

**SOCIO-ECONOMIC IMPACT ASSESSMENT  
PROPOSED DUNBAR COAL PROJECT  
MPUMALANGA PROVINCE**

**SEPTEMBER 2019**

**Applicant: Vandabyte (Pty) Ltd**

**DMR Ref: MP 30/5/1/2/2/ 10237MR**

**Driver Behaviour HR Consultants (Pty) Ltd**

**ProPark Offices 1A**

**Tzaneen**

**0850**

**Email: [driverbehaviour@gmail.com](mailto:driverbehaviour@gmail.com)**

**Cell: 071 866 9590**

**Fax: 086 243 8078**



## TABLE OF CONTENTS

1	Introduction .....	5
1.1	Terms of reference .....	5
2	Project Description .....	6
2.1	Project Location .....	6
2.2	Access to the Mining Right Area .....	6
2.3	Mining Method .....	6
2.4	Water and Electricity Supply .....	7
2.5	Waste Management .....	7
2.6	Project Timing and Infrastructure .....	8
2.7	Project Alternatives.....	9
2.7.1	Location Alternatives .....	10
2.7.2	Associated infrastructure location and layout alternatives .....	10
2.7.3	No-Go Alternative .....	10
2.8	Workforce .....	10
2.9	Activities included in the Dunbar SLP .....	11
2.9.1	Human Resources and Skills Development.....	11
2.9.2	Employment and Procurement Policies .....	11
2.10	Downscaling and Retrenchment Management.....	13
3	National Policies and Legislation .....	14
3.1	Labour Legislation .....	15
3.2	Development Policies.....	16
3.3	International Best Practice .....	17
4	Methodology .....	18
4.1	Definition of study area .....	19
4.2	Data Collection .....	20
5	Description of the area .....	21
5.1	Secondary Study Area .....	23

5.1.1	District Municipality .....	23
5.1.2	Steve Tshwete Local Municipality .....	24
5.2	Primary Study Area .....	29
5.2.1	Land Ownership .....	29
6	Economics .....	30
7	Impact Assessment .....	31
7.1	Methodology .....	31
7.2	Identification of Impacts .....	35
7.3	Mitigation Measures and Recommendations .....	35
7.4	Impact Assessment Results .....	35
7.4.1	Construction Phase .....	36
7.4.2	Operational Phase .....	45
7.4.3	Impact Ratings .....	47
8	Cumulative Impacts .....	50
9	Stakeholder Engagement Plan .....	51
10	Proposed Grievance Mechanism .....	52
11	Stakeholder Perceptions .....	53
12	Monitoring Plan .....	54
13	Conclusion .....	54
14	References .....	55
	Appendix A: Stakeholder engagement .....	57

## LIST OF FIGURES

Figure 2-1: Proposed Infrastructure for the Dunbar Coal Mine Project .....	9
Figure 5-1: Secondary Study Area for the proposed Dunbar Coal Mine .....	24
Figure 5-2: Agricultural activities on the proposed project study area .....	29

## LIST OF TABLES

Table 2-1: Proposed timing of project activities and infrastructure development for Dunbar Coal Mine. ....	8
Table 2-2: Human resource and skills development programmes .....	11
Table 4-1: Affected District and Local Municipalities. Local municipalities affected by this Project are indicated in red. ....	19
Table 5-1: Summary of Socio-Economic Baseline Profile.....	21
Table 5-2: Type of dwelling Mpumalanga, NDM, STLM (Community Survey 2016) and Ward 4 (Census 2011).....	25
Table 5-3: Goods available by household for Mpumalanga, NDM, STLM and Ward 4. Goods that are significantly lower for Ward 4 compared to the rest of the province is indicated in bold. ....	26
Table 5-4: Population by employment status .....	27
Table 5-5: Landowners of the affected properties (Surface right owners) for the mining right area. ....	29
Table 7-1: Status of Impacts .....	31
Table 7-2: Extent of Impacts .....	32
Table 7-3: Duration of Impacts.....	32
Table 7-4: Frequency of impacts .....	32
Table 7-5: Severity of Impacts .....	32
Table 7-6: Probability of Impacts .....	33
Table 7-7: Consolidated Table of Aspects and Impacts Scoring .....	33
Table 7-8: Significance Assessment Matrix. ....	34
Table 7-9: Positive and Negative Impact Mitigation Ratings.....	35
Table 7-10: Impact rating for socio-economic aspects pre-mitigation.....	48
Table 7-11: Impact rating for socio-economic aspects post-mitigation .....	49

## 1 INTRODUCTION

Vandabyte (Pty) Ltd (hereafter the applicant) has appointed Enviro-Insight CC to undertake environmental authorisations associated with the proposed Dunbar Coal Mine (hereafter the Project). The applicant has obtained a Prospecting Right (reference number MP 30/5/1/1/2/10737 PR) on 22 May 2014 from the Mpumalanga Department of Mineral Resources (DMR) to prospect for coal in an area of 1797 ha on a Portion of Portion 1, Portion 2 and the remaining extent of the Farm Dunbar 189 IS, Portion 1 of the Farm Middelkraal 50 IS and Portion 6 of the Farm Halfgewonnen 190 IS located in Mpumalanga Province.

In terms of the requirements of the Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002) (MPRDA), as amended, a successful Mining Right Application (MRA) must be submitted to the Department of Mineral Resources (DMR), in order to convert the prospecting right into a mining right. This MRA should include an Environmental Impact Assessment (EIA) completed by an independent Environmental Assessment Practitioner (EAP), in accordance with the EIA Regulations outlined in the National Environmental Management Act, 1998 (Act No. 107 of 1998) (NEMA) and updated in 2014.

The SIA, together with all other specialist studies, forms an integral part of the Mining Right and Environmental Authorisation Applications. The application of a mining right to the DMR includes: Portion of Portion 1, Portion 2 and the remaining extent of the Farm Dunbar 189 IS, Portion 1 of the Farm Middelkraal 50 IS and Portion 6 of the Farm Halfgewonnen 190 IS. The Integrated Environmental Authorisation (IEA) application includes the above-mentioned properties where the proposed two mining blocks identified and associated infrastructure is located on Portion 2 of the Farm Dunbar 189 IS.

The purpose of this document is to provide a baseline description of the socio-economic environment impact and to identify social and economic impacts of the proposed Dunbar Coal Project, focusing on the landowners, communities living and working in close proximity to the proposed project and the local municipalities in which the study area is located.

Social Impact Assessment (SIA) is defined as being “the processes of analysing, monitoring and managing the intended and unintended social consequences, both positive and negative, of planned interventions (policies, programs, plans, projects) and any social change processes invoked by those interventions”.

### 1.1 TERMS OF REFERENCE

The aims of the Social Impact Assessment, which forms part of the Environmental Impact Assessment, are to:

- Describe the baseline socio-economic characteristics of the proposed project site and surrounding areas;
- Identify, describe and assess the expected significance of potential socio-economic impacts that may arise as a result of the proposed project activities;
- Recommend appropriate mitigation measures and management actions to avoid or minimise potential negative impacts;
- To enhance positive impacts associated with the proposed project; and

Compile a social management and monitoring framework that defines steps for implementing recommended mitigation and enhancement measures.

---

## 2 PROJECT DESCRIPTION

This section provides basic information pertaining to the proposed Project. The information is extrapolated from the draft Mine Works Program (MWP) and Draft Social and Labour Plan (SLP) that was compiled for the proposed Dunbar Coal Mine Project.

### 2.1 PROJECT LOCATION

The study area falls in the Steve Tshwete Local Municipality (STLM) located in the Nkangala District Municipality (NDM) and in the Govan Mbeki Local Municipality (GMLM) located in the Gert Sibande District Municipality (GSDM), Mpumalanga province. The mining right application will include Portions 1, 2 and the remaining extent of the Farm Dunbar 189 IS, Portion 1 of the Farm Middelkraal 50 IS and Portion 6 of the Farm Halfgewonnen 190 IS. The study area is located approximately 4.1 km south of Meerlus, 8.93 km southeast of Komati and 13.76 km west of Hendrina. An informal settlement is located within the mining right on Portion 2 of the farm Dunbar 189, approximately 640m west of the opencast pit. The R35 is located west, R542 is located north and the R38 is located south-east of the study area.

Numerous coal mines exist within a 10km radius, including Sudor, Anglo Inyosi, Umcebo and Koornfontein. The remaining surrounding land uses are mostly agricultural lands and operations.

### 2.2 ACCESS TO THE MINING RIGHT AREA

Access to the Project is by means of the Davel road from the R542 located between the R38 and R35. The R38 connects Bethal and Hendrina, and connects to the N11 from Middelburg to Ermelo. The R 35 connects Bethal, Komati and Middelburg. Ultimately, the R35 and the N11 connects with the N4 East between Pretoria / Johannesburg and Mbombela (Nelspruit).

The proposed access road for the Project is an existing unnamed private gravel road which is currently used by the landowner as an access road to his property. A network of private gravel roads facilitates movement within the proposed Mining Right Area.

### 2.3 MINING METHOD

The mining method will comprise of the following main mining activities for both waste and coal:

- Topsoil – thickness is assumed to be 1.0m - Topsoil will be stripped using an excavator and will be stored in separate stockpile areas within the mining area;
- Soft overburden removal;
- Drilling – hard overburden lies just below the weathered material and above the coal seam – therefore drilling will be required;
- The coal seams are expected to be charged and blasted; Drilling and blasting will be employed for the hard overburden to expose the coal seams. Once blasted, the hard overburden will be excavated and stockpiled separately for rehabilitation;
- Loading and hauling and tipping or dumping using conventional truck and shovel mining methods. A temporary discard dump containing one year's capacity will be constructed to store the discard, which will either be rewashed or

backfilled into the mined-out area. The coal will be fed into a crushing and washing plant, after which the coal product will be transported for distribution.

The volumes in the LOM production schedule are expected to include:

- Topsoil - Thickness of the topsoil is assumed to be 1.0m. Loading and hauling to topsoil stockpile by truck and shovel.
- Soft overburden - Loading and hauling to waste stockpile or in-pit backfill by truck and shovel.
- Hards Overburden - This material lies just below the weathered material and above the coal seam and will require drilling and blasting. Loading and hauling to waste stockpile or in-pit backfill by truck and shovel.
- The coal seams are expected to be drilled and blasted. Loading and hauling to ROM Tip by truck.

## INFRASTRUCTURE REQUIREMENTS

- Access & Haul roads (with necessary security) including the upgrading of the access point to the gravel road;
- Contractor's Yard with septic/chemical ablution facilities;
- Offices;
- Weighbridge, workshop and stores (with septic/chemical ablution facilities);
- Rail Siding;
- Diesel facilities and a hardstand;
- Power and Water;
- Boxcut;
- Haul roads;
- Stockpiles (topsoil, overburden, subsoil/softs, ROM);
- Surface water management measures (stormwater diversion berms and trenches; pollution control dams etc.);
- Crushing, screening and wash facility.

## 2.4 WATER AND ELECTRICITY SUPPLY

It is proposed that existing or new boreholes within the Mining Right Area will be utilised. Pipes and pumps will be installed to pump water from the aforementioned sources to the process plant. Process water will be managed and re-used throughout the operations of the project. Obtaining potable water from the local municipality is also currently being considered and will be addressed in the Water Use Licence Application.

The project will obtain electricity from existing Eskom distribution power lines and if necessary construct an electrical substation on the project site to supplement supply. Electricity for lighting and pumping will be operated through diesel generator sets. The feasibility of using onsite solar power generation as a backup system is also being investigated.

## 2.5 WASTE MANAGEMENT

Solid coal discard will be temporarily stored on a discard dump before being taken back to the open pit for final disposal. Chemical toilets will be used on site; no sewage treatment is required. Any hazardous wastes will be stored and handled

appropriately prior to being disposed of by a licensed hazardous waste disposal contractor. General domestic wastes will be managed in accordance with the requirements of the Steve Tshwete Local Municipality.

## 2.6 PROJECT TIMING AND INFRASTRUCTURE

Only once all licenses and authorizations have been granted can the proposed Project commence with the construction phase. This will take approximately one year and will include site establishment and the construction of all required infrastructures as described in the MWP (Figure 2-1), including the initial development of the box cut. Operations will ramp up immediately after construction has been completed, with full operational capacity being reached after two years (Table 2-1).

**Table 2-1: Proposed timing of project activities and infrastructure development for Dunbar Coal Mine.**

Project phase (duration)	Activity
<p><b>Construction</b></p> <p>(Year 0 – 1)</p>	<ul style="list-style-type: none"> <li>• Site establishment</li> <li>• Site clearing, including removal of topsoil and vegetation</li> <li>• Construction of mine related infrastructure, including roads, offices, pipes and pollution control dams</li> <li>• Construction of crushing and washing plant</li> <li>• Blasting and development of initial box-cut, including stock piling</li> <li>• Temporary storage of hazardous products, i.e. fuel, explosives, waste and sewage</li> </ul>
<p><b>Operational</b></p> <p>(Year 1 – 12)</p>	<ul style="list-style-type: none"> <li>• Stripping of topsoil and soft overburden</li> <li>• Removal of overburden and stockpiling of overburden</li> <li>• Loading, hauling and stockpiling of overburden</li> <li>• Drilling and blasting</li> <li>• Load, haul and stockpiling of RoM coal</li> <li>• Use and maintenance of haul roads</li> <li>• On-site water use and storage</li> <li>• Storage, handling and treatment of hazardous products and waste</li> </ul>
<p><b>Decommissioning and closure</b></p> <p>(Year 13 -16)</p>	<ul style="list-style-type: none"> <li>• Demolition and removal of all infrastructure</li> <li>• Rehabilitation of opencast pits and affected areas</li> <li>• Environmental monitoring of decommissioning activities</li> <li>• Storage, handling and treatment of hazardous products and waste</li> <li>• Post- closure monitoring and rehabilitation</li> </ul>



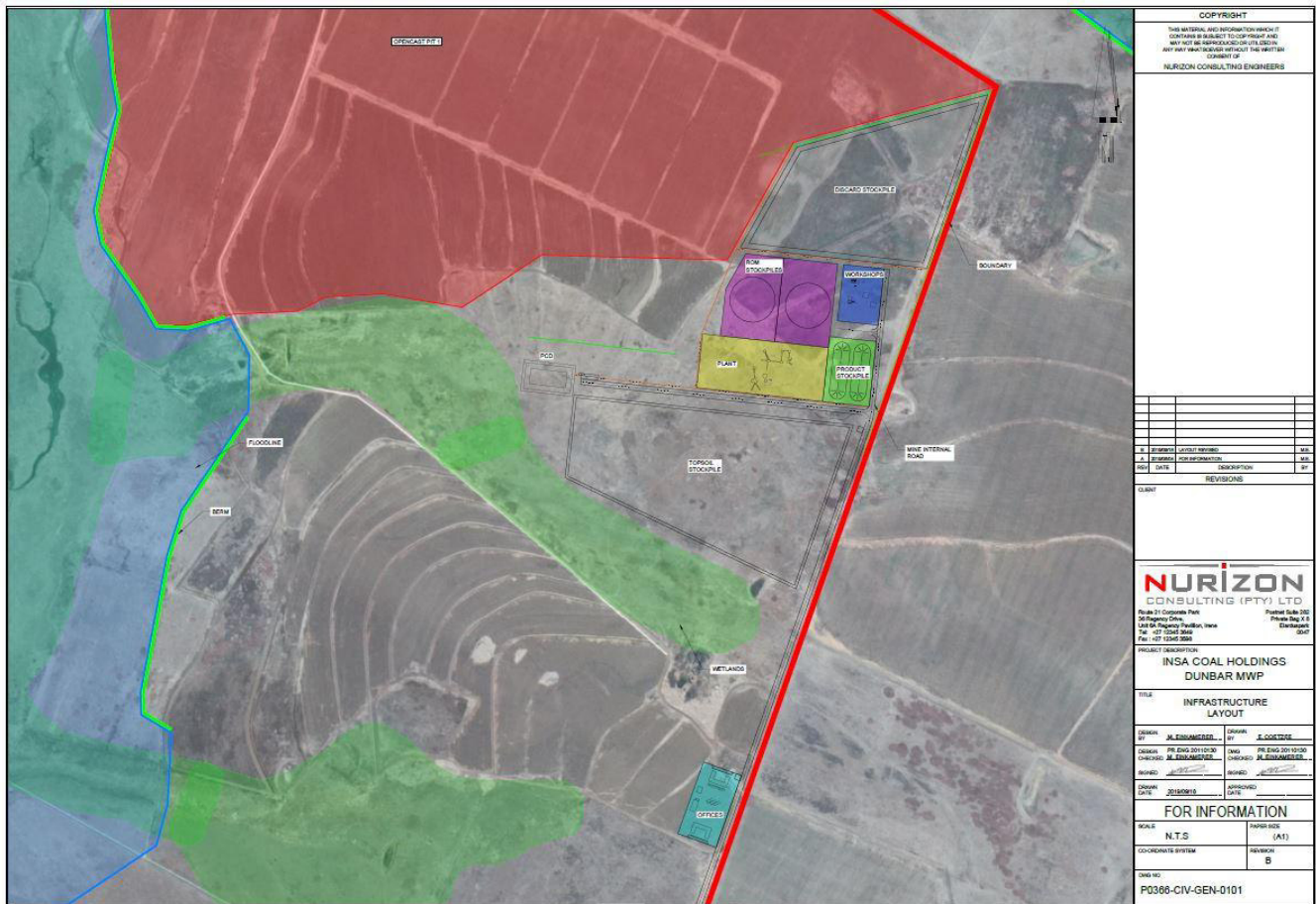


Figure 2-1: Proposed Infrastructure for the Dunbar Coal Mine Project

## 2.7 PROJECT ALTERNATIVES

Alternatives can typically be identified or categorised according to:

- Location alternatives – alternative project sites in the same geographic area;
- Process/design alternatives – alternative process/design/equipment/technologies;
- Associated infrastructure location and layout alternatives – consideration of the different options to place project infrastructure;
- Activity alternatives – consideration of different means to achieve the same project objective; and
- No-go alternatives – the proposed project/activity does not proceed, implying that the current situation or status quo remains.

### **2.7.1 Location Alternatives**

The study area was considered due to the positive results obtained during the prospecting phase and exploration drilling with regards to the underlying coal. As the applicant already has prospecting rights on the above-mentioned properties, and with the favourable results from the prospecting phase regarding coal deposits, the proposed study area locality is optimal for mining coal. No location alternatives therefore exist, as it is dependent on the underlying coal reserve.

### **2.7.2 Associated infrastructure location and layout alternatives**

The proposed location and layout for the associated infrastructure for the proposed mine is a preliminary conceptual plan as decided by the applicant and consultation with engineers, and making use of available desktop information (Figure 2-1). This is, however, not necessarily the final version and would likely require changes once specialist investigations have been done. The sensitive areas and buffer zones will be overlain with the existing location and layout for the associated infrastructure, and alternative sites surrounding the mining blocks will be identified, assessed and discussed with the applicant in order to reduce negative impacts on the environment.

### **2.7.3 No-Go Alternative**

The no-go alternative would entail not mining the coal reserve and leaving the area mainly as agricultural land. Should the proposed Project not take place, it entails that the land will continuously be used for agricultural purposes, depending on the landowners needs and desirability for the future. Food security is undoubtedly one of the most important sectors in Mpumalanga, nationally and the world. The no-go alternative also means that all potential negative impacts associated with the proposed mine and its associated infrastructure would not occur. In recent light of events regarding increased pressure on sustainable mining developments and the impacts of fossil fuels on climate change, the No-Go Alternative seems promising.

By not implementing this Project, in excess of 60 permanent jobs and numerous unskilled jobs will not be created; the coal which could potentially have benefitted the economy would become sterilised. In addition, numerous coal mines already exist within the surrounding area and are in-line with the SDP and IDP of the local municipalities.

When considering the allocation of land for development and when deciding applications for planning permission affecting agricultural land, the implications must be considered together with the environmental, cultural and socio-economic aspects.

## **2.8 WORKFORCE**

This section provides information pertaining to the expected size of the workforce for the proposed project, and presents figures which provide insight into capital and operational project-related expenditure.

Vandabyte will appoint contractors who will be responsible for appointing the workforce. The contractors must ensure that they comply with the MPRDA and Mining Charter. The workforce should be recruited from local labour sending areas from within STLM and from the GMLM, with the remainder being recruited elsewhere in Mpumalanga and neighbouring provinces. Workers sourced from outside the local area will therefore not be permanent residents, and would consequently require accommodation. Vandabyte intends to provide employees with wage packages, which will include housing allowances, enabling employees to use accommodation options in surrounding towns and human settlements.

The total labour complement once the mine is fully operational is expected to be 60 permanent employees, excluding unskilled workers. All permanent employees to be taken onto the mine's workforce must be functionally literate and numerate as a condition of employment (i.e. those who have passed through the national school system would meet this level of education). Vandabyte and contractors will be required to honour commitments made in the SLP and also to comply with the Mining Charter's requirements.

## 2.9 ACTIVITIES INCLUDED IN THE DUNBAR SLP

In accordance with the MPRDA, Vandabyte has drafted a SLP, which outlines the Company's policies and commitments with regard to:

- Human Resource and Skills Development;
- Actions in terms of local economic and community development;
- Procurement progression and employment equity planning.

Updated versions of the SLP will be compiled for every five years of the proposed Project's operations.

### 2.9.1 Human Resources and Skills Development

Vandabyte recognises that successful human resource and skills development is the foundation for developing competent and productive employees who would be able to participate in meeting the Project's business objectives. They have committed to implement several programmes as part of their drive for human resources and skills development. This will be aligned to the requirements of SETA, the Skills Development Act (Act No 97 of 1998) and Mining Qualifications Authority. These will be implemented once the mining right is granted and the workforce has been recruited.

### 2.9.2 Employment and Procurement Policies

Vandabyte recruitment policy is based on the SA Mining Charter, which dictates that 50% of the employees should be recruited from historically disadvantaged communities and where necessary, receive appropriate skills training. Employees selected should also be representative of vulnerable groups such as women and people with disabilities. The Mining Charter target for female employment is set at 10% of the workforce. Current policies on participation of Historically Disadvantaged South Africans (HDSAs) and Women in Mining (WiM) in both employment and procurement are indicated in Table 2-2 below.

**Table 2-2: Human resource and skills development programmes**

Programmes / plans	Summary and key commitments	Beneficiaries
Skills Development Plan	The plan aims to: <ul style="list-style-type: none"> <li>(a) Provide all employees with the opportunity to obtain a minimum educational level equivalent to ABET level 4;</li> <li>(b) Ensure that the Company has the necessary competencies within the workforce to achieve its</li> </ul>	All company employees and several identified individuals from the surrounding communities.

	<p>business mandate;</p> <p>(c) Enable employees to develop and pursue clear path careers within the organization.</p> <p>The plan intends to achieve these objectives through ABET; Learnership and mentorship programmes.</p> <p>The Skills Development Plan includes the following commitments.</p> <p>(a) Where relevant, programmes will be compliant with Section 20 of the Skills Development Act (Act No 97 of 1998);</p> <p>(b) Payment contributions will be made to the Skills Development Fund in order to comply with the Skills Development Levies Act (Act No 9 of 1999);</p> <p>(c) Skills development needs will be identified collaboratively with the employees; and</p> <p>(d) Training service providers will require accreditation with the MQA and SETA.</p>	
ABET	The aim of the program is to improve the foundations for skills development by increasing literacy rates of employees. An individually customised training plan will be drawn up for each employee who wishes to enrol for ABET training.	The program will facilitate 20 employees per annum
Learnerships	<p>The objective of this programme is to increase the artisan talent pool available. Individuals will be enrolled into external training programmes within the following areas;</p> <ul style="list-style-type: none"> <li>• Diesel mechanics;</li> <li>• Electrical works;</li> <li>• Boiler making;</li> <li>• Welding; and</li> <li>• Millwright works.</li> </ul>	<p>Only 40% of learnership beneficiaries will be selected from the workforce, with the remainder being recruited externally.</p> <p>50 % of all beneficiaries will be from surrounding HDSA communities.</p>
Internship and bursaries	The Project aims to attract bursars in the areas that surround the operations and will provide training in the following fields; mining; engineering; metallurgy; human resources; and finances	<p>The program will be open to children and relatives of employees.</p> <p>A few bursaries will be awarded annually. Preference will be given to HDSA candidates.</p> <p>Students excelling will be identified from secondary schools within the surrounding area and should be included in the program.</p>
Portable skills development	The aim of the program is to provide additional or alternative non-mining skills to the workforce, and surrounding communities.	The programme will make provision for several beneficiaries per annum and where possible can also be selected from surrounding communities.
Career progression planning	<p>The plan aims to;</p> <p>(a) Provide employees with the opportunity to progress from lower skilled working levels to higher skilled or management levels and;</p> <p>(b) Create an environment of learning and professional growth amongst the workforce.</p>	All employees
Mentorship	Ensure proper transfer of knowledge, skills and experience that underpin the Company's focus on people as well as	The plan will focus on HDSA employees and seek to ensure that the

	equity, career and succession management systems.	Project prepare sufficient numbers of future leaders for the demands created by the growth of the Project.
Women in mining	Vandabyte(PTY) Ltd is committed to the strategic objectives of both the Mining Charter and the Employment Equity Act, which stipulates promoting female employment across all employment and skills levels.	Policies and principles will be aligned with the Mining Charter to ensure at least 10% of personnel comprise of females within five years of operations.
Procurement and enterprise development	Vandabyte (PTY) Ltd is committed to ensuring the growth of HDSA suppliers and undertakes to maximise the value of capital, consumables and services from companies controlled by HDSA of affected communities from the area in which they operate. Vandabyte's Procurement policy will incorporate BEE	Vandabyte (PTY) Ltd will develop and implement a Procurement Progression Plan which will include a Preferential Procurement Policy that assigns preferential status to HDSA Suppliers from surrounding areas. Vandabyte (PTY) Ltd has undertaken to comply with BEE procurement targets set out by the Mining Charter, which stipulates the following: <ul style="list-style-type: none"> <li>• Procure 60 % of locally manufactured capital goods from BEE compliant manufacturing companies.</li> <li>• Procure 70 % of locally manufactured consumables from BEE compliant manufacturing companies.</li> <li>• Procure a minimum of 80 % services from BEE compliant and locally based companies.</li> </ul>

## 2.10 DOWNSCALING AND RETRENCHMENT MANAGEMENT

Vandabyte will initiate downscale and retrenchment management measures should revenue fall below 6% on average for a continuous period of 12 months. The primary objective of downscaling and retrenchment management is to ensure that there are no other viable options to achieve operational requirements before considering the retrenchment of the workforce.

Downscaling and retrenchment management measures include:

- Establishing a future forum;
- Implement mechanisms to save jobs and avoid job losses;
- Mechanisms to provide alternative solutions and procedures for creating job security where job losses cannot be avoided; and
- The improvement of social and economic impacts where retrenchment or closure of the operation is certain.

---

### **3 NATIONAL POLICIES AND LEGISLATION**

This section describes the various pieces of national legislation that are relevant to a SIA for a South African mining project. It commences with a discussion of the South African legislation that have a bearing on this Project, followed by a summary of policies, plans and strategies pertaining to national, provincial, regional and local development. The section concludes with an overview of relevant international best practice standards.

#### **The South African Constitution (Act 108 of 1996)**

The proposed Project has to comply with South African constitutional and common law by conducting their construction, operational and closure activities with due diligence and care for the rights of others. Section 24 of the Constitution states that everyone has the right to an environment that is not harmful to his or her health and well-being. It further states that justifiable “economic and social development” must be recognised and promoted. Economic and social development is essential to the well-being of human beings. Unlimited development is detrimental to the environment and the destruction of the environment is detrimental to development. Promotion of development requires the protection of the environment by supplying the need of current generations without compromising the need of future generations. The environment and development are thus inevitably linked.

As per definition of the Constitution sustainable development includes socio-economic development. It recognises that socio-economic development invariably brings risk of environmental damage as it puts pressure on environmental resources. It envisages that decision-makers, guided by the concept of sustainable development, will ensure that socio-economic developments are not detrimental to the environment.

#### **National Environmental Management Act, 1998 (Act No 107 of 1998)**

This Act (as amended) provides that sustainable development requires the integration of social, economic and environmental factors in the planning, implementation and evaluation of decisions to ensure that development serves present and future generations. The Act further sets out the process for public participation.

Upon the acceptance of an application for a mining right, the applicant is required to prepare an Environmental Management Programme (EMP) in accordance with requirements of the Environmental Impact Assessment Regulations, 2014, (EIA 2014 Regulations) promulgated in terms of NEMA, to mitigate both bio-physical and social impacts of the proposed development.

#### **Mineral and Petroleum Resources Development Act, 2002 (Act No 28 of 2002)**

It is very important to consider the social impacts of mining activities on the surrounding socio-economic environment, affected individuals and communities. To avoid socioeconomic marginalisation by mining companies, the MPRDA requires mining companies to develop and implement a Social and Labour Plan (SLP), which focus on promoting the long-term development of their workforces, employee households, communities and regions. Mining companies will have to compile and implement a SLP to promote socio-economic development in their affected communities and to prevent or lessen negative social impacts. It is a requirement of the MPRDA that the Project’s SLP shall ensure, amongst others, training and career progression of its employees, and in particular, HDSAs, as well as the participation of women in mining. The MPRDA furthermore requires that

the SLP provide strategies and measures that could prevent job losses in the event of circumstances threatening guaranteed employment

#### **Spatial Planning and Land Use Management Act, 2013 (Act No.16 of 2013)**

The Spatial Planning and Land Use Management Act (SPLUMA) was implemented in July 2015. The Act aims to reform and guide existing legislation pertaining to spatial planning and land use management. It enables government to formulate policies, plans and strategies for land use and land development that addresses existing spatial, economic and environmental challenges. The Act also repeals the Development Facilitation Act of 1995. All municipalities are required to develop land use and zoning plans within five years of the implementation date of the SPLUMA.

#### **South African Broad-Based Socio- Economic Empowerment Charter for the Mining and Minerals Industry (2018)**

The Mining Charter focuses on sustainable transformation of the mining industry. Social management and mitigation measures to be developed as part of the SIA will be aligned to the Mining Charter as amended September 2018.

#### **Mine Health and Safety Act, 1996 (Act No. 29 of 1996)**

The MHSA prescribes that, without the approval of the Chief Inspector of Mines, no mining may take place within one hundred metres horizontal distance of any existing surface structures. Sections 2 and 5 of the Act prescribes that employers must ensure and maintain a safe and healthy environment at the mine during construction, operation, decommissioning and closure. This Act is administered by the Mine Health and Safety Inspectorate of the DMR.

#### **Municipal Systems Act, 2000 (Act No. 32 of 2000)**

The Municipal Systems Act provides for the principles, mechanisms and processes that are necessary to enable municipalities to move progressively towards the social and economic upliftment of local communities, and to ensure universal access to essential services that are affordable to all. In accordance with this Act, all municipalities are required to develop and implement a five year Integrated development Plan (IDP) and Spatial Development Framework (SDF) for their areas of jurisdiction. Both the IDP and SDF for Lesedi Local Municipality and Sedibeng District Municipality were consulted.

Section 35 of the Act confirms the statutory status of the Municipal IDP and SDF. The Act also states that apart from serving as principal strategic planning instruments to guide and inform municipal decisions on land use, the SDF and IDP binds a municipality in the exercise of its executive authority. However, where there is an inconsistency between a municipality's policy and national or provincial legislation, national legislation (e.g. MPRDA) should prevail.

### **3.1 LABOUR LEGISLATION**

The following acts will be applicable with regard to employment policies at the proposed mine complex:

- Employment Equity Act, 1998 (Act No. 55 of 1998);
- Basic Conditions of Employment Act, 1997 (Act No. 75 of 1997);
- Labour Relations Act, 1995 (Act No. 66 of 1995); and

- Skills Development Act (Act No. 97 of 1998 as amended).

## 3.2 DEVELOPMENT POLICIES

### National Development Plan

Development in South Africa is guided by the National Development Plan (NDP), which presents a shared long-term strategic framework within which more detailed development planning can take place in order to advance the long-term goals adopted in the NDP (National Planning Commission, 2011). The Plan aims to ensure that all South Africans attain a decent standard of living through the elimination of poverty and the reduction of inequality.

### National Spatial Development Plan (NSDP)

In South Africa, spatial development planning is mainly guided by the NSDP. The SDFs for provinces and municipal areas are nested within the principles of the NSDP. In short, the principles of the NSDP state that spatial development should, if appropriate, accommodate and promote private economic ventures which could support sustainable economic growth, relieve poverty, increase social investment, and improve service delivery.

### Mpumalanga Economic Growth & Development Path (MEGDP)

The MEGDP is aimed at transforming the structure of the economy and narrowing and eventually eliminating the gap between the first and second economies. The four pillars of the strategy are as follows:

- Increasing investment in the province;
- Skills and capacity building;
- Broadening participation in the economy;
- Increasing competitiveness;
- The MEGDP identifies the sectors of the provincial economy which will drive the growth of the province and address unemployment and poverty as follows:
- Agriculture - including agri-industry (with opportunities to impact considerably on the economic needs of the poor through Land Reform);
- Industry - including heavy and light industry and manufacturing;
- Tourism - including domestic and foreign tourism; and
- Service sector - including financial, social, transport, retail and government.

### Comprehensive Sustainable Rural Development Programme (CRDP)

The CRDP (2009) aims to reduce/eliminate rural poverty and food insecurity by maximising the use and management of natural resources to create vibrant, equitable and sustainable rural communities. The objectives of the Programme are to:

- Establish an institutional mechanism for managing rural development within national, provincial and local government;



- Establish a rural development role/function and funding for rural development within national, provincial and local government;
- Provide for establishment of partnerships and collaborations in implementing rural development and funding;
- Establish a special support programme for development of emerging farmers;
- Renegotiate and redesign a funding model for rural development with institutions such as the Land Bank, etc.;
- Mainstream rural development into the national, provincial and local government; and
- Align with government policy and programmes at all levels.

The identified CRDP sites in SDM are Devon in LLM and Bantu-Bonke in Midvaal. There is a need to establish agricultural support, training institutions and increase skill development at these Project sites.

### **The New Economic Growth Path Framework**

The New Economic Growth Path Framework (New Growth Path) for South Africa was launched by Government in 2010. In short, the policy aims to enhance and facilitate growth, employment creation and equity. The policy's principal target is to create five million jobs by 2020.

Central to the New Growth Path is a massive investment in infrastructure as a critical driver of jobs across the economy. The framework identifies investments in five key areas namely: energy, transport, communications, water and housing. The New Growth Path sees infrastructure programmes as a trigger to build a local supplier industry for the manufacture of the components for the build-programme. The Framework identifies five priority areas as part of the infrastructure programme to create jobs through a series of partnerships between the State and the private sector; these areas include mining, green economy, agriculture, manufacturing and tourism. The New Growth Path is implemented on a provincial level through the Mpumalanga Growth Path Framework.

### **National Infrastructure Plan**

The South African Government adopted a National Infrastructure Plan in 2012. The primary objective of the Plan is to transform the country's economic landscape, while simultaneously creating significant numbers of new jobs, strengthen the delivery of basic services, and promoting integration with other African economies. In achieving this objective, 18 Strategic Integrated Projects (SIPs) have been developed (Presidential Infrastructure Coordinating Commission, 2013). These SIPs include social and economic infrastructure development across all provinces, and comprises catalytic projects that should fast-track development and growth.

## **3.3 INTERNATIONAL BEST PRACTICE**

The IFC, a member of the World Bank Group, has adopted a suite of Performance Standards (PS) on social and environmental sustainability. The IFC applies the PSs to manage project related social and environmental risks and impacts, and enhance development opportunities. The IFC PSs widely regarded as international best practice with regard to the management of impacts associated with large Project developments.

Although several national policies and legislation in South Africa address land use and tenure rights (Security and Tenure Act), these do not address involuntary displacement, where land owners are directly or indirectly forced to forfeit the tenure

and usage rights. Consequently the existing legal frameworks for addressing involuntary resettlement are inadequate and do not aid communities or mining companies. Instead they often obscure rights and responsibilities, cause unnecessary delays to resettlement projects and increase the total costs involved. In view of this gap in national legislation, resettlement processes in South Africa often use the guiding principles set out in IFC PS 5: Land Acquisition and Involuntary Resettlement, which sets out the following objectives:

- Avoid, and when avoidance is not possible, minimize displacement by exploring alternative Project designs;
- Avoid forced eviction;
- Anticipate and avoid adverse social and economic impacts from land acquisition by providing compensation for loss of assets at replacement cost and ensuring that all resettlement activities are implemented with appropriate disclosure of information, consultation, and the informed participation of those affected;
- Improve or restore the livelihoods and standards of living and displaced persons; and
- Improve living conditions among physically displaced persons through the provision of adequate housing with security of tenure at resettlement sites.

The IFC PS 1: Social and Environmental Assessment and Management Systems – sets out international best practice for conducting a SIA. Amongst other things these standards require that a SIA identify Individuals and groups that may be disproportionately affected by the Project because of their disadvantaged or vulnerable status. Such status may be related to an individual's group ethnic affiliation, gender, socio-economic status, health or dependence on unique natural resources

## 4 METHODOLOGY

The following activities were undertaken as part of the Social Impact Assessment:

- Defining the study areas for the assessment;
- Data collection, including investigation of sites visits, interviews with key informants, desktop review, socio – economic household surveys and inclusion of information from other specialist studies;
- Compilation of a socio-economic baseline profile which describes the defined study areas in terms of population demographics, economic characteristics, infrastructure and service delivery, community needs and challenges, and land use activities.
- Prevalent concerns regarding, and attitudes towards the proposed project are also taken into consideration;
- Identified impacts will be categorised in which the impact is most likely to originate, namely the construction, operational and decommissioning phase;
- Rating of impacts was done in terms of their anticipated duration, extent, intensity and probability. Duration, extent and intensity ratings were combined into a measure of an impact's expected consequence. Consequence ratings, in turn, were multiplied with probability ratings to give a measure of an impact's overall significance; and
- Identification of appropriate mitigation measures to avoid or ameliorate negative social impacts and to enhance positive ones.

## 4.1 DEFINITION OF STUDY AREA

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. In the case of a SIA, this task is complicated by the fact that different types of social impacts make themselves felt over different geographical areas, as opposed to specific areas or areas affected by specific activities.

Generally, such impacts of a mining project can be divided into three broad categories:

- Impacts related to the physical intrusion of project infrastructure and project-related activities on the surrounding biophysical environment - which may include socio-economic impacts arising from land acquisition, blasting, noise, dust, vibration, traffic and changes in the visual characteristics of the landscape. Such impacts typically extend to land users and residents within a few hundred meters from the projects edges.
- Impacts related to the 'economic pull' exerted by the project in its entirety – e.g. job creation, influx of workers and job-seekers into the project area, increased pressure on services, concomitant risks of increased social pathologies and community conflict or resistance. Such impacts usually extend to populations and communities residing in relative proximity to the project, especially labour sending areas.
- Indirect or induced impacts that are by-products or ripple effects of the impacts in the foregoing two categories. These could include multiplier effects on the local and regional economy – e.g. indirect employment creation. Generally the geographical reach of such impacts tends to extent wider and may affect larger towns and cities elsewhere in the region where the Project is to be situated.

The study areas for the SIA are:

- The **primary study area** – the area likely to experience impacts related to the physical intrusion of the Project infrastructure and mining operations. This study area is defined as the extent of the farm portions comprising the footprint of the existing prospecting area, Portion of Portion 1, Portion 2 and the remaining extent of the Farm Dunbar 189 IS, Portion 1 of the Farm Middelkraal 50 IS and Portion 6 of the Farm Halfgewonnen 190 IS, Mpumalanga Province.
- The **secondary study area** encompasses the primary study area and exceeds it in scale. This includes the larger STLM and Ward 4 in which the Project is located, and includes the area likely to experience:
  - Impacts related to the 'economic pull' exerted by the proposed project, and
  - The indirect or induced impacts of the proposed Project.

**Table 4-1: Affected District and Local Municipalities. Local municipalities affected by this Project are indicated in red.**

Nkangala District Municipality	Gert Sibande District Municipality
Local Municipalities: <ul style="list-style-type: none"> <li>• Steve Tshwete (Includes Mining Right as well as current identified mining blocks and associated infrastructure)</li> <li>• Emalahleni</li> </ul>	Local Municipalities: <ul style="list-style-type: none"> <li>• Govan Mbeki (Includes Mining Right but not current identified mining blocks)</li> <li>• Albert Luthuli</li> <li>• Mkhondo</li> </ul>

<ul style="list-style-type: none"> <li>• Dr JS Moroka</li> <li>• Victor Khanye</li> <li>• Emakhazeni</li> </ul>	<ul style="list-style-type: none"> <li>• Msukaligwa</li> <li>• Lekwa</li> <li>• Pixley Ka Seme</li> <li>• Dipaleseng</li> </ul>
---	---

## 4.2 DATA COLLECTION

- A **desktop review** was done of available documents to obtain relevant socio-economic information on the defined study area. Documents viewed include:
  - Provincial Development planning documentation as well as Local Municipal Integrated Development Plan, and Spatial Development Framework;
  - Socio-economic and demographic statistics sourced from Statistics South Africa's (StatsSA) 2011 Census and 2016 Community Survey data;
  - National legislation and International Best Practice Policies and Standards;
  - Accompanied reports concerning the proposed project, specifically the Environmental Scoping report, the MWP and the SLP compiled for the Project;
  - Previous socio-economic impact assessments done for the surrounding area; and
  - Available maps and satellite imagery.
- **Site visits and interviews** were done in August and September 2019. The main purpose of these consultations were to:
  - Gather photographic data of the site –specific and immediate surrounding areas;
  - Conduct interviews with the landowners and custodians of properties comprising the primary study area. The objectives were to assess stakeholder's perceptions, concerns and expectations regarding the Project.
  - Consult with the local authorities.
- Information from the **public consultation process**:
  - Information from public meetings and communication received from I&APs were taken into consideration. Reviewing this information provided information regarding concerns, attitudes and perceptions of stakeholders in relation to the proposed project.
- **Consideration of information from other specialist studies**: Several specialist studies undertaken for the proposed project focussed on impacts that might have significant, although indirect, social implications. These studies were reviewed to identify biophysical, traffic and economic aspects which will influence the manifestation of social impacts.

## 5 DESCRIPTION OF THE AREA

A summary of the baseline profile of the study area in which the proposed Project is to be situated is indicated in Table 5-1. The table highlights features and trends within the respective study areas that will be relevant for Dunbar Coal Mining in terms of possible opportunities/ benefits and constraints/ challenges.

**Table 5-1: Summary of Socio-Economic Baseline Profile.**

Socio-Economic attribute	Supporting data	Relevance to Project
<b>Opportunities / benefits</b>		
Metropolitan and Regional development plans in place.	Steve Tshwete Local Municipality Draft Integrated Development Plan (IDP) for 2018/2019 and the STLM Spatial Development Frameworks Plan (SDF) (2017) are readily available and have been referred to.	Opportunity for Vandabyte to align socio-economic development programmes contained in future SLP's with existing development plans, which will increase sustainability and relevance of initiatives.
Potential labour force	From STLM and GMLM should be promoted. Unemployment rate in Ward 4 and STLM is at (13%). Only 30% of population completed Matric or higher in Ward 4 compared to 50.8% of the population in STLM.	Vandabyte can likely meet local recruitment targets, especially for semi-skilled and unskilled positions. Labour force cannot just be sourced from the local municipality (even though preference should be given). Many skilled jobs might have to be sourced from elsewhere in the province or even in the country.
Gender disparity in employment rates	It is common that unemployment amongst female gender is significantly higher than males. For Ward 4, 81% of households have males as the head. Furthermore female income generation is more likely to be through the informal sector.	Vandabyte could contribute towards gender equity by implementing female employment targets. If feasible it could be formalised by incorporating it into construction phase. Also to be taken into consideration is the new 2018 Mining Charter (chapter 2.2.2.) services of 15% spent on services supplied by women owned companies.
General backlog of housing, and water, sanitation amongst rural areas	General services delivery in STLM is good: <ul style="list-style-type: none"> <li>94.1% of the population are getting water from a regional or local service provider</li> <li>87% have access to electricity</li> <li>81.7% have access to flush or chemical toilets</li> <li>81.1% are getting refuse disposal from a local authority, private company or</li> </ul>	Possible contribution to infrastructure development and in specific housing (hostels) for staff with electricity, running water and sanitation.

	community members	
<b>Constraints/ challenges</b>		
Agricultural land	Current land use and capability is for high agricultural potential land	Various portions of land in which the project falls is zoned for agriculture; thus needs to be rezoned. The loss of agricultural products may be hindered by starting community-based products for the locals.
Population influx	Field investigations and Municipal planning documents	The project - induced population influx will add to the existing influx, placing increased severe pressure on existing available local resources, services and facilities.  Although this indicates a relative large available labour force, it will definitely complicate recruitment with the local communities, as migrants will be perceived as outsiders.  Local job losses will not be compensated for unless the project describes in a specified document that local labour will receive preference.
The land area which will be mined is currently not occupied by the landowner, but an informal settlement occurs on site.	Field investigations and spatial imagery	Vandabyte should consider that the physical and economic displacement of such households and occupants would require a Resettlement Action Plan (RAP), which will definitely have a substantial cost and time implication for the project.  Approximately 70 people are directly affected in terms of livelihood and housing, and further people affected indirectly residing adjacent the proposed development.
The most dominant land use surrounding the proposed mining right area is agricultural activities with aquatic ecosystems.	Field investigations, spatial imagery and specialist reports.	The agricultural farming activities will be directly affected by the proposed project, which would likely result in stakeholder issues.  Water bodies affected by the proposed mine could have disastrous effects on water quality and quantity.

## 5.1 SECONDARY STUDY AREA

The secondary area relates to the district and local municipality within Mpumalanga Province, as well as the ward in which the study area is located. As this provides a general background of the area and its population, it will be discussed prior to the primary study area.

### 5.1.1 District Municipality

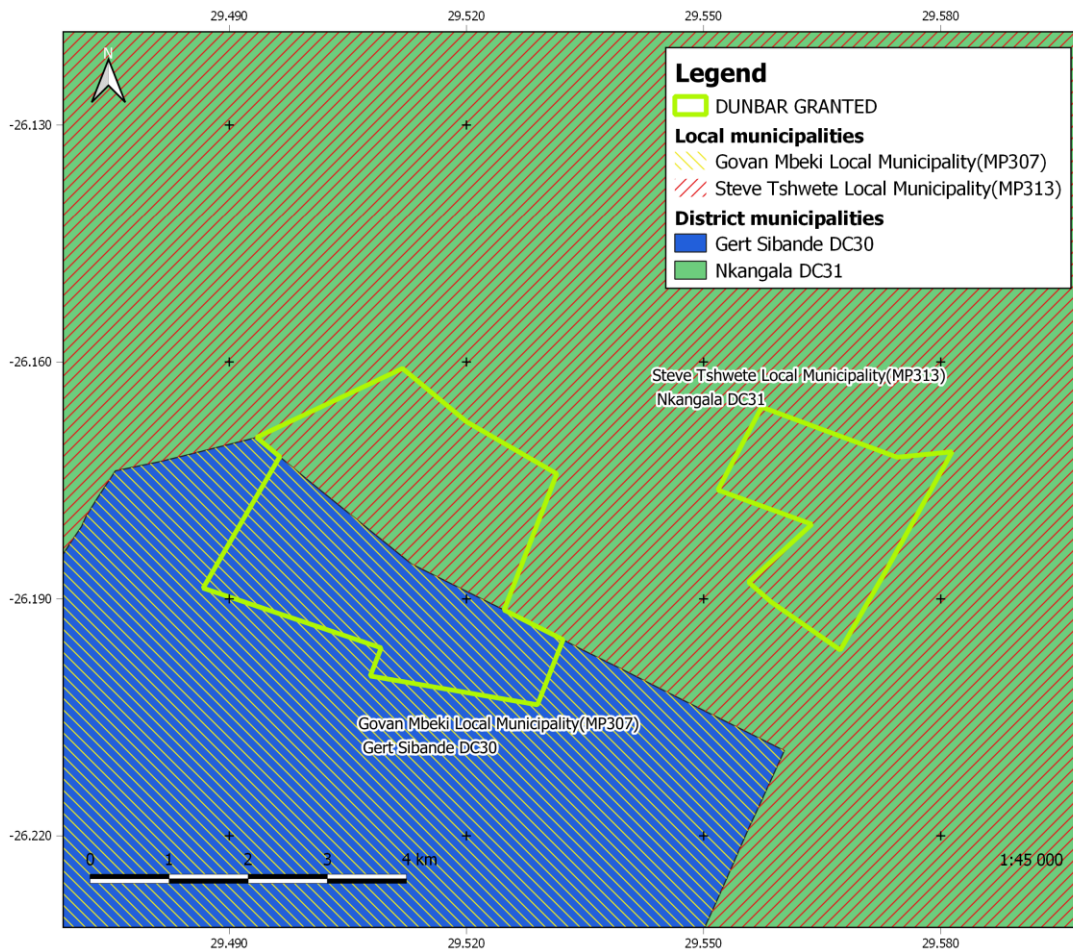
The Project includes sections of the Nkangala and Gert Sibande District Municipalities, with the relevant local municipalities being Steve Tshwete and Govan Mbeki (Table 4-1).

The major towns in Govan Mbeki include Bethal, Embalenhle, eMzinoni, Lebogang, Secunda and Evander. The towns with the highest population within Msukaligwa include Ermelo, Phumula and Wesselton. Within Steve Tshwete, the towns with the highest populations include Middelburg, Mhluzi and KwaZamokuhle; Hendrina has a small population but is quite strategic to Steve Tshwete.

The mining sector within Gert Sibande has declined from 36.1% in 1996 to 23.9% in 2012 while the mining sector has increased significantly in Nkangala from 49.1% in 1996 to 69.4% in 2012. Mining is an important economic activity within Nkangala. The mining sector is the largest sector within the NDM, contributing approximately 40.9% of the total Gross Value Add (GVA) (Nkangala District Municipality, 2017). Mining activities occur towards the southern regions of Nkangala, however, within the southern regions, crop farming especially maize and vegetables, is encouraged while cattle and game farming is encouraged in the northern regions (Nkangala District Municipality, 2017). Nkangala has significant mining potential which has the potential to contribute towards employment opportunities. This however, may result in sporadic urban settlement patterns and increased influx of labourers into the area resulting in mushrooming of informal settlements.

Steve Tshwete is situated centrally within Nkangala and consists of many industries and companies such as Columbus Steel, power stations, local mines and many strong agricultural areas. Steve Tshwete has one of the largest economies within Nkangala and is dominated by the mining sector following behind the manufacturing of steel (Nkangala District Municipality, 2017).

The mining sector within the Gert Sibande specifically within Govan Mbeki contributes largely towards Mpumalanga's GVA. Products that are mined in Gert Sibande are gold and coal. Gert Sibande contains four operational coal-fired power stations, situated within close proximity to the coal mines. Leading sectors within Gert Sibande include trade, community, mining and agriculture. Over the years, there has been a decrease in the role that the agricultural and trade sectors have played and the community and mining sectors have increased in terms of employment opportunities (Nkangala District Municipality, 2017). Similarly to Nkangala, the increase in mining activities attracts an influx of labourers, placing pressure on the receiving environment and resources.



**Figure 5-1: Secondary Study Area for the proposed Dunbar Coal Mine**

### 5.1.2 Steve Tshwete Local Municipality

The regional study area is defined as Ward 4 of the Steve Tshwete Local Municipality (STLM) within the Nkangala District Municipality (NDM), Mpumalanga Province, in which the proposed Project is located.

Ward 4 comprises the rural areas along the southern parts of STLM. The Ward borders Emalahleni District Municipality to the east and Gert Sibande District Municipality to the north. The town of Komati as well as Komati Power Station is located in this Ward as well as coal mines including Koorfontein and Goedehoop Colliery. Population densities for the local municipality are generally low in Ward 4. In 2011 the Ward had a total population of 9 409 or 4.1% of the STLM population. This population comprise of 3 640 households which equates to an average household size of about 2.6 members.

The demographics, households, economics, education and service delivery aspects for Ward 4 and STLM are discussed below to provide a background of the area and insights for the socio-economic assessment. The information was obtained from Statistics South Africa (Census, 2011).



### 5.1.2.1 Demographics

The total population of STLM accounts for about 19.3% (one-fifth) of the NDM. The total population of STLM and Ward 4 in 2011 was 278 749 and 9 409, respectively. The age median for STLM is 27, with 31% of the population being under 18, and 65% of the population between 18-64 years of age. 96.4% of the population is South African residents.

The majority of the population group according to the Community Survey (2016) in STLM is black (82%) followed by white (14%). The most prominent language spoken within Ward 4 is IsiZulu (25%), followed by Afrikaans (15%) and IsiXhosa (14%).

### 5.1.2.2 Households

The average household size is indicative of the quality of life in any given study area. The type of dwellings for the Mpumalanga province, NDM, STLM (Community Survey 2016) and Ward 4 (Census 2011) are indicated in Table 5-2 below. Most of the people stay in formal dwellings followed by informal dwellings (shacks), most notably a higher amount of people not staying in a house or brick/concrete block structure compared to the rest of the province. Specifically, Ward 4 has more informal dwellings (24.8%) compared to the statistics for STLM (14.4%) and NDM (15%).

**Table 5-2: Type of dwelling Mpumalanga, NDM, STLM (Community Survey 2016) and Ward 4 (Census 2011).**

	Mpumalanga	NDM	STLM	Ward 4
Caravan/tent	0%	0%	0.2%	0.4%
Cluster house in complex	0.4%	0.6%	0.3%	0.4%
Flat or apartment in a block of flats	1.1%	1.5%	4.3%	0.4%
House/flat/room in backyard	6%	6.2%	9%	1.3%
House or brick/concrete block structure on a separate stand or yard or on a farm	75.3%	70.6%	64.8%	59.6%
Informal dwelling (shack; in backyard)	4.2%	5.3%	6.6%	1.8%
Informal dwelling (shack; not in backyard; e.g. in an informal/squatter settlement or on a farm)	6.7%	9.8%	7.8%	23%
Other	1.2%	1%	1.4%	2.6%
Room/ flat-let on a property or larger dwelling/servants quarters/granny flat	1%	0.9%	1.1%	1.1%
Semi-detached house	0.6%	0.8%	1.6%	0.7%
Townhouse (semi-detached house in a complex)	0.5%	0.9%	0.9%	0%
Traditional dwelling/hut/structure made of traditional materials	3.2%	2.3%	2.1%	1.3%
Unspecified	0%	0%	0%	0.6%

More than 50% of households in Ward 4 are rented, with only 13% fully owned or being paid off. This is less compared to STLM (41%), NDM (57.4%) and the province (58%). Men dominate as the head of the household (81%), which is exceptionally high compared to NDM (64%) and Mpumalanga (60%). Only 6 Households have heads under the age of 18 years old.

The average annual household income is R57 300 (range R40 000 - R75 000) for 22.6% of the household, which is higher compared to NDM (15.8%) and Mpumalanga (13.3%). This could be mainly due to the higher employment rates from the existing coal mines, the Komati Power Station and the agricultural sector.

The goods available by household are indicated in Table 5-3 below.

**Table 5-3: Goods available by household for Mpumalanga, NDM, STLM and Ward 4. Goods that are significantly lower for Ward 4 compared to the rest of the province is indicated in bold.**

	Mpumalanga	NDM	STLM	Ward 4
Cell phone	90.7%	91.8%	93.3%	92.1%
Computer	16.1%	18.8%	25.3%	12.1%
DVD player	59.8%	58.8%	64.7%	<b>42.2%</b>
Electric/gas stove	74.5%	76.3%	81.5%	<b>55.6%</b>
Landline/telephone	6.3%	7.2%	12.2%	4.2%
Motor-car	26%	30.4%	39.5%	25.7%
Radio	68.4%	71.8%	75.4%	67.4%
Refrigerator	70.1%	70.8%	72.5%	<b>46.2%</b>
Satellite television	24.4%	22.3%	27.5%	<b>12%</b>
Television	74.4%	75.5%	80.4%	<b>55.4%</b>
Vacuum cleaner	11.5%	14.7%	22.9%	13.3%
Washing machine	26.6%	36.3%	46.5%	20.1%

### 5.1.2.3 Education

In terms of education, the majority of the population of the municipality has some form of education with only 14.4% of the population having no schooling as depicted in the diagram below (Census 2011). According to the 2016 Community Survey, the population in STLM aged >20 completed grade 12, increased from 73 793 in 2011 to 97 943 (increase of 24 150) in 2016 which translate to an increase of 32.7% in the relevant period. The grade 12 pass rate improved from 74.4% in 2011 to 86.3% in 2015 and became the 2<sup>nd</sup> highest in the Province (IDP 2018).

### 5.1.2.4 Economics

The Middelburg Central Business District and Hendrina Central Business District are the primary economic activity nodes within the STLM. Retail development, offices, government buildings and municipal offices are located in this node.

Furthermore, the STLM is aligned to many economic developments in the province like the Maputo Corridor, Phase 3 development of Middelburg mall, mining development and implementation of SLPs, Industrial Park adjacent to Mhluzi (possible job creation and SMME Development).

The coal mines in the area are the main employers of local labour. The mining operations supply coal to Eskom for power generation. It is forecast that these mines have a lifespan of 25-35 years. Thus, mining will continue to dominate the local economy according to the IDP (2018). According to the STLM, it is however, necessary to begin to consider and plan for the resultant impact of downscaling and the possible closure of mines and the possible decommissioning of power stations as these impacts on the employment levels and capacity of residents to pay for services. If the local coal is not taken up by Eskom for power generation, then the municipality would need to consider whether there is the necessary infrastructure in place for local coal to be exported to other markets. Consideration must be made on the environmental impacts of mining

especially the air pollution arising from the current mining operations and the power generation stations. Of strategic importance is rehabilitation plans for mining land, with the view to unlocking the value of land and for planning the uses of land in the future post mining.

There have already been retrenchments with the closures of mines and power plants. In this respect, the Social and Labour Plans (SLPs) of mines need to be linked more intrinsically to the overall growth and development of the municipal area and ensure the re-skilling of workers for new economic activity.

The only significant manufacturer within the STLM is Columbus Steel, a manufacturer of stainless steel and the 2<sup>nd</sup> biggest employer in the municipality. To diversify the economy, the value chain on manufacturing arising from mining by-products needs to be explored for additional opportunities. The existence of a steel incubation programme and the current skills base indicates an opportunity to create a steel hub. A clustering approach based on diversification would be needed. To support innovation the linking up of different economic activities both production and services to research activities would be needed. This would have the potential to bring the manufacturing, education, trade and service sectors into one consolidated umbrella (DP 2018).

#### 5.1.2.5 Employment

The unemployment rate of Steve Tshwete decreased slightly from 19.7% in 2011 to 16.4% in 2015 and was the lowest among all the municipal areas of Mpumalanga. For females the unemployment rate is 21.8% and that of males 12.9%. Youth unemployment rate is about 27.1%; a challenge with especially very high youth unemployment rate of females.

Mining, trade and manufacturing are the major leading employment drivers in STLM.

**Table 5-4: Population by employment status**

Indicators	South Africa	Mpumalanga	Nkangala DM	Steve Tshwete LM	Ward 4
Discouraged work-seeker	3.5%	3.7%	3.3%	2.2%	2.9%
Employed	25.5%	24%	27.2%	37.4%	44.7%
Not applicable	34.5%	35.9%	33.5%	29.3%	20.8%
Other not economically active	25.7%	25.3%	24.4%	21.9%	21.3%
Unemployed	10.8%	11.1%	11.6%	9.2%	10.3%
Unspecified	0%	0%	0%	0%	0%

#### 5.1.2.6 Service Delivery

Steve Tshwete Local Municipality has made great strides in providing this basic service to its communities:

- 94.1% of the population are getting water from a regional or local service provider
- 87% have access to electricity
- 81.7% have access to flush or chemical toilets
- 81.1% are getting refuse disposal from a local authority, private company or community members

Even though Access to water and sanitation remains fairly high in STLM, due to households increase between 2011 and 2016, the percentage of households with water and sanitation has decreased. The 2016 Community survey reveals that, 81.9% of households had access to potable water (household connections and communal stands) and 85.4% had flush and chemical toilets. In 2014, the Blue Drop Certified Systems awarded STLM a blue drop score of 97.1% (ranked 1<sup>st</sup> in the province, noting that the municipality continues to manage drinking water within their area of jurisdiction with distinction. STLM was ranked second in terms of waste water services in the Green Drop Report which was at 61.9% (IDP 2018).

Census 2016 shows that the municipality continues to improve expanding the access to refuse removal. About 85% households had access to refuse removal on a regular basis. The municipal service extends to all the municipal towns but exclude the mining towns and rural areas which are self serviced.

#### **5.1.2.7 Social Infra-structure**

Poor road infrastructure exists within Nkangala and Steve Tshwete as heavy vehicles transporting coal travel along routes which are not designed to accommodate heavy vehicles, thus deteriorating the conditions of the roads (Nkangala District Municipality, 2017). Similar road conditions are experienced within Gert Sibande where many of the roads are utilised by coal trucks and result in damage to road infrastructure. Accidents that occur as a result of coal trucks also result in loss of life and livestock, affecting farmer's livelihoods (Gert Sibande District Municipality, 2017). Additionally, the poor conditions of the roads used by coal trucks result in high maintenance costs.

#### **5.1.2.8 Health**

When examining issues of health, statistics show that the number of people with HIV has begun to increase since 2010. HIV/AIDS has a devastating effect on the social and economic development of Steve Tshwete's population and Council will, therefore, persist with its efforts in this area. The Council has adopted an HIV/AIDS Strategy which is in line with the National and Provincial Framework.

HIV and AIDS is one of the biggest challenges the country is facing. The rate of infection is rapidly increasing and more and more people are getting ill and dying from AIDS. According to the 2013 Antenatal Care Survey, HIV prevalence rate has decreased from 52%- 43%. This positive change can be attributed to the active Aids Council, vigorous HCT campaigns and community awareness. HIV/AIDS has a devastating effect on the social and economic development of Steve Tshwete's population and the Council in collaboration with various stakeholder will continue to maximize its efforts in this area, in order to ensure that prevalence rates decreases (IDP 2018).

The social and economic consequences of the disease are far reaching and affect every facet of life in South Africa. HIV/AIDS affects economic growth and poverty via various impact channels. At the household level, a wide range of factors influence poverty; these include vulnerability from deteriorating livelihoods, heightened stigmatism, fragmentation of social networks, and lower investments in human capital and nutrition. Moreover, while households are directly affected by HIV/AIDS, there are also broader implications for the economy as a whole.

According to the 2011 Census, Influenza and pneumonia, accidental injury and Tuberculosis are the top major causes of death within the STLM. HIV and diabetes constitutes a lesser in the municipality's death rate.

## 5.2 PRIMARY STUDY AREA

This section focuses on the characteristics of the primary study area, the area likely to experience impacts related to the physical intrusion of Project infrastructure and project-related activities. This study area is defined as the extent of the mining right area: Portion of Portion 1, Portion 2 and the remaining extent of the Farm Dunbar 189 IS, Portion 1 of the Farm Middelkraal 50 IS and Portion 6 of the Farm Halfgewonnen 190 IS. The following aspects of the study area are described:

- Land ownership;
- Socio-economic characteristics of the population residing in the vicinity of the study area; and
- Stakeholder perceptions and attitudes.

Agricultural practices such as the planting of maize and soya crops are the dominant land features in the mining right area (Figure 5-2). Cattle grazing occurs to a lesser extent, and is mostly subsistence farming and are traditionally linked rather from a commercial perspective.



**Figure 5-2: Agricultural activities on the proposed project study area.**

### 5.2.1 Land Ownership

Table 5-5 below indicates that the primary study area comprises mostly land under the private ownership. Parastatal land within the study area is owned by Transnet. Some landowners own several properties within and surrounding the study area. Usually, where a landowner owns several farms, these are generally all run as one business. Therefore, the sale of, or impact on, one farm could impact on the business operations of several farms.

**Table 5-5: Landowners of the affected properties (Surface right owners) for the mining right area.**

Landowner	Property description
BEESTEPAN BOERDERY Peter Kane Berman	Portion 2 of the Farm Dunbar 189 IS <sup>1</sup>
WA DE KLERK FAMILIE TRUST	The remaining extent of the Farm Dunbar 189 IS

<sup>1</sup> The current identified mining block will occur on this property

WA de Klerk	
UMCEBO PROP PTY LTD Contact Person: Hugo Grobler/ Mari Kubashni / Arno Lottering	Portion 1 of the Farm Middelkraal 50 IS
ANTON PELSERS EIENDOMS TRUST Anton Pelsers	A Portion of Portion 1 of the Farm Dunbar 189 IS Portion 6 of the Farm Halfgewonnen 190 IS
Transnet	Portion 8 of the Farm Dunbar 189

## 6 ECONOMICS

Several indicators exist that can describe the economy of a region or an area. The most common variables that are used for the analysis include production and Gross Domestic Product per Region (GDP-R) or Gross Value Added (GVA). The GDP-R represents the total value of sales of goods and services, or the turnover of all economic agents in a region; while the GVA, using the output approach, represents the sum of value added created by all residents within a certain period, which is typically a year. The trend at which the GDP-R has been changing in the past is also referred to as an economic growth indicator. It is a measure of both the performance of an area and the well-being of the citizens of an area.

Mpumalanga's economy is dominated by mining, mostly coal for the Eskom power plants that are also located in the province. Mpumalanga also has extensive heavy industry, which forms part of the long-standing Highveld complex, and a strong commercial agricultural sector. These industries have driven its growth since 2011. The strength of Mpumalanga's major sectors has meant the province has been mainly at, or above, the national average for employment levels and remuneration.

While Mpumalanga, with 4 335 963 residents, accounted for about 10% of South Africa's population in 2016, it contributed 7% of the GDP. In 2014, the real economy (represented by agriculture, mining, trade, manufacturing and construction) made up 40% of Mpumalanga's output. The real-economy sector was dominated by mining, at 22% of the provincial economy, followed by manufacturing at 12%, construction at 3%, and agriculture at 3%. Mpumalanga contributed 22% of national mining, 8% of national manufacturing, 9% of agriculture and 6% of construction.

Mpumalanga accounted for 6% of South African manufacturing employment. The top five manufacturing industries in Mpumalanga, in terms of employment, were basic iron and steel plus metal products; chemicals and plastic; food and beverages; glass and non-metallic minerals; and clothing, textiles and footwear. The province accounted for 9% of employment in basic iron and steel and metal products, its largest manufacturing industry. Its manufacturing was closely integrated into the Gauteng industrial sector.

Coal dominated mining employment in Mpumalanga, producing mainly to supply Eskom as well as for export. Generally, gold mining saw job losses during commodity explosions, while platinum mining, coal and iron ore created employment.

It should be noted that an in-depth economic assessment was not undertaken and according property valuations were not done in this report.

## 7 IMPACT ASSESSMENT

### 7.1 METHODOLOGY

Direct, indirect and cumulative impacts of the issues that will be identified during the specialist investigations will be assessed in terms of these standard rating scales to determine their significance. The rating system used for assessing impacts (or when specific impacts cannot be identified, the broader term issue should apply) is based on five criteria, namely:

- **Status** of impacts (Table 7-1) – determines whether the potential impact is positive (positive gain to the environment), negative (negative impact on the environment), or neutral (i.e. no perceived cost or benefit to the environment). Take note that a positive impact will have a low score value as the impact is considered favourable to the environment;
- **Spatial extent** of impacts (Table 7-2) – determines the spatial scale of the impact on a scale of localised to global effect. Many impacts are significant only within the immediate vicinity of the site or within the surrounding community, whilst others may be significant at a local or regional level. Potential impact is expressed numerically on a scale of 1 (site-specific) to 5 (global);
- **Duration** of impacts (Table 7-3) – refers to the length of time that the aspect may cause a change either positively or negatively on the environment. Potential impact is expressed numerically on a scale of 1 (project duration) to 5 (permanent);
- **Frequency of the activity** (Table 7-4) – The frequency of the activity refers to how regularly the activity takes place. The more frequent an activity, the more potential there is for a related impact to occur.
- **Severity** of impacts (Table 7-5) – quantifies the impact in terms of the magnitude of the effect on the baseline environment, and includes consideration of the following factors:
  - The reversibility of the impact;
  - The sensitivity of the receptor to the stressor;
  - The impact duration, its permanency and whether it increases or decreases with time;
  - Whether the aspect is controversial or would set a precedent;
  - The threat to environmental and health standards and objectives;
- **Probability** of impacts (Table 7-6) – quantifies the impact in terms of the likelihood of the impact occurring on a percentage scale of <5% (improbable) to >95% (definite).

**Table 7-1: Status of Impacts**

Rating	Description	Quantitative Rating
<b>Positive</b>	A benefit to the receiving environment (positive impact)	+
<b>Neutral</b>	No determined cost or benefit to the receiving environment	N
<b>Negative</b>	At cost to the receiving environment (negative impact)	-

**Table 7-2: Extent of Impacts**

Rating	Description	Quantitative Rating
<b>Very Low</b>	<b>Site Specific</b> – impacts confined within the project site boundary	1
<b>Low</b>	<b>Proximal</b> – impacts extend to within 1 km of the project site boundary	2
<b>Medium</b>	<b>Local</b> – impacts extend beyond to within 5 km of the project site boundary	3
<b>High</b>	<b>Regional</b> – impacts extend beyond the site boundary and have a widespread effect - i.e. > 5 km from project site boundary	4
<b>Very High</b>	<b>Global</b> – impacts extend beyond the site boundary and have a national or global effect	5

**Table 7-3: Duration of Impacts**

Rating	Description	Quantitative Rating
<b>Very Low</b>	<b>Project duration</b> – impacts expected only for the duration of the project or not greater than 1 year	1
<b>Low</b>	<b>Short term</b> – impacts expected on a duration timescale of 1 to 2 years	2
<b>Medium</b>	<b>Medium term</b> – impacts expected on a duration timescale of 2-5 years	3
<b>High</b>	<b>Long term</b> – impacts expected on a duration timescale of 5-15 years	4
<b>Very High</b>	<b>Permanent</b> – impacts expected on a duration timescale exceeding 15 years	5

**Table 7-4: Frequency of impacts**

Rating	Frequency	Quantitative Rating
<b>Very Low</b>	Annually or less	1
<b>Low</b>	6 monthly	2
<b>Medium</b>	Monthly	3
<b>High</b>	Weekly	4
<b>Very High</b>	Daily	5

**Table 7-5: Severity of Impacts**

Rating	Description	Quantitative Rating
<b>Very Low</b>	Insignificant/non-harmful	1
<b>Low</b>	Small/potentially harmful	2
<b>Medium</b>	Significant/slightly harmful	3
<b>High</b>	Great/harmful	4
<b>Very High</b>	Disastrous/extremely harmful	5



**Table 7-6: Probability of Impacts**

Rating	Description	Quantitative Rating
<b>Highly Improbable</b>	Likelihood of the impact arising is estimated to be negligible; <5%.	1
<b>Improbable</b>	Likelihood of the impact arising is estimated to be 5-35%.	2
<b>Possible</b>	Likelihood of the impact arising is estimated to be 35-65%	3
<b>Probable</b>	Likelihood of the impact arising is estimated to be 65-95%.	4
<b>Highly Probable</b>	Likelihood of the impact arising is estimated to be > 95%.	5

### Determination of Impact Significance

The information presented above in terms of identifying and describing the aspects and impacts is summarised in below in Table 7-7 and significance is assigned with supporting rationale.

**Table 7-7: Consolidated Table of Aspects and Impacts Scoring**

Spatial Scale	Rating	Duration	Rating	Severity	Rating
Activity specific	1	One day to one month	1	Insignificant/non-harmful	1
Area specific	2	One month to one year	2	Small/potentially harmful	2
Whole site/plant/mine	3	One year to ten years	3	Significant/slightly harmful	3
Regional/neighbouring areas	4	Life of operation	4	Great/harmful	4
National	5	Post closure	5	Disastrous/extremely harmful	5
Frequency of Activity	Rating	Probability of Impact	Rating		
Annually or less	1	Almost never/almost impossible	1		
6 monthly	2	Very seldom/highly unlikely	2		
Monthly	3	Infrequent/unlikely/seldom	3		
Weekly	4	Often/regularly/likely/possible	4		
Daily	5	Daily/highly likely/definitely	5		
Significance Rating of Impacts			Timing		
Very Low (1-25)					
Low (26-50)			Pre-construction		
Low – Medium (51-75)			Construction		
Medium – High (76-100)			Operation		
High (101-125)			Decommissioning		
Very High (126-150)					
Adjusted Significance Rating					

Significance will be classified according to the following:

- **Very Low to Low:** it will not have an influence on the decision;
- **Medium to Medium-High:** it should have an influence on the decision unless it is appropriately mitigated;
- **High to Very High:** it would influence the decision regardless of any possible mitigation. Alternative options including rehabilitation and/or offset should be investigated.

The environmental significance rating is an attempt to evaluate the importance of a particular impact, the consequence and likelihood of which is assessed by the relevant specialist. The description and assessment of the aspects and impacts is presented in a consolidated table with the significance of the impact assigned using the process and matrix detailed above (Table 7-7).

The sum of the first three criteria (spatial scope, duration and severity) provides a collective score for the consequence of each impact. The sum of the last two criteria (frequency of activity and frequency of impact) determines the likelihood of the impact occurring. The product of consequence and likelihood leads to the assessment of the significance of the impact, shown in the significance matrix below in Table 7-8.

**Table 7-8: Significance Assessment Matrix.**

		Consequence (Severity + Spatial Scope + Duration)														
Likelihood (Frequency of Activity + Probability of Impact)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
	2	4	6	8	10	12	14	16	08	20	22	24	26	28	30	
	3	6	9	12	15	18	21	24	27	30	33	36	39	42	45	
	4	8	12	16	20	24	28	32	36	40	44	48	52	56	60	
	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	
	6	12	18	24	30	36	42	48	54	60	66	72	78	84	90	
	7	14	21	28	35	42	49	56	63	70	77	84	91	98	105	
	8	16	24	32	40	48	56	64	72	80	88	96	104	112	120	
	9	18	27	36	45	54	63	72	81	90	99	108	117	126	135	
	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	

**Table 7-9: Positive and Negative Impact Mitigation Ratings.**

Colour Code	Significance Rating	Value	Negative Impact Management Recommendation	Positive Impact Management Recommendation
	Very High	126-150	Improve Current Management	Maintain Current Management
	High	101-125	Improve Current Management	Maintain Current Management
	Medium-High	76-100	Improve Current Management	Maintain Current Management
	Low-Medium	51-75	Maintain Current Management	Improve Current Management
	Low	26-50	Maintain Current Management	Improve Current Management
	Very Low	1-25	Maintain Current Management	Improve Current Management

The model outcome is then assessed in terms of impact certainty and consideration of available information. Where a particular variable rationally requires weighting or an additional variable requires consideration the model outcome is adjusted accordingly.

## 7.2 IDENTIFICATION OF IMPACTS

A range of potential social and economic impacts of the proposed project were identified based on information from: previous studies, socio-economic baseline conditions, the public participation process, additional consultations during the impact assessment phase, a review of project activities, and specialist opinion. Impacts related to other specialist assessments such as air quality, traffic, noise, dust and water pollution are only briefly referenced in this SIA report as the assessment and mitigation of these impacts are addressed in these specific assessments.

## 7.3 MITIGATION MEASURES AND RECOMMENDATIONS

Appropriate mitigation measures were formulated to avoid and/or ameliorate negative social impacts and enhance positive impacts. The criteria for the selection of mitigation measures require that they should be effective in ameliorating impacts without having severe negative secondary consequences, and they must be practically feasible and cost-effective.

After appropriate mitigation measures were identified for each impact, the rating procedure described above was repeated to assess the expected consequence, probability and significance of each impact after mitigation. This post-mitigation rating gives an indication of the significance of residual impacts, while the difference between an impact's pre- and post-mitigation ratings represents the degree to which the recommended mitigation measures are expected to be effective in reducing or ameliorating that impact.

## 7.4 IMPACT ASSESSMENT RESULTS

The assessment of potential socio-economic impacts that are expected to arise as a result of a project is challenging for a number of reasons. Potential social impacts and the elements that combine to determine the socio-economic status of affected populations are generally multi-dimensional and interrelated. From a social perspective it is not possible to pinpoint

which percentage of any given impact results from a specific activity. For example, agricultural, mining and power generation activities may cause an influx of people into an area due to the possibility of employment creation. It is not possible to say, for example, that 10% of people moving into the area looked for an agricultural job, 40% for a job at a power station and 60% at a mine. In addition, many social impacts cascade. For example, influx of people could in itself be project-induced impact, but in turn may engender additional impacts, such as pressures on available services and natural resources.

Insufficient access to public services such as water, sanitation and healthcare is both a cause and an effect of poverty. On the one hand, a lack of access to such services impacts negatively on the health status, the opportunity to acquire market-related skills and the amount of time available for productive activities. On the other hand, poor people are regularly forced to live in areas where service delivery is limited or even absent. Hence, if a project increases the availability of services in an area, the ability of surrounding communities to take advantage of these services may, to some extent, depend on their current socio-economic status.

The proposed Dunbar Coal Mine and its activities are not the only party that will contribute to social impacts in the area. Some impacts from the proposed Dunbar Coal Mine will be more significant than to others, and will continue to do so through the life of mine.

The following impacts are likely to be triggered by the proposed Dunbar Coal Mine from a Socio-economic perspective:

- Employment creation during the construction, operational and closure phases of the mine;
- Community development and social upliftment;
- Influx of people;
- Community health and safety;
- Displacement of households and agricultural workers;
- Disruption and indirect impacts to surrounding land users;
- Stimulation and growth of the local and regional economy;
- Blasting and vibrations from the proposed mine;
- Reduction in ground - and surface water quality and quantity;
- Dependency on mines for sustaining the local economy;
- Loss of livelihoods for landowners and communities;
- Loss of 'sense of place';
- Decreased property values;
- Loss of agricultural jobs;
- Negative impacts on the natural environment such as the Leeufonteinspruit and associated wetlands.

#### **7.4.1 Construction Phase**

This section assesses the social impacts that will originate during the construction phase of the proposed Project, which will span approximately one year. The majority of these impacts will continue into the operational phase and beyond, and should, therefore, be mitigated or enhanced continuously during the life of the project.

### 7.4.1.1 Employment Creation during Construction

#### Impact Description

The proposed project will require the establishment of substantial surface infrastructure for the mining operations and therefore has the potential to provide direct employment to people within the secondary and primary study area during the construction phase.

Construction phase positions will only last for a relatively short period (approximately 12 months), and will likely involve skilled (e.g. engineers, land surveyors, project managers), semi-skilled (e.g. equipment operators, vehicle drivers) and non skilled (e.g. manual labourers) positions. The jobs created are mainly associated with the construction of various infrastructures that is required for the mine to be operational, e.g. internal and access roads, offices, stores, plants, pollution control dams, fences, etc. The acquisition of new skills during the construction period will make individuals more employable in the future phases of the project. Vandabyte will include people from STLM and GMLM during the construction phase of the project, particularly historically disadvantaged (HD) people.

In addition to creating job opportunities for construction workers, the project will also lead to indirect employment creation in the informal sector, for instance in terms of food stalls for the convenience of construction workers. Additionally, more informal employment opportunities may be created in the second economy through a multiplier effect from the proposed project's activities. The creation of employment opportunities during the construction phase of the Project can therefore be seen as a substantial positive impact on benefitting individuals and their dependants. It should be cautioned that, if not carefully mitigated, these potential positive effects may trigger significant price inflation, impacting both food and housing prices in surrounding communities. Significant food or housing price inflation can adversely impact existing vulnerable groups, with negative consequences on individual- and community-level socio-economic performance indicators (IFC, 2009).

#### Mitigation measure and Recommendations

Given that communities in the vicinity of the Mine will be mostly affected by the proposed project, it is consistent with national legislation (MPRDA; Mining Charter) and international good-practice standards (such as IFC PSs) that they should be given special consideration in terms of the benefits arising from the proposed project.

In addition to the above and in order to enhance the benefits of employment creation for other communities elsewhere in the secondary study area, it is recommended that the following measures be implemented:

- Promote the creation of employment opportunities for locals, especially disadvantage individuals, women and youth, above the targets set out in the Mining Charter;
- Where it is practical, labour-intensive construction methods should be promoted. Aspects of construction that could potentially be amenable to such methods include earthworks, construction of access roads, etc.;
- If required, the local resident status of job applicants should be verified in consultation with community representatives, traditional leaders, municipal structures and landowners in order to ensure local recruitment;
- Vandabyte and appointed contractors should identify its required core skills (both for the construction and operational phases) and extend employee skills audits to investigate the prevalence of required skills in nearby communities within the secondary study area, and structure its skills development endeavours accordingly.

- Where feasible, Vandabyte and appointed contractors should offer training and skills development to improve the ability of local community members, especially those residing within the primary study area, to take advantage of employment opportunities arising through the Project;
- Recruitment should take place using a registry of job-seekers and SMMEs, as opposed to lists of potential candidates and service providers compiled by an individual – this minimises the risk of nepotism or corruption tainting the recruitment process;
- It is recommended that recruitment during the construction phase should not take place on site but should be coordinated through the appropriate institutions such as the provincial Department of Labour or institutions recommended by the local authorities (where applicable). However, care must be taken that recruitment practices are fair and transparent and are not unduly influenced by pressure groups, such as political parties;
- A monitoring system should be established to ensure that Vandabyte and its subcontractors honour local employment policies and other measures to enhance local employment;
- Vandabyte and its subcontractors must compile a database of goods and services providers from the local community who comply with their procurement requirements before commencement of the tender process for acquiring various services and goods; and
- Once construction is completed, local persons employed on contract/ temporary basis during construction should be provided with reference letters that they can submit to gain employment elsewhere. Also, certificates of completion should be provided for in-house (on-the-job) training provided.

#### 7.4.1.2 Economic impacts

##### Impact Description

The proposed project will result in several economic benefits through direct and multiplier effects stimulated by capital expenditure on construction and operational activities.

Firstly, large scale construction activities will increase the demand for a wide variety of goods and services, and as a result will stimulate and/or sustain growth within the regional manufacturing and service sectors; both these sectors are already well established within the regional and/or provincial economy. This economic environment will likely generate more opportunities for medium, small and micro businesses, provided they are formalised and able to meet the procurement requirements of the proposed mine.

Vandabyte intends to focus on increasing opportunities for local HDSA suppliers of goods and services to the proposed project, and is committed through the Mining Charter to procure 40% of capital goods, 50% of consumables and 70% of services from HDSA suppliers.

A considerable part of the mine's needs will be highly technical and unlikely to be found within the secondary study area, and may procure from businesses in the regional area of elsewhere in Mpumalanga Province (which has a highly developed coal mining sector as well as highly technical services and manufacturing sectors).

Local and regional procurement spend, which is expected to peak during construction, will enhance the positive economic impact of the Project, as the revenue accruing to enterprises will produce sustained beneficial downstream impacts on the economy within the secondary study area. In addition, the construction and operational workforce will be housed in the surrounding areas; this too will contribute positively towards the growth of these economic sectors. Given that a significant

proportion of moneys derived from wages earned would likely be spent in the vicinity of the project area, it is expected to create additional flows of revenue within surrounding communities, thus acting as a potential catalyst for growth in the economy.

The Project will likely trigger some population influx into the primary and secondary study area, which is partially associated with negative socio-economic consequences. Disruption of existing family structures and social networks due to the migration of workers and job seekers into the area. Furthermore, possible relocation of households that is too near the mine site. It will however, also have some positive effects on the local economy. Small businesses may experience improved markets and increased numbers of customers for consumable items they sell. Increased markets for local entrepreneurs will compound on existing economic multiplier effects.

### **Mitigation measures and Recommendations**

The measures recommended in the Section above to maximise local employment during the construction phase through the project will also serve to maximise the positive impacts of the project on the local economy. In addition, the following measures are recommended:

- Promote procurement from local and HDSA enterprises above the targets set out in the Mining Charter;
- If any subcontractors are appointed, Vandabyte should give preference to suitable subcontractors/SMMEs located in nearby towns, then elsewhere in the secondary study area and then only to contractors located in areas elsewhere in Mpumalanga;
- Where appropriate SMMEs do not exist locally, Vandabyte should investigate the possibility of aligning/updating their current SLP to develop this service capacity among local, preferably HDSA, suppliers;
- Local procurement targets and procedures should be formalised in the mine's procurement policy, which is currently in a draft format, with reasonable penalties to the contractors who do not meet their targets. Such penalties (if monetary), could be used for capacity building and SMME development initiatives;
- Procurement practices of construction contractors should be monitored, and they must be reminded of the preference to procure locally. Where contracts are awarded to non-local service providers, contractors must demonstrate that reasonable action was taken to identify a local service provider;
- If such a register does not exist at the labour desk of the municipality, Vandabyte should consider developing a register of local SMMEs and the types of goods and services provided by them; and/or consult nearby mines to determine if they would be willing to make their business registers/ databases available for use by the Project;
- Investigate the feasibility of establishing linkages with institutions other than the local municipality involved in SMME development, such as neighbouring mines, community-based development projects and Non-Governmental Organisations (NGOs) active in the broader project area.

#### **7.4.1.3 Displacement of households and workers**

##### **Impact Description**

Any project with a physical footprint inevitably requires a land acquisition process. One of the most significant socio-economic impacts that may result from such land acquisition is the displacement of persons residing on or making use of the land.

Displacement-related impacts encompass both *physical* displacement (the loss of a home and the necessity of moving elsewhere) and/or *economic* displacement (the loss of income and productive assets such as cultivated fields or business stands) from the acquired land (IFC, 2012). In this case, only economic displacement is applicable as the current land use entails agricultural land where workers will lose their agricultural jobs. Based on the interviews with the landowners, this is mostly applicable to temporary seasonal employees.

Furthermore, indirect affected parties may be affected as motivated by international good practice advocates clearing a safety buffer of 500m around areas where blasting will take place in the open cast mining blocks (IFC, 2012), whereas the South African Mine Health and Safety Act allows for a smaller buffer of 100m around primary project infrastructure (e.g. mine shafts, stockpiles, open pits etc.). The closest community is located approximately 610 meter west of the proposed opencast pit, but are still located within the mining right area. This community is an informal settlement that existed prior to the current landowner buying the property.

It is anticipated that the impacts of surface infrastructure and open pit development could contribute to *indirect* economic displacement. Surrounding farming operations located on directly adjacent properties to the major infrastructure components and mining blocks would likely have to relocate or experience significant loss of produce due to blasting, vibration, noise, air quality, and health and safety risks. Neighbouring farmers indicated that this could affect daily farming operations and reduce crop yield. Such a trend could increase the number of occupants who would be negatively impacted on by indirect economic displacement of the owners as well as the individuals who are employed at these operations (and operations that are dependent on the affected operation), assuming it is not re-establish elsewhere.

### **Mitigation measures and Recommendations**

Vandabyte should endeavour to minimise the extent of direct physical and economic displacement through informed project design and implementation, in particular revising infrastructure placement to maximise distance from residential and commercial land uses. In cases where displacement cannot be avoided, the following measures should be implemented to minimise the adverse impacts resulting from displacement impacts:

- The sales agreement of any land to be acquired by the Project should reflect the holistic value of the land prior to mining. It has been indicated that a professional property valuator has already determined the price of the farms should they be bought by the mine.
- Prior to finalising the sales agreement of land, it should be clear if the community currently residing on Portion 2 of the Farm Dunbar 189 IR will be relocated or compensated that is within 600 m of the mining operations. If resettlement is considered, it is recommended that the process be aligned to IFC PS 5, to ensure that households are not worse off afterwards. A Resettlement Action Plan (RAP) should be developed in consultation with the affected households, the mine, and local authorities.
- Where indirect displacement occurs, it is suggested that Vandabyte engage with adjacent landowners and compile the baseline as well as monitor the effects of the mining activity on the production at the potentially affected farms. In the event that the production is affected and proven to be the result of mining activities, engage with the respective



landowner and investigate appropriate alternatives suitable for all the parties to ensure overall production is not affected.

- It is important to point out that based on other mining projects; employees on farms and other impacted businesses are often not compensated and/or provided with alternative accommodation by landowners if the farms on which they reside are acquired by the Project. Moreover, mining companies often insist that they are not responsible for the wellbeing of farm/domestic workers who may be directly affected following the sale of a property according to the willing buyer willing seller principle. International best practice, nevertheless, requires that these workers are compensated.

#### **7.4.1.4 Community Development and Social Upliftment**

##### **Impact Description**

Vandabyte will contribute to community development and social upliftment through the implementation of its SLP as well as carrying out commitments made in terms of its procurement and employment policy. These plans and policies have the potential to facilitate and catalyse socio-economic development within the project affected communities, as several of these communities have a relatively low socio-economic base. These initiatives – especially if implemented in consultation with those of other developmental role-players (such as the LLM, Non-governmental organisation, other mines in the area, and other existing development programmes e.g. Municipal LED programmes) – can contribute substantially towards socio-economic development, sustainable jobs and income stability within the study area.

Vandabyte SLP and procurement policy outlines several actions that will enhance socio-economic development among local communities, particularly the following:

- As part of Human Resource Development (HRD) by means of a skills development plan, career progression plan, mentorship, bursaries and learnerships. The skills development plan will include the development of mining-related skills, portable skills development, and ABET;
- As part of its LED strategy which will focus on communities affected by the proposed Project, it is recognised that, unless LED projects are designed to be sustainable beyond the LoM, they can also have negative long-term impacts by increasing economic dependency on the mine or their partners;
- Investments, which will include funding the development of key service delivery infrastructure as well as several SMME development programmes within the communities surrounding the proposed project; and
- As part of a procurement policy, the intention to empower and develop previously disenfranchised communities and individuals through preferential procurement from HDSA vendors. This will potentially allow these vendors, at the time of mine closure, to supply goods and services to non-mining enterprises.

Successful implementation of the aforementioned programmes will contribute to maximising the benefits of the proposed Project for communities within the primary and secondary study, as well as towards offsetting some negative impacts that these communities may experience as a result of the proposed project.

##### **Mitigation measures and Recommendations**

In order to maximise this positive impact and reduce negative impacts, the following measures are recommended:

- In order to ensure that future skills development, Corporate Social Responsibility (CSR) and LED initiatives addresses the needs of the beneficiary communities or individuals, the details of development projects should be finalised in consultation not only with local government, but also with the local community and employee representatives;
- Often there are already initiatives underway that are in need of financial and/ or technical support that the mine could provide, for instance programmes being implemented as part of the Comprehensive Sustainable Rural Development Programme, Municipal LED Projects, or LED projects at nearby mines. It is proposed that Vandabyte department responsible for Corporate Social Investment (CSI) or community development contact the CSR and/or community development departments of other enterprises (e.g. local and district municipalities, neighbouring mines and non-governmental organisations) in the area to gauge whether they can align or synergise with any of their efforts to collaborate in some of the development initiatives already planned for the area;
- Vandabyte and its contractors should comply with the company's policy as well as the Mining Charter in terms of preferential HDSA procurement;
- Vandabyte should expand its skills development and capacity building programmes to non-employees, to include especially residents of communities within the primary study area. Programmes offered to non-employees and contractors must be geared towards making individuals employable in the mining industry, as well as enabling them to establish and manage SMMEs that will be able to meet the needs of the mining industry elsewhere in the region; and
- A record of training courses completed per individual should be kept in a skills database. Where training is offered to non-employees, their details should be shared with other industries in the area with the aim of finding them employment should the project be unable to offer them employment.

#### **7.4.1.5 Influx of people**

##### **Impact Description**

As news regarding the proposed mine spreads or when mining-related activities increase, expectations regarding possible employment opportunities at the mine will also increase. Consequently, the area surrounding the site and neighbouring settlements may experience an influx of job seekers. This trend is already evident in the secondary study area and is well known with other mining areas in Mpumalanga. The magnitude of this impact will, amongst others, be influenced by the severity of poverty and unemployment, as people will be more inclined to travel in search of better livelihoods through employment.

The movement of people, particularly males, into the local municipality may lead to incidences such as increased crime levels for those who are not able to secure employment, dilution of family values leading to behaviours such as prostitution, promiscuity, teenage pregnancies and alcohol and drug abuse, increased number of people infected with HIV/AIDs and Sexually Transmitted Diseases (STDs).

The socio-economic profile of the population within the secondary and primary study area indicates that poverty and unemployment are moderate throughout these areas. It can therefore be anticipated that job seekers (and sometimes whole families), as well as entrepreneurs and opportunists, will move to areas where new job opportunities are available. The portion of the workforce which will be recruited from outside the local area will constitute an additional influx of people. Furthermore,

unsuccessful job seekers from outside the primary study area may decide to settle in the project area. This impact may commence prior to construction, and is likely to continue after construction has been completed. The influx of construction workers, job-seekers and others is expected to have a variety of social consequences; including:

- Increased pressure on local services, resources and facilities. The municipality cannot necessarily keep up with service delivery as there are existing shortages;
- Establishment and growth of informal settlements as there is a shortage of existing formal houses in the area;
- Increase in social pathologies such as substance abuse, prostitution, increased incidence of sexually transmitted diseases (STDs) and other communicable diseases (IFC, 2012);
- Higher demand and increased markets for food, especially fresh produce and meat. This scenario could inflate prices and result in increased poaching from livestock farmers within and surrounding the area as well as bush meat hunting;
- Conflict / competition between newcomers and current population, for example, perception among locals that the outsiders are taking up jobs that could have gone to unemployed members of the local community. Xenophobic attacks have increased in South Africa this year alone as unemployed and poverty-stricken people become more desperate;
- Perception of increased crime and safety risks to the area due to the newcomers.

### **Mitigation Measures**

The following measures are recommended to address the aforementioned impacts:

- Measures to address population influx:
  - The design of effective in-migration management strategies requires an understanding of the dynamics and potential impacts of the phenomenon, taking into account specifics of the locations and areas in which the in-migration will occur;
  - The recruitment of employees and contractors should be executed as already discussed above (especially in terms of preferentially employing from local labour sending areas), thereby discouraging loitering near the proposed mine;
  - Ensure that the intention of giving preferential employment to locals is clearly communicated, in order for locals to have a fair opportunity and reduce potential conflict situations;
  - Involve local community structures (e.g. ward councillors and traditional leaders) to assist in communicating the intention to give preference to local labour, and also to assist in identifying the local labour pool (with this being said, ward councillors need to make an effort to be involved as the public do not trust or do not rely on them);
  - It is strongly recommended that Vandabyte liaise with the municipality throughout the construction and operational phases to ensure that expected population influx is taken into account in spatial and infrastructure development planning of the area; and
  - No poaching of livestock or bush meat may take place. All workers appointed by the mine should be prosecuted accordingly.
- The following management measures will serve to minimise the occurrence of social pathologies:

- 
- A code of conduct for the construction workers should be compiled, and the information provided to and signed by all relevant stakeholders in order to provide guidance on what behaviour is or is not permitted or acceptable.
  - Implement HIV/AIDS and alcohol abuse prevention campaigns in the communities;
  - Vandabyte should make their HIV/AIDS awareness and prevention programmes a condition of contract for suppliers and sub-contractors;
  - Vandabyte should provide an adequate supply of free condoms to workers;
  - A voluntary counselling and testing programme must be introduced during construction and continued during operation;
  - It is recommended that contractors undertake a HIV/AIDS and STD prevalence survey amongst its workers on a yearly basis. This will involve a voluntary test which is available to 100% of the workforce. The results of the survey will help to determine HIV/AIDS and STD prevention strategies. When, and if, statistically representative, the results of the survey should be made available to both management and workers at the same time. Results should be presented in statistical terms so as to ensure confidentiality;
  - Access at the construction site(s) must be controlled to prevent sex workers and petty traders from visiting and/or loitering at, or near, the construction camp/mine site; and
  - Financially support the appropriate government agencies, local clinics and NGOs involved in raising community awareness and education with regard to STDs and substance abuse.
- Measures to address crime:
    - Construction workers should be clearly identifiable by wearing proper construction uniforms displaying the logo of the construction company; this will decrease the number of opportunistic people wandering near the construction site under the guise of being Dunbar employees;
    - Liaison structures are to be established with local police to monitor social changes in crime patterns during the construction phase as well as the operation phase of the mine. Liaison should also be established with existing crime control organisations, such as local community policing forums, private security companies and other crime prevention organisations;
    - Through the abovementioned forum, identify if recorded criminal activities (e.g. violent crimes, housebreaking and stock theft) involved members of the mine's workforce, and act accordingly; and
    - Vandabyte should enforce clear rules and regulations for access to the project site to control loitering. The proponent should consult with the local police service to establish standard operating procedures for the control and/or removal of loiterers.
  - Measures to address potential conflict between locals and non-locals:
    - The mine's recruitment and procurement policy must be fair, transparent and readily available to especially the local community;
    - Establish a community liaison office and grievance mechanism at a location that is accessible to members of the surrounding communities;
    - Mine security should be empowered in terms of resources and facilities to effectively manage security issues relating to incidents of community unrest at/near the mine site. However, great care should be taken that the human rights of all people involved are respected;

- Develop standby procedures with the local police service to assist with crowd control; and
- In the event of conflict between the locals and non-locals, a conflict management plan should be compiled.

## **7.4.2 Operational Phase**

### **7.4.2.1 Dust generation from a social and health perspective**

The community settled in an area where there are many sources of dust which include:

- dust created by vehicles travelling on dirt roads;
- dust from agricultural activities; and
- dust created by nearby existing mines.

The proposed project will intensify the dust that the community is exposed to through construction activities, from blasting and operational activities within the mine pits, and the added activities associated with the new crush, screening and wash facility. Small informal communities live very close to the mining area and the dust could not only impact on their health, but also on their quality of life. Vulnerable people such as the elderly, people with existing respiratory diseases, child-headed households and young children are a special concern.

### **7.4.2.2 Employment Creation during the Operational Phase**

#### **Impact Description**

Employment during the operational phase has the potential of being over a medium period, which can have a major, long term (as opposed to short-term construction opportunities), positive impact for successful job applicants and their dependents.

With mining and quarrying being an established industry in the region, it is expected that a sufficient number of the unemployed will have appropriate skills to qualify them for at least semi-skilled positions at the mine. During the construction process potential candidates can also be identified to receive skills training, bursaries or internships preparing them for specific roles during the operational phase.

This means that local communities can potentially take maximum advantage of employment opportunities to be created by the proposed mine, and that Vandabyte will likely be able to meet its local recruitment target of 50%. It should be noted that some positions will require scarce skills, which will not necessarily be readily available in local labour sending areas, therefore a certain percentage of the mine's workforce will be recruited from elsewhere in Mpumalanga. Those who succeed in gaining employment on the Project would benefit substantially in terms of wages, training/skills development and income security. Local employment in the Project supply chain could further increase the benefits of the Project. However, the challenge will be to ensure that contractors comply with recruitment policies and relevant legislative requirements.

The operational phase of the proposed project could give rise to some indirect employment opportunities. These could include jobs in the informal sector and in the formal sector (for instance, by sourcing goods and service from enterprises elsewhere in the secondary area where possible or increasing the demand for commuter transport services).

#### **Mitigation measures**

Several measures can be implemented to increase the number of direct and indirect employment opportunities:

- Most of the measures recommended in the construction phase above, to maximise local employment during construction will also apply to the operational phase. In particular, training and capacity building programmes should be implemented to enhance the ability of local community members to take advantage of available operational employment opportunities. Such programmes can be tied into future iterations SLP or CSI programmes.
- It is also proposed that the type of skills necessary for plant operation should be established before operation starts. This will mean that local people can be trained part-time during the construction period to attain these skills to eventually qualify for employment opportunities during the operational phase; and
- The project's database of the local labour pool should be updated to include people who were employed by the project during the construction phase. This will assist with the recruitment of workers required during the operational phase of the project.
- It is suggested that all workers be trained on financial management to ensure that they spend their money prudently and thus eventually having a positive impact on their living conditions.

#### **7.4.2.3 Stimulation and Growth of the Local and Regional Economies**

##### **Impact description**

A positive effect of the project in terms of stimulation of domestic production, job creation, and government revenue could occur by implementing this project. More specifically the project will during its operational phase contribute to the GDP of the region and province, and will create both direct and indirect employment opportunities.

The State will receive royalty and tax payments for the permanent extraction of non-renewable commodities. Ideally a proportion of these funds should be used to stimulate regional economic growth by re-investing the funds into infrastructure development throughout the secondary study area.

The project will also be required to pay a considerable amount of rates and taxes. A proportion of these funds will be paid to local and district/metropolitan municipal structures. Such an injection into local municipal structures could contribute to the development of the municipal area including upgrading of services, thereby creating conditions which can be conducive to economic growth.

It is expected that the benefits of the proposed project will extend beyond members of the mine's workforce to suppliers through the procurement of products and services. Vandabyte preferential procurement strategy must adhere to the stipulations of the MPRDA and aim to achieve HDSA procurement targets set out in the Mining Charter. The strategy will increase opportunities for HDSA suppliers which will in turn be conducive to enterprise development and economic growth in communities within the secondary study area.

##### **Mitigation measures**

Measures recommended to enhance the benefits from local employment and economic multiplier effects, as well as community development, will also serve to maximise the positive impacts of the proposed project on the economy. In addition the following measures are recommended:

- Implementation of measures suggested in this Assessment and the SLP;

- Incorporate SMME capacity building programmes into future iterations of the mine's SLP, which will enable HDSA suppliers to take maximum advantage of opportunities provided through mine-related procurement;
- In order to maximise the empowerment of HSDA companies (and the sharing in project benefits by the disadvantaged communities in general), the project should attempt to establish long-term procurement contracts with local suppliers (where possible); and
- An independent monitoring system should be established to ensure that the mine and its contractors comply with government regulations and company policies related to HDSA procurement.

#### 7.4.2.4 Blasting and vibrations from a social perspective

##### Impact description

Blasting is one of the greatest community concerns as damage to houses and injuries to people are a great possibility. If the blast radius is too close to existing houses, some people would need to evacuate their houses. The mine would likely have to move people in close proximity to the blasting due to safety issues associated with blasting. Blasting and vibrations impact on people's sense of safety, their quality of life and their material wellbeing. Any damage to goods will be difficult for most households to recover from blasting and associated vibration damage. Many people also live in traditional houses or shacks that cannot structurally deal with blasting, and as a result these houses are damaged often. Due to their socio-economic conditions they cannot afford better housing.

##### Mitigation measures

- The timing of blasting needs to be indicated and communicated to the community on a weekly basis;
- Relocation of households within 500 m of the blasting impact must be considered. Since no households have been identified within 500 m of the Project relocation is not considered necessary;
- A grievance mechanism should be in place, and all communication should be recorded and should be freely available to all parties;
- There must be a feedback mechanism to ensure that the person that laid the complaint is informed about how it was dealt with. Feedback should be given within a reasonable time;
- The mine should liaise with the STLM about formalising the houses in the area and provision of municipal services to all houses. The supply of housing and services is the responsibility of the government, but where the mine is liable consultation with the STLM should take place.

#### 7.4.3 Impact Ratings

The impact rating pre-mitigation during the **construction** phase indicated one very high and one high negative impact, seven medium-high negative impacts, three medium-high positive impacts and one medium-low positive impact (Table 7-10). After mitigation measures have been applied, one high negative impact exists, one medium-high negative impacts and three medium-low negative impacts. Most positive impacts after mitigation are medium-high due to the short time period of the construction phase, and most mitigation measures for positive impacts remain unchanged. Exceptional intervention and implementation is required to increase positive impacts to high.

The impact rating pre-mitigation during the **operational** phase indicated two high and two medium-high negative impacts. The positive impacts indicated five as high and one as medium-high. After mitigation measures have been applied, negative impacts were reduced to medium-high or medium-low and most positive impacts as high (Table 7-11). As already mentioned, social impacts are complex and multi-facet, making rating of these impacts difficult. Even after mitigation measures have been applied, some high negative impacts are still perceived as medium, as the perception of the community regarding the mine and the authorities to deal with their issues affectively are negative. Furthermore, stakeholders who are directly affected by the proposed mine perceptions are not favourable. The mine would have to strictly adhere to the proposed mitigation measures as well as proactive measures and management of issues in order to ensure social aspects of the mine could be brought to low, which is not impossible. Continuous consultation with the community and landowners are vital, as well as with the local municipalities to resolve issues optimally.

**Table 7-10: Impact rating for socio-economic aspects pre-mitigation.**

Impact	Status	Extent	Duration	Severity	Frequency	Probability	Significance
<b>Construction Phase</b>							
Direct employment creation	Positive	4	2	4	3	5	80 (MH)
Indirect employment creation	Positive	4	2	4	3	4	70 (ML)
Economic gain	Positive	4	3	4	3	5	88 (MH)
Displacement of households	Negative	3	5	5	5	5	130 (VH)
Loss of agricultural jobs	Negative	3	5	3	5	5	110 (H)
Community development and social upliftment	Positive	4	3	4	3	4	77 (MH)
Community safety	Negative	4	3	4	4	4	88 (MH)
Increased pressure on local services due to influx of people	Negative	4	3	4	3	4	77 (MH)
Increased informal settlements due to influx of people	Negative	4	3	4	3	4	77 (MH)
Conflict between newcomers and local community	Negative	4	3	4	4	5	99 (MH)
<b>Operational Phase</b>							
Direct employment creation	Positive	4	4	4	4	5	108 (H)
Indirect employment creation	Positive	4	4	4	4	4	96 (MH)
Paying rates and taxes	Positive	4	4	4	4	5	108 (H)



Impact	Status	Extent	Duration	Severity	Frequency	Probability	Significance
GDP injection	Positive	4	4	4	4	5	108 (H)
Royalty payments	Positive	4	4	4	4	5	108 (H)
Community development and social upliftment	Positive	4	4	4	4	5	108 (H)
Dust from a social and health perspective	Negative	3	4	5	4	5	108 (H)
Blasting and vibration from a social aspect	Negative	3	4	4	4	5	99 (MH)
Water quality and quantity	Negative	4	5	4	4	5	117 (H)
Conflict between newcomers and local community	Negative	4	4	3	4	5	99 (MH)

*Table 7-11: Impact rating for socio-economic aspects post-mitigation*

Impact	Status	Extent	Duration	Severity	Frequency	Probability	Significance
<b>Construction Phase</b>							
Direct employment creation	Positive	4	2	4	3	5	80 (MH)
Indirect employment creation	Positive	4	2	4	3	4	70 (ML)
Economic gain	Positive	4	3	4	3	5	88 (MH)
Displacement of households	Negative	3	5	3	5	3	88 (MH)
Loss of agricultural jobs	Negative	3	5	3	5	4	99 (MH)
Community development and social upliftment	Positive	4	3	4	3	4	77 (MH)
Community safety	Negative	3	3	2	2	3	48 (L)
Increased pressure on local services due to influx of people	Negative	4	3	3	3	3	60 (ML)
Increased informal settlements due to influx of people	Negative	4	3	3	3	3	60 (ML)
Conflict between newcomers and local community	Negative	4	3	3	3	4	70 (ML)

Impact	Status	Extent	Duration	Severity	Frequency	Probability	Significance
<b>Operational Phase</b>							
Direct employment creation	Positive	4	4	4	4	5	108 (H)
Indirect employment creation	Positive	4	4	5	4	5	117 (H)
Paying rates and taxes	Positive	4	4	4	4	5	108 (H)
GDP injection	Positive	4	4	4	4	5	108 (H)
Royalty payments	Positive	4	4	4	4	5	108 (H)
Community development and social upliftment	Positive	4	4	4	4	5	108 (H)
Dust from a social and health perspective	Negative	4	4	4	3	4	84 (MH)
Blasting and vibration from a social aspect	Negative	3	4	4	4	3	77 (MH)
Water quality and Quantity	Negative	3	4	4	3	4	77 (MH)
Conflict between newcomers and local community	Negative	4	4	3	3	3	66 (ML)

## 8 CUMULATIVE IMPACTS

Cumulative impacts are impacts that could act together with other impacts (including those from concurrent and/or planned future third party activities), resulting in an incremental effect on natural and social resources, social processes and/or socio-economic conditions. Cumulative impacts usually relate to large-scale rather than site-specific impacts, and have a tendency to increase the intensity of impacts already predicted for the project.

The IFC PS 1 describes “the broader project area” to include areas potentially impacted by cumulative impacts from further planned development of a project, any existing projects or condition, and other project-related developments that may occur during the life of a project (IFC, 2012).

There are several prominent existing and proposed future industrial and mining developments in the broader project area. Together, these developments are likely to contribute towards, and even accelerate, changes to the socio-economic environment which would not necessarily have been the case if the Project would operate in isolation. One such cumulative impact of constructing and operating a mine is that the ripple effects of disruption of existing family structures, dilution of the society’s values and social networks will be felt for a long time. Increased incidences of teenage pregnancies, alcohol and drug abuse and increased rates of infection of people with HIV/AIDs and Tuberculosis. In addition, a high incidence of disease occurrence reduces the number of able bodied individuals who can contribute to the growth of the local economy and creates

more dependents. Also, teenage pregnancies result in the creation of single parent families and may prevent the teenage mothers from completing their education due to the diverted attention to the children and a general lack of resources.

It is expected that the contribution of the project towards cumulative impacts will be incremental based on the development and implementation of the various project components over time. Actual impacts will also vary in terms of project phases (construction, operation and closure). The loss of agricultural jobs, loss of property value and the indirect socio-economic impacts from the proposed mine, needs to be taken into consideration during the decision-making process.

Another cumulative impact of establishing the mine is that the natural landscape of the rural area is diminished and current land uses that are compatible with the surrounding environment (especially crop cultivation and grazing) are reduced and replaced with large earth work operations that are characteristic of a mine. The net effect of this is a change in the sense of place and perception of the area but specifically also Mpumalanga as a green, fertile province that is scenic and known for its natural features such as wetlands, various wild animals, grasslands and scattered forest escarpments. A decrease in the amount of arable land poses a threat to food security which is one of the pillars of the growth of a nation. Therefore, local community members must be encouraged to established vegetable gardens for their own consumption and possibly selling any surplus. Where possible, community-based projects should be developed and supported by the mine in order to assist the local communities, which will also have a positive outcome for mine workers.

Lastly, the operation of the mine for the production of coal contributes to the generation of electricity at the Eskom Power Stations across Mpumalanga. The net effect of this is that the additional electricity that is fed to the national grid ensures a secure energy supply to various consumers such as industries, small businesses and homes. This is especially necessary in order to assist a crippled State Owned Enterprise which has been struggling in the past couple of years to supply the country with continuous electricity. In addition, the renewable energy projects currently under construction or not yet fully operational do not yet feed in the national grid to ensure secure energy supply. A reliable supply of energy is crucial for the growth of any economy because it encourages both local and foreign investment, aids in the stabilization of the nation's currency, and facilitates job creation.

## **9 STAKEHOLDER ENGAGEMENT PLAN**

Social impacts already start in the planning phase of a project and as such it is imperative to start with stakeholder engagement as early in the process as possible. A Stakeholder Engagement Plan will assist Vandabyte to outline their approach towards communicating in the most efficient way possible with stakeholders throughout the life of the project. Such a plan cannot be considered a once off activity and should be updated on a yearly basis to ensure that it stays relevant and to capture new information. Stakeholders must provide input in the Stakeholder Engagement Plan.

The Stakeholder Engagement Plan should have the following objectives:

- To identify and assess the processes and/or mechanisms that will improve the communication between local communities, the secondary community and Dunbar.
- To improve relations between Dunbar staff, the surrounding landowners and the people living in the local communities.
- To provide a guideline for the dissemination of information crucial to the local communities in a timely, respectful and efficient manner.

- To provide a format for the timely recollection of information from the local communities in such a way that the communities are included in the decision making process.

The Stakeholder Engagement Plan should be compiled in line with International Finance Corporation (IFC) Guidelines and should consist of the following components:

- **Stakeholder Identification and Analysis** – time should be invested in identifying and prioritising stakeholders and assessing their interests and concerns.
- **Information Disclosure** – information must be communicated to stakeholders early in the decision-making process in ways that are meaningful and accessible, and this communication should be continued throughout the life of the project
- **Stakeholder Consultation** – each consultation process should be planned out, consultation should be inclusive, the process should be documented and follow-up should be communicated.
- **Negotiation and Partnerships** – add value to mitigation or project benefits by forming strategic partnerships and for controversial and complex issues, enter into good faith negotiations that satisfy the interest of all parties.
- **Grievance Management** – accessible and responsive means for stakeholders to raise concerns and grievances about the project must be established throughout the life of the project.
- **Stakeholder Involvement in Project Monitoring** – directly affected stakeholders must be involved in monitoring project impacts, mitigation and benefits. External monitors must be involved where they can enhance transparency and credibility.
- **Reporting to Stakeholders** – report back to stakeholders on environmental, social and economic performance, both those consulted and those with more general interests in the project and parent company.
- **Management Functions** – sufficient capacity within the company must be built and maintained to manage processes of stakeholder engagement, track commitments and report on progress

## 10 PROPOSED GRIEVANCE MECHANISM

In accordance with international good practice the proposed Dunbar Coal Mine should establish a specific mechanism for dealing with grievances. A grievance is a complaint or concern raised by an individual or organisation that judges that they have been adversely affected by the project during any stage of its development. Grievances may take the form of specific complaints for actual damages or injury, general concerns about project activities, incidents and impacts, or perceived impacts. The IFC standards require Grievance Mechanisms to provide a structured way of receiving and resolving grievances. Complaints should be addressed promptly using an understandable and transparent process that is culturally appropriate and readily acceptable to all segments of affected communities, and is at no cost and without retribution. The mechanism should be appropriate to the scale of impacts and risks presented by a project and beneficial for both the company and stakeholders. The mechanism must not impede access to other judicial or administrative remedies.

The grievance mechanism should be based on the following principles:

- Transparency and fairness;
- Accessibility and cultural appropriateness;
- Openness and communication regularity;

- Written records;
- Dialogue and site visits; and
- Timely resolution.

Based on the principles described above, the grievance mechanism process involves four stages:

- Receiving and recording the grievance;
- Acknowledgement and registration;
- Site inspection and investigation; and
- Timely Response.

## 11 STAKEHOLDER PERCEPTIONS

Stakeholder perceptions of a proposed development are critical inputs into the socio-economic process. A thorough understanding of the origin of stakeholder perceptions is therefore required, not only to put impacts into perspective, but also to identify mitigation measures that will address potential social risks to the proposed project.

In addition to the stakeholders interviewed for the SIA study, the SIA also takes into account the stakeholder issues and concerns raised during the public participation process for the scoping and EIA study, which is still on-going. The public participation process has already consulted key stakeholders and government departments at the regional level, as well as landowners and other local-level stakeholders. Consultations for the SIA focused on potentially affected parties in the project area.

The main 'social' issues and concerns raised these respondents are summarised below:

- In general landowners are not very resistant to the project. Limited interaction during the process including providing no comments on the draft scoping report, not attending public meetings or completing the questionnaires attest to this;
- Loss of agricultural land which has implications for food security regionally and nationally;
- Coal dust will affect grazing capacity of land as well as crop yield of maize and soya;
- Loss of temporary seasonal farm employees. They do not necessarily have the skills to work on a coal mine or do not necessarily want to, and they and their dependants could be affected negatively;
- Loss of sense of place, mostly as a result of potential air, noise and visual pollution, population influx, increased traffic and perceived increase in crime;
- Concerned about the groundwater of the area, as most farmers and people within the community are dependent on boreholes for water supply. Dewatering of mining pits could impact on the catchment area;
- Pollution of ground and surface water. It is strongly believed that the proposed mine could pollute water sources, especially boreholes and the Leeufonteinspruit;
- Health problems associated with dust and other particles that emanate from the mining activities;
- Neighbouring property owners adjacent the mine, which will not be bought out by the mine, are concerned that the mine will ultimately result in a devaluation of their property or impact the viability of their farming operations;
- Damage incurred by blasting will result in damage to agricultural land;

- Uncertainties to whether compensation for land will be sufficient;
- People that have no work are hoping for the mine to establish in order to apply for jobs;
- That the proposed coal mine is not sustainable, and will be detrimental to the environment.

## 12 MONITORING PLAN

It is proposed that a monitoring programme be developed and implemented to monitor the implementation of social management actions. Furthermore, it is recommended that this is conducted by a competent Monitoring and Evaluation (M&E) officer as the implementation of monitoring tools (surveys, databases, etc.) will require specialised skills.

The M&E approach recommended in this section is based on the “inputs-outputs-outcomes-impacts” model, which assesses performance of each level of the “results chain” (Technopolis, 2014). As such, the following four categories of M&E indicators have been defined:

- **Input indicators:** These indicators measure the quantity, quality, and timeliness of resources – human, financial and material, technological and information – provided for an activity/ project/ programme;
- **Output indicators:** These indicators measure the quantity, quality, and timeliness of the products – goods or services – that are the short-term results of an activity/ project/ programme;
- **Outcome indicators:** These indicators measure the intermediate results generated by programme outputs. They often correspond to any change in people’s behaviour as a result of programme; and
- **Impact indicators:** These indicators measure the quality and quantity of long-term results generated by programme outputs (e.g. measurable change in quality of life, reduced incidence of diseases, increased income, reduced mortality, etc.).

## 13 CONCLUSION

The proposed Dunbar Coal Mine is situated in an area with complex social dynamics. The secondary study area is already exposed to a number of social and environmental impacts (both positive and negative) from different sources, including existing coal mines and Eskom Power Plants.

The impact rating pre-mitigation during the **construction** phase indicated one very high and one high negative impact, seven medium-high negative impacts, three medium-high positive impacts and one medium-low positive impact (Table 7-10). After mitigation measures have been applied, one high negative impact exists, one medium-high negative impacts and three medium-low negative impacts. Most positive impacts after mitigation are medium-high due to the short time period of the construction phase, and most mitigation measures for positive impacts remain unchanged. Exceptional intervention and implementation is required to increase positive impacts to high. It must be considered that there will also be positive social impacts, such as skills development, CSI projects and SLP projects. Should the proposed Dunbar Coal Mine not be allowed, these impacts will fall away.

The impact rating pre-mitigation during the **operational** phase indicated two high and two medium-high negative impacts. The positive impacts indicated five as high and one as medium-high. After mitigation measures have been applied, negative impacts were reduced to medium-high or medium-low and most positive impacts as high (Table 7-11). As already mentioned, social impacts are complex and multi-facet, making rating of these impacts difficult.

Even after mitigation measures have been applied, some high negative impacts are still perceived as medium, as the perception of the community regarding the mine and the authorities to deal with their issues affectively are negative. Furthermore, stakeholders who are directly affected by the proposed mine perceptions are not favourable. The mine would have to strictly adhere to the proposed mitigation measures as well as proactive measures and management of issues in order to ensure social aspects of the mine could be brought to low, which is not impossible. Continuous consultation with the community and landowners are vital, as well as with the local municipalities to resolve issues optimally.

If approved, the Dunbar Coal Mine will need to maintain relationships with the community and surrounding landowners during the construction and operational phase. This is not always an easy task, due to possible mistrust and division in the community, which could make it incredibly hard to engage with them. However, if good relationships are not maintained, it may come at a great cost to the mine later on.

Many of the issues faced by the community have historic roots and include the failure of government to fulfil their mandate in terms of services and the current dire socio-economic conditions in South Africa. Therefore cumulative impacts are high for the secondary study area, where the proposed Dunbar Coal Mine could be responsible for either alleviating some of these issues or exacerbate them. The SLP should be used as a tool in order to alleviate current social and economic issues within the primary study area.

The environmental and health impact of coal is undeniable, and some negative impacts of coal mines can be seen in surrounding areas where rehabilitation and mine closure have not taken place. However, without the mine the socio-economic conditions for many residents impacted on by poverty in the local community could deteriorate further.

## 14 REFERENCES

Community Survey 2016: Statistics South Africa (2016) South African Community Survey 2016. Indicators derived from the full population Community Survey. <https://wazimap.co.za/profiles/municipality-MP313-steve-tshwete/#citations>

Census 2011: Statistics South Africa (2011) South African Population Census 2011. Indicators derived from the full population Census <https://wazimap.co.za/profiles/municipality-MP313-steve-tshwete/#citations>

Department of Mineral Resources (DMR). (2018). South African Mining Charter. Retrieved on 1 October 2018 [http://www.dmr.gov.za/Portals/0/Resources/41934\\_27-9\\_MineralResources.pdf?ver=2018-09-27-162529-560](http://www.dmr.gov.za/Portals/0/Resources/41934_27-9_MineralResources.pdf?ver=2018-09-27-162529-560)

Department of Rural Development and Land Reform. (2009). Comprehensive Rural Development Framework Programme. Retrieved from [http://www.ruraldevelopment.gov.za/phocadownload/Documents/crdp\\_version1-28july09.pdf](http://www.ruraldevelopment.gov.za/phocadownload/Documents/crdp_version1-28july09.pdf)

IFC. (2002). Mining and development It's not over when it's over. Retrieved from <http://siteresources.worldbank.org/INTOGMC/Resources/notoverwhenover.pdf>

IFC. (2012). Guidance Note 5: land acquisition and involuntary resettlement. Retrieved from [https://www.ifc.org/wps/wcm/connect/4b976700498008d3a417f6336b93d75f/Updated\\_GN5-2012.pdf?MOD=AJPERES](https://www.ifc.org/wps/wcm/connect/4b976700498008d3a417f6336b93d75f/Updated_GN5-2012.pdf?MOD=AJPERES)

International Association for Impact Assessment. 2003. Social Impact Assessment: International Principles. Special Publication Series no.2. IAIA; Fargo.

- 
- National Planning Commission. (2011). The National Development Plan: Vision for 2030. Retrieved from <http://www.npconline.co.za/medialib/downloads/home/NPC%20National%20Development%20Plan%20Vision%202030%20-lo-res.pdf>
- Nkangala District Municipality. (2017). Nkangala District Municipality Final Integrated Development Plan 2017/2018-2021/2022. Available from: <http://www.nkangaladm.gov.za/download/final-201718-202122-idp/>.
- Nurizon Consulting. (2019). Draft Mining Works Programme for the proposed Dunbar Coal Mine.
- South Africa 1995. Development Facilitation Act, 1995 (Act No. 67 of 1995).
- South Africa 1996. The Constitution of the Republic of South Africa, 1996 (No. 108 of 1996).
- South Africa 1998. Local Government Municipal Structures Act, 1998 (Act No.117 of 1998).
- South Africa 1998. National Environmental Management Act, 1998 (Act No. 107 of 1998).
- South Africa 2000. Local Government: Municipal Systems Act, 2000 (Act No. 32 of 2000).
- South Africa 2002. Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002).
- Statistics South Africa. (2001). *Statistics by place: Lesedi*. [http://www.statssa.gov.za/?page\\_id=993&id=lesedi-municipality](http://www.statssa.gov.za/?page_id=993&id=lesedi-municipality)
- Steve Tshwete Local Municipality. (2018). Integrated Development Plan 2019/2019 for the 2017-2022 cycle.
- Driver Behaviour. (2019). *Draft Social and Labour Plan for the proposed Dunbar Coal Mine project*.
- United Nations Environment Programme. (2005). Mining for closure: policies and guidelines for sustainable mining practice and closure of mines. ISBN: 82-7701-037-0
- Vanclay, F., Esteves, A.M., Aucamp, I. & Franks, D. (2015). Social Impact Assessment: Guidance for assessing and managing the social impacts of projects. Fargo ND: International Association for Impact Assessment
- Williams, A. (2011). The Impact of Surface Coal Mining on Residential Property Values: A Hedonic Price Analysis. Retrieved from [http://trace.tennessee.edu/cgi/viewcontent.cgi?article=2443&context=utk\\_chanhonoproj](http://trace.tennessee.edu/cgi/viewcontent.cgi?article=2443&context=utk_chanhonoproj)

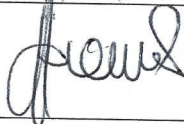
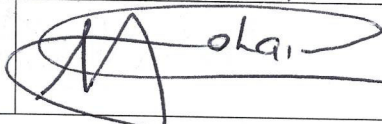


## **APPENDIX A: STAKEHOLDER ENGAGEMENT**

### SIA Consultation Details

**Project:** Proposed Dunbar Coal Project on a Portion of Portion 1, Portion 2 and the remaining extent of the Farm Dunbar 189 IS, Portion 1 of the Farm Middelkraal 50 IS and Portion 6 of the Farm Halfgewonnen 190 IS, Mpumalanga Province

**DMR Reference:** MP30/5/1/1/2/10237MR

	EAP Details	I&AP Details
<b>Name and Surname</b>	Wilco Niemandt	Mphahle S.K
<b>Company or Designation</b>	Driver Behaviour HR Consultants (PTY) Ltd ProPark Offices 1A Tzaneen 0850 Email: driverbehaviour@gmail.com Cell: 071 866 9590 Fax: 086 243 8078	Steve Tshwete Local Municipality
<b>Date of consultation</b>	16/9/2019	16/09/2019
<b>Signature of representative</b>		

**Comments from above I&AP:**

---

---

---

---

---

---

---

---

---

---

### SIA Consultation Details

**Project:** Proposed Dunbar Coal Project on a Portion of Portion 1, Portion 2 and the remaining extent of the Farm Dunbar 189 IS, Portion 1 of the Farm Middelkraal 50 IS and Portion 6 of the Farm Halfgewonnen 190 IS, Mpumalanga Province

**DMR Reference:** MP30/5/1/1/2/10237MR

	EAP Details	I&AP Details
<b>Name and Surname</b>	Wilco Niemandt	<i>Khehla Mazibuto</i>
<b>Company or Designation</b>	Driver Behaviour HR Consultants (PTY) Ltd ProPark Offices 1A Tzaneen 0850 Email: <a href="mailto:driverbehaviour@gmail.com">driverbehaviour@gmail.com</a> Cell: 071 866 9590 Fax: 086 243 8078	
<b>Date of consultation</b>	<i>16 19 2019</i>	<i>16<sup>th</sup> September 2019</i>
<b>Signature of representative</b>	<i>[Signature]</i>	<i>[Signature]</i>

**Comments from above I&AP:**

---

---

---

---

---

---

---

---

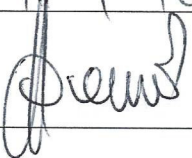
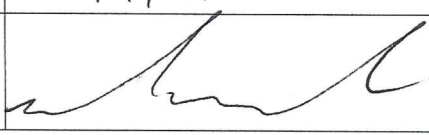
---

---

### SIA Consultation Details

**Project:** Proposed Dunbar Coal Project on a Portion of Portion 1, Portion 2 and the remaining extent of the Farm Dunbar 189 IS, Portion 1 of the Farm Middelkraal 50 IS and Portion 6 of the Farm Halfgewonnen 190 IS, Mpumalanga Province

**DMR Reference:** MP30/5/1/1/2/10237MR

	EAP Details	I&AP Details
<b>Name and Surname</b>	Wilco Niemandt	WA de Klerk
<b>Company or Designation</b>	Driver Behaviour HR Consultants (PTY) Ltd ProPark Offices 1A Tzaneen 0850 Email: <a href="mailto:driverbehaviour@gmail.com">driverbehaviour@gmail.com</a> Cell: 071 866 9590 Fax: 086 243 8078	W.A. de Klerk Familie Trust
<b>Date of consultation</b>	17/9/2019	17/9/19
<b>Signature of representative</b>		

**Comments from above I&AP:**

---

---

---

---

---

---

---

---

---

---

### SIA Consultation Details

**Project:** Proposed Dunbar Coal Project on a Portion of Portion 1, Portion 2 and the remaining extent of the Farm Dunbar 189 IS, Portion 1 of the Farm Middelkraal 50 IS and Portion 6 of the Farm Halfgewonnen 190 IS, Mpumalanga Province

**DMR Reference:** MP30/5/1/1/2/10237MR

	EAP Details	I&AP Details
<b>Name and Surname</b>	Wilco Niemandt	<i>Anton Pelsaer</i>
<b>Company or Designation</b>	Driver Behaviour HR Consultants (PTY) Ltd ProPark Offices 1A Tzaneen 0850 Email: <a href="mailto:driverbehaviour@gmail.com">driverbehaviour@gmail.com</a> Cell: 071 866 9590 Fax: 086 243 8078	<i>ASTRO CONSULTANTS</i>  <i>Anton Pelsaer</i> <i>EBERDONS TRUST</i>
<b>Date of consultation</b>	<i>17/09/2019</i>	<i>17/09/2019</i>
<b>Signature of representative</b>	<i>[Signature]</i>	<i>[Signature]</i>

**Comments from above I&AP:**

---

---

---

---

---

---

---

---

---

---

### SIA Consultation Details

**Project:** Proposed Dunbar Coal Project on a Portion of Portion 1, Portion 2 and the remaining extent of the Farm Dunbar 189 IS, Portion 1 of the Farm Middelkraal 50 IS and Portion 6 of the Farm Halfgewonnen 190 IS, Mpumalanga Province

**DMR Reference:** MP30/5/1/1/2/10237MR

	EAP Details	I&AP Details
<b>Name and Surname</b>	Wilco Niemandt	PK Berman
<b>Company or Designation</b>	Driver Behaviour HR Consultants (PTY) Ltd ProPark Offices 1A Tzaneen 0850 Email: <a href="mailto:driverbehaviour@gmail.com">driverbehaviour@gmail.com</a> Cell: 071 866 9590 Fax: 086 243 8078	
<b>Date of consultation</b>	17/9/2019	17/9/2019
<b>Signature of representative</b>		

**Comments from above I&AP:**

Attached business Card

---

---

---

---

---

---

---

---

---

---

**SOCIO-ECONOMIC IMPACT ASSESSMENT –  
PROPOSED DUNBAR COAL MINE**

**VANDABYTE (PTY) LTD** through **ENVIRO INSIGHT**, requested **Driver Behaviour HR Consultants (PTY) Ltd** to perform a Socio-economic Impact Assessment for the proposed **DUNBAR COAL PROJECT** situated on a Portion of Portion 1, Portion 2 and the remaining extent of the Farm Dunbar 189 IS, Portion 1 of the Farm Middelkraal 50 IS and Portion 6 of the Farm Halfgewonnen 190 IS located in Mpumalanga Province. **DMR REF: MP 30/5/1/12/2/ 10237MR.**

This survey seeks to explore socio-economic features of this project, the area and the opinions of people, with the aim to identify potential socio-economic impacts.

Your valuable contribution to supply information regarding the labour force working and staying on your land will help to assess the potential socio-economic impacts and to develop mitigation measures. You need only answer questions applicable to you or within your knowledge. The information is confidential and will only be used for the purposes of the EIA process and will not be distributed to the public.

Thank you in advance for your time, effort and contribution.

<b>Name of Respondent</b>		WA de Klark Familie Trust			
<b>Contact Details</b>		<b>Telephone</b>	082 413 3820		
		<b>Email</b>	wagondeklark@hotmail.com		
<b>Address of Respondent</b>		<b>Physical</b>	Drie fontein Farm Hendrina 1095		
		<b>Postal</b>	PO Box 393 Hendrina 1095		
<b>Age</b>		<b>Gender</b>		<b>Ethnic group</b>	

**Start of Questionnaire:**

1. What is your main occupation or objective of business/ farming?

Maize  
Soybeans  
Cattle

**SOCIO-ECONOMIC IMPACT ASSESSMENT –  
PROPOSED DUNBAR COAL MINE**

2. Please assist with the information regarding yourself or the workers in your business or on your farm. Please tick the option best suitable according to your knowledge.

Population group:

Population group	Number	Male	Female
Black African			
Whites			
Coloureds			
Asians			
Other			

N/A

Who forms the leadership in the community (name the person if possible)

Chief of Village	
Ward Councillor	
Community Forum	
Other (specify)	

N/A

What Language does the Respondent:

Speak	Afr, Eng
Read	Afr, Eng
Write	Afr, Eng
Understand	Afr, Eng

Age and Gender Distribution:

AGE GROUP	MALE	FEMALE	TOTAL
80 +			
70 – 79			
60 – 69			
50 – 59			
40 – 49			
30 – 39			
18 – 29			
0 – 17			

N/A

What are the conditions of the roads in your area/ community?

Tarred main road	
Tarred secondary road	✓
Gravel road	
Dirt road	✓
Other	

*Handwritten signature*



**SOCIO-ECONOMIC IMPACT ASSESSMENT –  
PROPOSED DUNBAR COAL MINE**

Household Composition:

Type of dwelling	Number of people
Brick structured	
Block of apartments / hostel	
Informal dwelling / shack	
Caravan / tent	
Other	

N/A

Home Language:

Language	Number of people
Afrikaans	
English	
IsiXhosa	
IsiZulu	
Sesotho	
Sepedi	
Setswana	
Xitsonga	
Sign language	
Other	

N/A

Education and skills level:

Education level	Number of people
Below grade 7	
Between grade 7 and grade 11	
Grade 12	
National diploma	
Degree based	
Learnership	
Other	

N/A

Household Monthly Income:

Monthly Income	Number of people
Workless	
R 0 – R 2 000	
R 2 001 – R 5 000	
R 5 001 – R 8 000	
R 8 001 – R 10 000	
R 10 001 – R 15 000	
R 15 001 – R 25 000	
R 35 001 – R 50 000	
OVER R 50 000	

N/A

**SOCIO-ECONOMIC IMPACT ASSESSMENT –  
PROPOSED DUNBAR COAL MINE**

Household Economy Contribution:

Type of sector	Employed	Unemployed
Formal Sector		
Informal Sector		
Male		
Female		

N/A

Do you have water, sanitation, refuse disposal and energy?

Item	Sub item	YES / NO
Water	Municipal service provider	
	Borehole	
	Dam or river	
	Rainwater tank	
	Other	
Sanitation	Flush toilet	
	Pit latrine	
	Chemical toilet	
	Other	
Refuse disposal	Municipal service provider	
	Communal Dumping pit	
	Other	
Energy	Municipal service provider	
	Generator	
	Traditional fire-making methods	
	Other	

N/A

Transport:

Type of transport	YES / NO
Own vehicle	
Traditional cart (horse or donkey)	
Two-wheel bicycle	
Public transport	
None	
Other	

N/A

3. How will you / your workers on the relevant property/ or properties for the proposed coal mine, be affected in terms of work, residence, general way of life?

If Vandabyte wants to purchase the farm, I will lose many years of future production of maize and soy bean. As well as grazing ~~at~~ for my cattle. It will affect the company's economy of scale

**SOCIO-ECONOMIC IMPACT ASSESSMENT –  
PROPOSED DUNBAR COAL MINE**

4. What community-based program would you like to see implemented that would benefit the community in the region?

[Empty response box]

W/A

5. Is there any cultural or aesthetic value to the landscape where the proposed coal mine is located?

In aesthetic context it will definateley negatively influence the area. It will also hold a health risk because of the dust, and the blasting practices.

6. What is the general feeling of the proposed coal mine in the area?

As a farmer I am apposed to mining activitres, because it is aesthetically negative to the area, and it negatively influences our underground as well as surface water. It also reduces productive agricultural land.

General or additional comments:

[Empty response box]

- This is the end of this questionnaire. Thank you for your valuable input -

*[Handwritten signature]*