ▪ Continue enforcement of SLP commitments for giving preference for employment to suitably qualified members of local communities; ▪ Monitor the contractors and sub-contractors on an annual basis through an external auditor to ensure their compliance with SLP commitments; and ▪ Ensure the skills development initiatives proposed in the SLP are targeted at as many local community members as possible, thereby improving skills training beneficiaries' chances at employment on the Project. ▪ Use the Project database, developed during the Construction Phase, listing local community members who were employed during the Construction Phase to select locals for employment in the Operational Phase. 			
Post-Enhancement			
Dimension	Rating	Motivation	Significance
Duration	Project Life (5)	Equal to the duration of the Operational Phase.	Moderate positive (84)



Activity and Interaction: Recruitment / appointment of Operational Phase workforce			
Extent	Regional (5)	Some positions will be filled by persons living in primary and secondary study areas; however, it is likely that most positions will be filled by persons originating from local and district municipalities and Mpumalanga Province.	
Intensity	Moderately high positive (4)	Enhancement measures will maximise local job creation.	
Probability	Highly probable (6)	Enhancement will maximise probability that local recruitment targets are achieved and local benefits optimised.	
Nature	Positive		

5.2.2 Growth of the Local Economy

Multiplier effects on the local and regional economy were described for the Operational Phase (Section 5.1.5; Table 5-5), albeit in recognition that this impact will continue throughout the Project life cycle. However, during the Operational Phase, this impact will acquire some additional dimensions that warrant separate discussion. These include the following:

- The State will receive royalty and tax payments for the extraction of coal and government structures will benefit from rates and taxes levied on Dagsoom. These economic inputs may contribute to infrastructure and economic development at municipal and provincial levels; and
- The Project could contribute to local economic growth through the procurement of goods and services from local SMMEs and BBBEE companies, as per the mine's procurement policy.

Potential impacts related to the growth of the local economy are described in are described in Table 5-10.

Table 5-10: Potential Impacts Related to the Growth of the Local Economy

Activity and Interaction: Operational Activity Impacts on the Local Economy			
Impact Description: Growth of the local economy			
Prior to Enhancement			
Dimension	Rating	Motivation	Significance
Duration	Project Life (5)	Would contribute to economic development throughout Dagsoom's operation.	Minor positive (52)



Activity and Interaction: Operational Activity Impacts on the Local Economy			
Extent	National (6)	Economic benefits will be experienced at the local, regional and national levels.	
Intensity	Low positive (2)	Effects on the local economy will not be maximised without mitigation or enhancement.	
Probability	Probable (4)	Dagsoom is obliged by law to pay royalties and taxes, implement the SLP, and some economic multiplier effects may impact regional economic development.	
Nature	Positive		
Enhancement Measures			
<ul style="list-style-type: none"> Continue implementation of the measures recommended to enhance local employment, skills development, community development, and multiplier effects on the local economy for the Construction Phase; Set targets to progressively increase local and regional procurement over the life of the Project; and Incorporate SMME capacity development programmes into future iterations of the SLP to enable local suppliers to take maximum advantage of procurement opportunities during the Operational Phase. 			
Post-Enhancement			
Dimension	Rating	Motivation	Significance
Duration	Beyond Project Life (6)	Successful mitigation will prolong benefits of economic development beyond life of the Project.	Moderate positive (96)
Extent	National (6)	Economic benefits will be experienced at the local, regional and national levels.	
Intensity	Moderately high positive (4)	Successful enhancement will create an environment conducive for economic growth.	
Probability	Highly probable (6)	Enhancement will increase the probability of manifesting this impact.	
Nature	Positive		



5.3 Decommissioning and Rehabilitation Phase

The Decommissioning and Closure Phase of the Project will result in several potential negative socio-economic impacts. However, any predictions regarding the characteristics of the receiving socio-economic environment at the time of closure are subject to a margin of error that reduces the accuracy of the impact rating provided in Table 5-11.

Employees and their dependents will inevitably become dependent on the mine and employment will be lost at mine closure (approximately 173 workers). More widely, project benefits arising from the procurement of goods and services as well as demand for goods and services by wage-earning employees will cease. The mine's direct involvement in community development initiatives will also cease. Economic downturn and the resultant loss of employment could result in increases in social pathologies, such as crime, gender violence, prostitution and substance abuse (IFC, 2012).

The severity of this impact depends to a large extent on the degree to which the local economy has grown dependent on the Project throughout its operation. For this reason, skills development, SMME development, and the design of community development initiatives to be sustainable beyond the life of the mine are key elements in successful mitigation of this impact. It will also be important to mitigate the negative impact of retrenchment on employees and their dependents.

The Dagsoom SLP (Appendix B) outlines the measures it will implement to ameliorate the socio-economic impacts of mine closure on individuals, communities and economies where retrenchment or mine closure is certain. A Social Closure Plan will be developed to mitigate these impacts through focused interventions, including assessment and counselling services, comprehensive self-employment training programmes, comprehensive re-employment training programmes, and plans for alternative use of infrastructure and land.

However, given that Dagsoom is one of several mines in the area and that it will only employ a workforce of 173 workers, the significance of mine closure will be low on a regional scale.

Potential socio-economic impacts related to mine closure and mitigation measures to address these, are described in are described in Table 5-11.

Table 5-11: Socio-Economic Impacts of Mine Closure

Activity and Interaction: Closure of the Mine			
Impact Description: Job Losses and Negative Effects on the Local Economy			
<i>Prior to Mitigation/Management</i>			
Dimension	Rating	Motivation	Significance
Duration	Beyond Project Life (6)	Effects of retrenchments / decommissioning will be long-lasting for employees, local businesses and government.	Moderate negative (-84)



Activity and Interaction: Closure of the Mine			
Extent	District (4)	Will most severely affect employees and service providers in the GSDM district.	
Intensity	Moderately high negative (-4)	Given the small size of the mine, effects of mine closure will affect a limited number of households, businesses and the local economy.	
Probability	Likely (5)	Without effective mitigation, it is likely that economic dependence on the mine will develop.	
Nature	Negative		
Mitigation / Management Measures			
<ul style="list-style-type: none"> ▪ Develop a detailed Social Closure Plan at least 5 years prior to decommissioning, that includes a retrenchment plan for Project staff as well as a communication strategy that will keep employees and surrounding communities informed about closure timing and management strategies; ▪ Develop and implement the required Human Resource systems to provide references for employees; ▪ Ensure that employment contracts release employees from non-compete clauses following the closure of the Project; ▪ Design community development initiatives that will be sustainable beyond the life of the Project and independent of mining operations; ▪ Increase opportunities for ABET, portable skills training, and mining skills-related skills development during the Operational Phase; and ▪ Proactively assess and manage the social and economic impacts on individuals, regions and economies where retrenchment and/or closure of the Project are certain. 			
Post-Mitigation			
Dimension	Rating	Motivation	Significance
Duration	Beyond Project Life (6)	Effects of retrenchments / decommissioning will be long-lasting for employees, local businesses and government.	Minor negative (-52)
Extent	District (4)	Will most severely affect employees and service providers in the GSDM district.	
Intensity x type of impact	Moderate negative (-3)	Mitigation will reduce economic dependency on the mine and ameliorate the impact of retrenchment.	



Activity and Interaction: Closure of the Mine			
Probability	Probable (4)	Mitigation will reduce the likelihood that the local economy will grow dependent on the mine (even though eventual mine closure is inevitable).	
Nature	Negative		

6 Cumulative Impacts

Cumulative impacts are those impacts that result from the incremental impact, on areas or resources used or directly impacted by the project, from other existing, planned or reasonably defined developments (including third-party developments) at the time that the risks and impacts identification process is conducted (IFC PS 1, 2012).

There are four other mines within a 30 km radius of the proposed mine. These are:

- Mooiplaats Colliery approximately 15 km northwest of the proposed mine.
- Vunene Mine across from the Camden power station, approximately 26km northwest of the proposed mine and 12km southeast of Ermelo along the N2;
- La Brie Colliery, approximately 31km northwest of the proposed mine and 6.5km southeast of Ermelo along the N2; and
- Penumbra coal mine, approximately 45km north-northwest of the proposed mine and 6km south of Ermelo, along the N11.

Potential cumulative impacts associated with the Project are listed in Table 6-1.

Table 6-1: Potential Cumulative Impacts Related to Proposed Project

Nature	Direction of change	Extent of impact
Improved standard of living through increased employment opportunities, local business development, and improved public and community services and facilities (the latter will be dependent on government and private-sector contributions).	Positive	Local and regional
Urban sprawl, housing backlog and / or growth of informal settlements.	Negative	Local and regional
Added pressure on local public service delivery and infrastructure, including housing, health systems, water and sanitation facilities, schools, and police services.	Negative	Local and regional
The use of non-local labour, due to unavailability of local skilled workers, may cause tension in local communities due to expectations that the Project should provide employment to locals.	Negative	Local

Nature	Direction of change	Extent of impact
The visual impact of mining infrastructure and other industrial developments, and associated changes in land use, are significant and imprint an industrial character onto the rural agricultural landscape, impacting on sense of place.	Negative	Local and regional
Increased pressure on water resources to maintain the reserves required to supply basic human and ecological needs.	Negative	Local and regional
Compounded effects of lighting, noise, traffic, water pollution, dust emission, groundwater abstraction and physical reduction in habitat impacts community health and safety.	Negative	Local and regional
Reduced land availability for agricultural use (crop and livestock production).	Negative	Local, regional and national
Economic dependency on surrounding mines will negatively impact local, regional and national economies with decommissioning and mine closure.	Negative	Local, regional and national

Isolated attempts by Dagsoom to ameliorate the above impacts will have only limited success. It is essential that Dagsoom collaborates with the appropriate governmental and non-governmental structures and forums as well as the mining projects listed above to address these impacts.

7 Discussion

A total of eleven socio-economic impacts were identified for the proposed Project, five positive and six negative impacts. A summary of the socio-economic impacts identified is presented in Table 7-1 and then followed by a discussion.

Table 7-1: Summary of Potential Socio-Economic Impacts

Impact	Activities Contributing to Impact	Pre-mitigation	Post-mitigation
Employment creation during construction	Most construction-related Project activities will require a workforce. The following activities will trigger employment opportunities: <ul style="list-style-type: none"> ▪ Construction of mine-related infrastructure; and ▪ Employment of mine workforce 	Minor - positive	Moderate - positive

Impact	Activities Contributing to Impact	Pre-mitigation	Post-mitigation
Multiplier effects on the local and regional economy	Project activities that involve capital expenditure may trigger multiplier effects on local economy, including: <ul style="list-style-type: none"> ▪ Employment of mine workforce; ▪ Appointment of contractors for construction of mine infrastructure, including access road; ▪ Procurement of goods and services from local SMMEs; and ▪ Implementation of community development initiatives and skills training initiatives outlined in the SLP. 	Minor - positive	Moderate - positive

Impact	Activities Contributing to Impact	Pre-mitigation	Post-mitigation
Community development	<p>The implementation of community development initiatives will be triggered by:</p> <ul style="list-style-type: none"> ▪ Commencement of the mine and mining activities; and ▪ Implementation of the mine’s SLP, specifically, commitments regarding community development initiatives. 	Minor - positive	Moderate - positive
Loss of grazing land	<p>The loss of grazing land will be triggered by the following activities:</p> <ul style="list-style-type: none"> ▪ Land acquisition; ▪ Site clearing, including removal of topsoil and vegetation; ▪ Construction of surface infrastructure; and ▪ Blasting and development of adit, including stockpiling. 	Minor - negative	Minor - negative
Disruption of movement patterns and access	<p>Disruption of movement patterns and access will be triggered by the following activities:</p> <ul style="list-style-type: none"> ▪ Construction of mine infrastructure, including access road; ▪ Blasting and development adit, including stockpiling; and ▪ Loading, hauling and stockpiling of waste rock, RoM coal. 	Minor - negative	Minor - negative

Impact	Activities Contributing to Impact	Pre-mitigation	Post-mitigation
Community health, safety and security impacts	<p>Community health, safety and security will be potentially impacted by the following activities and events:</p> <ul style="list-style-type: none"> ▪ Blasting and development of adit, including stockpiling; ▪ Construction of mine infrastructure; ▪ Drilling and blasting; ▪ Loading, hauling and stockpiling of waste rock, RoM coal; ▪ Plant and equipment operations; ▪ Storage, handling and treatment of hazardous products and waste; including explosives; ▪ On-site water use and storage; ▪ Dust emissions; and ▪ Demolition and removal of mine infrastructure. 	Minor - negative	Negligible - negative
Traffic impacts	<p>Traffic hazards will be potentially be triggered by the following activities:</p> <ul style="list-style-type: none"> ▪ Use of access road by mine and private vehicles as well as pedestrians; ▪ Use of local, regional and national roads by mine vehicles; and ▪ Humans and livestock crossing access road. 	Minor - negative	Negligible - negative
Disturbance of sense of place	<p>Disturbance of agricultural sense of place will be triggered by the following activities:</p> <ul style="list-style-type: none"> ▪ Commencement of mine; ▪ Blasting and development of the adit, including stockpiling; ▪ Construction of mine infrastructure; ▪ Drilling and blasting; ▪ Loading, hauling and stockpiling of waste rock, RoM coal; ▪ Plant and equipment operations; ▪ Dust emissions; and ▪ Increase in traffic and traffic hazards. 	Moderate - negative	Minor - negative

Impact	Activities Contributing to Impact	Pre-mitigation	Post-mitigation
Employment creation during operation	Most operational activities will require a workforce.	Minor - positive	Moderate - positive
Growth of local economy	Local economic growth will be potentially be triggered by the following activities: <ul style="list-style-type: none"> ▪ Employment and project expenditure; ▪ Payment of royalties and taxes; ▪ Procurement of goods and services from local SMMEs; ▪ Successful implementation of SLP; and ▪ Mine and equipment operations. 	Minor - positive	Moderate - positive
Mine closure impacts on local economy	Mine closure impacts on the local economy will be triggered by the following activities: <ul style="list-style-type: none"> ▪ Retrenchment of workforce and cessation of operational expenditure; and ▪ Cessation of procurement and goods from local SMMEs. 	Moderate - negative	Minor - negative



7.1 Positive Impacts

The successful implementation of the enhancement measures listed for each of these positive impacts in Section 5 will enhance their significance from minor-positive to moderate-positive. As indicated, adherence to the commitments contained in the Dagsoom SLP (Appendix B) will be of particular importance in ensuring that members of local communities as well as local businesses and SMMEs benefit from the Project. There are high numbers of female-headed households in the primary and secondary study areas and Dagsoom can enhance the positive Project impacts for women by ensuring that a policy of gender equity is adhered to for employment opportunities, skills training, learnerships, ABET training, bursaries and community development projects.

7.2 Negative Impacts

While none of the negative impacts can be avoided if the Project is approved, their intensity, duration and significance can be reduced if the mitigation measures listed for each impact in Section 5 are successfully implemented. With mitigation, the significance of impacts related to community health, safety and security, and traffic impacts can be reduced from minor-negative to negligible-negative.

Similarly, with mitigation, the significance of negative impacts related to sense of place and mine closure can be reduced from moderate-negative to minor-negative.

Finally, the intensity and probability of negative impacts related to disruption of movement patterns and access can be considerably reduced with the implementation of the recommended mitigation measures.

The significance of the loss of grazing land remains minor-negative for both pre-mitigation and post-mitigation scenarios given the limited impact on available grazing land.

8 Recommendations

From a socio-economic perspective, it is recommended that the proposed Project proceed. This recommendation is however subject to the following conditions:

- The mitigation and enhancement measures listed for each impact, negative and positive, must be implemented;
- A social management plan and social monitoring plan must be developed to manage and monitor the implementation of these measures and recommend corrective measures, where necessary; and
- Implement mitigation measures recommended in other specialist studies, including traffic, dust, blasting, ground and surface water and others, that are likely to have socio-economic impacts.



9 Conclusion

The proposed Project has the potential to benefit local, regional and national economies. There are high expectations amongst members of communities in the primary and secondary study areas regarding employment, skills training and procurement opportunities as well as development benefits. To establish and maintain a SLO, the mine must endeavour to benefit local communities, not least through adherence to the commitments outlined in the Dagsoom SLP (Appendix B).

Effective stakeholder engagement involving consultation and information sharing is an important component of maintaining good community relations and of addressing community concerns and grievances regarding mining activities.

Dagsoom would be well-served to establish linkages with other institutions (e.g. government, other existing or planned mines, community development organisations and conservation groups) involved in local and regional economic development and social upliftment to maximise the benefits of its contribution to the welfare of local communities.



10 References

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Social Impact Assessment

Dagsoom Twyfelaar Coal Mining Project near Ermelo, Mpumalanga

DAG5603



DIGBY WELLS
ENVIRONMENTAL

Appendix A: Impact Assessment Methodology



The impact assessment methodology is based on a rating process that is designed to provide a numerical rating of the various social impacts identified. The significance rating process follows the established impact / risk assessment formula, as shown below:

$$\text{Significance} = \text{consequence of an event} \times \text{probability of the event occurring}$$

where

$$\text{Consequence} = \text{Type of impact} \times (\text{Intensity} + \text{Spatial Scale} + \text{Duration})$$

and

$$\text{Probability} = \text{Likelihood of an impact occurring}$$

In the formula for calculating **consequence**:

$$\text{Type of impact} = +1 \text{ (for positive impacts) or } -1 \text{ (for negative impacts)}$$

The weight assigned to the various parameters for positive and negative impacts in the formula is presented in Table 10-1.

Table 10-1: Impact Rating Options

Rating	Criteria and definitions	
	Negative impacts (Type of impact = -1)	Positive impacts (Type of impact = +1)
Intensity		
7	Irreversible damage to highly valued items of great sociocultural significance or complete breakdown of social order	Noticeable, on-going social benefits which have improved the livelihoods and living standards of the local community in general
6	Irreparable damage to highly valued items of sociocultural significance or breakdown of social order	Great improvement to livelihoods and living standards of a large percentage of population
5	Very serious widespread social impacts. Irreparable damage to highly valued socio-cultural items	On-going and widespread positive benefits to local communities which improves livelihoods
4	On-going serious social issues. Significant damage to structures / items of sociocultural significance	Average to intense social benefits to some people
3	On-going social issues. Damage to items of sociocultural significance	Average, on-going positive benefits, not widespread but felt by some
2	Minor medium-term social impacts on local population. Mostly repairable. Cultural functions and processes not affected	Low positive impacts experience by very few of population
1	Minimal social impacts, low-level repairable damage to commonplace structures	Some low-level social benefits felt by very few of the population



Spatial scale	
7	<u>International</u> : The effect will occur across international borders
6	<u>National</u> : Will affect the entire country
5	<u>Province/ Region</u> : Will affect the regional study area and potentially the Mpumalanga Province
4	<u>Municipal Area</u> : Affect will be limited to the local study area
3	<u>Local</u> : Extending across the site and to nearby settlements within the local study area
2	<u>Limited</u> : Limited to the site and its immediate surroundings (i.e. site-specific study area)
1	<u>Very limited</u> : Limited to specific isolated parts of the site
Duration	
7	<u>Permanent</u> : The impact will remain long after the life of the project
6	<u>Beyond project life</u> : The impact will remain for some time after the life of the project
5	<u>Project Life</u> : The impact will cease after the operational life span of the Project (20 years)
4	<u>Long term</u> : 6-15 years
3	<u>Medium term</u> : 1-5 years
2	<u>Short term</u> : Less than one year
1	<u>Immediate</u> : Less than one month
Probability	
7	<u>Certain/ Definite</u> : There are sound scientific reasons to expect that the impact will definitely occur
6	<u>Almost certain/Highly probable</u> : It is most likely that the impact will occur
5	<u>Likely</u> : The impact may occur
4	<u>Probable</u> : Has occurred here or elsewhere and could therefore occur
3	<u>Unlikely</u> : Has not happened yet but could happen once in the lifetime of the project, therefore there is a possibility that the impact will occur
2	<u>Rare/ improbable</u> : Conceivable, but only in extreme circumstances and/ or has not happened during lifetime of the Project but has happened elsewhere. The possibility of the impact materialising is very low as a result of design, historic experience or implementation of adequate mitigation measures
1	<u>Highly unlikely/None</u> : Expected never to happen.

Impacts are rated prior to mitigation or enhancement and again after consideration of the proposed mitigation or enhancement measures. The impact is then determined and categorised into one of eight significance categories, as indicated in the Table 10-1. The relationship between consequence, probability and significance ratings is graphically depicted in Figure 10-1.


Table 10-2: Significance Ratings

Score	Description	Rating
109 to 147	A very beneficial impact that may be sufficient by itself to justify implementation of the project. The impact may result in permanent positive change	Major (positive) (+)
73 to 108	A beneficial impact which may help to justify the implementation of the project. These impacts would be considered by society as constituting a major and usually a long-term positive change to the (natural and / or social) environment	Moderate (positive) (+)
36 to 72	A positive impact. These impacts will usually result in positive medium to long-term effect on the natural and / or social environment	Minor (positive) (+)
3 to 35	A small positive impact. The impact will result in medium to short term effects on the natural and / or social environment	Negligible (positive) (+)
-3 to -35	An acceptable negative impact for which mitigation is desirable. The impact by itself is insufficient even in combination with other low impacts to prevent the development being approved. These impacts will result in negative medium to short term effects on the natural and / or social environment	Negligible (negative) (-)
-36 to -72	A minor negative impact requires mitigation. The impact is insufficient by itself to prevent the implementation of the project but which in conjunction with other impacts may prevent its implementation. These impacts will usually result in negative medium to long-term effect on the natural and / or social environment	Minor (negative) (-)
-73 to -108	A moderate negative impact may prevent the implementation of the project. These impacts would be considered as constituting a major and usually a long-term change to the (natural and / or social) environment and result in severe changes.	Moderate (negative) (-)
-109 to -147	A major negative impact may be sufficient by itself to prevent implementation of the project. The impact may result in permanent change. Very often these impacts are immitigable and usually result in very severe effects. The impacts are likely to be irreversible and/or irreplaceable.	Major (negative) (-)

Social Impact Assessment

Dagsoom Twyfelaar Coal Mining Project near Ermelo, Mpumalanga

DAG5603



DIGBY WELLS
ENVIRONMENTAL

Appendix B: Dagsoom SLP

SOCIAL AND LABOUR PLAN
Submitted as part of the Mining Right
Application for the proposed
DAGSOOM TWYFELAAR MINE
in the Msukaligwa Local Municipality,
Mpumalanga Province

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ACRONYMS

ABBREVIATION	DESCRIPTION
ABET	Adult Basic Education and Training
AIDS	Acquired Immune Deficiency Syndrome
ALP	Agricultural Livelihood Programme
ATR	Annual Training Report
BBBEE	Broad-based Black Economic Empowerment
CPA	Communal Property Association
CPP	Career Progression Plan
DMR	Department of Mineral Resources
EEP	Employment Equity Plan
EIA	Environmental Impact Assessment
EMP	Environmental Management Plan
EPC	Engineering, Procurement and Construction
EPCM	Engineering, Procurement and Construction Management
FET	Further Education and Training
GET	General Education and Training
GVA	Gross Value Add
HDI	Historically Disadvantaged Individuals
HET	Higher Education and Training
HIV	Human Immunodeficiency Virus
HRD	Human Resources Development
HRDP	Human Resources Development Programme
IDP	Integrated Development Plan
LoM	Life of Mine

LRA	Labour Relations Act
LTSK	Lump Sum Turn Key
MMC	Member of the Mayoral Committee
MLM	Msukaligwa Local Municipality
MPRDA	Minerals and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002)
MQA	Mining Qualifications Authority
NGO	Non-Governmental Organisation
NQF	National Qualifications Framework
SAQA	South African Qualifications Authority
SDP	Skills Development Plan
SETA	Sector Education and Training Authority
SIA	Social Impact Assessment
SLP	Social and Labour Plan
SLTO	Social Licence to Operate
SMME	Small, Medium and Micro Enterprises
UIF	Unemployment Insurance Fund
VIP	Ventilated Improved Pit
WSP	Workplace Skills Plan
WUL	Water Use License

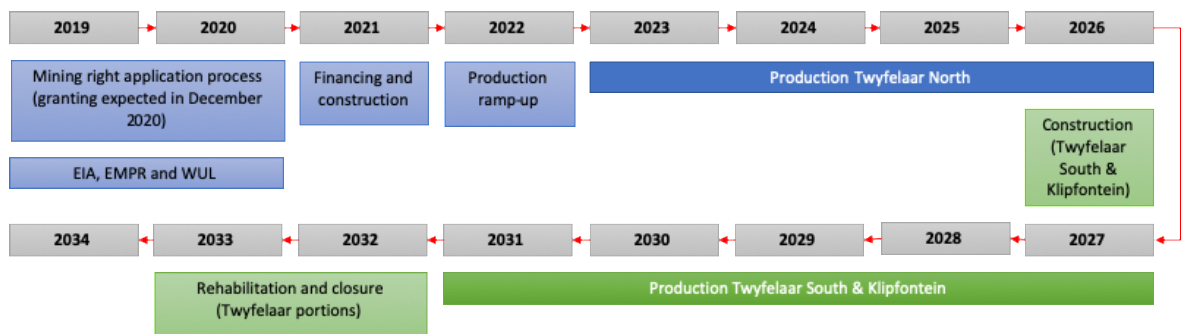
GLOSSARY

TERM	DESCRIPTION
Contractor	Independent entity who will supply a portion of the operational workforce.
Dagsoom	Refers to Dagsoom Coal Mining (Pty) Ltd, the applicant.
Mine Community	The community on and around the mining rights area. The mine community has been divided into a primary mine community consisting of Phakamani, Thandukanyo, Bambanani Trust and Bambanani CPA communities and a secondary mine community consisting of the wider Ward 11 of the Msukaligwa Local Municipality, which includes Sheepmoor. This definition was also applied to determine the mine community workforce.
Klipfontein	Incorporates the RE of the farm Klipfontein 283 IT
Twyfelaar Coal Mine	The name of the proposed mine, consisting of three sections namely Twyfelaar North, Twyfelaar South and Klipfontein. These sections will be mined by the same workforce and is therefore regarded as one mining operation.
Twyfelaar North	Twyfelaar North incorporates Portion 2 of the Twyfelaar 298 IT.
Twyfelaar South	Twyfelaar South incorporates portions 1, 7 and the RE of Twyfelaar 298 IT.

INTRODUCTORY STATEMENT

Dagsoom Coal Mining (Pty) Ltd (hereafter referred to as Dagsoom) is the holder of a Prospecting Right (DMR Ref: MP30/5/1/1/21820PR) over the remaining extent of the farm Klipfontein 283 IT and Portions 1, 2, 5, 7, 8, 9 and remaining extent of the farm Twyfelaar 298 IT, situated in the magisterial district of Ermelo, Province of Mpumalanga (known as the “Twyfelaar Project / Twyfelaar Project Area”). Dagsoom intends to apply for a Mining Right in terms of the Minerals and Petroleum Resources Development Act, 2002 (Act 28 of 2002) (MPRDA). This Social and Labour Plan (SLP) forms part of the mining right application.

It is expected that the mining right will be granted towards the end of 2020. During this time, Dagsoom will continue with the environmental authorisation process (EIA, EMPR and WUL). As soon as the mining right has been granted, Dagsoom will secure financing and commence with construction (expected to start in Q1 2021). Production ramp up is expected to start in Q1 2022 with full production on Twyfelaar North to last from 2023 to 2026. Construction on the Twyfelaar South and Klipfontein sections will start in the last year of Twyfelaar North’s production (i.e. 2026), with full production expected to start in 2027 and last until 2031. Rehabilitation and closure will start in 2032. The total LoM is expected to be around 13 years.



At the time of this SLP, Dagsoom did not have a workforce (ramp-up expected to start in 2022 with full production a year later in 2023). It is foreseen that approximately 53% of the workforce will be permanent employees of Dagsoom, while the remaining 47% will consist of contractors.

The proposed Twyfelaar mine is only expected to be generating an income by 2023 and as such, any financial commitments in this SLP prior to 2023 are limited and mostly focused on preparing the resources required for the operational phase.

This SLP was prepared using the 2010 SLP guidelines while taking cognisance of targets set forth in the 2018 Mining Charter, where applicable.

CONTRACTOR COMPLIANCE

Dagsoom's current strategy regarding the future workforce is to outsource the operation of the mine to MPRDA compliant contractors. Approximately 53% of the total workforce component will be permanent employees of Dagsoom, while the remaining 47% of the workforce will be consist of staff employed by MPRDA compliant contractors.

To ensure that any future Contractor(s) that will be used by Dagsoom comply with the commitments set out in this document, Dagsoom will include the MPRDA and Mining Charter (2018) requirements in any tender process and contract documents for all contractors. Every contractual tender will also include set criteria as listed in the Charter and it will be expected of signatories to attach the Charter's provisions to specifications that will be enforceable through contractor compliance.

Contractor(s) will be required to submit proof of the implementation of the following processes together with any tender submissions:

- The contracting company's SLP, which should be aligned to the requirements of Section 46 of the MPRDA and in line with the Dagsoom SLP;
- Proof of compliance with Employment Equity and Broad-Based Black Economic Empowerment (BBBEE);
- Proof of compliance with the Mining Scorecard;
- Proof of educational levels of the proposed workforce of any contracting company. All members of the contractual workforce will be required to have at least an ABET Level 3 qualification;
- Proof of competence in terms of explosion regulations (under the MHSA Regulations, Chapter 4);
- A firm commitment to undertake unit standard based training programmes; and
- Any and all policies relating to recruitment, training, health and safety, etc. These policies will be subject to an independent auditing process that will be facilitated by Dagsoom.

The following documentation and commitments must be provided with the tender submittal to assist with the evaluation in terms of compliance to the SLP and Mining Charter, which in turn will assist with the selection of contractors:

- Details of the contractor labour force;
- List of the different job categories for the project as well as competency requirements per job category;

- Agreement that the contractor will give preference for employment to suitably qualified members of the local community or others from the labour-sending area;
- Overview of the selection process that will be followed in the event that the contractor makes use of sub-contractors and labour-hire. The contractor should also indicate which factors will be considered to be most critical when selection is made; and
- Broad-based Black Economic Empowerment (BBBEE) and Small, Medium, Micro Enterprise (SMME) documentation to be submitted with the tender include policies, list of SMME companies that the contractor is currently supporting in terms of its policy, the company policy regarding BEE, and the company objectives and targets for BEE.

Human Resources

Dagsoom will require any and all Contractor(s) to submit and implement a detailed Human Resource Development Programme (HRDP), inclusive of a detailed Workplace Skills Plan (WSP) and Career Progression Plan that is in line with the HRDP of Dagsoom outlined in this and future SLPs. The responsibility for the training and development of contractors' staff will be the sole responsibility of the contractor as specified in current and future contractors' agreements. Contractors' HRDP's will be audited on an annual basis by an independent auditor to ensure compliance with the commitments set forth in the HRDP. Non-compliance to any component of the HRDP must be rectified by the contractor immediately, either through direct intervention or by submitting tangible plans with set timeframes on how the non-compliance would be rectified.

Housing and Living conditions

To prevent the formation or expansion of informal settlements, Dagsoom will require Contractor(s) to ensure that their staff is housed in appropriate housing structures with acceptable living conditions. The requirements of Dagsoom in terms of housing and living conditions are set forth in this SLP and will be detailed in future reports submitted to DMR.

Downscaling and retrenchment

Contractor(s) will be required to establish a Future Forum within 6 months after appointment. The structuring and workings of the contractors' Future Forum should be in line with the requirements as set forth in Section 46(d) of the MPRDA and those stipulated by Dagsoom in its SLP.

Monitoring, evaluation and auditing

The contractors' compliance to any and all commitments set forth in tender documentation will be monitored, evaluated and audited on an annual basis by an appropriate specialist

that will be appointed by Dagsoom. The contractor will be required to remediate any findings of the monitoring, evaluation and auditing processes according to a formal action plan and within an acceptable timeframe.

The overall objective of all the Contractor(s) on the project must be to develop the capacity of local communities and use them productively. To this end, Contractor(s) must demonstrate their commitment to this objective by offering employment and making maximum use of local SMMEs and BBBEE Companies, as set forth in their Procurement Progression Plan.

SECTION 1

INTRODUCTION

in compliance with Regulation 46(a)

1. PREAMBLE AND BACKGROUND INFORMATION ON THE MINE

This section outlines the location of the proposed mine, as well as other key data such as the proposed workforce and expected socio-economic impact.

Table 1-1: Overview of Proposed Mining Operation

1.1	Name of the company/applicant:	Dagsoom Coal Mining (Pty) Ltd
1.2	Name of mine/ production operation:	Twyfelaar
1.3	Physical Address:	17 Fleming Street, Mill Hill, Bryanston 2060
1.4	Postal Address:	P O Box 1222, Cramerview, 2060
1.5	Telephone Number:	082 453 8007
1.6	Fax Number / E-mail:	Hilton@pitsa.co.za
1.7	Location of mine or production operation:	26°41'16.78"S 30°14'0.95"E
1.8	Commodity:	Coal
1.9	Life of Mine:	13 years
1.10	Financial year end:	February
1.11	Reporting year:	2023 (first operational year)
1.12	Responsible person:	Hilton Grant Philpot, Director
1.13	Geographic origin of employees:	
	(a) Mine Community	(b) Labour Sending Areas
	Msukaligwa Local Municipality	Msukaligwa Local Municipality Northern sections of Mkhondo and Pixley ka Isaka Seme Local Municipalities (within a 30km radius of the mine)

1.1 Project Background

Dagsoom Coal Mining (Pty) Ltd (hereafter referred to as Dagsoom) is the holder of a Prospecting Right, DMR Ref: MP30/5/1/1/21820PR over the remaining extent of the farm Klipfontein 283 IT and Portions 1, 2, 5, 7, 8, 9 and remaining extent of the farm Twyfelaar 298 IT, situated in the magisterial district of Ermelo, Province of Mpumalanga (known as the “Twyfelaar Project / Twyfelaar Project Area”), which is situated on the eastern escarpment

of the Mpumalanga Highveld in the Ermelo Coal field. Dagsoom intends to apply for a Mining Right in terms of the Minerals and Petroleum Resources Development Act, 2002 (Act 28 of 2002) (MPRDA). This Social and Labour Plan (SLP) forms part of the mining right application.

1.2 Location of the proposed Mine

The proposed mine is located on the Farm Twyfelaar 298IT, approximately 30km southeast of Ermelo in the Msukaligwa Local Municipality, Mpumalanga Province. The closest town is the settlement of Sheepmoor, approximately 4km to the east of the mining right area. The site is accessed from the N2 between Ermelo and Mkhondo (Piet Retief). Figure 1-1 provides an overview of the mining rights area.

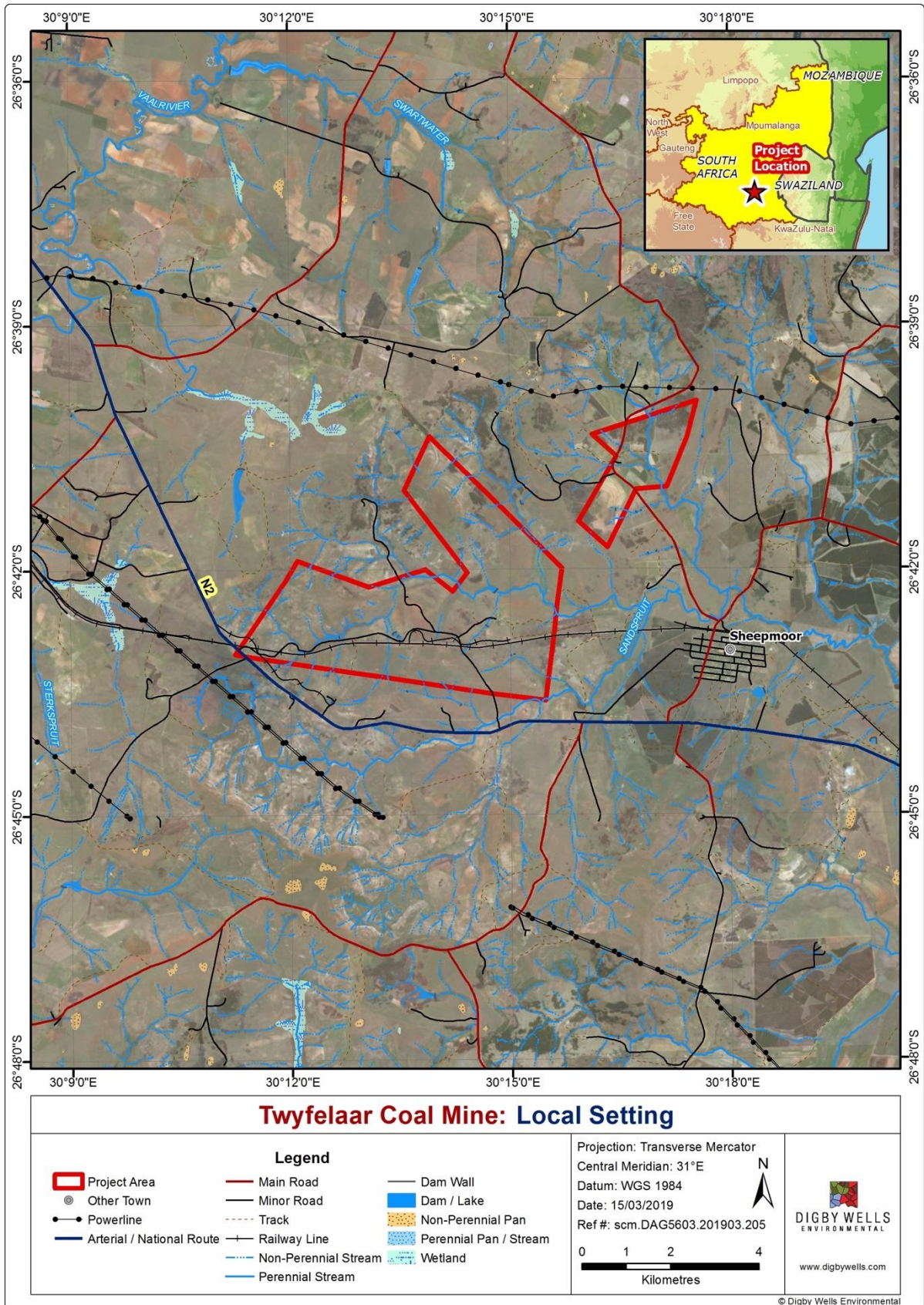


Figure 1-1: Local Setting of the Proposed Twyfelaar Mining Rights Area

1.3 Components of the Proposed Mine

The mine will be an underground mine with several sections with the bulk of the infrastructure on the northern side of the Project Area on the farm Twyfelaar 298IT, a second section on the southern side of the Farm Twyfelaar and a third section on the farm Klipfontein 283 IT. The impact of underground mines on the environment is expected to be limited and contained to the mine access area where all surface activities are concentrated.

The proposed mine will consist of the following infrastructure:

- Three underground sections accessed by adit. Boxcuts will produce limited rock dump;
- Access and haulage road – maximum 9.6m wide, maximum 6km long;
- Ventilation fans;
- One processing plant;
- Pollution control dam at each section (volumetric capacity of approximately 5 500 m³ and measures 40x35x4 m);
- Raw water pump stations and process water pump stations;
- Pipelines:
 - Pipelines are 2-inch HPDE. Maximum requirement 22.1 m³/h;
 - Raw water pipeline = 1.49km (traverses two watercourses and road);
 - Process water pipeline;
- Electricity supply – 22kV line over a distance of approximately 2.3 km;
- Potable water treatment plant and associated tanks;
- Sewage treatment plants;
- Reverse Osmosis plant;
- Change houses;
- Offices and ablutions;
- Workshops and cable workshops;
- Refuel bays;
- Weighbridges and weighbridge control rooms; and
- Access control offices.

1.4 Production and Scheduling

The coal reserves are scheduled to be mined with continuous miners at the Twyfelaar North Section, and conventional drill and blast sections at the Twyfelaar South Section. Twyfelaar North will be mined at a maximum rate of about 480ktpa or 40ktpm, and Twyfelaar South and Klipfontein at 240ktpa (industry benchmarks due to the low seam height to be mined).

The total production for this mine is planned to be 480ktpa or slightly higher during stooping operations with two continuous miner sections. The operating cost of a mine is also directly in relation to the production rate. The actual mining cost will probably be between R300 and R378/ROMt.

The stooping operations will be at 50ktpm due to less support requirements and due to the fact that the geological challenges were already overcome during the development phase.

This Life of Mine schedule allows a life of mine of approximately 13 years pending the decision whether or not to stoop the main development.

Table 1-2: Proposed LOM Schedule

Activity	Start Date	End Date	Years
Mining Right Application		May 2019	
EIA, EMPR and WUL It is estimated that it will take some 2 years from the date of application until the granting of the mining right in order to complete all of the permitting issues such as EIA, EMPR and WULA.	May 2019	December 2020	2
Mining Right Granted (Estimated)		December 2020	
Financing and Construction The final financing arrangements will be concluded in the year prior to mining commencement. Construction and development will commence simultaneously. The infrastructure establishment including the road upgrading, bridge building and plant and discard dump construction. ESKOM power lines and water reticulation works will be completed.	January 2021	December 2021	1
Production ramp up	January 2022	December 2022	1

Activity	Start Date	End Date	Years
Extraction of coal resources on Portion 2 (Twyfelaar North)	January 2023	December 2026	4
Commence construction for portion 1, 7 and RE coal resources (Twyfelaar South), and production on Klipfontein Section.	January 2026	December 2026	1
Commence Production Twyfelaar South and Klipfontein.	January 2027	December 2031	5
Rehabilitation and closure	January 2032	December 2033	2
Total Years Required			13

1.5 Demographics of the Twyfelaar Workforce

1.5.1 Mine Community

Mine Community is defined as both fulltime and contractor’s operational staff from the towns, villages and settlements that fall within a 30km radius of the proposed mining site. This includes primarily the Msukaligwa Local Municipality and the northern portions of the Mkhondo and Dr Pixley ka Isaka Seme Local Municipalities.

1.5.2 Labour Sending Areas

The labour sending areas are likely to extend predominantly throughout the seven local municipalities of the Gert Sibande District, followed by the Mpumalanga Province and then South Africa.

SECTION 2

HUMAN RESOURCE DEVELOPMENT PROGRAMME

in compliance with Regulation 46(b)

2. HUMAN RESOURCE DEVELOPMENT PROGRAMME

2.1 Introduction

Dagsoom is a junior coal company and is currently operated and managed by its board of directors with the assistance of consultants and a variety of service providers.

The board of directors comprises persons that include entrepreneurs, a geologist, metallurgist and mechanical engineer, all of whom have owned and operated consulting and service companies through southern Africa providing services of a technical nature to the mining industry.

These directors have:

- Managed, executed and coordinating a full range of feasibility studies on behalf of numerous clients in the mining space;
- Designed and supplied an extensive range of processes plants for the metallurgical Industry;
- Designed, optimized and developed of mine surface infrastructure;
- Constructed of metallurgical process plants on either EPCM or LTSC (EPC) contractual basis.
- Carried out metallurgical and mechanical engineering consultation services;

These directors are fully capable (with their selected service providers) of designing, building and operating a coal mine like Twyfelaar.

None of the directors are employees of Dagsoom, rather they are retained by Dagsoom to perform certain necessary services as required from time to time.

Going forward as mine development and construction commences Dagsoom will contract and employ all of the necessary resources in order to operate the mine in terms of the SLP set out in this document.

This SLP has been compiled taking into account the demographic nature of the possible local labour sending areas. Dagsoom is in the process of compiling a Workplace Skills Plan (WSP) and Employment Equity Policy (EEP) which will form the framework for the implementation of this SLP. The EEP will provide the regulatory requirements for the HRDP of the workforce.

This section of the SLP is structured according to Regulation 46(b) as outlined below:

- Regulation 46(b)(i): Skills Development Plan (SDP);
- Regulation 46(b)(ii): A Career Progression Plan (CPP) in line with the SDP;
- Regulation 46(b)(iii): A Mentorship Plan in line with the SDP and the needs of the empowerment groups;

- Regulation 46(b)(iv): A Bursary and Internship Plan in line with the SDP;
- Regulation 46(b)(v): The Employment Equity Plan to achieve 30% BBBEE shareholding, a minimum of 50% Black Persons participating across all spheres of management (Board, Executive Management, and Senior, Middle and Junior Management of which 15-25% will be Black Women (depending on the management level). A minimum of 1.5% of the workforce will be employees with disabilities.

2.2 Compliance with Skills Development Legislation

Name of SETA:	Mining Qualifications Authority
SETA Registration Number:	tba
Skills Development Facilitator:	tba
Proof of submission of a WSP:	tba

2.3 Regulation 46(b)(i): Skills Development Plan

Dagsoom undertakes, through its appointed Contractor(s), to comply with all statutory requirements relating to the training and development of its workforce with specific focus on the following requirements of the Skills Development Act and Skills Development Levies Acts:

- Registration with the relevant Sector Education Training Authority (SETA), namely the Mining Qualifications Authority (MQA);
- Developing a Workplace Skills Plan (WSP);
- Submission of WSP;
- Annual Training Report (ATR); and
- Payment and claiming of levies and grants.

A strategy will be developed whereby Dagsoom in conjunction with its appointed Contractor(s) will take into account the shortage of critical skills in the mining industry in South Africa. The Human Resource Development Strategy will aim to achieve Employment Equity and Gender Equity targets in line with the Mining Charter.

2.3.1 Number and Education Levels of all Project Employees

Seeing as the Twyfelaar mine is a start-up operation, it does not currently have a workforce. Instead a forecast for the envisioned workforce for the remainder of the reporting period (2021-2023) has been reflected in Table 2-1 and Table 2-2. The workforce profile is based on the assumption there will be no annual increase in workforce numbers due to the limited size of the operation and the LoM.

Form Q for the permanent workforce is provided in Table 2-3 and for the contractor workforce

in Table 2-4. However, it should be noted that the Form Qs are for the year 2022 (first year of production) and is based on the production workforce scenario provided below. In the absence of a workforce, Form Q does not reflect racial and gender distribution per racial group - more accurate numbers will be provided within the first year of production.

Table 2-1: Production Workforce Scenario

OCCUPATIONAL LEVEL	ACTUAL	FORECAST			
	2019	2020	2021	2022	2023
Top Management	6	6	7	8	8
Senior Management	0	0	1	4	4
Professionally qualified and experienced specialists and mid-management	0	0	4	11	11
Skilled technical and academically qualified worker, junior management, supervisors, foremen and superintendents	0	0	4	36	36
Semi-skilled and discretionary decision-making	0	0	8	107	107
Unskilled and defined decision-making	0	0	10	13	13
Total permanent employees	0	0	0	92	92
Non-permanent employees	0	0	0	81	81
GRAND TOTAL	0	0	0	173	173

Table 2-2 below provides an overview of the proposed occupational distribution of permanent employees for the first year of operation (2022). The distribution of the Contractor(s) workforce is not included in the table. The Contractor(s) will be required to fully conform with the Mining Charter.

Table 2-2: Forecasted Occupational Distribution of Permanent Employees (2022)

OCCUPATIONAL CATEGORY	HDI		NON-HDI	
	M	F	M	F
Top Management	3	2	3	
Senior Management	1	1	2	
Professionally qualified and experienced specialists and mid-management	3	2	1	1
Skilled technical and academically qualified worker, junior management, supervisors, foremen and superintendents	9	3	5	2
Semi-skilled and discretionary decision-making	25	5	13	4
Unskilled and defined decision-making	9	4		
Total permanent employees	44	16	26	6
Subtotal	44	16	26	6
GRAND TOTAL				92

Table 2-3: Form Q: Number and Educational Levels of the Permanent Workforce (2022)

NQF level	Education Level	Male				Female				Total	
		A	C	I	W	A	C	I	W	Male	Female
GENERAL EDUCATION AND TRAINING (GET)											
	No schooling										
	Grade 0 / Pre-school										
	Grade 1 / Sub A										
	Grade 2 / Sub B										
	Grade 3 / Std 1 / ABET 1										
	Grade 4 / Std 2										
	Grade 5 / Std 3 / ABET 2										
	Grade 6 / Std 4										
	Grade 7 / Std 5 / ABET 3										
	Grade 8 / Std 6										
1	Grade 9 / Std 7 / ABET 4									7	6
FURTHER EDUCATION AND TRAINING (FET)											

NQF level	Education Level	Male				Female				Total	
		A	C	I	W	A	C	I	W	Male	Female
2	Grade 10 / Std 8 / N1										
3	Grade 11/ Std 9 / N2										
4	Grade 12 / Std 10 / N3									39	7
HIGHER EDUCATION AND TRAINING (HET)											
5	Diplomas / Certificates (N4-6) / National / Higher Certificates									14	5
6	National Certificates / Diploma / Advance Certificates / NATED4-6									4	2
7	BTech Degrees / Bachelor's Degrees									6	2
8	Honours / Postgraduate Diploma / Bachelors (480 Credits)										
9	Master's degrees										
10	Doctorates										
TOTAL										70	22

Table 2-4: Form Q: Number and Educational Levels of the Contractors' Workforce (2022)

NQF level	Education Level	Male				Female				Total	
		A	C	I	W	A	C	I	W	Male	Female
GENERAL EDUCATION AND TRAINING (GET)											
	No schooling										
	Grade 0 / Pre-school										
	Grade 1 / Sub A										
	Grade 2 / Sub B										
	Grade 3 / Std 1 / ABET 1										
	Grade 4 / Std 2										
	Grade 5 / Std 3 / ABET 2										
	Grade 6 / Std 4										
	Grade 7 / Std 5 / ABET 3									5	3
	Grade 8 / Std 6									7	1
1	Grade 9 / Std 7 / ABET 4									10	1
FURTHER EDUCATION AND TRAINING (FET)											

NQF level	Education Level	Male				Female				Total	
		A	C	I	W	A	C	I	W	Male	Female
2	Grade 10 / Std 8 / N1									10	1
3	Grade 11/ Std 9 / N2									10	1
4	Grade 12 / Std 10 / N3									15	2
HIGHER EDUCATION AND TRAINING (HET)											
5	Diplomas / Certificates (N4-6) / National / Higher Certificates									6	2
6	National Certificates / Diploma / Advance Certificates / NATED4-6									3	1
7	BTech Degrees / Bachelor's Degrees									3	1
8	Honours / Postgraduate Diploma / Bachelors (480 Credits)										
9	Master's degrees										
10	Doctorates										
TOTAL										69	12

2.3.2 Adult Basic Education and Training (ABET)

Dagsoom recognises the negative impact that functional illiteracy has on South Africa. To this end, the company is in full support of the national ABET drive and the targets of the Mining Charter. ABET Level 1 - 4 training programmes will be implemented for the intended permanent workforce prior to and during construction and operation. In line with the Mining Charter, it will also be required of the Contractor(s) to ensure that their workforce has at least an ABET Level 3 qualification and/or in the process of obtaining an ABET Level 4 qualification. As a pre-requisite for appointment by Dagsoom, Contractor(s) will need to submit their SETA approved WSP that should clearly indicate how they aim to ensure that all the members of their workforce have at least an ABET 4 Level qualification. The Contractor(s) WSP should also clearly indicate their commitment to commence with Unit Standard based training by the year 2022.

Dagsoom will only appoint employees that have a minimum qualification of Grade 10 or ABET 4, this forms part of the Safety strategy. Since Dagsoom is a new operation and appointment is only envisaged for 2021 it will, as of 2021 actively assist the Department of Education with their ABET initiative in Sheepmoor.

Community campaigns will focus on informing possible future employees and community members on how to be screened and how to enrol for ABET and what the benefits of attending ABET courses would be.

Table 2-5 provides a forecast for ABET training between 2019 and 2023.

Table 2-5: ABET Training for Intended Workforce and Mine Communities

ABET Level	Forecast				
	2019	2020	2021	2022	2023
Level 1	0	0	0	0	0
Level 2	0	0	0	0	0
Level 3	0	0	10	6	6
Level 4	0	0	10	6	6
TOTAL	0	0	20	12	12
Budget			R55 000	R40 000	R40 000

Dagsoom will require permanent employees to submit their schooling or other formal qualifications to the Human Resource Development (HRD) team. All qualifications will be captured and assessed to identify permanent employees who do not meet the required ABET

Level 4 in terms of the Mining Charter. Dagsoom will make use of an accredited ABET training provider. In line with SAQA and MQA requirements, the training provider must register learners with the MQA, support and mentor learners with learning difficulties, implement intervention methods if need be, and keep a database of learner progress. The training provider will be required to submit an ATR to Dagsoom through which Dagsoom can monitor learners' progress. The ATR will form the basis of Dagsoom's career progression path.

In the build-up to production scheduled for 202201, candidate screening and the subsequent enrolment for ABET classes will be promoted through communication forums directed at future mine employees. Community campaigns will focus on informing possible future employees and community members on how to be screened and how to enrol for ABET and what the benefits of attending ABET courses would be.

2.3.3 Other Training Programmes

Appointed contractor(s) will be required to enrol their workforce in training programmes such as skills programmes and apprenticeships, based on the skills required by Dagsoom. Appointed contractor(s) will have to commence with these training programmes as soon as a letter of appointment has been received from Dagsoom to ensure that the necessary skills are available for the operational phase that will commence in 2022.

Both the appointed contractor(s) as well as Dagsoom will make use of accredited training providers. As is the case with the ABET training, the training provider must register learners with the MQA, support and mentor learners with learning difficulties, implement intervention methods if need be, and keep a database of learner progress.

The training provider will be required to submit an ATR to Dagsoom through which Dagsoom can monitor learners' progress. The ATR will form the basis of Dagsoom's career progression path.

2.3.3.1 Learnerships

Contractors will be required to enrol their workforce on learnerships, where required, with an accredited training provider. Contractor(s) will be required to conduct a skills audit among its workforce to determine the available skills and the skills required. Based on the results of the skills audit and in consultation with Dagsoom, Contractor(s) will be required to identify and enrol learners in the appropriate learnerships. Dagsoom will monitor this situation on a quarterly basis and will identify and enrol learners in managerial learnerships as and when they become available. Learnerships should commence during the first year of operation, i.e. 2023.

2.3.3.2 Portable Skills

Contractor(s) will be required to equip their workforce with portable skills by means of

training. Dagsoom will also identify members of the community for portable skills training such as brick laying and carpentry. The intention is to utilise these learners during construction. Learners would be able to complete their practical skills training as part of on-the-job training and would have the necessary skills and experience on completion of the project to find employment in line with their portable skills training.

Portable skills training will start with production ramp-up in 2022 and will incrementally increase as the full production workforce come online.

A **forecast** of proposed training programmes between 2019 and 2023 is listed in

Table 2-6.

Table 2-6: Training Targets

Area of Training	Forecast				
	2019	2020	2021	2022	2023
Core business training	0	0	5	5	5
Learnership(s)	0	0	0	0	1
Portable skills	0	0	0	5	10
TOTAL	0	0	5	10	16
Budget	0	0	R50 000	R100 000	R200 000

2.3.4 Hard-to-Fill Vacancies

Table 2-7 below will be completed after the first year of operation at the mine. Currently no employees or contractors have been engaged at the time of the writing of the SLP.

Table 2-7: Form R: Hard-to-fill Vacancies

Occupation Level	Job Title of Vacancy	Main reason for being unable to fill the vacancy
Top management	n/a	n/a
Senior management	n/a	n/a
Professionally qualified and experienced specialists and mid-management	n/a	n/a
Skilled technical and academically qualified workers, junior management, supervisors, foreman and superintendents	n/a	n/a

Occupation Level	Job Title of Vacancy	Main reason for being unable to fill the vacancy
Semi-skilled and discretionary decision making	n/a	n/a
Unskilled and defined decision making	n/a	n/a

2.4 Regulation 46(b)(ii): Career Progression Plan

As soon as the Twyfelaar mine becomes operational, Dagsoom together with its appointed contractor(s) will develop career paths matrices for every discipline within its operations. The matrices for each occupation will guide the mine and its contractor(s) on a desirable path for career progression and the expected timeframes necessary for achieving the various job levels after the qualification criteria are met. However, is expected that career progression will be limited because of the size of the operation coupled with the LoM.

Career progression planning will be aligned to formal MQA qualifications that are based on available unit standards and learning outcomes. Figure 2-1 below depicts Dagsoom’s general approach to career progression. With regard to Table 2-8, individual development plans for employees linked to targets, timeframes and an implementation plan will be provided within 12 months of the mine becoming operational and the appointment of a workforce.

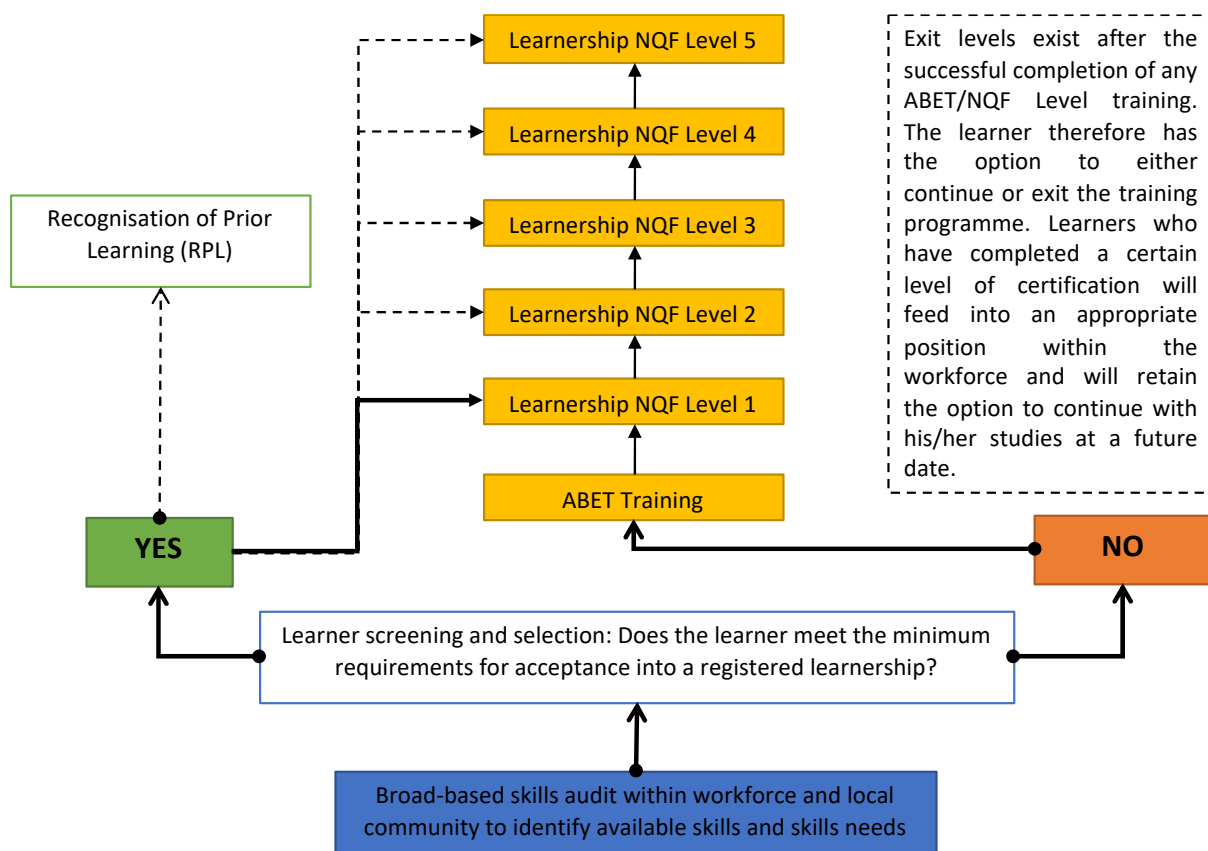


Figure 2-1: Proposed Career Progression Outline

Table 2-8: Summary of Career Progression Plan

Current Position	Training Intervention	Qualification to be Achieved	Number of Identified Employees										
			2019		2020		2021		2022		2023		
			New	Cont.	New	Cont.	New	Cont.	New	Cont.	New	Cont.	

TO BE SUPPLIED WITHIN 12 MONTHS OF THE APPOINTMENT OF A WORKFORCE

2.5 Regulation 46(b)(iii): Mentorship Plan

2.5.1 Employee Mentorship Programmes

It is foreseen that the future mentorship programme that will be implemented by Dagsoom would be based on specific criteria as identified by Dagsoom management. The criteria will include fast-tracking of high potential (especially HDI) employees, individuals identified through the succession planning process and those whose performance needs improvement. The mentorship programme will be implemented within 12 months of the start of the operation.

2.5.2 External Mentorship Programmes

Contractor(s) will be required to ensure that mentorship programmes are implemented by the training provider for the theoretical component of a learner's training programme, be it a skills programme, learnership or apprenticeship. Contractor(s) themselves will be required to implement mentorship programmes for the practical component of the training programme when the learner will do on-the-job training. For this purpose, a contractor will be required to identify and appoint a mentor per category of training and Dagsoom will require that such a person undergoes formal mentorship training to ensure that mentoring is in line with the requirements set out by the MQA and SAQA.

Table 2-9: Overview of Mentorship Plan

Mentoring Programme	Career Deliverables	Duration	Target		Gender	
			HDI	Non-HDI	Female	Male
Total						
Budget R 40 000/ annum from full production						

TO BE SUPPLIED WITHIN 12 MONTHS OF THE APPOINTMENT OF A WORKFORCE

2.6 Regulation 46(b)(iv): Bursary and Internship Plan

2.6.1 Bursary Plan

2.6.1.1 External Bursary Scheme

Dagsoom commits to developing a comprehensive bursary scheme in order to develop suitable, qualified and competent people who, upon graduating, will be afforded professional career paths in the company. The emphasis of this bursary scheme would be to identify high potential HDI candidates in line with the hard-to-fill vacancies (see Table 2-7). The intention is that the bursaries will cover all fees, accommodation, text books and a living allowance. Dagsoom is committed to increasing the number of scholarships on an annual basis. A pre-condition of these bursaries is that they are required to take up employment with Dagsoom during their vacations and upon successful completion of their qualification.

2.6.1.2 Internal Bursary Scheme

Dagsoom recognises that tertiary development contributes to having a well-educated workforce and will therefore provide employees with financial assistance to give them the opportunity to obtain recognised tertiary qualifications in line with their career progression paths. The Study Assistance Programme is being developed and awaiting formal ratification. It will be made available to all employees who commit themselves to career development. The Study Assistance Programme will be aligned with the needs of business, depending on the future requirements in terms of representation of HDIs through the Mining Charter.

2.6.1.3 Targets, Timeframes and Budget

Table 2-10 outlines the bursary targets for the years 2019 to 2023. The Scheme will exponentially increase the closer Dagsoom gets to ramp-up. The proposed budget assumed that tuition fees are for free. Dagsoom undertakes to cover all other incidentals (a laptop, accommodation, books and a stipend to cover transport and food costs). The budget was based on a cost of R 20 000 per student per year.

Given the LOM, Dagsoom will not be offering bursaries to employees for full-time study. It will, however, consider bursaries for employees wishing to undertake part-time, correspondence study in a relevant field (e.g. HR or skills development).

Table 2-10: Bursary Targets

Bursary Field	Forecast					
	2019	2020	2021	2022	2023	Budget
EXTERNAL BURSARIES						
Related to careers at the operation	0	0	0	1	1	R40 000
INTERNAL BURSARIES						
Related to careers at the operation	0	0	0	1	1	R40 000
TOTAL	0	0	0	2	2	R80 000
Budget	0	0	0	R40 000	R40 000	R80 000

2.6.2 Internship Plan

Dagsoom will offer graduates the opportunity to participate in internship programmes. This internship programmes will be made available to all relevant fields of study irrespective of whether the graduate was a bursar of Dagsoom or not. Selection will be on merit.

Note: Dagsoom will develop an Internship Policy which will afford as many students as possible (subject to budgetary constraints – Dagsoom is currently not cash generative as it is in the final stages of exploration) the opportunity to gain practical working experience during vacations. Certain internships such as mining engineering will only kick-in nearing ramp-up.

The proposed budget for internships during vacations is R10 000 per intern per annum.

Table 2-11: Internship Targets

Internship Plan	Forecast					
	2019	2020	2021	2022	2023	Budget
EXTERNAL INTERNS						
Relevant field of study	0	0	0	6	6	R120 000
INTERNAL INTERNS						
tbc						

Internship Plan	Forecast					
	2019	2020	2021	2022	2023	Budget
TOTAL	0	0	0	6	6	12
Budget	R 0	R 0	R 0	R 60 000	R 60 000	R 120 000

2.7 Regulation 46(b)(v): Employment Equity Plan

As a new mining operation, Dagsoom is currently in the process of developing its Employment Equity Policy (EEP). The purpose of the EEP are to ensure that barriers to employment and advancement of all South Africans are addressed, to accelerate the training and promotion of designated groups and create an environment of sustainability. Dagsoom is committed to working towards employment equity and to adhering to the Mining Charter (2018) targets and objectives, as follows:

- At least 30% BBBEE shareholding of which 8% to be allocated to employees, 8% to host communities (in the form of a community trust) and 14% to a BEE-entrepreneur.
- A minimum of 50% Black Persons participating across all spheres of management (Board, Executive Management, and Senior, Middle and Junior Management);
- Between 15-25% Black Women participation (depending on the management level);
and
- A minimum of 1.5% employees with disabilities.

Table 2-12: Form S: Employment Equity Statistics

Occupational Level	Male				Female				TOTAL	Disabled	
	African	Coloured	Indian	White	African	Coloured	Indian	White		Male	Female
Executive Management (Board)											
Senior Management (Exco)											
Core and Critical Skills											
Middle Management											
Junior Management											

TO BE SUPPLIED WITHIN 12 MONTHS OF THE APPOINTMENT OF A WORKFORCE

2.7.1 Black Persons (HDI) Participation in Management

As a company nearing completion of the exploration phase, as mentioned previously, Dagsoom is in the process of developing its EEP. One of the objectives of the EEP would be to ensure at least 50% Black Persons participation in mining management. Dagsoom will therefore aim to employ HDIs in its production workforce as set out per Table 2-13, where the necessary skills are available.

To further support the objective of 50% Black Person participation in mining management, Dagsoom further commits itself to the sourcing and training of HDIs in mining management fields. This would be achieved by means of the following:

- At least 50% of all management related training opportunities will be awarded to Black Persons;
- At least 50% of all management related learnership positions will be awarded to Black Persons; and
- At least 50% of all management related internship positions will be awarded to Black Persons.

These undertakings will be formalised by Dagsoom in its EEP of which they will report to the DOL and DMR in the applicable Annual Report.

Table 2-13: Black Persons (HDI) Participation in Management

Measure	Compliance Target (2018 MC)	Progress Achieved by									
		2019		2020		2021		2022		2023	
		Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
Top Management (Board)	50% of which 20% black women	17%	33%	17%	33%	29%	29%	38%	25%	38%	25%
		50%		50%		58%		63%		63%	
Senior Management	50% of which 15% black women	0%	0%	0%	0%	0%	0%	50%	25%	50%	25%
		0%		0%		0%		75%		75%	
Middle Management	60% of which 20% black women	0%	0%	0%	0%	0%	0%	43%	29%	43%	29%
		0%		0%		0%		72%		72%	
Junior Management	70% of which 25% black women	0%	0%	0%	0%	0%	0%	57%	16%	57%	16%
		0%		0%		0%		73%		73%	
Core Skills	60%	0%	0%	0%	0%	0%	0%	57%	15%	57%	15%
		0%		0%		0%		72%		72%	

SECTION 3

MINE COMMUNITY DEVELOPMENT

in compliance with Regulation 46(c)

3. REGULATION 46(c): MINE COMMUNITY DEVELOPMENT

The primary business rationale for mine community development initiatives is to support the Mine's Social License to Operate (SLTO) in the mine community. Dagsoom will identify and implement community development measures that can have a positive influence in improving the lives of local communities to maintain the mine's SLTO.

Mine community development projects will also complement the impact management and mitigation measures that will be described in the Project's Environmental Management Plan (EMP) when completed.

For the proposed Twyfelaar Mine, the primary mine community is defined as the Phakamani, Thandukanyo, Bambanani Trust and Bambanani CPA communities that live on or adjacent to the proposed mining right area. The SLP also considered Ward 11 of the Msukaligwa Local Municipality, which includes Sheepmoor, as part of the secondary mine community for the purpose of considering the municipality's Integrated Development Plan (IDP) for the areas overlapping the mine community – see Figure 3-1.

Data for the primary mine community was gathered during a rapid rural assessment in April 2019 with representation of all four primary mine communities. The assessment relied on responses received from the community representatives. Data will be verified during a household survey that will be done alongside the feasibility studies that will be undertaken in 2019-2020.

Data for the secondary mine community was obtained from Census 2011 and Community Survey 2016 data.

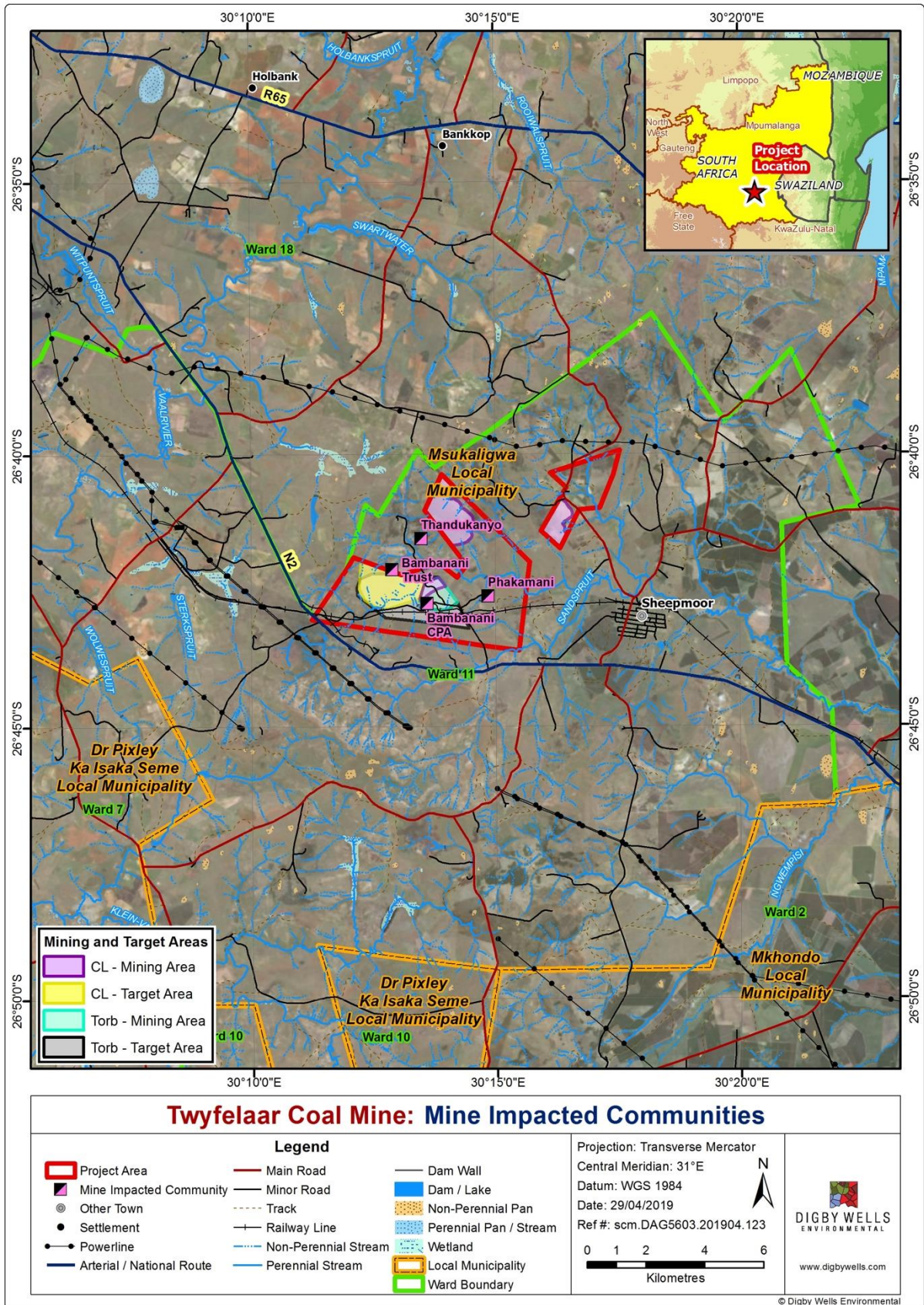


Figure 3-1: Mine Community

3.1 Regulation 46(c)(i): Social and Economic Background Information

3.1.1 Population

The primary mine community consist of an estimated 172 people. Most of these (around 100) are part of the Bambanani CPA. All of the residents in the primary mine community are Black African.

Ward 11 (as the secondary mine community) covers a geographical area of around 809 km², which represents 13.4% of the MLM. The ward has a population of 5 924 people (2011) with a population density of 7.3 persons per km². Considering the municipality's estimated growth rate of around 2.04% per annum, the population in Ward 11 in 2019 is approximately 6 297 people.

An overview of the population groups in Ward 11 is shown in Figure 3-2.

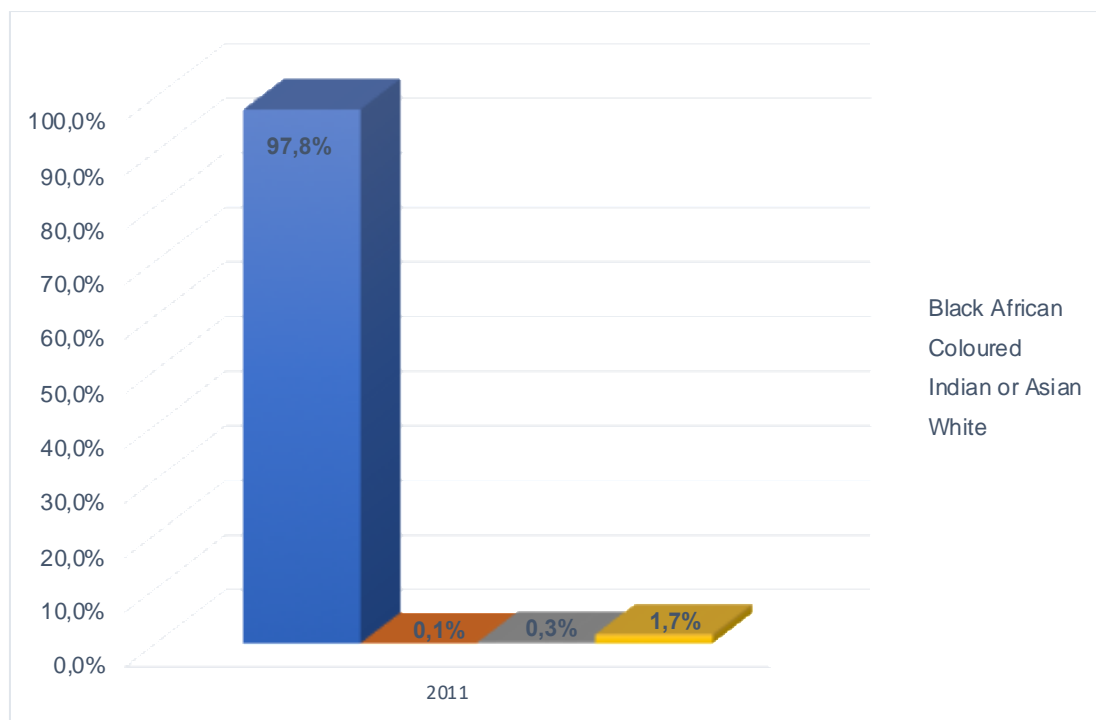


Figure 3-2: Ward 11 Population Groups

3.1.2 Age and Gender

The primary mine community population on the whole (an average of around 55%) are aged 18 years and younger. Men are in the majority across the four communities – on average 70% of the population are male.

Forty eight percent (48%) of the population in the ward is in the age category 18 to 64, representing the generally employable population. This is lower than in the local municipality (59% of the population). There was a larger proportion of females at ward level (52%) than at local municipality level (50%). It is possible that job seekers in the ward, including men, may

have moved out of the ward looking for work.

3.1.3 Language

The whole primary mine community speaks isiZulu in line with the secondary mine community where the predominant language isiZulu (91% of households). All other official languages make up the remainder 9% of languages spoken in the ward.

3.1.4 Women and Child Headed Households

Approximately 16.7% of households in the primary mine community are headed by women (none by Children). None of the households in the Bambanani Trust area are female-headed whereas almost half (43.5%) of the households in the Bambanani CPA area are female-headed.

Forty seven percent (47%) of households in Ward 11 were headed by women and 32 (about 2.5%) household heads were younger than 18 years old.

3.1.5 HIV/AIDS Prevalence

According to Department of Health (2013) (in the Msukaligwa IDP), the HIV prevalence rate amongst antenatal mothers throughout the municipal area stood at 46.5%. This represented an increase of slightly more than 12% in the 2012 prevalence rate. The municipality therefore seeks to establish partnerships with relevant stakeholders to:

- Develop and implement programmes and projects on HIV/AIDS awareness;
- Provide articles in local media to educate the community on how to prevent infection and provide counselling services to people affected by HIV/AIDS;
- Provide support to people living with HIV/AIDS through home-based care;
- Draft a HIV/AIDS workplace policy to assist the municipality in ensuring confidentiality in the workplace; and
- Based on resources available, the municipality will provide support to HIV/AIDS orphans and child headed homes.

3.1.6 Education Levels

Some primary mine community members completed Matric. Most of the children in the communities are still at school, even though they have to travel across rough terrain to reach the school bus that stops on the N2. This entails a 3-5km hike, depending on the location of the community. The closest schools are located in Sheepmoor.

About 18% of people 20 years and older (503 people) in the secondary mine community had completed matric and 1% had completed undergraduate studies. Thirty two percent (32%)

had some secondary education and 7% had completed primary school. Twenty five percent of the population had had no schooling. Formal education levels were therefore low at ward level.

3.1.7 Water

None of the households in the primary mine community have access to piped water. Access to water differ between the four communities, ranging from boreholes, rivers and dams to run-off surface water. In some instances, community members have to walk up to 2km from their homestead to access a water source.

At ward level, approximately 28% of the population were getting water from a regional or local service provider. A further 15% of the ward population accessed their water from a borehole.

3.1.8 Sanitation and toilet facilities

None of the households in the primary mine community have access to sanitation and toilet facilities on par with RDP standards (at least a VIP). Some households have access to a pit latrine ('long drop') but because the pit latrines are regarded as unsafe for the very young children (fear that they could fall in), they mostly use the bush to relieve themselves.

At ward level, 10.5% of the population had access to flush or chemical toilets. Twenty four percent (24%) of the population did not have access to toilets in Ward 11.

3.1.9 Electricity

Only households that form part of the Bambanani CPA have access to electricity. These households installed the electricity themselves in coordination with Eskom. Households who do not form part of the CPA do not have electricity and instead use wood for cooking and heating, and candles for lighting.

At ward level, only 25% of households are using electricity for cooking. Instead most (69%) are using wood for this purpose. The majority of households (73%) also use wood for heating. For lighting, electricity and candles were used in the ratio 57:41.

3.1.10 Refuse disposal

Due to the isolated location and conditions of the roads, the households in the primary mine community do not have access to refuse removal services. Similar to the ward in general, the households created their own dumps and other forms of refuse disposal.

Only 0.2% of the population in Ward 11 were getting refuse disposal from a local authority or private company. Seventy five percent (75%) created their own dumps and 20% had no dumps.

3.2 Regulation 46(c)(ii): Key Economic Activities

3.2.1 Employment and Unemployment

According to the households interviewed, 100% of the community members of the primary mine community are unemployed. However, it is possible that community members regarded 'employment' only as salaried/wage employment and did not consider self-employment. In a follow-up question, it was determined that all the households are involved in livelihood activities such as crop, vegetable and livestock farming – in most cases it is mostly subsistence farming, but some households did indicate that they have surplus that they sell to generate cash. It also came to light that a few community members work as truck drivers, which would mean that they are employed.

In the secondary mine community, 28% of the population were employed and 18% are unemployed. A further 9% are discouraged work seekers, whilst 44% were not economically active. There was therefore a high level of dependency in households.

3.2.2 Employment Sectors

An overview of employment within the leading industries – both in terms employment and contribution to the District's (Gert Sibande) GVA, is shown in Figure 3-3.

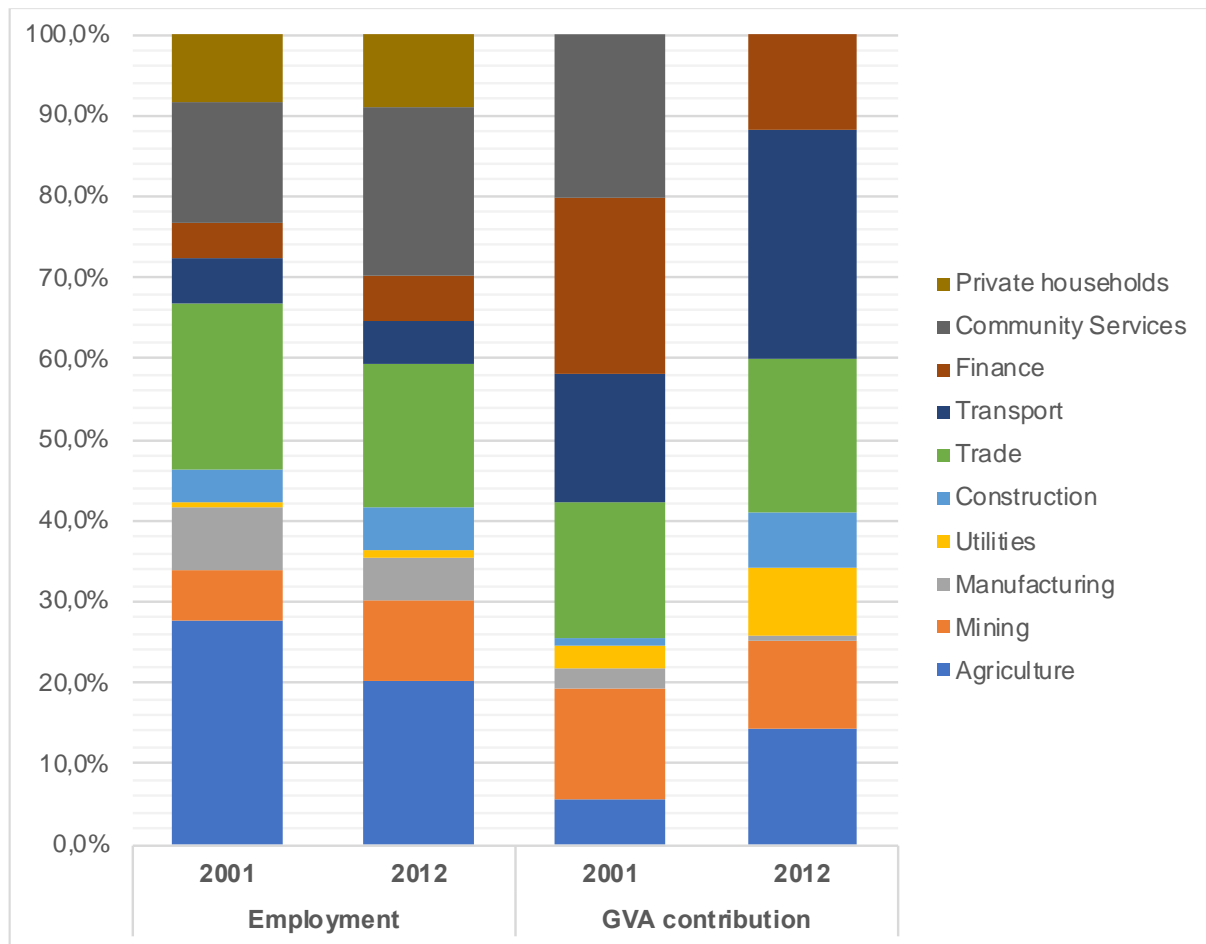


Figure 3-3: Employment per Sector and Contribution to District GVA

Source: Msukaligwa IDP (2017-2022)

From this graph it is evident that the mining, construction, finance and community services sectors showed the biggest growth in terms of employment. Even though the agricultural sector’s employment numbers declined, the contribution to the district’s GVA more than doubled between 2001 and 2011. The transport sector’s contribution to the GVA also increased by just over 10%.

All of the households in the primary mine community indicated that crop and livestock farming (agriculture) is the only livelihood source. As indicated previously, this is mostly on a subsistence basis. Other skills available in the community include drivers, mine operators and artisans (welding). As indicated previously, a few individual drivers are employed as truck drivers (industry unknown).

Ward-level data for the secondary mine community did not specify the economic sectors, but instead divided the sectors into formal and informal sectors and private households. Close on two thirds (64.2%) of employed individuals (15 years and older) are employed in the formal sector, followed by 24.6% in the informal sector. A total of 8.6% are employed in private

households, which is in line with the district’s economic profile.

3.2.3 Income Profiles

Data on income profiles was not gathered during the rapid assessment on the primary mine community, but as indicated above, most households are only involved in subsistence farming. It can therefore be assumed that most, if not all, of the households in the primary mine community live in poverty.

At ward level, 27% of the households lived on an income of less than R835 a month and 45% of the population earned between R10 000 and R40 000 per annum. Another 16% earned between R40 000 to R 75 000. Most households at the ward level (72%) were therefore earning an income in the lower brackets, that is less than R 40 000 annually.

3.2.4 Other Mines in the Area

There are four other mines within a 30km radius of the proposed Twyfelaar mine. These are:

- Mooiplaats Colliery approximately 15 km northwest of Twyfelaar.
- Vunene Mine across from the Camden power station, approximately 26km northwest of Twyfelaar and 12km southeast of Ermelo along the N2;
- La Brie Colliery, approximately 31km northwest of the Twyfelaar mine and 6.5km southeast of Ermelo along the N2; and
- Penumbra coal mine, approximately 45km north-northwest of the Twyfelaar mine and 6km south of Ermelo, along the N11.

3.3 Regulation 46(c)(iii): Negative Impact of the Mining Operation

At the time of compiling the SLP, the EIA (inclusive of a SIA) still had to be completed. However, project experience on other coal mining related projects have proven that the expected negative impacts (specific to the socio-economic environment) are as per Table 3-1.

Table 3-1: Overview of Negative Socio-Economic Impacts

Expected Impact	Description of Impact
Population migration	<ul style="list-style-type: none"> ■ In-migration: rapid population growth can place strain on the local area and lead to economic, social and environmental impacts. ■ Out-migration: The area affected by the Project becomes less desirable. A decline in the local population can have an effect on the viability and vitality of the area. ■ Presence of newcomers: impacts of in-migration can be exacerbated if newcomers are different from (or perceived to be such) from local communities.

Expected Impact	Description of Impact
	<ul style="list-style-type: none"> ▪ Presence of construction workers: the type and severity of impacts will depend on the number, composition and (dis)similarity of this group to local residents. Because of the temporary nature of their presence, they are unlikely to form place attachment and follow a ‘work hard, play hard’ mentality, impacting on social cohesion locally. ▪ Displacement: Local people can lose land or other assets, resulting in physical relocation or loss of income which could cause impoverishment or social disintegration. ▪ Urbanisation: the establishment of a new mine could enhance the rural to urban migration as farm workers leave the area and move to Ermelo in search of other work.
Economic impacts	<ul style="list-style-type: none"> ▪ Impoverishment: certain groups could experience a downward spiral of poverty, usually involving displacement (loss of access to resources) and disempowerment. ▪ Inflation: can occur at local level through the spending power of increasing numbers of income earners. ▪ Concentration of activity in a single industry: this makes the local society vulnerable to the fortunes of a single commodity, which can lead to uneven economic development and, in certain cases, financial dependency on the mine through its LED spend.
Land use impacts	<ul style="list-style-type: none"> ▪ Conversion and diversification of land use: The Project could give rise to a change in the way in which the surrounding land is utilised. ▪ Decreased land available for fields and grazing, impacting on crop yields and food security for livestock. ▪ Restricted access to natural resources such as medicinal plants.
Impacts on housing and municipal services	<ul style="list-style-type: none"> ▪ Unemployed job seekers are likely to lack resources to sustain themselves and are therefore likely to settle in informal settlements, causing such settlements to expand and place further strain on the municipality.
Socio-cultural impacts	<ul style="list-style-type: none"> ▪ Segregation: creating social differences within the community. ▪ Social disintegration: the loss of social capital and the abandonment of social and cultural practices.

Expected Impact	Description of Impact
	<ul style="list-style-type: none"> ▪ Cultural differentiation: an increase in cultural differences (or perceived differences), which enhances the process of ‘othering’. ▪ Defiant social behaviour, e.g. an increase in prostitution, drug and alcohol use, violent protests, etc.

3.4 Regulation 46(c)(iv): Infrastructure and Poverty Eradication Projects proposed by the Mine

Table 3-2 provides an overview of the priority needs of the various levels of mine communities. Priority needs pertaining to the primary mine community were obtained from the communities during a focus group discussion on 3 April 2019, whereas priority needs pertaining to the secondary mine community and the broader municipal area were obtained from the IDP and discussions with the municipality’s IDP manager, the Director: Planning and Economic Development, and the MMC for Planning and Economic Development for the Msukaligwa Local Municipality during a meeting held on 3 April 2019.

Table 3-2: Priority Needs

Development Area	Specific Requirement	Type of Need	Mine Community
Infrastructure	Roads	Improvement of road network throughout the community to ensure safe passage of vehicles	Bambanani Trust Bambanani CPA Phakamani
	Houses	Assist with improving houses	Bambanani CPA Thandukanyo
	Community centre	Multi-purpose centre at Sheepmoor	Ward 11
Economic	Job creation / SMME development	Create job opportunities at the new mine for persons with little to no experience and support SMME development	Bambanani CPA Phakamani Thandukanyo
	Profit sharing	Mine should share 10% of profits with the mine community	Thandukanyo
Municipal services	Waste management	Establishment of a	Ward 11

Development Area	Specific Requirement	Type of Need	Mine Community
		waste disposal site	
	Electricity	Establish electricity connections to houses	Bambanani Trust Phakamani Ward 11
	Water	Establish piped water connections to houses	Bambanani Trust Ward 11
	Sanitation	Improved sanitation services (toilets connected to waterborne system)	Ward 11
Human settlement	Houses	Subsidised low-cost houses	Ward 11

3.4.1 Development Projects

Dagsoom will not be cash generative until the proposed Twyfelaar mine begins production in 2022. During ramp-up, community development activities will be on a limited scale aimed at establishing relationships and building goodwill with the mine community (SLTO) and preparing community members with potential for possible employment during the construction and operational phases.

The proposed Twyfelaar mine has a limited LoM (estimated at around 13 years based on current conditions). Dagsoom would therefore want to avoid creating dependency on the mine brought about by creating employment opportunities solely at the mine and taking over municipal functions (e.g. developing municipal service infrastructure such as electricity connections and water pipes).

To this end, Dagsoom have identified three (3) possible focus areas for community development in support of local community needs, the Msukaligwa IDP and broader capacity building. These focal areas are:

- **Focal Area 1: Environment (Infrastructure) Programme** with a focus on interaction of economic activities with natural resource use. This includes a focus on improving the human impact on the environment (e.g. irrigation/water storage, clean drinking water, sanitation, access to energy and infrastructure
- **Focal Area 2: Education Programme** with the aim to increase communities' ability to access economic activity focusing on both formal and informal education, children and adults, gender equality and social inclusion; and

- **Focal Area 3: Livelihoods Programme** focusing on agriculture (livestock and crops) and SMME development.

Some community development projects can fall within more than one focal area, e.g. an improvement in irrigation (focal area 1) can enhance agricultural livelihoods improvement projects (focal area 3).

The following subsections provide an overview of possible projects to be implemented during ramp-up and operation. Only ABET training for community members in preparation for possible employment can commence prior to ramp-up and operation, for which a detailed project plan have been included in Annexure A.

3.4.1.1 Infrastructure Projects (Focal Area 1)

Most of the farm portions surrounding the mining right area on which primary mine community households reside, is Government-owned land – the exception being the land portions owned and occupied by the Bambanani CPA. The Bambanani Trust, Phakamani and Thandukanyo communities have settled on government land and do not hold the title deeds to the land. Table 3-3 and Figure 3-4 provides an overview of the surface rights within the proposed mining right area.

Table 3-3: Proposed Twyfelaar Mine Surface Right Summary

Portion	Owner	Title Deed	Acquisition Date	Community
Twyfelaar 298 IT				
1	National Government of the Republic of South Africa	T335876/2007	2007/11/27	Phakamani
2	National Government of the Republic of South Africa	T335876/2007	2007/11/27	Phakamani
3	National Government of the Republic of South Africa	T1322/2008	2008/01/25	Thandukanyo
4	National Government of the Republic of South Africa	T1322/2008	2008/01/25	Thandukanyo
5	National Government of the Republic of South Africa	T335876/2007	2007/11/27	Phakamani
6	No longer exists			
7	Mpheti Maachuene Josephine	T140575/2005	2005/11/01	
8	Transnet Ltd	T30492/1994	1994/05/03	
9	Transnet Ltd	T34616/1994	1994/05/19	

Portion	Owner	Title Deed	Acquisition Date	Community
RE	Bambanani-Sakhisizwe Communal Property Association	T7591/2009	2009/08/25	Bambanani-Sakhisizwe CPA
Klipfontein 283 IT				
RE	Vorster Nicolaas Wilhelmus Jacobus	T13819/1979		

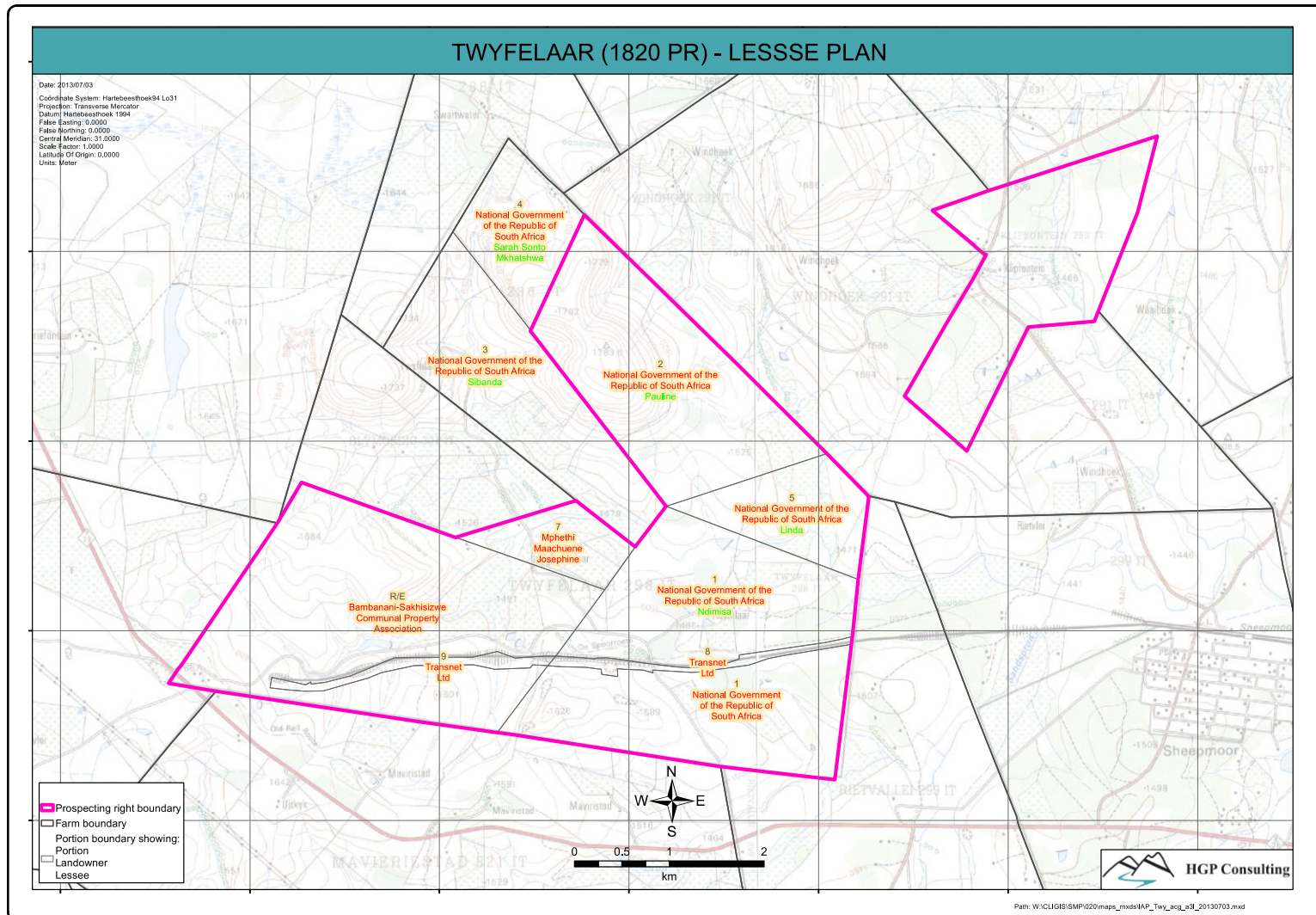


Figure 3-4: Land Ownership in the proposed Mining Right Area

Given the uncertainty around the primary mine communities continued use of the land and presence in the area, Dagsoom has taken the decision to not invest in any infrastructure development projects for the current SLP period – apart from improving the road access to the mining area, which would also have a positive spin-off for the community who would be allowed to use the road (i.e. it will not be a private mine road).

It is noted that the mine intends to construct non-private access roads into the mine area. This is required for the mine access and product transport but will also hugely benefit the communities who have highlighted the importance of such road infrastructural improvement as crucial to their livelihood. This will have a major impact for improving the road conditions from Twyfelaar to Sheepmoor (where the children from the community attend school) and the national road network.

3.4.1.2 Income-Generating Projects (Focal Areas 2 and 3)

Work Readiness Training

During ramp-up, Dagsoom will identify community members who are eligible for ABET training – see Section 0.

Agricultural Livelihood Program

The Agricultural Livelihood Program (ALP) is intended for the four communities in the primary mine community where the majority of households are involved in agriculture. The aim of the program is to strengthen the capacity of farmers and communities to address food insecurity as well as support farmers to integrate into small scale commercial markets where appropriate (i.e. move from a subsistence-based livelihood to income generating). The ALP has four strategic themes, namely:

- Improving agricultural skills;
- Intensifying agricultural yield, increasing productivity of farmer households and increasing livelihood diversification for improved resilience;
- Promoting Agribusiness; and
- Supporting improvement in existing agricultural infrastructures.

Table 3-4 sets out a preliminary list of project areas that could support these themes.

Table 3-4: Preliminary list of strategic project areas and respective components to support agricultural themes

Strategic Theme	Components
1. Improving agricultural skills	<ul style="list-style-type: none"> • Provide improved access to extension services to ensure optimal skills transfer. • Build capacity and reduce the vulnerability of livelihood farmers with emphasis on female farmers
2. Intensifying agricultural yield, increasing productivity of farmer households and increasing livelihood diversification for improved resilience	<ul style="list-style-type: none"> • Introduce Crop Support, Market Gardening, Small Livestock Support and Introduction to Irrigation Methods; • Expand activities for small-scale market gardening development to role-players other than farmers, e.g. schools; • Introduce Conservation Agriculture activities; • Promote improved irrigation
3. Promotion of Agribusiness	<ul style="list-style-type: none"> • Improving market access • Promote farmer organisations to improve bargaining power • Promote better post-harvest handling and conservation/storage • Improve financing of agricultural activities
4. Support improvement in existing infrastructure	<ul style="list-style-type: none"> • Assist in improving infrastructure for storage and post-harvest handling of produce

Dagsoom intends to appoint a suitable service provider to implement the ALP. In liaison with Dagsoom, the selected partner will be expected to develop a more comprehensive programme that will fit with the strategic themes in the table above, and best meet community needs.

Other Potential Project Areas

Potential project areas within the other focal areas have not been identified in detail at this stage. It is expected that through discussions with potential service providers (e.g. local NGOs) that the other thematic areas will be further defined. In addition, the findings of the EIA (inclusive of specialist studies such as the SIA) will further guide Dagsoom on socio-economic impacts, community needs and potential community development projects.

3.5 Regulation 46(c)(iv): Measures to Address Housing and Living Conditions

Dagsoom has taken the decision not to provide housing or provide other accommodation for any of its workforce. As the primary labour sending area is located within 30km radius of the proposed mine, many of the workers will not require housing. The final EMP will give more detail on housing and living conditions.

Dagsoom will finalise a housing strategy during the 2019-2020 in co-operation with contractor. The strategy will consider the Msukaligwa Local Municipality's housing strategy, current earnings of employees in terms of basic pay and housing allowance, cost of housing, land availability, and life of mine.

It is expected that Dagsoom and its Contractors will transport workers daily from the primary labour sending areas.

SECTION 4

PROCESSES PERTAINING TO THE MANAGEMENT OF DOWNSCALING AND RETRENCHMENT

in compliance with Regulation 46(d)

4. REGULATION 46(d): PROCESSES PERTAINING TO MANAGEMENT OF DOWNSCALING AND RETRENCHMENT

4.1 Regulation 46(d)(i): Establishment of Future Forum

In the event of downscaling and retrenchments, consultation with all employees will commence in accordance with section 189 of the Labour Relations Act (Act 66 of 1995, as amended), and any collective agreement that exists.

The Minerals and Mining Development Board will be notified as required by section 52 of the Act, where retrenchment of 500 employees or ten percent of the labour force, whichever is the lesser, is to take place in any 12-month period; and to the Minister of Labour if retrenchment of 500 employees or ten percent of the workforce, whichever is the greater, is contemplated. Ministerial directives will be complied with.

As the establishment of a Future Forum is required under Regulation 46(d)(i) of the Mineral and Petroleum Resources Development Act (MPRDA), a Dagsoom Future Forum will be established within two years after the new mining right has been granted. The Future Forum is viewed as a site-specific labour-management body that will focus on the implementation and monitoring of the SLP. It is foreseen that the Future Forum will consist of representatives of the employees, both directly employed and employed by the Contractor(s), and of the management of the mining operation. The main objective of the Forum will be to ensure ongoing communication between the employees and management regarding the mining operation and factors affecting the operation.

The main role of the Dagsoom Future Forum will be to provide early warnings and information of potential circumstances that may trigger retrenchments and/or lead to organisational restructuring, and to proactively and transparently identify challenges and solutions, develop turnaround or redeployment strategies, and to implement agreed actions, e.g. portable skills training. A further role will be to optimise government assistance, i.e. retrenchments will be dealt with in terms of Section 189 of the Labour Relations Act, or in terms of a retrenchment agreement if and when in place and applicable.

In short, the purpose of the Future Forum can be summarised as follows:

- Negotiate and take measures to avoid large-scale job losses;
- Ameliorate social and economic impact of job losses;
- Anticipate the possibility of job losses and implement contingency plans;
- Give timeous warning to affected individuals to improve their chances of finding alternative employment;
- Discuss industry trends and challenges on an ongoing basis; and

- Notify the Department of Labour of plans if more than 500 employees or more than 10% of the workforce could be retrenched in one year.

In view of the fact that the Future Forum will also be responsible for co-ordinating or requesting the services offered by the Department of Labour should Dagsoom need to retrench more than 500 employees or more than 10% of its workforce, the Future Forum will also be responsible for the following services:

- Setting up Retrenchment Response Teams competent in employment services, human resources development, and the Unemployment Insurance Fund (UIF); and
- Forming a committee to determine the type and standard of services to be provided to the employees affected by retrenchments, the financial resources that are needed to cover these additional services and the extent of the resource allocation from each partner.

In addition to the services mentioned above, the Future Forum will also consult with the Department of Labour over further services on the basis of specific agreements between the department, representatives of employers, Contractor(s) and employees at Dagsoom. Funding of the services will have to be agreed on by all the parties. These further services could include, but are not limited to:

- Group and individual counselling to assist workers in dealing with the emotional impact of retrenchment and adjusting to new conditions;
- Skills assessment and certification of prior learning to aid new employment through gaining formal, appropriate qualifications;
- Assessment of a worker's potential and development of a career plan to help the worker identify options and assist in choices that need to be made between further skills training, SMME training or finding new employment;
- Training and retraining workers in line with the Skills Development Strategy to facilitate the channelling of retrenched workers into new jobs; and
- Offering a placement service.

The overall effectiveness of the Future Forum will arise from timeous analysis of problems because this will make it possible to explore and implement appropriate solutions in a structured manner. In addition, the Future Forum will be the liaison point between the Department of Labour, Dagsoom and all other affected parties.

The Forum will meet at least bi-annually or as regularly as its members decide. When the closure of the mine is imminent, the Forum will meet on a monthly basis or as regularly as decided by the Forum members.

The Forum's Constitution and any other relevant information will be included in the Annual

Report that will be compiled in the year that the Forum came into existence.

4.2 Regulation 46(d)(ii) &(iii): Processes pertaining to management of Downscaling and Retrenchment

4.2.1 Mechanisms to save jobs, provide alternative solutions and procedures for creating job security where job losses cannot be avoided

In line with the requirements of Regulations 46(d) (ii) and (iii), Dagsoom will develop turnaround or redeployment strategies in an attempt to reduce job losses and to improve business sustainability. Dagsoom, in consultation with its future Contractor(s), will develop strategies that will enable mine management to introduce appropriate measures in an attempt to prevent job losses in the event of circumstances threatening guaranteed employment. In light of the fact that most of the staff will be contractual staff, Contractor(s) have to implement mechanisms to avoid job losses and a decline in employment. These mechanisms will be audited on an annual basis to ensure that the contractor's plan is up to date and in line with Dagsoom's requirements.

The process to be followed to avoid job losses will include the following:

- A consultation process in terms of Section 52(1) of the Labour Relations Act of 1995;
- Implementation of Section 189 of the Labour Relations Act;
- Notification to the Minerals and Mining Development Board in terms of Section 52(1)(a) of the Act; and
- Compliance with the Ministerial directive and confirming how corrective measures would have been taken.

In addition to the above-mentioned process, Dagsoom through its Contractor(s) endeavours to submit to the following mechanisms to save jobs and to avoid job losses wherever possible:

- Assist employees with finding alternative employment in the event that job losses cannot be avoided;
- Portable skills training opportunities will be offered from the outset of the mining operation to firstly ensure redeployment, and secondly alternative employment;
- Voluntary Retrenchment;
- Cessation of full-time employee recruitment;
- Change in shift cycles;
- Sunday work;
- Wage moderation; and

- Employee subcontracting.

One of Dagsoom's strategies in making use of mostly contractual staff encompasses an understanding by Contractor(s) that jobs and duties, subject to individual skills and capabilities, are flexible within the Contractors' client base. Consequently, as part of the strategy to broaden the skills base, the Contractor should provide training and retraining in the employee's existing career path as well as in new technological developments. One of the objectives of multi-skilling workers is to increase the opportunity for alternative employment either in different occupations on the mine or in jobs outside the mining sector. In pursuit of this aim, the Contractor(s) will provide alternative skills training to workers to put them in a better position to seek work in a greater variety of positions or occupations. The focus of this training will be on subsistence, life skills and entrepreneurial activities.

This means that if security of jobs is threatened, a Contractor is better placed to transfer an employee to another mine, division, department or section within its client base. As per agreements with trade unions and other worker representative bodies, the transfer would only be accomplished after consultation and reasonable notice to the employee.

Apart from the transfer of employees, there may be people affected by downscaling operations who are keen to start their own enterprises. In these cases, together with its Contractor(s) will consider the following options:

- Facilitate links with a Local Business Service Centre or other appropriate support institutions;
- Provide business support services to workers while they are still at work and can explore options;
- Give assistance and mentoring in feasibility studies and the development of business plans;
- Include business and technical training for self-employment;
- Provide time off so that workers can undergo such training before they leave their workplace;
- Identify opportunities to supply Dagsoom with goods or services; and
- Engage with banks and other lending institutions to explore and facilitate arrangements for workers who want to use all or part of their retrenchment packages as collateral security for business loans.

4.2.2 Management of Retrenchments

Besides disciplinary action, the primary reasons for loss of employment are due to technological changes, redundancies, retrenchments, mine closure, adverse economic and

trading conditions, and business process streamlining. In the event that retrenchment is inevitable at Dagsoom's Twyfelaar mine, the management will firstly advise the Future Forum in responsible application of Section 189 of the LRA. As outlined in Section 4.1 above, one of the requirements of the Future Forum is to have structures in place to facilitate consultation processes to ensure that Dagsoom management and recognised trade union representatives can meet on a monthly basis to discuss workplace issues. The intention is to provide a formal vehicle where all affected parties can consult and discuss challenges and possible solutions to problems facing the workplace that may have the potential to lead to large scale retrenchment in the future.

Portable skills training programmes will be made available throughout the mining production stages (see Section 2.3.3) and prior to the commencement of the retrenchment process in order to assist employees in procuring alternative employment.

In the event that retrenchments are unavoidable, Dagsoom will request its Contractor(s) to supply their employees with the following:

- Skills assessments and written recognition of their prior learning, experience and qualifications;
- Assessment of potential and actual career planning;
- Referrals to accredited training providers;
- Consideration for bursary initiatives;
- Step-by-step guidelines on starting their own business;
- Job hunting tips; and
- Assistance in identifying labour market opportunities, local economic development initiatives or any other employment opportunities.

The management of Dagsoom is committed to adhering to the procedures of Section 189 of the LRA, as well as the forward planning and transparent consultation processes of the Future Forum in the event of large-scale retrenchments. The management of Dagsoom will also inform other affected parties, i.e. contractors, labour sending areas, municipalities, etc. of the possible retrenchments at the Twyfelaar operation.

The process to be followed in the event of unavoidable job losses will include the following:

- A consultation process in terms of Section 52 (1) of the Labour Relations Act of 1995;
- Implementing Section 189 of the Labour Relations Act to deal with possible retrenchments; and
- Notification to the Minerals and Mining Development Board in terms of Section 52(1)(b) of the Act.

A three-way communication strategy will also be implemented in order to:

- Inform Contractor(s) and employees of possible retrenchments and alternative solutions in terms of re-deployment;
- Inform other affected parties (sending areas, municipalities, etc.) of the possible retrenchments at the operation; and
- Inform outside parties (media, etc.) of the possible retrenchments at the operation.

4.2.3 Mechanisms to ameliorate the social and economic impact on individuals, regions and economies where retrenchment or closure of the operation is certain

Planning for closure and downsizing takes place throughout the life cycle of the mine, from exploration through to post-closure rehabilitation. As part of these mechanisms, Dagsoom will develop a closure plan that considers the optimum use of mine land and infrastructure during the operational phase as well as the closure phase of the mining life cycle.

A range of interventions will be implemented to ameliorate the social and economic impact on individuals, regions and economies where retrenchment or closure of the operation is certain. These interventions will include:

- Assessment and counselling services;
- Comprehensive self-employment training programmes;
- Comprehensive training and re-employment programmes;
- Alternative use of infrastructure and land.

Detailed plans to mitigate the social and economic impact on parties affected by retrenchment will be submitted to the DMR at least 24 months prior to the start of the downscaling and retrenchment process.

The subsections below provide a general overview of possible redeployment plans that could be implemented.

4.2.3.1 Skills Training

During LoM, training in accredited portable skills is available to all employees.

Employees who face retrenchment during downscaling or closure will receive additional training in basic life skills, financial skills and SMME training. Training will be voluntary and will be offered from three years prior to planned retrenchments. The training programmes that will be offered will be determined by Dagsoom in consultation with the affected employees and the Future Forum.

4.2.3.2 *Alternative use of infrastructure and land*

At closure, the land on which the mine is located will be rehabilitated to make it usable for agricultural practices.

Discussions will be held with the MLM to establish the best use for infrastructure following closure, to ensure that buildings that could be used by, for example, local communities, are not demolished prematurely.

SECTION 5

FINANCIAL PROVISION

in compliance with Regulation 46(e)

5. REGULATION 46(e): FINANCIAL PROVISION

5.1 Regulation 46(e)(i): Financial provisions for the implementation of the Human Resource Development Programme

The proposed Twyfelaar mine does not have an existing workforce. Training initiatives will commence one year prior to operation in preparation for work readiness.

Table 5-1: HRDP Budget

HRD Budget	Forecast (ZAR)				
	2019	2020	2021	2022	2023
ABET Training	0.00	0.00	55 000.00	40 000.00	40 000.00
Management and leadership development	0.00	0.00	50 000.00	50 000.00	50 000.00
Learnerships	0.00	0.00	0.00	0.00	50 000.00
Portable skills	0.00	0.00	0.00	50 000.00	100 000.00
Mentorship ¹	0.00	0.00	0.00	0.00	0.00
Bursaries/study assistance	0.00	0.00	0.00	40 000.00	40 000.00
Internships	0.00	0.00	0.00	60 000.00	60 000.00
BUDGET ESTIMATE	0.00	0.00	105 000.00	240 000.00	340 000.00

5.2 Regulation 46(e)(i): Financial provisions for the implementation of the Mine Community Development Programme

As Dagsoom will not be cash generative until the proposed Twyfelaar mine begins production in 2022, the budget for infrastructure development and other community development projects is currently constrained.

¹ To be supplied within 12 months of appointing an operational workforce.

Table 5-2: Mine Community Development Budget

MCD Budget	Forecast (ZAR)				
	2019	2020	2021	2022	2023
ABET training (as per table above)	0.00	0.00	Covered under HRDP budget (see Table 5-1)		
Agriculture Livelihood Programme (pilot phase)	0.00	0.00	0.00	100 000.00	100 000.00
BUDGET ESTIMATE	0.00	0.00	0.00	100 000.00	100 000.00

5.3 Regulation 46(e)(i): Financial provisions for the implementation of processes to manage downscaling and retrenchment

Item	Forecast (ZAR)				
	2019	2020	2021	2022	2023
Portable skills	0.00	0.00	Covered under HRDP budget (see Table 5-1)		
Service providers to develop scheme and processes to manage downscaling and retrenchment	0.00	0.00	0.00	60 000.00	60 000.00
BUDGET ESTIMATE	0.00	0.00	0.00	60 000.00	60 000.00

As a new mining operation, Dagsoom will develop a retrenchment policy. The retrenchment policy will be in line with applicable legislation and may be altered by collective agreement with stakeholders.

At this stage it is foreseen that retrenchment and severance packages will be calculated as follows:

- One weeks' wages for every year of service with Dagsoom;
- One month's wages as notice pay; and
- A leave pay-out as per company policy.

A detailed budget will be submitted in the next SLP.

SECTION 6

UNDERTAKING

in compliance with Regulation 46(f)

6. REGULATION 46(f): UNDERTAKING

I, Hilton Grant Philpot, the undersigned and duly authorised thereto by Dagsoom (Pty) Ltd. undertake to adhere to the information, requirements, commitments and conditions as set out in this Social and Labour Plan.

Signed at Bryanston on this 24th day of April 2019.

Signature of responsible person:

Approved:

Signed at xxxx on this xxxx day of xxxx 2019.

Signature:

Designation: xxxx

APPENDIX A

PROJECT DEVELOPMENT PLAN

Project Name	ABET training			Classification of project: Education			
Background	Almost half (45.9%) of the population in Msukaligwa Ward 11 are aged 20 years and older. This implies that more than half of the population are 19 years and younger and as minors, dependent on the smaller portion of adults. Of the adult population (defined as those aged 20 and older), 25% had no schooling, with a further 56% who have only completed some schooling (some primary and some secondary). This means that an estimated 81% of the adult population within the secondary mine community could benefit from ABET training. This initiative is at the planning phase. The intention is to liaise with the Department of Education to facilitate the training, starting in 2021.						
Geographical Location of the Project	District Municipality: Gert Sibande	Local Municipality: Msukaligwa	Village name: Any household within Ward 11	Project start date: 2021		Project end date: 2023 (current intake, project can be replicated depending on success and future demand)	
Output	Key Performance Area: Education Programme (Focal area 2)	Key Performance Indicator: Xx community members who have successfully attained ABET Level 4.	Responsible entity Department of Education	Quarterly timelines and year: Q1 2021 – identify learners Q2-Q4 2021: ABET Level 3 training	Quarterly timelines and year Q1-Q4 2022 – ABET Level 4 training	Quarterly timelines and year Q1 2023 – workplace specific training for those who were employed	Budget: R 135 000
Classification of Jobs	No. of jobs to be created	Male adults	Female adult	Male youth	Female youth	Total	Comments:
Short Term	0	0	0	0	0	0	Youth defined as ages between 20 and 35. All
Medium Term	0	0	0	0	0	0	

Long Term	13	7	6	7	6	13	jobs created as part of this initiative is intended to be for the duration of LoM (i.e. long term).
<p>Completion date and exit strategy</p> <p>Beneficiaries: Dagsoom will only consider individuals for employment who have at least ABET level 4 and therefore the initial focus of the ABET training will be on the 24% of the population who have completed some primary education, with a specific focus on those learners who have at least ABET Level 2 - to prepare this group for possible employment at the mine.</p> <p>Exit strategy: Learners who successfully complete ABET Level 4 will be considered for employment at the proposed Twyfelaar mine. From this group, those who do not qualify for employment (for reasons other than education level), will be considered for FET initiatives and will also feed back into Dagsoom’s proposed Agriculture Livelihood Programme.</p>							

Project Name	Agricultural Livelihoods Programme			Classification of project: Livelihood support			
Background	<p>In 2001 and 2012, the agriculture sector was one of the biggest employers of people in the Msukaligwa Local Municipality, yet it contributed very little to the GVA during the same period (refer to Figure 3-3). In discussions with households within the primary mine community, it was found that all the households are involved in some agricultural activities (crop production and livestock rearing) but, similar to the municipality, almost none of the households derived any income from these activities.</p> <p>The aim of this pilot project is to improve agricultural skills within the primary mine community by providing improved access to extension services in an attempt to build local farmers capacity and thereby reducing subsistence farmers' vulnerability to external shocks. A further aim is to intensify agricultural yield, increasing the productivity of farmer households, thereby increasing their livelihood diversification by improving their resilience. This will be achieved by:</p> <ul style="list-style-type: none"> • Introducing crop support, market gardening, small livestock support improved irrigation methods; • Expanding activities for small-scale market gardening development to role-players other than farmers, e.g. schools; • Introducing conservation agriculture activities; and • Promote improved irrigation. <p>If the pilot project proves to be successful, it can be rolled out to farmer households in the wider (i.e. secondary) mine community and include further phases (e.g. promotion of agribusinesses and supporting improvement in infrastructure).</p>						
Geographical Location of the Project	District Municipality: Gert Sibande	Local Municipality: Msukaligwa	Village name: Phakamani Thandukanyo Bambanani Trust Bambanani CPA	Project start date: 2022		Project end date: 2023 (current intake, project can be replicated depending on success)	
Output	Key Performance Area:	Key Performance Indicator:	Responsible entity Tba –	Quarterly timelines and year:	Quarterly timelines and year	Quarterly timelines and year	Budget: R 100 000

	Livelihoods Programme (Focal area 3)	<ul style="list-style-type: none"> • Number of households who participate in the ALP • Number of households who have increased and diversified their crop yield • Number of households with improved food security 	discussions are underway with service providers	Q1 and Q2 2022: Introduce crop support, market gardening, small livestock support improved irrigation methods	Q3 2022: Introduce conservation agriculture activities	2023: Expand activities for small-scale market gardening development to role-players other than farmers, e.g. schools	
Classification of Jobs	No. of jobs to be created	Male adults	Female adult	Male youth	Female youth	Total	Comments: The project is not aimed at creating jobs but rather at supporting current farmers in their agricultural practices to improve their yield and
Short Term							
Medium Term							
Long Term							

								thereby increase their food security.
<p>Completion date and exit strategy</p> <p>Beneficiaries: All farmer households within the primary mine community.</p> <p>Exit strategy: The mine will not be directly involved in the project but would rather contract specialist service providers. They would be required to submit an exit strategy to the mine as part of their contractual obligations.</p>								