




# DIGBY WELLS

## ENVIRONMENTAL

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## Environmental Impact Assessment for the proposed Palmietkuilen Mining Project, near Springs, Gauteng

## Social Impact Assessment Report

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**Project Number:**

CNC4065

**Prepared for:**

Canyon Resources (Pty) Ltd

December 2016

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## DECLARATION OF INDEPENDANCE

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I, Jurie Erwee as duly authorised representative of Digby Wells and Associates (South Africa) (Pty) Ltd., hereby confirm my independence (as well as that of Digby Wells and Associates (South Africa) (Pty) Ltd.) and declare that neither I nor Digby Wells and Associates (South Africa) (Pty) Ltd. have any interest, be it business, financial, personal or other, in any proposed activity, application or appeal in respect of Anglo Operations Limited and Canyon Resources (Pty) Ltd, other than fair remuneration for work performed, specifically in connection with the Social Impact Assessment for the Mining Right Application and Environmental Authorisation of the proposed Palmietkuilen Mine, located near Springs, Gauteng Province.

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## EXECUTIVE SUMMARY

Anglo Operations Limited (hereinafter AOL) is proposing the development of a greenfields coal mine and associated infrastructure on a site approximately four kilometres (km) east of Springs, within Gauteng Province (i.e. the Project). AOL currently holds a prospecting right (30/5/1/1/2 (201/10026) PR) for the proposed Project site, which comprise Portions 1, 2, 4, 9, 13 and 19 of the Palmietkuilen 241 IR property.

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 application process for the project will be managed by Pandospan (Pty) Ltd. (hereinafter Pandospan), a subsidiary of Canyon Resources (Pty) Ltd. (hereinafter Canyon Coal), who will also construct and operate the Project if the MRA is successful. Digby Wells and Associates (South Africa) (Pty) Ltd. (hereinafter Digby Wells) has been appointed by Canyon Coal as the EAP to complete the EIA. This report is the outcome of a Social Impact Assessment (SIA), which is one of several specialist assessments that were undertaken as part of the EIA. The aims of the SIA, as stated in the Terms of Reference issued for this assessment, are to:

- Describe the baseline socio-economic characteristics of the proposed Project site and surrounding area;
- Identify, describe and assess the expected significance of potential socio-economic impacts that may arise as a result of the proposed Project activities;
- Recommend appropriate mitigation measures and management actions to avoid or minimise potential negative impacts, and to enhance the positive impacts associated with the proposed Project; and
- Compile a social management and monitoring framework that defines steps for implementing recommended mitigation and enhancement measures.

### Methodology

The following activities were undertaken as part of the SIA:

- Defining the study areas for the assessment;
- Data collection, including a desktop review, investigative site visit, interviews with key informants, socio-economic household survey and a review of information from other specialist studies;



- Compilation of a socio-economic baseline profile which describes the defined study areas in terms 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 reported;
- Assessment of impacts (including impacts of various project alternatives and cumulative impacts) on the basis of issues identified through the public participation process, existing socio-economic conditions, interviews with key informants, and specialist opinion. Identified impacts were categorised in terms of the Project phase in which the impact is most likely to originate, namely the construction, operational or decommissioning phase;
- Rating of impacts 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.

### **Baseline Socio-Economic Profile**

The table below provides a summary of the baseline profile of the study area in which the proposed Project is to be situated; it highlights features and trends within the respective study areas that might have relevance for Canyon Coal in terms of possible opportunities/ benefits and constraints/ challenges.



### Summary of Socio-Economic Baseline Profile

Socio-economic attribute	Supporting data	Relevance to the project
<b>Opportunities and benefits</b>		
Metropolitan and regional development plans are in place	Municipal Integrated Development Plans (IDP), Local Economic Development (LED) plans, and Spatial Development Frameworks (SDF) are readily available	Opportunity for Canyon Coal to align socio-economic development programmes contained in future Social and Labour Plans (SLP) with existing development plans; this will increase sustainability and relevance of initiatives.
The Regional SDF identifies mining and agriculture as key, albeit conflicting, development sectors	Municipal IDPs, and LED plans	Proposed development is line with certain government development plans, however, envisage Mining will conflict with Agricultural development planning
Large potential labour force	The youth comprises the largest age cohort in the municipal area; high unemployment, especially among rural households; most people have a relatively high skill level	Canyon Coal and appointed contractors can likely meet local recruitment targets, especially for semi-unskilled positions.
Gender disparity in employment rates – financial vulnerability among females	Statistics South Africa (StatsSA) (2011 and 2016) - Unemployment amongst females is significantly higher than males at various municipal levels (i.e. City of Tshwane Metropolitan Municipality/CTMM and Ward level). Furthermore, when women do generate income, it is likely to be through the informal sector and of a survivalist nature.	Canyon Coal could contribute to gender equity by implementing female employment targets – this requirement, if feasible, could be formalised by incorporating it into the construction contractor's conditions of contract.
General backlog of housing, and water and sanitation among rural populations	Stats 2013 and IDP: - Rural households within the local study area mostly rely on community standpipes and pit toilets; and - Considerable housing backlogs.	Provides opportunities to continue contribution to infrastructure development as part of LED programme.
<b>Constraints or challenges</b>		
Agricultural land	CTMM SDF 2011-2016; Regional SDF, 2011-2016; LLM IDP	Various Parcels of land in which the site falls is zoned for agriculture, and should be rezoned
Population influx	Field investigation and Municipal planning documentation - Establishment and growth of several informal settlements is evident in surrounding townships	Project-induced population influx will add to existing influx, placing increased pressure on available local resources, services and facilities; and Although this indicates a relatively large available labour force, it might complicate local recruitment, as migrants will be perceived as outsiders.

Socio-economic attribute	Supporting data	Relevance to the project
The land area which will be mined is currently occupied by a relatively large number of households and is also extensively used for commercial agricultural purposes	Field investigations and spatial imagery	Canyon Coal should consider that the physical and economic displacement of several vulnerable households would require a Resettlement Action Plan (RAP), which will have substantial time and cost implication for the project.
The most dominant land use surrounding the proposed mining right area is agricultural activities, including multiple Commercial Poultry Farming operations	Field investigations and spatial imagery	Agricultural and Poultry Farming activities may potentially be directly affected by the proposed project, this would likely result in some stakeholder issues which could impact on the progress of the mining right application.
Negative sentiment towards mining among stakeholders	Field investigations	If such attitudes prevail it could delay the mining right application.



## **Predicted Impacts and Recommended Mitigation Measures**

The anticipated social impacts of the proposed Project and their pre and post mitigation significance ratings are summarised in the table below.





Summary of Impacts, Impact Ratings and Recommended Mitigation Measures

Code	Impact	Pre-mitigation:						Recommended mitigation	Post-mitigation:					
		Duration	Extent	Intensity	Consequence	Probability	Significance		Duration	Extent	Intensity	Consequence	Probability	Significance
EmpConstr	Employment creation during construction	Short term	Regional	Moderate - positive	Slightly beneficial	Probable	Minor - positive	<ul style="list-style-type: none"> <li>- Assign preferred employment status to those experiencing the bulk of the negative project impacts (communities located within and surrounding the Project footprint e.g. Palmietkuilen Community, Vischkuil, Endicot, Welgedach, Slovo Park, Aston Lake, Prosperity);</li> <li>- Promotion of local, female and youth employment to achieve and where feasible exceed the targets set out by the Mining Charter;</li> <li>- Where possible labour-intensive construction methods should be promoted;</li> <li>- Verification of local residential status through consultation with appropriate authorities (e.g. municipal structures, community leaders, and landowners)</li> <li>- Consult neighbouring businesses/mines to determine if they would be willing to make their skills registers available;</li> <li>- Identify required core skills, expand skills audits to community and align and implement training and skills development initiatives to findings of audit;</li> <li>- Expand skills development programmes, especially ABET programmes, to include surrounding communities;</li> <li>- Recruitment via a registry of job seekers and potentially coordinated through the DoL;</li> <li>- Provide local employees with reference letters certificates of completion for in-house (on-the-job) training; and</li> <li>- Monitor subcontractors in terms of local employment targets.</li> </ul>	Short term	Regional	Very high - positive	Moderately beneficial	Certain	Moderate - positive
MutiEcon	Multiplier effects on the local economy	Project Life	Regional	Moderate - positive	Moderately beneficial	Probable	Minor - positive	<ul style="list-style-type: none"> <li>As for maximising employment benefits. Also:</li> <li>- Give preference first to capable local service providers;</li> <li>- Develop local service provision capacity;</li> <li>- Monitoring of sub-contractors procurement;</li> <li>- Development of a register of local SMMEs;</li> <li>- Linkages with skills development/ SMME development institutions and other mining operations;</li> <li>- SMME skills development as part of mine SLP/LED commitments; and</li> <li>- Local procurement targets should be formalised in Canyon Coal's procurement policy.</li> </ul>	Project Life	Regional	Very high - positive	Highly beneficial	Highly probable	Moderate - positive
Com_Dev	Community development and social upliftment	Project Life	Local	Moderate - positive	Moderately beneficial	Probable	Minor - positive	<ul style="list-style-type: none"> <li>- Liaison with beneficiaries to ensure needs are met;</li> <li>- Collaboration with other developmental role players during implementation;</li> <li>- Expanding skills development and capacity building programmes to non-employees;</li> <li>- Establish external monitoring system to regulate HDSA procurement;</li> <li>- Where feasible, training should be NQF accredited; and</li> <li>- A record of training courses completed per individual should be kept</li> </ul>	Beyond project life	Local	High - positive	Highly beneficial	Highly probable	Moderate - positive
Disp	Displacement related impacts	Permanent	Limited	Extremely high - negative	Highly detrimental	Certain	Major - negative	<ul style="list-style-type: none"> <li>Canyon Coal should where possible endeavour to minimise the extent of, displacement through project design, where displacement cannot be minimised the following measures are recommended to alleviate the adverse impacts:</li> <li>-Canyon Coal should finalise the Project layout plan and determine its policy and approach to displacement, as this would inform the extent of resettlement, i.e. whether it will recognise both direct and indirect forms of displacement as well as whether they will strive towards international best practice or local standards;</li> <li>-The sales agreement of land should reflect the holistic value (determined by a professional valuator) of the land and should also be inclusive of the potential relocation cost of commercial farms and/or business operations;</li> <li>-The displacement of non-vulnerable households and individuals should be considered on a case-by-case basis;</li> <li>-Areas impacted upon during construction should be rehabilitated upon completion of the construction activities to ensure that the land is returned in the same condition;</li> <li>-Prior to finalising the sales agreement of land, it should be clear who will assume responsibility for the resettlement of vulnerable households, especially households comprising the community residing on Palmietkuilen 124 IS Ptn 2;</li> <li>-If Canyon Coal assumes responsibility for displaced households, due process should be followed when these households are relocated. It is recommended that the process be aligned to IFC PS 5 and that a Resettlement Action Plan be developed; and</li> <li>-Consider including employees and other impacted businesses in the aforementioned process.</li> </ul>	Permanent	Limited	Very high - negative	Highly detrimental	Highly probable	Moderate - negative
Disrp Move	Disruption of daily movement patterns	Project Life	Local	Moderately high - negative	Moderately detrimental	Highly probable	Minor - negative	<ul style="list-style-type: none"> <li>Measures to prevent deterioration of roads suggested in Traffic Impact Assessment;</li> <li>- Regulation of traffic at intersections between the R29 and site-access roads to construction and operational site;</li> <li>- Road upgrading measures should be investigated and implemented in conjunction with the relevant government department;</li> <li>- Inform communities of planned construction activities that would affect vehicle/ pedestrian traffic; and</li> <li>- Ensure that access to key services in areas such as Springs are uninterrupted by providing alternative access routes, especially during relocation of Strijdpn Road</li> </ul>	Project Life	Local	Low - negative	Moderately detrimental	Probable	Minor - negative
Influx	Influx related impacts	Beyond project life	Local	Very high - negative	Highly detrimental	Highly probable	Moderate - negative	<ul style="list-style-type: none"> <li>-Develop an Influx management plan together with other industry role players and government;</li> <li>- Discourage influx of job-seekers by prioritising employment of unemployed members of local communities;</li> <li>- Liaise with local municipalities to ensure that expected population influx is taken into account in infrastructure development and spatial development planning;</li> <li>- Create synergies with local government IDP and other companies' SLP/CSR projects to promote infrastructure development;</li> <li>- Extensive HIV/ AIDS awareness and general health campaign;</li> <li>- Identify if recorded criminal activities involved members of the mine's workforce;</li> <li>- Clear identification of workers; prevention of loitering;</li> </ul>	Project Life	Limited	Moderate - negative	Moderately detrimental	Probable	Minor - negative



Code	Impact	Pre-mitigation:						Recommended mitigation	Post-mitigation:					
		Duration	Extent	Intensity	Consequence	Probability	Significance		Duration	Extent	Intensity	Consequence	Probability	Significance
								<ul style="list-style-type: none"> <li>- Liaison with police, community policing forum;</li> <li>- Community education; and</li> <li>- Measures to address potential conflict between locals and non-locals</li> </ul>						
H&S	Impact on community member's health and safety	Project Life	Limited	Very high - negative	Moderately detrimental	Highly probable	Moderate - negative	<ul style="list-style-type: none"> <li>- Access control to all project elements, including fencing prior to commencing construction ;</li> <li>- Notification of blasting activities;</li> <li>- Storage of blasting and hazardous materials should adhere to prescribed regulation;</li> <li>- Measures suggested minimising the impact of fly-rock on surrounding roads and structure (Blast Management and Consulting, 2016);</li> <li>- Measures suggested in the Traffic Impact Assessment to minimize traffic related accidents (Traffic Impact Assessment, 2016);</li> <li>- Road maintenance; and</li> <li>- Community education</li> </ul>	Project Life	Limited	High - negative	Moderately detrimental	Unlikely	Minor - negative
Sur_Landuse	Impact on surrounding land users	Beyond project life	Limited	Very high - negative	Highly detrimental	Highly probable	Moderate - negative	<ul style="list-style-type: none"> <li>- Refer to recommendations of specialist studies (see Visual Impact Assessment, Surface-and Ground Water Impact Assessment, Noise Impact Assessment, Air Quality Impact Assessment, Blasting and Vibration Impact Assessment and Traffic Impact Assessment);</li> <li>- Optimise mine plan/infrastructure placement to avoid/minimise negative impacts, especially in terms of visual intrusion, displacement, air quality and disruptions of traffic;</li> <li>- Undertake continuous information sharing and consultation with adjacent/affected farm owners; and</li> <li>- Implement communication mechanisms to report changes in water quality/quantity, air quality or vibrations</li> </ul>	Beyond project life	Limited	Moderately high - negative	Moderately detrimental	Probable	Minor - negative
Opposition	Opposition because of perceived negative impacts	Beyond project life	Local	High - negative	Highly detrimental	Probable	Minor - negative	<ul style="list-style-type: none"> <li>- Communicate commitments regarding LED;</li> <li>- Transparency regarding employment practices;</li> <li>- Presentation of EIA findings in clear and understandable manner;</li> <li>- Monitor community attitudes to anticipate/prevent active opposition;</li> <li>- Establish a community forum which meets quarterly; and</li> <li>- Appointment of a CLO to enhance communication</li> </ul>	Beyond project life	Local	Low - negative	Moderately detrimental	Unlikely	Negligible - negative
EmpOpertn	Employment creation during operation	Project Life	Regional	Low - positive	Moderately beneficial	Likely	Minor - positive	<ul style="list-style-type: none"> <li>- Measures to enhance local employment during construction ( see measures to enhance employment during construction);</li> <li>- Provide focused training to construction phase employees from the host communities to increase their chances for employment during the operations;</li> <li>- Measures recommended to maximise benefits from local employment, and economic multiplier effects; and</li> <li>- 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.</li> </ul>	Project Life	Regional	Very high - positive	Highly beneficial	Highly probable	Moderate - positive
EconDev	Stimulation and growth of the local and regional economies	Project Life	Regional	Moderate - positive	Moderately beneficial	Probable	Minor - positive	<ul style="list-style-type: none"> <li>- Measures recommended to maximise benefits from local employment, economic multiplier effects, as well as community, economic and skills development;</li> <li>- Procure from local HDSA suppliers throughout the life of the mine; and</li> <li>- Establish a monitoring system to ensure that the mine and its contractors comply with government regulations</li> </ul>	Beyond project life	Regional	Moderately high - positive	Highly beneficial	Highly probable	Moderate - positive
Dependency	Dependency on mine for sustaining local economy	Long term	Local	Very high - negative	Moderately detrimental	Certain	Moderate - negative	<ul style="list-style-type: none"> <li>- Develop alternative and sustainable livelihoods;</li> <li>- Collaborate with other industries to support the diversification of the local economy;</li> <li>- The Mine's SLP should provide strategies and measures that prevent job loss;</li> <li>- Alternatives to save jobs/avoid downscaling should be investigated beforehand;</li> <li>- Develop a Mine Closure Plan;</li> <li>- Proactively assess and manage the social and economic impacts on individuals, regions and economies where retrenchment and/or closure of the mine are certain; and</li> <li>- Partner with the relevant government departments, to jointly manage Closure process</li> </ul>	Medium term	Local	Moderately high - negative	Moderately detrimental	Likely	Minor - negative



## Assessment of Alternatives

Two types of project alternatives were considered, including alternatives *to* the Project (in terms of the “no-go” option which explores alternative uses of the Project area in the event that the Project is not implemented); and alternatives *involving* the Project (e.g. infrastructure layout and process alternatives). The most pertinent project alternative is the no-go alternative. The approach adopted in the assessment of impacts in this study entailed a comparison between anticipated future socio-economic conditions, with and without the Project. Hence the no-go alternative would essentially imply that none of the impacts (negative and positive) described in the preceding table would materialise, and that socio-economic conditions in the study area would continue to display their current characteristics and trends.

In terms of alternative land use options, if not used for mining (the no-go option), possible alternative land uses include commercial agriculture combined with low-density residential uses (current land use). With regards to agriculture, the soils and land use impact assessment has found that the project site is situated on prime agricultural land. Due to the developed agricultural land, the possibility of using the proposed project site for residential purposes is unlikely. However, it should be considered that due to steady population growth and existing housing demand, the viability and desirability of using the proposed project site for residential purposes is increasing. Mining appears to be the most viable and appropriate land use option from a social perspective, as it will result in considerably more economic growth and socio-economic development than either residential use and/or commercial agriculture.

The consideration of Mine infrastructure alternatives established that the two options for transporting coal to the rail siding, which includes moving the coal via a conveyor or haul trucks, are almost equally undesirable from a social perspective and will not result in significantly different impacts, as both alignments are uninhabited and are expected to have similar visual intrusion, property fragmentation and displacement impacts.

## Conclusions and Recommendations

The results of the study indicate that the recommended mitigation measures are expected to reduce the significance of negative impacts to lower levels, while positive impacts will on average be significantly enhanced to maximise benefits to surrounding land users and communities, as well as offset some negative impacts. Consequently it is recommended from a social perspective that the proposed Project proceed. This recommendation is based on the following conditions (a.) mitigation measures outlined in this report will be given effect through the social management plan outlined in (b.) measures to monitor and assess implementation of these mitigation measures and to take corrective action where necessary (as is outlined in the social monitoring plan) will be implemented; and (c.) impacts pertaining to other specialist disciplines that could have indirect socio-economic repercussions (e.g.



impacts on groundwater, air quality, health etc.) will be effectively addressed as per the mitigation measures recommended in those specialist reports.

The main conclusion arising from the assessment of cumulative impacts is that the most significant cumulative impacts are expected to arise because of the combined effects of the proposed project and other, existing and planned open-pit coal mining operations in the area. These cumulative impacts relate to the large-scale rather than site-specific impacts associated with other industrial projects and surrounding coal mines – namely the tendency to trigger human influx into an area, which can have significant impacts on services.

The study also indicates that the establishment of linkages between Canyon Coal and other institutions (e.g. government, non-governmental organisations (NGOs) and other existing or planned coal mines) involved in local and regional economic development (LED) and social upliftment will serve to maximise the benefits of the Project's contribution to the welfare of local communities. Throughout the SIA process, the specialist identified a number of risks that warrant particular attention and close monitoring and management by the Project when implementing the proposed project. These risks include:

- Community expectations regarding employment and socio-economic development;
- Physical and economic displacement as a result of land acquisition; and



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## LIST OF ACRONYMS AND ABBREVIATIONS

ABET	Adult Basic Education and Training
AOL	Anglo Operations Limited
AsgiSA	Accelerated and Shared Growth Initiative for South Africa
BBBEE	Broad-based Black economic empowerment
BEE	Black Economic Empowerment
Canyon Coal	Canyon Resources (Pty) Ltd (Canyon Coal)
CBD	Central Business District
CDP	Community Development Plan
CHPP	Coal Handling and Preparation Plant
CHSSP	Community Health Safety and Safety Security Plan
CLO	Community Liaison Officer
CRDP	Comprehensive Sustainable Rural Development Programme
CSI	Corporate Social Investment
CSR	Corporate Social Responsibility
DEA	Department of Environmental Affairs
Digby Wells	Digby Wells and Associates (South Africa) (Pty) Ltd.
DM	District Municipality
DMR	Department of Mineral Resources
DoL	Department of Labour
DRC	Democratic Republic of Congo
EAP	Environmental Assessment Practitioner
EIA	Environmental Impact Assessment
EMM	Ekurhuleni Metropolitan Municipality
EMP	Environmental Management Programme
ESD	Enterprise and Supplier Development Department
Eskom	Eskom (Pty) Ltd
ESTA	Extension of Security of Tenure Act
FTE	Full-time equivalent employment
GDP	Gross Domestic Product
GSDF	Gauteng Spatial Development Framework



GVA	Gross Value Added
Ha	Hectare
HDSA	Historically Disadvantaged South Africans
HIV/AIDS	Human Immunodeficiency Virus/ Acquired Immune Deficiency Syndrome
HMV	Heavy Motor Vehicles
HR	Human Resources
HRD	Human Resources Development
HRDP	Human Resources Development Programme
I&APs	Interested and Affected Parties
IDP	Integrated Development Plan
IFC	International Finance Corporation
Km	Kilometre
km <sup>2</sup>	Square Kilometre
LED	Local Economic Development
LLM	Lesedi Local Municipality
LM	Local Municipality
LoM	Life of Mine
m	Meter
M&E	Monitoring and Evaluation
MHSA	Mine Health and Safety Act
Mm	Millimetre
MPRDA	Mineral and Petroleum Resources Development Act
MQA	Mining Qualification Authority
MRA	Mining Right Application
MWP	Mining Works Programme
NCD	Non-communicable diseases
NDP	National Development Plan
NEMA	National Environmental Management Act
New Growth Path	New Economic Growth Path Framework
NGOs	Non-governmental Organisation
NSDP	National Spatial Development Plan
Pandospan	Pandospan (Pty) Ltd



PCD	Pollution Control Dam
PGDS	Provincial Growth and Development Strategy
PPE	Personal Protective Equipment
PPP	Public Participation Process
PR	Prospecting right
PS	Performance Standards
Ptn	Portion
RAP	Resettlement Action Plan
RE	Remainder
RoM	Run of Mine
SA	South Africa
SDF	Spatial Development Framework
SDM	Sedibeng District Municipality
SETA	Sector Education and Training Authority
SHEQ	Social Health Environmental and Quality
SIA	Social Impact Assessment
SIPs	Strategic Integrated Projects
SLP	Social and Labour Plan
SMMEs	Small, Medium and Micro-sized Enterprises
SPLUMA	Spatial Planning and Land Use Management Act
StatsSA	Statistics South Africa
STD	Sexually Transmitted Diseases
TA	Traditional Authority
TB	Tuberculosis
ToR	Terms of Reference
VCT	Voluntary Counselling and Testing
VKLM	Victor Khanye Local Municipality

## 1 Introduction

Anglo Operations Limited (hereinafter AOL) is proposing the development of a greenfields coal mine and associated infrastructure on a site approximately four kilometres (km) east of Springs, within Gauteng Province (i.e. the Project). AOL currently holds a prospecting right (30/5/1/1/2 (201/10026) PR) for the proposed Project site, which comprise Portions 1, 2, 4, 9, 13 and 19 of the Palmietkuilen 241 IR property.

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 application process for the project will be managed by Pandospan (Pty) Ltd. (hereinafter Pandospan), a subsidiary of Canyon Resources (Pty) Ltd. (hereinafter Canyon Coal), who will construct and operate the Project if the MRA is successful. Digby Wells and Associates (South Africa) (Pty) Ltd. (hereinafter Digby Wells) has been appointed by Canyon Coal as the EAP to complete the EIA. This report is the outcome of a Social Impact Assessment (SIA), which is one of several specialist assessments that were undertaken as part of the EIA.

### 1.1 Terms of Reference

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

- Describe the baseline socio-economic characteristics of the proposed Project site and surrounding area;
- Identify, describe and assess the expected significance of potential socio-economic impacts that may arise as a result of the proposed Project activities;
- Recommend appropriate mitigation measures and management actions to avoid or minimise potential negative impacts, and to enhance the positive impacts associated with the proposed Project; and
- Compile a social management and monitoring framework that defines steps for implementing recommended mitigation and enhancement measures.

### 1.2 Structure of the Report

The remainder of this report is structured as follows:

- Section 2 describes the proposed Project and its associated activities;
- Section 3 presents background information on the social specialist who completed this assessment;

- Section 4 outlines the aims and objectives of the SIA;
- Section 5 describes the methodology used to complete the SIA;
- Section 6 lists the assumptions and limitations which are applicable to this assessment;
- Section 7 provides the policy and legal framework relevant to the SIA;
- Section 8 describes the socio-economic environment of the Project site and adjacent areas;
- Section 9 presents an assessment of Project alternatives;
- Section 10 describes how social impacts were identified, assessed and rated;
- Section 11 presents the results of the impact assessment as well as mitigation and enhancement measures recommended for significant impacts;
- Section 12 discusses the potential cumulative impacts that may arise as a result of the proposed Project;
- Section 13 identifies social risks which could influence the progress and viability of the proposed Project;
- Section 14 presents a social management and monitoring framework for the Project;
- Section 15 reports on the stakeholder engagement activities which informed the SIA;
- Section 16 presents the comments received during the public participation process relevant to the SIA; and
- Section 17 summarises the main conclusions and recommendations of the assessment.

## 2 Project Description

This chapter provides basic information pertaining to the proposed Project. The information presented is extrapolated from the Mine Works Programme (MWP) and Draft Social and Labour Plan (SLP) completed for the proposed Project (AOL, 2016; Canyon Resources, 2016).

### 2.1 Project Location

The proposed Project site is situated in the eastern extremities of Gauteng Province, with eastern border of the site running alongside the provincial boundary with Mpumalanga. Gauteng province comprises 18 176 square kilometres (km<sup>2</sup>) of land and borders Limpopo Province to the north, North-West Province to the west, Free State to the south, and Mpumalanga Province to the east (Gauteng Provincial Government, 2009). Gauteng comprises five main administrative regions, including three Metropolitan Municipalities (i.e. City of Tshwane, City of Johannesburg and Ekurhuleni) and two District Municipalities (i.e. Sedibeng and West Rand).

The Project area is situated within Sedibeng District Municipality (SDM), which comprise three local municipalities (LMs); Midvaal, Emfuleni and Lesedi. The MRA is located entirely within Ward 12 of Lesedi Local Municipality (LLM) and directly borders Ward 7 of the Victor Khanye LM (VKLM), located in the Nkangala District Municipality (Mpumalanga Province) and Ward 75 and 76 of the Ekurhuleni Metropolitan Municipality (EMM). Human settlements closest to the site include Aston Lake (800m west) and Prosperity (150m north), Endicott and Vischkuil (2km south), Sundra (2.5km north), Welgedacht (3km north-west) and Springs (4km east) (Section 5.1).

### 2.2 Access to the Mining Right Area

The project site is bordered by an unnamed road to the north, which demarcates the provincial boundary between Mpumalanga and Gauteng. The R29 roadway serves as a partial southern boundary to the Mining Right Area. A network of public and private gravel roads facilitates movement within the proposed Mining Right Area, including a tar road which runs in north-south direction to connect R29 to Strijdpán. Access to the site will be from the R29 onto an unnamed gravel road heading to the north of the proposed Project site.

### 2.3 Mining Method and Mineral Processing and Product Distribution

Due to the seemingly depth of the coal reserve methods, 12 to 60 meters (m) below the surface, open pit, mining methods (i.e. bench and strip mining) will be utilised. Topsoil and subsoil will be stripped using an excavator and will be stored in separate stockpile areas within the mining area. Drilling and blasting will be employed for the hard overburden or bedrock to expose the coal seams. Once blasted, the hard overburden will be excavated and stockpiled separately for rehabilitation. A temporary discard dump containing one year's capacity will be constructed to store the discard, which will either be reworked or backfilled into the mined out area. The mined coal will be transported via haul roads and stored on the



Run of Mine (RoM) stockpile area. The coal will be fed into a crushing and washing plant with a conveyor after which the coal product will be temporarily stored at the product stockpile area before being transported to the Welgedacht rail siding for distribution or directly via truck (on the existing road network) to the relevant markets, mostly including Eskom's Coal Fired Power Stations.

## 2.4 Water and Electrical Supply

Possible water sources for Mining use include the existing Aston Lake Boerdery as well as existing or new boreholes within the Mining Right Area. 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.

The maximum power requirements for the mine will be 5 megavolt amperes. 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 generated through diesel generator sets. The feasibility of using onsite solar power generation as a backup system is also being investigated.

## 2.5 Waste Management

The proposed Project will generate slurry waste, which will be stored in the slurry dam. Solid coal discard will be temporarily stored on a discard dump before being taken back to the open pit for final disposal. A sewage treatment plant is proposed to manage sewage waste. 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 SDM.

## 2.6 Project Timing and Infrastructure Development

The Project is proposed to commence with construction when all required licences and authorisations have been granted. The construction phase of the project will take approximately 1 year to complete and will include site establishment and the construction of all infrastructure, including the development of the box cut. Operations will ramp up immediately after construction has been completed, with full operational capacity being reached after two years. The Life of Mine (LoM) is 53 years<sup>1</sup>, which includes a three year decommissioning and closure phase.

Project activities and infrastructure development planned for each project phase is summarised in Table 1 below. The proposed infrastructure layout is depicted in Figure 1.

---

<sup>1</sup> The MRA will be made for an initial period of 30 years, the maximum allowed in terms of the provisions of Section 23 of the MPRDA. At the end of this period an application for renewal of the mining right will be made for any remaining reserves.

**Table 1: Timing of Project Activities and Infrastructure Development**

<b>Project Phase (duration)</b>	<b>Activity</b>
<b>Construction</b> <i>(year 0-1)</i>	Site establishment
	Site clearing, including removal of topsoil and vegetation
	Construction of mine related infrastructure, including roads, pipes and dams
	Construction of washing plant
	Relocation of infrastructure
	Blasting and development of initial box-cut, including stock piling
	Temporary storage of hazardous products, i.e. fuel, explosives, waste, sewage
<b>Operational</b> <i>(year 1 – 44)</i>	Stripping of topsoil and soft overburden
	Removal of overburden, including drilling and blasting
	Loading, hauling and stockpiling of overburden
	Drilling and blasting
	Load, haul and stockpiling of RoM coal
	Use and maintenance of haul roads
	On-site water use and storage
	Storage, handling and treatment of hazardous products and waste
<b>Decommissioning and closure</b> <i>(year 45-53)</i>	Demolition and removal of all infrastructure
	Rehabilitation
	Environmental monitoring of decommissioning activities
	Storage, handling and treatment of hazardous products and waste
	Post-closure monitoring and rehabilitation



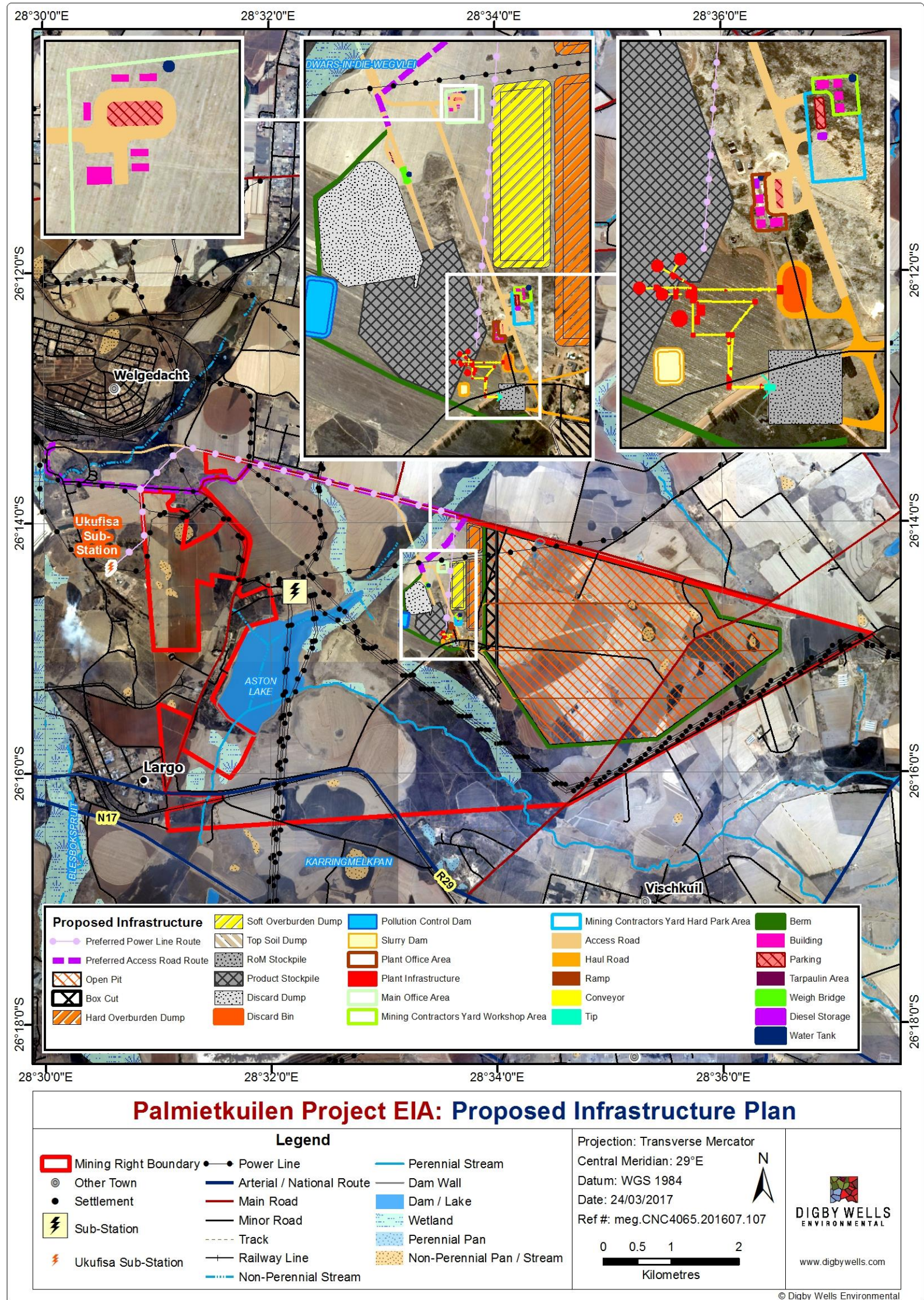


Figure 1: Proposed Infrastructure Plan



## 2.7 Project Alternatives

Two types of project alternatives are described in this section:

- Alternatives *to* the Project (in terms of the “no-go” option which explores alternative uses of the project footprint in the event that the project is not implemented); and
- Alternatives *involving* the Project (in terms of alternative mining methods, infrastructure layout and transport routes to the project site).

### 2.7.1 The “No-Go” Option and Land Use Alternatives

When considering the allocation of land for development and when deciding applications for planning permission affecting agricultural and residential land, the implications must be considered together with the environmental, cultural and socio-economic aspects. In particular, prime quality agricultural land should normally be protected against permanent development or irreversible damage, similarly land used for residential purposes often precludes mining uses.

### 2.7.2 Mining Method, Location and Infrastructure Alternatives

Within a mining context, the location of the resource determines the location of the excavation, generally the nature of the ore body or deposit determines the mining method (e.g. underground versus open-pit mining) and processes. In the case of the proposed Project the relatively shallow nature of the resource limits mining to open pit methods.

Contrastingly mining infrastructure can be shifted based on technical, environmental and financial viability. Several alternatives were considered in terms of site and infrastructure layouts and placement. During the scoping phase of the EIA these alternatives were subjected to a sensitivity analysis based on various biophysical and social sensitivities (Digby Wells, 2016j). The sensitivity analysis informed the proposed Mine layout (Figure 1).

The only alternatives still being considered are as follows:

- Utilising an overland conveyor, instead of haul trucks, to transfer the coal product from the product stockpile area to the Welgedacht siding; and
- Alternative location of project infrastructure on the Palmietkuilen 241 IR property.

The preferred alternative at this stage entails the use of opencast mining methods, transportation of the coal via trucks to the Welgedacht Siding and locating all surface infrastructure components on Portion 2 and 19 of the Palmietkuilen 241 IR property.

## 2.8 Workforce and Expenditure Forecasts

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.

## 2.8.1 Workforce

Canyon Coal is required in terms of the MPRDA to ensure that a minimum of 50% of their workforce are recruited from local labour sending areas; these areas were not yet clearly defined at the time this assessment was completed (DMR, 2016). Current indications are that at least 30% of labour will be recruited from within LLM, with the remainder being recruited elsewhere in Gauteng and South Africa (Canyon Coal, 2016). Employees in the aforementioned category will therefore not be permanent residents of the local area, and would consequently require accommodation. Canyon Coal intends to provide employees with wage packages, which will include a housing allowance that will enable them to use accommodation options in surrounding towns (Canyon Coal, 2016).

Approximately 136 employment opportunities will be created for local community members during the construction phase. The total labour complement, once the mine is fully operational, is expected to be 320 employees (Table 2). Only nine of these employees will be directly employed by Canyon Coal, of these two will be directors, one mine manager, one engineer, one financial and human resource manager, one accountant, two weighbridge operators and one Safety Health and Environmental officer, with the remainder of the workforce being contracted (AOL, 2016). Similar to Canyon Coal's permanent employees, contractors will be required to honour commitments made in the SLP and also to comply with the Mining Charter's requirement in terms of Black Economic Empowerment (BEE) (Canyon Coal, 2016).

The skills distribution of the operational workforce is also indicated in Table 2 below, which shows that all employees to be taken onto the mine's workforce must be functionally literate and numerate as a condition of employment. All those who have passed through the national school system would meet this level of education (Canyon Coal, 2016).

**Table 2: Skills distribution of required operation workforce**

Employment level	Required skills/training	Employees
Senior Management	B Degree, B Tech, Relevant Legal Certificates, Professionally Qualified and Experienced Specialists	30
Middle Management	B Degree, B Tech, Relevant Legal Certificates	20
Technical/Certificated	Technical and Academically Qualified Workers, Junior Management, Supervisors, Foreman and Superintendents	25
Operators	Minimum of Grade 12, Trade Tests, Blasting Certificates, National Certificates	104
General Workforce	Minimum of Grade 12	141
<b>Total</b>		<b>320</b>

## 2.8.2 Expenditure

The expenditure forecasts presented in this section have been adapted from the financial information provided in the MWP and Canyon Coal's SLP (AOL, 2016; Canyon Coal, 2016). Capital expenditure during the LoM will amount to R 712 million. At the time of writing the report, it was unclear which geographical areas will benefit from this expenditure (District/Metropolitan municipal areas, neighbouring provinces or beyond); however, the majority of the expenditure will be concentrated in South Africa.

The Mine's annual operational expenditure will range between R 220 and R 451 million during its first 10 years of operations (Table 3). The estimated annual wages for mine employees are presented in Table 4.

**Table 3: Operational Expenditure First 10 Years (South African Rand/ZAR '000)**

Expenditure	Year									
	1	2	3	4	5	6	7	8	9	10
Mining costs: fuel	23.6	39.2	52.3	52.3	52.3	52.3	52.3	52.3	52.3	52.3
Mining cost: electricity	1.0	1.7	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
Mining cost: stores/ materials	3.8	6.3	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4
Processing plant: fuel	8.4	14.0	18.6	18.6	18.6	18.6	18.4	18.6	18.6	18.6
Processing plant: electricity	2.5	4.1	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Processing plant: water	0.3	0.5	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Processing plant materials	2.5	4.1	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Processing plant: discard	13.8	23.0	30.7	30.7	30.7	30.7	30.7	30.7	30.7	30.7
In-house skills	33.9	56.4	75.2	75.2	75.2	75.2	75.2	75.2	75.2	75.2
Subcontractors	87.7	145.8	194.4	194.1	193.7	193.5	193.4	193.2	193.1	193.0
Service provider: transport	1.4	2.4	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2
Service provider: dust	4.5	7.4	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9
Service provider: processing	1.5	2.5	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3
Service provider - mining	2.5	4.2	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6
Other	0.4	0.7	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
Regulatory requirements	28.3	26.7	25.2	23.8	22.4	21.2	20.0	18.8	17.8	16.8
Rehabilitation costs	2.6	18.8	19.9	19.6	19.3	19.1	18.5	18.6	18.4	18.2
SLP	1.2	1.2	1.2	1.2	1.2	1.3	1.2	1.2	1.1	1.0
<b>Total</b>	<b>220</b>	<b>359</b>	<b>463</b>	<b>461</b>	<b>459</b>	<b>457</b>	<b>455</b>	<b>454</b>	<b>452</b>	<b>451</b>

**Table 4: Employment Level and Average Annual Salary First 10 Years (ZAR)**

Level of employment	Number	Total cost (ZAR)	Average/ annum (ZAR)
Top management	2	6 004 000	3 002 000
Senior management	30	15 710 592	523 686
Professional	20	6 800 000	340 000
Skilled technical	104	32 796 465	315 351
Semi-skilled	164	7 365 243	44 910
<b>Total</b>	<b>320</b>	<b>68 676 300</b>	<b>214 613</b>

The costs associated with the execution of the SLP is summarised in Table 5. A total of R 6 909 993 have been budgeted for the implementation of the SLP during the Mine's first five years. The Table shows that the total expenditure on Human Resources Development (HRD) during the first five years will amount to R 5 596 166, a detailed breakdown of this expenditure is presented in Table 6. An overview of programmes included in the SLP is presented in Section 2.9.

Canyon Coal's MWP also makes provision for an estimated R 210 000 000 as compensation to persons, whose socio-economic conditions may be directly affected by the mining operation, following the acquisition of surface rights for box-cuts and office areas. In addition, provision is made for a progressive rehabilitation cost of approximately R 232 725 000 (AOL, 2016). Provision for retrenchment and downscaling will be an internal cost and funded entirely by Palmietkuilen Project in the form of a fund generated by a unit per ton on revenues.

Other regulatory costs to be incurred by Canyon Coal include royalty payments (R 20 996 000 annually), rates and taxes (R 97 000 000 million), and expenditure on compliance with the Mine Health and Safety regulations (R 3 036 000 million annually). Canyon Coal will also contribute R 1 220 000 annually to the national skills fund (AOL, 2016).

**Table 5: Financial Provision for the SLP (ZAR '000)**

SLP Component	Year					Total
	1	2	3	4	5	
HRD	995 000	1 053 500	1 115 510	1 181 241	1 250 915	5 596 166
Local Economic Development (LED)	233 068	247 052	261 876	277 588	294 243	1 313 827
<b>Total</b>	<b>1 228 068</b>	<b>1 300 552</b>	<b>1 377 386</b>	<b>1 458 829</b>	<b>1 545 158</b>	<b>6 909 993</b>

**Table 6: Budget for Key HRD Components (ZAR)**

HRD Component	Year					Total
	1	2	3	4	5	
Learnerships	275 000	291 500	308 990	327 529	347 181	1 550 200
Bursaries	300 000	318 000	337 080	357 305	378 743	1 691 128
Internships	360 000	381 600	404 496	428 766	454 492	2 029 354
Portable Skills	20 000	20 000	20 000	20 000	20 000	100 000
Adult Basic Education Training (ABET)	40 000	42 400	44 944	47 641	50 499	225 484
<b>Total</b>	<b>995 000</b>	<b>1 053 500</b>	<b>1 115 510</b>	<b>1 181 241</b>	<b>1 250 915</b>	<b>5 596 166</b>

## 2.9 Activities included in the Palmietkuilen SLP

In accordance with the MPRDA Canyon Coal has drafted a SLP (DMR, 2016), 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; and
- Procurement progression and employment equity planning.

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

The remainder of this section presents an overview of the aforementioned components.

### 2.9.1.1 Human resource and skills development

Canyon Coal recognises that successful human resource and skills development is the foundation for developing competent and productive employees who are able to participate in meeting the Mine's business objectives. Canyon Coal has committed to implement several programmes and plans as part of their overarching drive for human resources and skills development; these are discussed in Table 7 below. The Plans and actions will (a.) be aligned to the requirements of Sector Education and Training Authority's (SETA), Skills Development Act (Act No. 97 of 1998) and Mining Qualifications Authority and (b.) implemented once the mining right is granted and the workforce have been recruited (Canyon Coal, 2016).



### **2.9.1.2 Employment and procurement policies**

Canyon Coal's recruitment policy is based on the South African Mining Charter, which dictates that 50% of a mining operation's employees should be recruited from historically disadvantaged communities and where necessary, receive appropriate skills training (DMR, 2004; DMR, 2016). Employees recruited from local historically disadvantaged communities should also represent vulnerable groups such as women and people with disabilities. The Mining Charter's target for female employment is set at 10%. In terms of procurement the mine intends to draft a preferential procurement policy, which will be aligned to procurement targets set out by the Mining Charter. Table 8 below describes Canyon Coal's current policies on participation of Historically Disadvantaged South Africans (HDSAs) and Women in Mining (WiM) in both employment and procurement at the Mine.

**Table 7: Human resource and skills development programmes**

<b>Plans/ programmes</b>	<b>Summary and key commitments</b>	<b>Beneficiaries</b>
Skills Development Plan	<p>The Plan aims to (a.) provide all employees with the opportunity to obtain a minimum educational level equivalent to ABET Level 4, (b.) ensure that the Company has the necessary competencies within the workforce to achieve its business mandate; and (c.) enable employees to develop and pursue clear career paths within the organisation. The Plan intends to achieve these objectives through ABET, learnership, bursary, leadership and mentorship programmes. The Skills Development Plan includes the following commitments</p> <p>Where relevant programmes will be compliant with Section 20 of the Skills Development Act (Act No. 97 of 1998);</p> <p>Payments 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>Skills development needs will be identified collaboratively with the employees; and</p> <p>Training service providers will require accreditation with the MQA and SETA.</p>	All Company employees and several individuals from surrounding communities
ABET	The aim of the programme 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 programme will facilitate 20 employees per annum
Learnerships	The objective of the programme is to increase the artisan talent pool available to Canyon Coal. Individuals will be enrolled into external training programmes within the following areas: diesel mechanics, electrical works, boiler making, welding and millwright works.	Only 40% of learnership beneficiaries will be selected from Canyon Coal’s workforce, with the remainder being recruited externally. Three quarters of all beneficiaries will from surrounding HDSA communities.

Plans/ programmes	Summary and key commitments	Beneficiaries
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, surveying and finance.	<p>The programme will be open to the general public as well as the children and relatives of employees.</p> <p>A total of three bursaries will be awarded annually. Preference will be given to HDSA candidates. Communities and secondary schools within the surrounding area will be required to identify excellent students who can be included in the programme.</p>
Portable skills development	The aim of the programme is to provide additional or alternative non-mining skills to the Mine's workforce, contractors and surrounding communities. The areas in which training will be provided include plumbing and child care.	The Programme makes provision for two internal beneficiaries per annum; however, where possible beneficiaries will also be selected from contracted employees and surrounding communities.
Career progression planning	The Plan aims to (a.) provide employees with the opportunity to progress from lower skilled working levels to higher skilled and/or management levels and (b.) create an environment of learning and professional growth among the workforce.	All employees
Mentorship	Ensure proper transfer of knowledge, skills and experiences that underpin the Company's focus on people as well as equity, career and succession management systems.	The plan will focus on HDSA employees and seek to ensure that the Project prepare sufficient numbers of future leaders for the demands created by the growth of the Project.

**Table 8: Employment equity and procurement**

Plan/Policy	Undertaking	Commitments
Participation of HDSAs	Canyon Coal is committed to the strategic objectives of the Employment Equity Act and Mining Charter, which includes promoting employment of individuals from previously disadvantaged groups across all employment and skills levels.	Canyon Coal will develop principles and policies that are aligned with the Mining Charter to ensure that at least 50% of their management staff comprises HDSAs within five years of operations.
Women in mining	Canyon Coal is committed to the strategic objectives of the Employment Equity Act and Mining Charter, which includes promoting female employment across all employment and skills levels.	Canyon Coal will develop principles and policies that are aligned with the Mining Charter to ensure that at least 10% of personnel comprise females within five years of operations
Procurement and enterprise development	<p>Surrounding communities will be provided with a preferred supply status across all three levels of procurement (i.e. capital goods, services and consumables).</p> <p>Canyon Coal is committed to ensuring the growth of HDSA suppliers and undertakes to maximise the value of cost effective and reliable procurement of capital, consumables and services from companies controlled by HDSAs of the affected communities from the area in which they operate.</p> <p>Canyon Coal's Procurement Policy will incorporate BEE.</p>	<p>Canyon Coal will develop and implement a Procurement Progression Plan which will include a Preferential Procurement Policy that assigns preferential status to HDSA suppliers from surrounding communities. Canyon Coal has undertaken to comply with BEE procurement targets set out by the Mining Charter, which stipulates following:</p> <ul style="list-style-type: none"> <li>▪ Procure 60% of locally manufactured capital goods from BEE compliant manufacturing companies, of which a minimum of 30% should be procured from small business and 10% must be reserved for BEE compliant enterprise development;</li> <li>▪ Procure 70% of locally manufactured consumables from BEE compliant manufacturing companies of which a minimum of 30% should be procured from small business and 10% must be reserved for BEE compliant enterprise development; and</li> <li>▪ Procure a minimum of 80% services from BEE compliant and locally based companies minimum of which 40% must be reserved for small businesses which are BEE compliant.</li> </ul>

## 2.9.2 LED and Corporate Social Responsibility

Canyon Coal will utilise the abovementioned procurement programmes (Section 2.9.1.2), together with several targeted investments to drive LED within communities surrounding the proposed Project. Canyon Coal has committed to provide training to local small-scale farmers as their flagship LED Project. This programme is in line with integrated and LED planning needs of LLM (LLM, 2016). In addition to preferential procurement and LED programmes, Canyon Coal will implement the following development initiatives as part of their SLP (Canyon Coal, 2016):

- *Infrastructure and poverty eradication project.* The Project will likely be in the form of an infrastructure development project. The nature of the Project will be determined in consultation with the relevant local municipal authorities and will be based on the needs of local communities;
- *SMME development.* Several projects will be implemented to promote Small, Medium and Micro-sized Enterprises (SMME) development. Potential projects were identified during consultation with local communities as part the development of LLMs Integrated Development Planning (IDP). Potential projects will be confirmed through Canyon Coal's ongoing consultation with local communities; and
- *Human resource and skills development and employment creation* (Section 2.8.1 and 2.9.1.1).

## 2.9.3 Downscaling and retrenchment management

Canyon Coal will initiate downscale and retrenchment management measures if revenue falls 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 (Canyon Coal, 2016). Downscaling and retrenchment management measures include:

- Establishing a Future Forum;
- Implementing mechanism 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 amelioration of social and economic impacts where retrenchment or closure of the operation is certain.

## 3 Details of the Social Specialists

### 3.1 Mr. Jurie Erwee

#### ***Social Impact Assessment Practitioner: Digby Wells***

Mr. Jurie Erwee, who compiled the SIA for the proposed Project, is a social consultant with over seven years of experience ranging over several domains of social research, including the planning and execution of social surveys, participatory rural appraisal, stakeholder engagement, mine closure, sustainable livelihood assessments, data management and statistical analysis, capturing and management of spatial data, and community facilitation. Jurie has participated in several social assessments undertaken in accordance with the Equator Principles and the IFC PS.

Most of his work has been in the field of social impact assessment (incl. impact assessment for mine closure), resettlement planning and stakeholder engagement for mining and public infrastructure projects. He has been involved in an array of international projects, including projects in Liberia, Nigeria, Malawi, Burkina Faso, Namibia, Sierra Leone, DRC, Mali, Tanzania and South Africa. Mr. Erwee has attained a Baccalareus Artium, Honours and Master's degree with a specialisation in research psychology from the University of Pretoria, and has also completed specialised training courses in resettlement planning and implementation, gender-related issues, and Socio-economic Impact Assessment.

### 3.2 Mr. Darren Dunne

#### ***Senior Social Impact Assessment Practitioner: Digby Wells***

Mr. Darren Dunne, who completed the technical review of the SIA, holds an Honours Degree in Environmental Management and a Masters Certificate in Advanced Social Research. Darren has 9 years' experience in the environmental and social consulting field, largely within the mining sector. His current area of expertise at Digby Wells is within the social sciences department, as Unit Manager. This entails broad levels of stakeholder engagement and the assessment of projects social impacts. Darren's responsibilities include the undertaking of social due diligence studies, SIAs, baseline studies and the development of project-induced resettlement action plans (RAP). Many of these projects often require compliance with international best practice standards, including the IFC PSs, World Bank and Equator Principles.

Darren has extended his experience outside of the social sciences, including the undertaking of environmental performance audits and the compilation and management of EIAs. Project involvement includes work within South Africa, as well as throughout Africa, such as Botswana, Mali, Cote d'Ivoire, Ghana, Burkina Faso and the Democratic Republic of Congo (DRC).

## 4 Aims and Objectives

The primary aim of the SIA is to assess the Project and associated activities in terms of critical socio-economic considerations and potential positive and negative impacts as required by Section 24 of NEMA and Section 39 of the MPRDA. The development of the SIA involved two phases, namely a scoping-and an impact assessment phase, with each phase including specific objectives. The objectives of the scoping phase were:

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

The objectives of the impact assessment were to:

- Gather primary socio-economic data from the Project area to supplement and verify the baseline profile compiled during the scoping phase;
- Assess the likely social-economic impacts of the proposed Project;
- Design appropriate mitigation measures to reduce and, where possible, avoid negative impacts, as well as to enhance positive impacts; and
- Identify appropriate mechanisms to manage and monitor the mitigation of socio-economic impacts.

## 5 Methodology

The study was designed to comply with the relevant national legislative requirements, such as those stipulated in NEMA and the MPRDA (see Section 7.1.2 and 7.1.3), as well as international best-practice standards (e.g. IFC PSs) (see Section 7.3). The activities undertaken as part of the study are described throughout the remainder of this section.

### 5.1 Definition of Study Areas

The study area for an impact assessment can be defined as the area that is likely to experience impacts arising from, or exert influence on, the Project or activity being assessed (IFC, 2012). 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 aspects 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 also include socio-economic impacts arising from land acquisition, blasting, noise, dust, vibration, traffic and changes in the visual characteristics of the landscape, and the disruption or

restriction of movement). Such impacts typically extend to land uses and residents within a few hundred metres from the edges of a project's footprint;

- Impacts related to the '*economic pull*' exerted by the Project in its entirety (as opposed to specific project activities) (e.g. direct job creation, influx of workers and job-seekers to the Project area, increased pressure on services, concomitant risks of increased social pathologies and community conflict/resistance). Such impacts usually extend to populations residing in communities in relative proximity to the Project, especially labour-sending areas and/or communities which experience project-related population influx; and
- *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), macro-economic benefits of a project, as well as benefits derived from project-sponsored LED. Generally, the geographical reach of such impacts tends to extend wider and may affect larger towns or cities elsewhere in the region where the Project is to be situated.

The relevance of this distinction for the definition of the study areas stems from the fact that the type and level of baseline information required for an adequate prediction of socio-economic impacts differs between these categories. Accordingly, two concentric and interdependent study areas were identified for the purposes of this study, incorporating the three categories of impacts listed above.

It should be noted that, in defining the study areas, the manner in which publicly-available socio-economic data is aggregated was also taken into account. The study areas were thus defined to correspond to *existing administrative boundaries*. The study areas for the SIA are:

- 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 farm portions comprising the footprint of the existing prospecting right area (i.e. Portions 1, 2, 4, 9, 13 and 19 of Palmietkuilen 241 IR) and a 100m buffer directly surrounding this area (Figure 2).
- The *secondary study area* encompasses the primary study area and exceeds it in scale and includes the area likely to experience (a.) impacts related to the "*economic pull*" exerted by the Project and (b.) the *indirect or induced impacts* of the proposed Project. The typical reach of these impacts (i.e. an area circumscribed by a radius of up to 15km) includes Wards 72, 75 and 76 of the EMM, Ward 12 of the LLM, and Ward 7 of the VKLM (Figure 1). Considering that the impacts of the proposed Project would likely vary across municipal wards (e.g. LED activities and employment will likely be concentrated within LLM, while influx related impacts would be more pronounced in Ward 7 of VKLM) the baseline profile presented in Section 8.1 differentiates between demographics within each municipal area. Ward statistics are considered against the backdrop of its host municipality in order to highlight outlying trends.



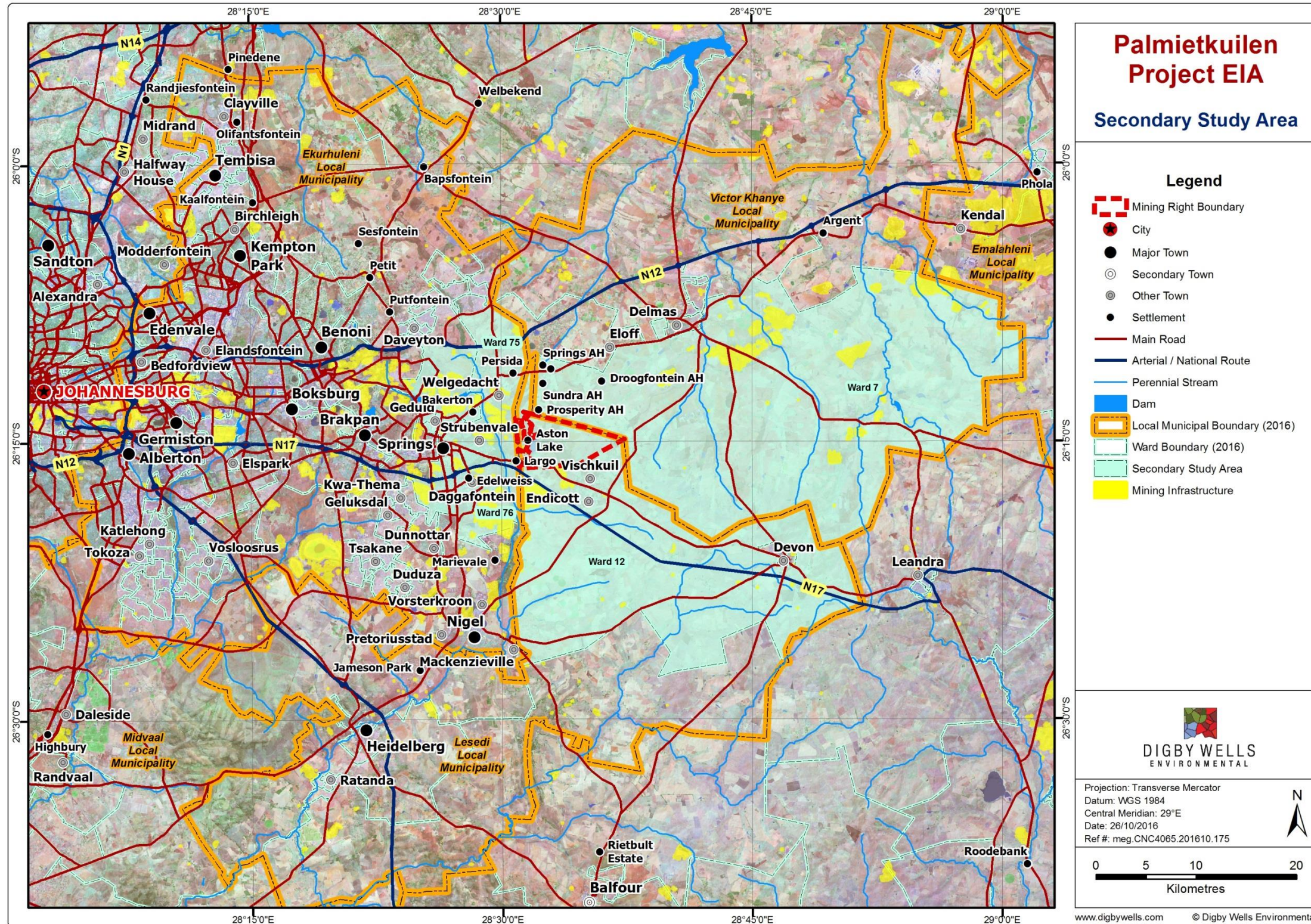


Figure 1: Secondary Study Area



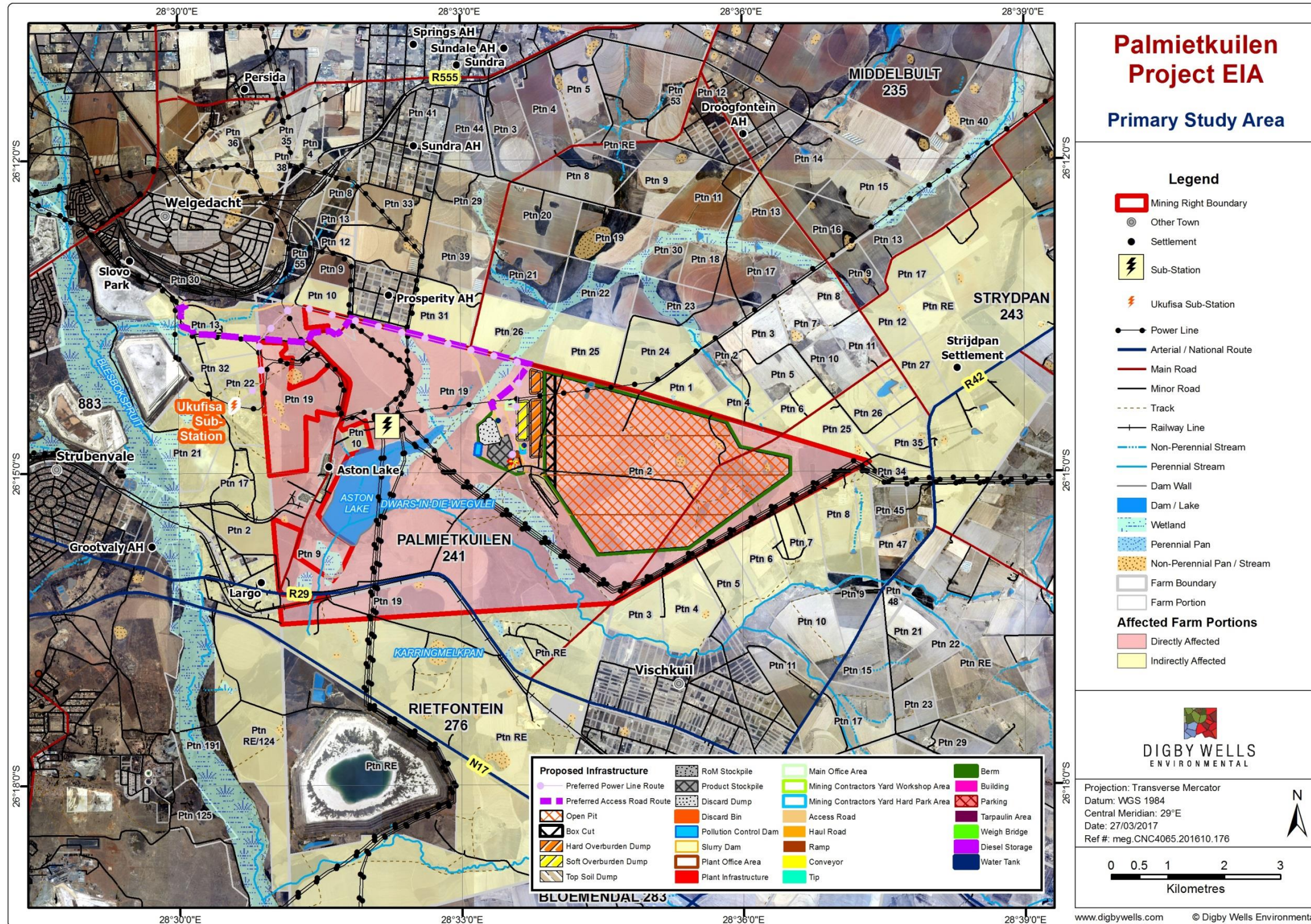


Figure 2: Primary Study Area





## 5.2 Data Collection

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

- A **desktop review** of available documents to obtain relevant socio-economic baseline information on the defined study areas. Documents reviewed include:
  - Provincial development planning documentation as well as Metropolitan, District, and Local Municipal (VKLM, LLM and EMM) Integrated Development Plans (IDP), LED Plans, and Spatial Development Frameworks (SDFs);
  - Socio-economic and demographic statistics sourced from Statistics South Africa's (StatsSA) 2011 Census and 2016 Community Survey data<sup>2</sup>;
  - National legislation and international best practice policies and standards;
  - Social performance policies of Canyon Coal;
  - Previous studies and reports concerning the proposed Project, specifically the Environmental Scoping report, MWP and SLP compiled for the Project; and
  - Available maps and satellite imagery.
- **Investigative site visit and interviews** undertaken between September and November 2016. The main purpose of these consultations were to:
  - Gather spatial and photographic data of the site-specific and immediately surrounding areas to (a.) allow for sensitivity mapping of the area, and (b.) explore the extent of physical and economic displacement; and
  - Conduct interviews with the landowners and custodians of properties comprising the primary study area. Persons interviewed are listed in Table 9. The objectives of this engagement were to assess stakeholders' perceptions, concerns and expectations regarding the Project, as well as to verify baseline socio-economic information collected through the desktop review.
- **Household socio-economic survey:** a sample survey of households residing within the primary study area was undertaken between 14 and 16 October 2016. The primary aim of the survey was to gain an understanding of the socio-economic living conditions of the population that might be impacted upon (excluding landowners, as they were included as part of interviews with key informants) by the project. The steps taken to ensure a successful survey are explicated below:
  - *Survey planning* - included the selection of a sampling procedure, questionnaire design and timing of survey activities; these were informed by

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<sup>2</sup> The results of StatsSA's 2016 Community Survey were not yet published for municipal Wards at the time of writing this report. It is recommended that the relevant sections of this report be updated once this data is released.



information collected during the initial site visit, review of relevant literature and the inspection of maps and aerial imagery.

- *Questionnaire development* - Digby Wells compiled a questionnaire based on extensive previous experience with household surveys in rural South African communities. This questionnaire was tailored and refined to meet the requirements of this study as specified in the terms of reference.
- *Survey sample* - Based on the inspection of aerial imagery and the orientation site visit, it was estimated that approximately 70 households reside within the primary study area. In order to draw valid and representative conclusions regarding the socio-economic characteristics of the aforementioned households, at least 30 of these households had to be surveyed to achieve a 95% confidence level of the findings. The survey included 48 households.
- *Survey implementation* - a team of five enumerators were used to facilitate the survey. These enumerators were recruited based on their ability to speak isiXhosa and English. Each enumerator held a minimum of secondary level education. Prior to the commencement of the survey, the enumerators received training in the questionnaire content, interviewing techniques, the accurate recording of data, and in cross-checking techniques which could be applied to test the consistency of responses, etc. The initial survey interviews conducted by the enumerators were conducted under the supervision of the Digby Wells team leader. This was to ensure that the survey protocol was correctly followed. Moreover, quality control procedures were applied for the duration of the survey. This involved the inspection of collected data for completeness and internal consistency.
- Data capturing and analysis – completed questionnaires were captured electronically onto a Microsoft Excel database. The data were analysed to produce descriptive statistics that summarizes the results of the survey, the findings of these analyses are presented in Section 8.2.
- **Consideration of information from other specialist studies:** Several specialist studies undertaken for the proposed Project (e.g. economic impact assessment, traffic impact assessment, hydrological and hydrogeological impact assessment, heritage impact assessment, visual impact assessment, noise impact assessment, blasting impact assessment and soils and land capability assessment) 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 (Blast Management & Consulting, 2016; Digby Wells, 2016a; Digby Wells, 2016b; Digby Wells, 2016c; Digby Wells, 2016d; Digby Wells, 2016e; Digby Wells, 2016f; Digby Wells, 2016g; Digby Wells, 2016h; Mariteng Consulting Engineers, 2016).



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- **Information from the public consultation process**, including stakeholder meetings and the Project Comments and Response Report (Digby Wells, 2016g). Reviewing this information provided information regarding the concerns; attitudes and perceptions, of stakeholders, which could not be consulted during the engagement undertaken as part of the SIA (Sections 15 and 16).

**Table 9: Engagement Conducted for the Purposes of the SIA**

Date	Interviewee/s	Stakeholder category	Location of landowner/user property	
			Properties within proposed mining right area (directly affected)	Properties within 100m of the mining right area (indirectly affected)
7/10/2016	Farm Manager – Schoeman Boerdery	Landowner (representative)	Yes	-
16/10/2016	Farm employee (manager)	Resident (tenant)	Yes	-
17/10/2016	Farm resident / tenant	Resident (tenant)	Yes	-
4/10/2016	Provincial Government (Department of Rural Development and Land Reform)	Interested Party	No	No
7/10/2016	School Principal – Bongane Primary	Affected Party	No	Yes





### 5.3 Compilation of a Socio-economic Baseline Profile

On the basis of the information collected through the desktop review, household survey, interviews with key informants, and information from other specialist studies, a detailed socio-economic baseline profile was compiled for the respective study areas defined in Section 5.1. Topics considered as part of this profile include (but are not limited to) the following:

- Demographics, including population size and growth as well as population distribution in terms of age, gender, language race and education;
- Economic conditions and development;
- Levels of employment and employment sectors;
- Spatial development and land use;
- Infrastructure and services (e.g. housing, energy, water, sanitation and health); and
- Community needs and development.

### 5.4 Impact Assessment

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

- *Updated socio-economic baseline:* based on the primary data collected during the socio-economic household survey and site visits, an updated social baseline was developed;
- *Impact identification and assessment:* based on the anticipated interaction between specific and/or collective project activities and baseline socio-economic conditions several potential impacts were identified for each phase of the Project;
- *Impact mitigation:* realistic measures were developed aimed at mitigating (and if possible avoiding) the negative social impacts, and optimising the benefits of positive social impacts; and
- *Impact management:* a management and monitoring framework was developed to guide implementation of the social mitigation and enhancement measures.

### 5.5 Consideration of Project Alternatives

Current environmental legislation requires that practical project alternatives be considered during the impact assessment process. The pertinent project alternatives in the case of this project relevant to the SIA are as follows:

- The “no-go” alternative which explores alternative land uses on the Project site; and
- Mining method and infrastructure layout alternatives.



Project alternatives are presented in Section 9. The identification of impacts was based on a comparison of future socio-economic conditions, with and without the Project (the “no-go” alternative). The differential impacts of alternative land uses of the Project site are also considered (see Section 9).

Coal transport alternatives, either via road or via a conveyor system, were subjected to a socio-economic sensitivity analysis to determine the most suitable option (see Section 9). During the analysis, land uses in the vicinity of the Project footprints were classified in terms of their likely sensitivity to social impacts caused by the Project. The outcomes of this analysis were integrated with the findings of similar exercises undertaken by other specialists involved in the EIA to produce a consolidated sensitivity assessment and an overall suitability rating for each alternative.

## 6 Assumptions and Limitations

The results of StatsSA’s 2016 Community Survey were not yet published for Municipal Wards (i.e. regional study area) at the time this report was compiled. It is recommended that the relevant sections of this report be updated once this data is released. The SIA report is based on available information obtained from Canyon Coal, secondary sources, specialists’ assessments, as well as a sample of stakeholders consulted during the site visit. The sources consulted are not exhaustive, although deemed sufficient to meet the ToR for this assessment.

Social impacts associated with the eventual closure and decommissioning of the Project are addressed but were not subject to a detailed assessment. This omission is motivated by the fact that predictions concerning the characteristics of the receiving social environment at the time of closure and decommissioning are subject to a large margin of error, thus significantly reducing the accuracy of an impact assessment.

## 7 Legal and Policy Framework

This section describes the various pieces of national and international 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 and Canyon Coals corporate policies and plans.

### 7.1 National Policies and Legislation

The following sections provide a brief overview of South African legislation that has direct or indirect bearing to the ‘social’ responsibility of Canyon Coal.



### **7.1.1 The South African Constitution**

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 (a) of the South African Constitution states that everyone has the right to an environment that is not harmful to his or her health and well-being. This supersedes all other legislation.

### **7.1.2 National Environmental Management Act, 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.

### **7.1.3 Mineral and Petroleum Resources Development Act, 2002**

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<sup>3</sup>, (EIA 2014 Regulations) promulgated in terms of NEMA, to mitigate both bio-physical and social impacts of the proposed development.

It should be noted that Section 48 of the MPRDA provides that no mining rights may be granted in respect of certain areas, including land comprising a residential area, any public road, railway or cemetery, any land being used for public or government purposes and land reserved in terms of any other law. However section 48 also grants the Minister a discretion, notwithstanding the fact that the land is land as envisaged in section 48, to continue to grant the right "if he is satisfied that, having regard to the sustainable development of the mineral resources involved and the national interest, it is desirable to issue it.

The MPRDA and NEMA require that mining companies assess the social impacts of their activities from start to closure and beyond. Companies must develop and implement a comprehensive SLP to promote socio-economic development in their host 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.

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<sup>3</sup> GN R982 in Government Gazette 38282 of 4 December 2014



#### **7.1.4 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.

#### **7.1.5 South African Mining Charter**

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 (DMR, 2004; DMR, 2016). The Charter was reviewed and amended in 2016 and now seeks to achieve the following objectives:

- Promote equitable access to the nation's mineral resources to all the people of South Africa;
- Substantially and meaningfully expand opportunities for HDSAs to enter the mining and minerals industry and to benefit from the exploitation of the nation's mineral resources;
- Utilise and expand the existing skills base for the empowerment of HDSAs and to serve the community;
- Promote employment and advance the social and economic welfare of mine communities and major labour sending areas; and
- Promote beneficiation of South Africa's mineral commodities.

#### **7.1.6 The Department of Mineral Resources Consultation Guidelines**

The above Guidelines were compiled for use by applicants for prospecting and mining rights. It provides that Interested and Affected Parties (I&APs) include, amongst others, host (or receiving) communities, land owners, traditional authorities, land claimants, lawful occupiers, any other person whose socio-economic conditions may be directly affected by proposed prospecting or mining activities.

#### **7.1.7 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.

### **7.1.8 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 IDP and SDF for their areas of jurisdiction.

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.

It should also be noted, however, that following the constitutional court judgement in *Maccsand (Pty) Ltd vs the City of Cape Town* on 12 April 2012, it was held that a mining right or a mining permit granted in terms of the MPRDA does not entitle the holder of the mining right to conduct mining activities that are contrary to the zoning of that land under any legislation which regulates the use of land in the area (e.g. SDFs and land use management schemes) (Constitutional Court of South Africa, 2012). In other words the mining right holder's ability to use the surface of the land for mining purposes is now subject to the approval of the Municipality.

### **7.1.9 Extension of Security of Tenure Act, 1997 (Act No. 62 of 1997)**

The Extension of Security of Tenure Act (ESTA) confers certain rights to non-landowning residents of a property, where such rights are linked to the period of time in which persons have been resident on the land. The Act applies to all rural areas in South Africa, regardless of whether the land is used for farming or mining purposes. No occupier<sup>4</sup> can be evicted unless the provisions of ESTA have been strictly followed and a Court Order has been obtained.

### **7.1.10 Prevention of Illegal Eviction from and Unlawful Occupation of Land Act (Act 19 of 1998)**

The Act provides procedures for owners to evict illegal occupiers and afford the occupiers some procedural rights in the eviction process. This Act is commonly used in urban areas and on farms when occupiers have not had permission to occupy as required by ESTA.

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<sup>4</sup> 'Occupier' refers to a person residing on land which belongs to another person and who has or had, on 4 February 1997 or thereafter, consent to do so.



This Act gives effect to Section 26 (3) of the Constitution, which states that “No-one may be evicted from their home, or have their home demolished without an order of court made after considering all the relevant circumstances. No legislation may permit arbitrary evictions.” Section 4 of the Act states the following:

- If an unlawful occupier has occupied the land in question for *less than six months* at the time when proceedings are initiated, a court may grant an order for eviction if it is of the opinion that it is just and equitable to do so, after considering all the relevant circumstances, including the rights and needs of the elderly, children, disabled persons and households headed by women.
- If an unlawful occupier has occupied the land in question for *more than six months* at the time when the proceedings are initiated, a court may grant an order for eviction if it is of the opinion that it is just and equitable to do so, after considering all the relevant circumstances, including, *except where the land is sold in a sale of execution pursuant to a mortgage*, whether land has been made available or can reasonably be made available by a municipality or other organ of state or another land owner for the relocation of the unlawful occupier, and including the rights and needs of the elderly, children, disabled persons and households headed by women.

The provisions of the Act apply in cases where illegal occupation of land (e.g. informal settlements on State land or farms) has taken place, and where such land is to be acquired for a project and houses in the settlement will be displaced. It thus protects the rights of community members who reside on land without the owner’s express permission.

#### **7.1.11 Restitution of Land Rights Act, 1994 (Act No. 22 of 1994)**

The Act allows individuals or groups to claim land, from which they were dispossessed after 19 June 1913 under the apartheid regime. Claimants have been given until 31 June 2019 to register a claim in terms of the Restitution of Land Rights Act. The Regional Land Claims Commissioner is responsible to verify the rightful claimant, validity of the claim, identify the beneficiaries and determine the extent of the land claim. According to the LLM’s IDP (2016/2017) and SDM’s IDP (2016/2017) no claims have been gazetted on the properties that comprise or neighbour the proposed Mining Right Area (LLM, 2016; and SDM, 2016).

#### **7.1.12 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).





## 7.2 Development Policies

This section provides an overview of key initiatives and plans guiding national, provincial and district development, including plans pertaining to spatial and economic development.

### 7.2.1 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.

### 7.2.2 Accelerated and Shared Growth Initiative for South Africa

The Accelerated and Shared Growth Initiative for South Africa (AsgiSA) was launched in 2003 with the vision to halve poverty and unemployment among the country's population by 2015. The Initiative is considered one of the key vehicles driving South Africa's economic policy and subsequent development plans. One of the primary aims of AsgiSA is to target specific sector strategies and initiatives (including mining) to stimulate economic growth and job creation.

### 7.2.3 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.



## 7.2.4 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.

## 7.2.5 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.

## 7.2.6 Provincial Growth and Development Strategy

The Provincial Growth and Development Strategy (PGDS) (of which there is one for each province of South Africa), are aligned with the NDP, NSDP, National Infrastructure plan and all provincial policies that have bearing on development. The Gauteng Employment, Growth and Development Strategy (GEGDS) guides provincial development and aims to establish a prosperous, sustainable growing provincial economy to reduce poverty and improve social development. The GEDS is an action-oriented strategy for all sectors of society in Gauteng and reflects the following six strategic objectives:

- Provision of social and economic infrastructure and services that will build sustainable communities and contribute to halving poverty;
- Accelerated, labour-absorbing economic growth that increases per annum and that will create long-term sustainable jobs and contribute to halving unemployment;
- Sustainable socio-economic development;
- Enhanced government efficiency and cooperative governance; and Deepening participatory democracy, provincial and national unity and citizenship.



### 7.2.7 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.

### 7.2.8 Gauteng Spatial Development Framework (GSDF)

All metropolitan, regional and local SDFs for Gauteng province jointly seek to achieve the integration of economically disadvantaged communities into the urban system, particularly those on the periphery of the system. Within Gauteng each municipality is required to prepare a SDF which must outline the spatial development within their respective jurisdictions. The GSDF is used as a tool for forward planning to direct decisions with regard to land development throughout the province. The desired outcomes of the GSDF, through infrastructural investment and the management of activity patterns, are:

- Integration of the apartheid fragmented municipalities in the province and the municipalities in the wider Gauteng City Region;
- Safe, affordable and sustainable public transport, in contrast with private mobility, on which the present provincial structure is focused;
- Quality of life and living through proximity to, or easy and affordable access to quality open space and social and cultural facilities;
- Shared, sustainable and inclusive economic growth, ensuring that everyone in the province can get access to economic opportunities and contribute to, and share in the economic development of the province;
- Protection and enhancement of the natural environment, ensuring the sustainability of natural systems and the fauna and flora habitats within these and their connectivity and bio-diversity;
- Choice, enabling individuals and communities to decide within an overarching framework what works for them, where opportunity presents itself and where to locate in the urban system without incurring inordinate premiums; and
- Creativity and innovation, ensuring that the province can adapt to change in constructive ways.

The Gauteng Spatial Development Framework identifies specific spatial structuring elements that were used in the development of the Sedibeng Spatial Development Framework, including the two corridors formed by the R59 and the N1.

### 7.2.9 Ekurhuleni Metropolitan Spatial Development Framework

It should be noted that current municipal planning indicates the LLM will be included in EMM. Spatial Development within EMM is guided by the Metropolitan Spatial Development



Framework, 2015 (MSDF). The EMM MSDF indicates to the desired long term proposals which will affect the spatial form for the entire Ekurhuleni Metropolitan area. The Framework summarises all legislation and policies that has bearing on land use within EMM and likely within LLM (EMM, 2013; EMM, 2015).

In order to more effectively provide for the various Spatial Development functional areas of EMM, the MSDF provides for six planning and urban management zones. A Regional Spatial Development Framework (RSDF) applies to each of the six zones. Local Spatial Development Frameworks (LSDFs) are, where applicable, incorporated in to the six RSDFs (EMM, 2015).

Spatial planning and land use within Ekurhuleni is also guided by the EMM Town Planning Scheme. The Scheme which was promulgated in 2015 incorporates several historic Town planning schemes including Lesedi Town Planning Scheme (2003) and Springs Town Planning Scheme (1996) (EMM, 2014).

### 7.2.10 Gauteng Environmental Management Framework

The Framework was gazetted on 22 May 2015 and replaced all Environmental Management Frameworks in Gauteng, including those at a local level (GDARD, 2015). The objectives of the Framework are to:

- Make it efficient for urban development (including associated service infrastructure) to occur in defined selected areas with lower environmental concerns and high development demand to help facilitate the implementation Gauteng Growth and Management Perspective, 2014;
- Facilitate the optimal use of current industrial, mining land and other suitable derelict land for the development of non-polluting industrial and large commercial developments;
- Protect Critical Biodiversity Areas within urban and rural environments;
- Ensure the proper integration Ecological Support Areas (ESAs) into rural land use change and development;
- Use ESAs as defined in municipal bioregional plans in spatial planning of urban open space corridors and links within urban areas; and
- Focus on the sustainability of development.

### 7.2.11 Gauteng 2055 Development Vision

Gauteng Vision 2055 provides a long-term development agenda to guide all future initiatives of the Province. It aims to ensure that in 2055 "...Gauteng is liveable, equitable, prosperous and united Global City Region. Vision 2055 is based on the ideals of equitable growth, social inclusivity and cohesion, sustainable development and infrastructure, and good governance.



### 7.2.12 Integrated Development Planning

The IDP is a municipal-level planning document which aims to provide a developmental framework for district and local government in which municipalities must provide leadership, management, budgeting and direction in the provision of services and infrastructure. The IDP must guide developmental planning and local community development. Municipal IDPs highlight local needs and priorities that could be considered by the proposed Project as part of its SLP and Corporate Social Investment (CSI) initiatives. Local Integrated Development Planning within the Municipalities comprising the secondary study area is outlined in the following documents:

- SDM IDP 2016-2017 (SDM, 2015);
- LLM IDP 2016-2017 (LLM, 2015) and LLM SDF 2016 (Draft) (LLM, 2016a);
- EMM IDP 2016/2017-2018/2019 (EMM, 2015); and
- VKLM IDP 2014-2015 (VKLM, 2013).

### 7.2.13 LLM LED Strategy, 2014

The LED strategy was approved by the Municipal Council in 2014 and is currently being implemented (LLM, 2014). The LED strategy will serve as a framework for the promotion of economic growth and improved socio-economic outcomes in LLM up until 2019. It will address the development of sector-based opportunities and the implementation of specific LED programmes and priority projects. The desired outputs of the LED Strategy are summarised as follows:

- Stimulate economic growth and diversification, especially in labour-intensive, high growth and sustainable industries;
- Retain existing industries and small businesses, actively recruit new investment and encourage entrepreneurship within the local community;
- Strengthen partnerships between established industry and new market entrants with the intention of enhancing local supply chains and encouraging skills transfer;
- Reduce unemployment and poverty through the creation of sustainable job opportunities;
- Encourage enhanced integration between the region's townships and rural communities; and
- Coordinate LED with the wider development interventions occurring in the municipality (e.g. Mining).

## 7.3 International Best Practice

The IFC, a member of the World Bank Group, has adopted a suite of PSs on social and environmental sustainability. The IFC applies the PSs to manage project related social and environmental risks and impacts, and enhance development opportunities in its private



sector financing. The IFC PSs are 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 tenures rights (e.g. the Security of Tenure Act), these do not explicitly address involuntary displacement, where land owners/users are directly or indirectly forced to forfeit the tenure and usage rights. This policy vacuum on management of involuntary displacement is inadequately filled by complicated land tenure, environmental and planning legislation.

Consequently, the existing legal frameworks for addressing involuntary resettlement are inadequate and do not aid communities, implementing agents 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 (IFC, 2012):

- Avoid, and when avoidance is not possible, minimise displacement by exploring alternative Project designs;
- Avoid forced eviction;
- Anticipate and avoid, or where avoidance is not possible, minimise adverse social and economic impacts from land acquisition and/or restrictions on land use by (i) providing compensation for loss of assets at replacement cost and (ii) 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 of displaced persons; and
- Improve living conditions among physically displaced persons through the provision of adequate housing with security of tenure at resettlement sites.

Another IFC PS – *PS 1: Social and Environmental Assessment and Management Systems* – sets out international best-practice standards for conducting a SIA. Amongst other things, these standards require that a SIA identify individuals and groups that may be differentially or disproportionately affected by the Project because of their disadvantaged or vulnerable status (where such status may be related to an individual's or group's ethnic affiliation, gender, socio-economic status, health or dependence on unique natural resources). Where groups are identified as disadvantaged or vulnerable, differentiated measures must be identified and implemented to ensure that adverse impacts do not fall disproportionately on them and that they are not disadvantaged in sharing development benefits and opportunities (IFC, 2012).





## 7.4 Canyon Coal's Company Policies

### 7.4.1 Environmental Policy

Canyon Coal's Draft Environmental Policy outlines their vision to respect communities and nations that hosts their operations (Canyoncoal, 2015c). Through this Policy Canyon Coal undertakes to conduct their business in a socially and environmentally sustainable and responsible manner (Canyoncoal, 2015c). Canyon Coal commits to the following through this policy:

- Implementing and maintaining effective safety, health and environmental management systems that drive continual improvement through regular, objective review;
- Ensuring employee knowledge of the safety, health and environmental risks by effective assessment and training;
- The reduction, re-use and recycling of waste to minimise final disposal and promote the efficient use of natural resources;
- Preventing and reducing all forms of pollution by employing effective technologies to control emissions to air and pollution of land and water;
- Maintaining transparent, consultative relationships with all stakeholders through effective communication channels;
- Contributing to the long-term social, economic and institutional development of our employees and the communities within which our operations are located;
- Complying with acceptable legislation and other relevant industry norms;
- The identification, assessment and management of risks to employees, contractors, the environment and communities in which we operate;
- Making adequate financial provision during the expected life of our operations to ensure sustainable life when operations cease;
- Supporting the fundamental human rights of employees, contractors and the communities in which we operate; and
- Respecting the traditional rights of indigenous people (Canyoncoal, 2015c).

### 7.4.2 Environmental Awareness Plan

Canyon Coal has committed to identifying training needs and ensuring that all personnel whose work may create a significant impact upon the environment receive appropriate training (Canyoncoal, 2015b). Canyon Coal's Environmental Awareness Plan describes the training available and the manner in which environmental training needs will be identified and continually reassessed (Canyoncoal, 2015b). In particular the objective of the Plan is to ensure that:



- Training needs are identified and all personnel whose work may create a significant impact upon the environment have received appropriate training;
- Procedures are established and maintained to make appropriate employees aware of:
  - The importance of conformance with Safety, Health, Environment and Quality policy and procedures and the requirements of the environmental management;
  - The significant environmental impacts, actual or potential, of their work activities and environmental benefits of improved personal performance;
  - Their roles and responsibilities in achieving conformance with environmental policy, procedures and environmental management services; and
  - The potential consequences of departure from specified operating procedures.
- Personnel performing tasks, which can cause significant environmental impacts, are competent in terms of appropriate education, training and/ or experience (Canyoncoal, 2015b).

### 7.4.3 Chronic Disease, TB and HIV/AIDS Policy

Canyon Coal has committed to promote a healthy and productive environment through its draft Chronic Disease, Tuberculosis (TB) and Human Immunodeficiency Virus/ Acquired Immune Deficiency Syndrome (HIV/AIDS) Policy, as these issues could result in social, economic, employment and human rights implications (Canyoncoal, 2015a). Canyon Coal commits to minimize these implications through responsible and effective workplace programs. Canyon Coal recognises HIV/AIDS as a chronic disease with unique and urgent properties that at times requires exceptional responses that are different from other chronic diseases (Canyoncoal, 2015a).

In particular the Policy outlines Canyon Coal's commitment to:

- Recognise and honour the rights of employees including those with chronic diseases;
- Ensure that the confidentiality of any health information concerning individuals living with chronic diseases will be maintained, in line with medical ethics and acceptable norms and standards; and
- Acknowledge that chronic diseases should be managed in the same manner as other illnesses in terms of employment policies and benefits, including disability benefits and leave of absence (Canyoncoal, 2015a).



## 8 Socio-Economic Baseline

The baseline profile of the receiving socio-economic environment is presented in this section. The first subsection describes the socio-economic characteristics of the secondary study area, while the final section provides a detailed description of the primary study area. These study areas were defined in Section 5.1.

### 8.1 Secondary Study Area

The secondary study area is defined as Ward 12 of LLM in which the proposed Project is located, as well as the municipal wards directly surrounding the proposed Project site; these include Ward 72, 75 and 76 of EMM as well as Ward 7 of VKLM. These municipal wards are administered through local municipalities, each of which has an executive mayor, proportionally elected councillors and ward councillors who are responsible for representing the needs of the people in the respective wards. None of the communities within the study area falls within the jurisdiction of Traditional Governance.

#### 8.1.1 Demographic Characteristics

##### 8.1.1.1 Population Distribution and Growth

Ward 12 comprises the rural areas along the eastern and southern parts of LLM. The Ward borders Mpumalanga Province and is the largest ward in the municipality in terms of land mass and hosts, amongst others, the settlements and agricultural holdings of Aston Lake, Vischkuil, Endicott, KwaZanzele, Umbila, Hallgate, Bothasgeluk and Skyling. Population densities are generally low. In 2011 the Ward had a total population of 9 842 (or 10% of the municipal population). This population comprised 2 542 households which equates to an average household size of between 3 and 4 members, which is slightly higher than the municipal average (Table 10).

Human settlement within Ward 72, 75 and 76 is characterised by two contrasting distribution patterns. Approximately two thirds of the area is sparsely populated; residential uses in this area comprise small holdings and commercial farms. In contrast, several high density areas are found in the area (e.g. Bakerton, Springs, Strubenvale, Petersfield, Gugulethu, Everest, Slovo Park, and Welgedacht). These areas host more than 95% of this area's total population, which in 2011 comprised approximately 94 100 individuals. The majority of households (84%) consist of four or less members, while the average household size (3) is similar to that of the EMM (Table 10). The population and households are distributed relatively equally across all three wards, with Ward 76 having a slightly smaller population and number of households.

Ward 7 covers the rural area west of the project and is situated towards the south of Delmas. Population densities are generally very low throughout most of the area. In 2011 the Ward had a total population of 11 320 (or 15% of the VKLM population) (Table 10). This population comprised 3 015 households, which equates to an average household size of 3.8 persons, which is similar to that of VKLM.



Municipal trends indicate that Ward populations likely increased with between 6% and 12% since 2011, while the number of households increased with between 18% and 32% (Table 10).

**Table 10: Population and household size**

Area	Population			Households			Average household size		
	Ward 2011	LM 2011	LM 2016 (% growth)	Ward 2011	LM 2011	LM 2016 (% growth)	Ward 2011	LM 2011	LM 2016
Ward 12 (LLM)	9824	99520	112472 (13%)	2542	29665	39294 (32%)	3.9	3.4	2.9
Ward 72,75,76 (EMM)	94096	3178472	3379104 (6%)	29981	1015466	1299490 (28%)	3.1	3.1	2.6
Ward 7 (VKLM)	11320	75453	84151 (12%)	3015	20547	24270 (18%)	3.8	3.7	3.5

Source: StatsSA, 2013; StatsSA, 2016

### 8.1.1.2 Age and Gender Distribution

Table 11 below indicates the gender distribution of the respective Ward and Municipal populations. It shows that generally males outnumber females throughout all areas; with the proportion of males being considerably higher in the Ward 12 of LLM (16%) and Ward 7 of VKLM (6%). The gender distribution among households heads indicate that between 20 and 24% of all the Ward's households are headed by females (StatsSA, 2013). The age distribution of the various Ward and Municipal populations are relatively similar, with approximately a quarter of each population aged 14 years and younger, whereas the economically active cohort (15-64 years) of each population ranging between 67% and 72%.

**Table 11: Age and gender distribution**

Area	Gender distribution <i>Males (Females)</i>			Age category in years					
	Ward 2011	LM 2011	LM 2016	0-14		15-64		65+	
				Ward 2011	LM 2011	Ward 2011	LM 2011	Ward 2011	LM 2011
Ward 12 (LLM)	58% (42%)	52% (48%)	52% (48%)	23%	26%	72%	69%	5%	5%
Ward 72,75,76 (EMM)	51% (49%)	51% (49%)	51% (49%)	22%	24%	72%	72%	7%	4%
Ward 7 (VKLM)	53% (47%)	51% (49%)	51% (49%)	26%	28%	67%	67%	7%	5%

Source: StatsSA, 2013; StatsSA, 2016



### 8.1.1.3 Language and Racial Distribution

The racial distribution of the municipal and ward populations is indicated in Table 12 below, which shows that Black Africans comprise the overwhelming majority amongst all the municipal populations; however, on a ward level the dominance is less pronounced with a slightly larger proportion of Whites, especially in Ward 72, 75 and 76 where the population comprise an almost equivalent number of Black Africans and Whites.

The most prominent language spoken within Ward 12 is IsiZulu (37%), closely followed by Afrikaans (31%), a similar distribution was found within Ward 7 of VKLM. Within Ward 72, 75 and 76, the most common spoken language is Afrikaans (38%), followed by English (19%) and IsiZulu (14%) (StatsSA, 2013).

**Table 12: Racial distribution**

Area	Racial distribution					
	Black African		White		Other	
	Ward	LM	Ward	LM	Ward	LM
Ward 12 (LLM)	65%	77%	32%	20%	2%	1%
Ward 72,75,76 (EMM)	47%	79%	46%	16%	7%	5%
Ward 7 (VKLM)	67%	82%	30%	16%	3%	2%
Source: StatsSA, 2013						

### 8.1.1.4 Education

The level of education within each of the areas comprising the secondary study area is presented in Table 13 below. Generally the level of education among Ward populations mimics the educational level throughout the remainder of the respective municipalities (i.e. LLM, EMM and VKLM). The level of education also rarely varies significantly between males and females. The level of education seems to be the highest among Wards located in EMM: About 3% of the population aged 20 years and older have had no formal schooling, while 31% completed secondary schooling and another 15% have attained additional degrees, diplomas or other higher qualifications. This distribution is relatively similar across all three wards (StatsSA, 2013). Municipal trends show that the number of adults who completed Grade 12, increased considerably between 2011 and 2016 (Table 14).



**Table 13: Level of education**

Education level	Area					
	Ward 12	LLM	Ward 72, 75 and 76	EMM	Ward 7	VKLM
No schooling	8%	6%	3%	4%	14%	10%
Some primary	23%	24%	16%	19%	25%	26%
Completed primary	6%	5%	4%	4%	5%	6%
Some secondary	36%	35%	31%	34%	32%	33%
Grade 12	21%	22%	30%	28%	18%	20%
Higher	6%	8%	15%	11%	6%	5%

Source: StatsSA, 2013

**Table 14: Number of individuals that completed Grade 12**

Area	Year		% Increase
	2011	2016	
LLM	24752	31948	29%
EMM	1071136	1202640	12%
VKLM	16067	16768	4%

Source: StatsSA, 2013; StatsSA, 2016

## 8.1.2 Employment Levels and Income Distribution

Employment rates within an area are linked to the size of the economy as well as to personal income, education levels and skills. This section provides an overview of employment levels, sector of employment and income distribution for each of the municipal areas comprising the secondary study area.

### 8.1.2.1 Ward 12 of LLM

In 2011, the employment rate among the Ward's labour force was about 45% of the total population (older than 15) and 81% among the economically active population. These trends simulated that of LLM; however, the latter had a slightly higher level of unemployment.

Employment was mostly provided within the formal sector (82%), which is likely driven through activities within the manufacturing, wholesale and trade, energy, as well as services and finance sectors (StatsSA, 2013). Major economic activities in the Ward consist of commercial agriculture and dryland crop production, in addition to a small number of light



industries. Unemployment among the economically active population (11%) is low when compared to the corresponding figure for the LLM. Employment and unemployment patterns vary considerably across genders with a greater percentage of females who are classed as unemployed and not economically active; also males far outnumber (18%) females among those who are employed on both a Ward and Municipal level.

Generally, income levels across the Ward and Municipality population are low, with between 43% and 46% of people earning no monthly income (Table 15). Of those not earning any income, females outnumber males with about 20%. It is notable that of those earning an income, females are also worse off than males, this gender discrepancy tend to increase considerably within the higher income brackets (Table 15).

**Table 15: Income distribution**

Area	Gender	Income category				
		No income	R 1 - 800	R 801 – 3 200	R 3 201 – 12 800	R 12 801 +
Ward 12	Male	37%	13%	28%	15%	7%
	Female	57%	15%	19%	7%	2%
	Average	46%	14%	24%	12%	5%
LLM	Male	36%	20%	23%	14%	7%
	Female	49%	21%	19%	8%	3%
	Average	43%	20%	21%	11%	5%

Source: StatsSA, 2013

#### 8.1.2.2 Ward 7 of VKLM

The employment rate among the Ward's labour force was about 48% of the total population (older than 15) and 75% among the economically active population, which is substantially higher than the Municipal average (66%) (StatsSA, 2013). Employment was mostly provided within the formal sector (79%) (StatsSA, 2013). Unemployment among the economically active population (12%) is low when compared to the corresponding figure for the VKLM (17%). Employment and unemployment patterns vary considerably across genders, with a slightly greater percentage of females than males who are classed as unemployed and not economically active. Also, males far outnumber (29%) females among those who are employed on both a Ward and Municipal level.

Income levels across the Ward and Municipal population are low, with between 44% of people earning no monthly income (Table 16). Of those not earning any income, females outnumber males by far on both a Municipal and Ward level (20%). It is notable that of those that are earning an income, females are again worse off than males; similar to LLM this gender discrepancy tend to increase considerably within the higher income brackets in both the Ward and Municipality.

**Table 16: Income Distribution**

Area	Gender	Income category				
		No income	R 1 - 800	R 801 – 3 200	R 3 201 – 12 800	R 12 801 +
Ward 7	Male	34%	16%	30%	14%	34%
	Female	54%	18%	18%	7%	54%
	Average	<b>44%</b>	<b>17%</b>	<b>25%</b>	<b>10%</b>	<b>44%</b>
VKLM	Male	38%	21%	24%	12%	38%
	Female	51%	22%	19%	6%	51%
	Average	<b>44%</b>	<b>22%</b>	<b>22%</b>	<b>9%</b>	<b>44%</b>

Source: StatsSA, 2013

### 8.1.2.3 Ward 72, 75 and 76 of EMM

The employment rate among the wards' labour force was 56% of the total population (older than 15) and about 81% among the economically active population (StatsSA, 2013). Employment was mostly provided within the formal sector (92%), which is likely driven through activities within the manufacturing, wholesale and trade, energy, as well as services and finance sectors (EMM, 2013). Unemployment among the economically active population (19%) is low when compared to the corresponding figure for the EMM. Employment or unemployment patterns are relatively similar across genders throughout the three wards; however, there are a greater percentage of females than males who are classed as discouraged job-seekers. Youth unemployment is also a major challenge in the respective wards (EMM, 2013).

Generally, income levels across the wards' populations are low, with more than 53% of people earning less than R 800 a month. This number varies considerably across the wards, with Ward 75 and 76 reflecting relatively higher levels of income and Ward 72 a substantially lower level. Of those not earning any income, females outnumber males by 13%. It is notable that of those earning an income, females are also worse off than males.

## 8.1.3 Regional and Local Economy

This section provides an overview of Municipal economies coinciding with the secondary study area. For a detailed description of the economy of the area surrounding the Project, refer to the Economic Impact Assessment undertaken as part of the EIA (Economic Impact Assessment, 2016).

### 8.1.3.1 Overview of the LLM's Economy

LLM is located within the massive Gauteng economy, which is the key driver of economic production in South Africa; consequently the economic output from LLM is relatively minimal in comparison to the wider economy. In 2011, the municipal economy accounted for only 0.49% from the total output of the Gauteng Provincial economy. The Lesedi LM economy



produced approximately R4.48 billion in total output (Gross Value Added/GVA) in 2011. LLM experienced an economic growth rate of 4.8% from 2010 to 2011 (the last period for which data was available at the local municipal level) (LLM, 2016).

The Municipal economy is relatively diversified with three key production sectors, manufacturing (23.0%), government (20.9%) and finance and business services (20.6%). These sectors also support output in other industries including construction (5.6%), trade (11.8%) and transport (3.9%). Interestingly, despite the rural nature of the region the agriculture sector accounts for only 1.4% of output. In comparison to the wider economic region the LLM has strong productive industries, including agriculture, mining and manufacturing. These industries are extremely important for driving economic growth and development in the entire economy.

Gold mining formed an important part of the municipality's economy in the past; however, due to the uneconomic nature of the remaining reserves; gold mining ramped down considerably in recent years. Currently extraction of industrial mineral deposits in Lesedi includes the following:

- Building sand (silica) quarries in the southwestern and southern parts of Lesedi;
- Shale / brick clay quarries northeast of Ratanda, Rensburg and Vischkuil;
- Refractory / fireclay quarries in the southern part of Lesedi east of Heidelberg; and
- Stone aggregate quarry adjacent to the old Witwatersrand / Nigel Gold Mine.

#### **8.1.3.2 Overview of the VKLM Economy**

The municipal economy is relatively small compared to the wider economy if one considers its contribution to GVA; VKLM contributes 5% to the District's GVA. The VKLM's Gross Domestic Product has grown substantially since 2011, it is expected that the economy will continue to grow for the remainder of 2016. Agriculture, transport, community services, finance and mining are the main contributors to economic growth in VKLM.

The economy is currently characterized by an increase in mining and related activities, especially in the Leandra area (VKLM, 2013). Mining activities are concentrated on coal and silica. About 3 million metric tons of coal and 2 million metric tons of silica are mined annually in the municipal area. In addition to mining other important sectors are agriculture (annual maize production is calculated at between 230 000 and 250 000 metric tons), finance, and manufacturing (capitalizing on the area's proximity to Gauteng). The regeneration of power stations, as well as the new Kusile power station, could serve as a catalyst to increased demand for coal reserves in the municipal area.

#### **8.1.3.3 Overview of the EMM Economy**

EMM has an open economy and accounts for a sizable share of South Africa's overall International trade. In 2012, the sector in EMM with the largest share GVA was the manufacturing sector, which accounted for R 40 billion or 22.7% of the GVA contribution to the total economic activity. The sector that contributed the second most to the EMM was the



finance sector with 21.5%, followed by the community services sector with 18.8%. The sector that contributed the least to the economy of EMM was the agriculture sector with only R 763 million or 0.38% of the total GVA of EMM. Manufacturing underpins the local economy and should remain the key sector on which efforts to revitalise and expand the metro's economy should be focused. Similar to LLM, EMM economy was initially based on the gold mining sector. Currently the mining sector only contributes 8% to the municipal GDP; however, indications are that mining operations could well be revitalised.

#### 8.1.4 Community health

Access to health services is an important aspect of socio-economic well-being. The study area is serviced by several hospitals, health care centres, clinics and mobile clinics; with the latter focussing on rural households.

Access to health services and facilities is an important aspect of socio-economic well-being. The secondary study area have access to several hospitals, health care centres, clinics and mobile clinics; with the latter focussing on isolated rural areas.

Data available for EMM, which comprised a significant proportion of the study area, revealed that within the under-5-year age group, communicable diseases and maternal, perinatal and nutritional conditions accounted for almost 75% of deaths among males and females, while injuries accounted for around 12% for both genders. Whereas within the 5–14-year age group, communicable diseases and maternal, perinatal and nutritional conditions accounted for 36.6% of deaths among females versus 28.8% among males. There were also differences for HIV/AIDS and TB mortality (23.9% among females versus 21.8% among males), and injury-related deaths (19.5% among females versus 29.0% among males). Within the 25–64-year age group, the majority of deaths were due to HIV/AIDS and TB plus non-communicable diseases (64.8% among males and 70.1% among females). Injuries accounted for a small proportion of deaths in this age group, with the percentage being much higher among males than females (15.4% versus 4.3%).

South Africa is experiencing a severe generalised HIV/AIDS epidemic, which is affecting the social and economic fabric of the country. The causes are multifactorial, but poverty, lack of education and vulnerability are important contributing factors. HIV/AIDS incidence has increased slightly in LLM from 11% in 2013 to almost 13% in 2015, within EMM the rate declined from 27% reported in March 2011 to 15% in 2013,

Tuberculosis (TB) management remains a challenge in South Africa and in the study area; especially its co-morbidity with HIV/AIDS. Diseases of poverty, mostly infectious diseases, are resulting in high infant and maternal mortality in the rural pockets of the study area.

#### 8.1.5 Housing and Tenure Status

The majority of households in the secondary study area reside in formal dwellings. Ward 7 in VKLM boasts the highest proportion of formal dwellings while Ward 12 of LLM has the lowest proportion of households residing in formal housing (63%) (Table 17), this area also has largest proportion of households who reside in informal housing (35%). These





households generally reside in informal settlements in areas such as Kwazanele, Phumolong and several unnamed settlements scattered throughout the study area (Figure 3). The high proportion of informal dwellings in this Ward also explains why a large proportion of households do not have access to electricity and flush sanitation services, which unlike water, are usually provided only to households residing in formal housing units.

Housing type is also linked to ownership. Security of tenure contributes to more permanent and conventional housing types (e.g. formal), while a lack of security is often associated with informal dwellings. Just more than one third of dwellings within the Ward 7 and 12 is privately owned, of these almost two thirds have been fully paid off. The numbers of privately owned homes are considerably higher within Ward 72, 75 and 76, with more than half of all households indicating this type of tenure. A large proportion (38-41%) of the population residing in Ward 7 and 12 occupy their homes at no additional cost.

**Table 17: Type of housing**

Area	Housing category					
	Formal			Informal		
	Ward 2011	LM 2011	LM 2016	Ward 2011	LM 2011	LM 2016
Ward 12 (LLM)	63%	86%	90%	35%	13%	9%
Ward 72,75,76 (EMM)	78%	78%	81%	22%	22%	19%
Ward 7 (VKLM)	84%	81%	85%	10%	16%	14%
Source: StatsSA, 2013; StatsSA, 2016						

**Table 18: Tenure status**

Area	Tenure category			
	Owned and fully paid off	Owned but not yet paid off	Rented	Occupied rent-free
Ward 12	23%	11%	29%	38%
Ward 72, 75 and 76	24%	28%	34%	14%
Ward 7	22%	8%	29%	41%
Source: StatsSA, 2013				



**Figure 3: Informal settlement located 2.5km south-east of the proposed Project Site**

### 8.1.6 Household Services

Table 19 to Table 21 indicate the type of services that households have access to. Household access to water, sanitation and energy on Ward level is generally lower than the municipal average, with the exception being Wards within EMM, where household access is equivalent to municipal levels (Table 19). Household's access to regional water schemes is the lowest within Ward 12 of LLM (64%) and Ward 7 of VKLM (54%). Households in these two areas also seem to have limited access to flush sanitation facilities, with only 51% and 57% of households in Ward 12 and 7 having access to flush sanitation facilities, respectively. In contrast the majority of household's residing within EMM enjoy high levels of access to piped water and flush sanitation.

Household access to electricity for lighting, heating and cooking on Ward level is generally lower than the corresponding municipal average. The proportion of households who have access to electricity indicate that populations residing in LLM and VKLM generally have less access than households residing in EMM (Table 21).

**Table 19: Household access to water**

Source	Housing category					
	Ward 12	LLM	Wards 72, 75 and 76	EMM	Ward 7	VKLM
Regional/local water scheme	64%	89%	95%	96%	54%	76%
Borehole	31%	8%	1%	1%	30%	15%
Other	5%	3%	4%	3%	13%	6%

Source: StatsSA, 2013; StatsSA, 2016

**Table 20: Household access to sanitation**

Sanitation facility	Area					
	Ward 12	LLM	Wards 72, 75 and 76	EMM	Ward 7	VKLM
Flush toilet	51%	89%	76%	85%	57%	79%
Pit toilet	41%	7%	16%	7%	23%	9%
Other	8%	4%	8%	6%	20%	8%

Source: StatsSA, 2013; StatsSA, 2016

**Table 21: Household access to energy**

Primary and secondary energy sources per use	Area					
	Ward 12	LLM	Wards 72, 75 and 76	EMM	Ward 7	VKLM
<b>Lighting</b>						
Electricity	70%	90%	75%	82%	76%	85%
Candles	26%	9%	19%	13%	21%	13%
<b>Cooking</b>						
Electricity	50%	78%	72%	79%	57%	64%
Paraffin	13%	8%	22%	16%	15%	19%
<b>Heating</b>						
Electricity	38%	61%	59%	66%	44%	46%
None	13%	13%	9%	11%	32%	18%

Source: StatsSA, 2013; StatsSA, 2016



## 8.2 Primary Study Area

This section focuses on the characteristics of the primary study area as defined in Section 5.1 – namely, the extent of the farm portions comprising the footprint of the existing mining right area and a 100m buffer directly surrounding this area. The following aspects of the study area are described:

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

### 8.2.1 Land Use and Livelihood Activities

This section describes the land use and livelihood activities within and surrounding the primary study area (Figure 4). The discussion distinguishes between activities on properties comprising the mining right area and those neighbouring it. This division is motivated by the fact that the potential socio-economic impact on these areas are likely to be different. For instance properties bought out by the mine to make way for surface infrastructure will almost exclusively experience displacement impacts, whereas neighbouring properties and businesses will remain in situ, leaving them vulnerable to the any negative project-related impacts (Section 11.1.4-11.1.9).



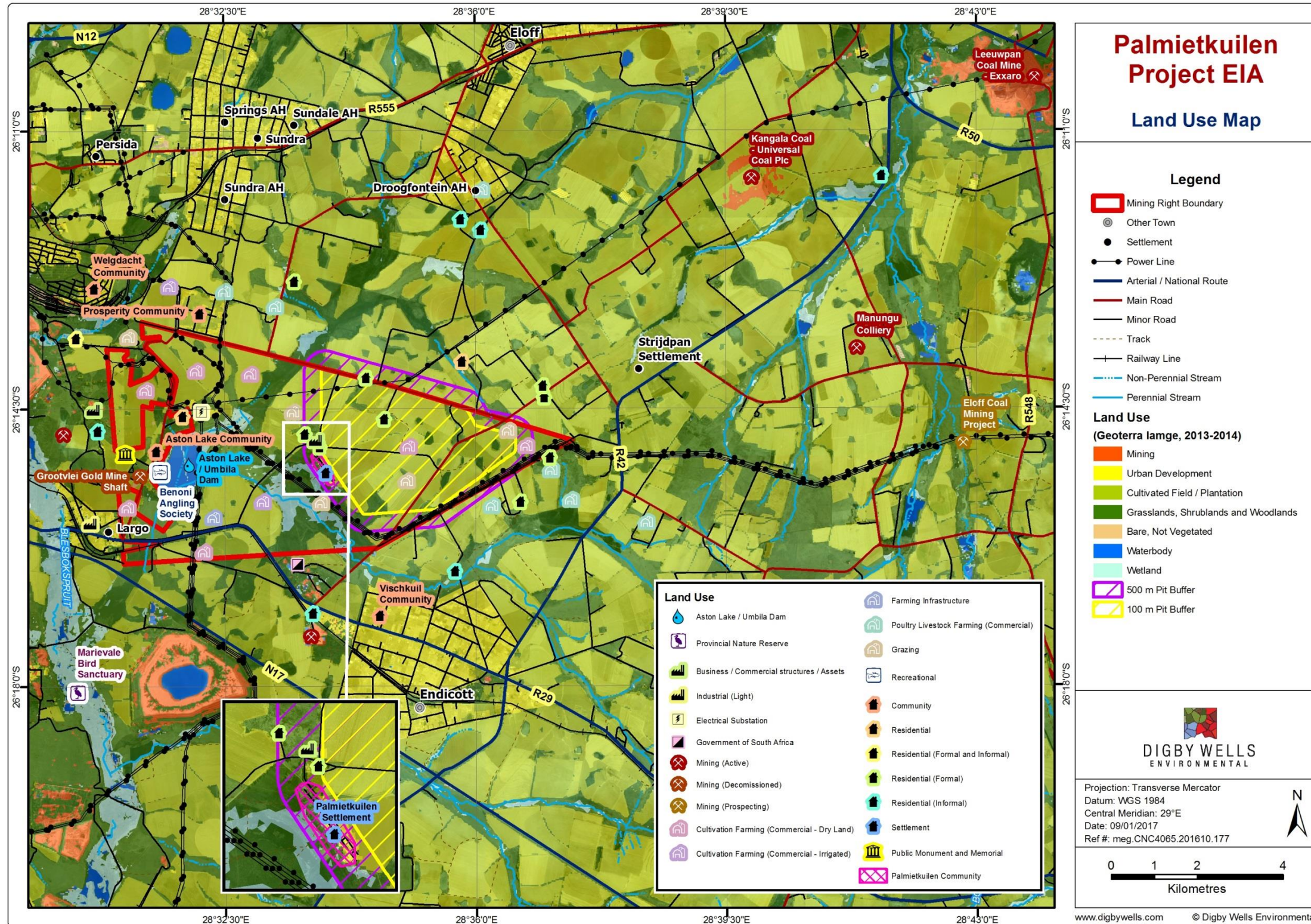


Figure 4: Land Use within Primary Study Area





### **8.2.1.1 Properties within the Mining Right Area**

The proposed project will inevitably acquire several portions of the farm Palmietkuilen 241 IR (Section 11.1.4) – land use activities on these portions are illustrated in Figure 4 and described throughout the remainder of this section.

#### ***8.2.1.1.1 Commercial Agriculture***

Agricultural activities within the study area comprise irrigated and dry-land commercial maize and soya farming operations. Farmlands are under the ownership of privately owned companies (e.g. Palmietkuilen (Pty) Ltd/Schoeman Boerdery, Namutoni Boerdery (Pty) Ltd – Section 8.2.2) and generally produce for the local market within Gauteng and Mpumalanga. Farmland is either used by owners or leased out on an annual basis to other farmers who will cultivate the land and/or use it to graze livestock. Farms provide permanent employment for a number of permanent employees, which include unskilled farm labour and semi-skilled managerial staff. Farming operations are solely dependent on ground and surface water as well as extensive support infrastructure, which include pivoted irrigation systems, warehouses, workshops, farm office and worker accommodation, etc. The aforementioned improvements are essential for commercial production and required substantial financial investments from farm owners.



**Figure 5: Farmland on Palmietkuilen Ptn 2 prepared for commercial maize farming**

#### ***8.2.1.1.2 Livestock Grazing***

Several landowners are involved in livestock farming and use their properties to graze mostly cattle on areas specifically designated for grazing, or on harvested agricultural fields. Livestock farmers have established herds, of which they periodically sell off the young at



local auctions and abattoirs or to feedlots; while other livestock farmers purchase animals annually and raise them to sell.

Grazing practices of households involved with subsistence livestock farming differ from commercial farmers in the sense that these households only possess very small numbers of livestock (e.g. pigs, goat, sheep and cattle) and rely on limited grazing areas within the extent of their homestead or community.

#### ***8.2.1.1.3 Residential Land Use***

Land within the primary study area is also used for residential purposes by numerous households. These households can be sub-divided into three broad categories: landowning households, households who formally lease residences on properties, and households of domestic/farm workers or non-landowning farm dwellers/occupants.

In most instances landowning families reside permanently on the affected properties, usually together with households comprising direct and/or extended families. Generally landowning families have resided on their land for several generations. For instance the Rossouw Poultry and Broiler Farm operations are a third generation family farm.

The study area also hosts a substantial number of households of farm workers/dwellers, domestic workers and those employed at nearby towns (e.g. Springs, Endicott, Vischkuil, etc.). Of particular note is a community that resides on Portion 2 of Palmietkuilen 241 IR, which comprise approximately 70 households. A detailed profile of these households is presented in Section 8.2.3. In terms of ESTA (Act No. 62 of 1997), the aforementioned land occupiers are entitled to certain land tenure rights, which prevents new landowners and government from evicting them unless the provisions of ESTA have been strictly followed.

#### ***8.2.1.1.4 Public infrastructure***

Infrastructure within the study area includes formal and informal residential dwellings, buildings used for business purposes (e.g. commercial farming infrastructure), privately owned service infrastructure (e.g. boreholes, piping, pivot irrigation systems, and dams), public infrastructure (e.g. Eskom Substation, Strijdpans Road and transmission lines) and communal infrastructure which include Umbila Farm School which is situated adjacent to the community residing on Palmietkuilen 241 IR Ptn 2. Roads within the Project site include both tarred and gravel roads; the majority of these roads are deteriorated due to lack of maintenance and likely become very difficult to use after heavy rains. These roads are used on a daily basis to commute to urban centres such as Springs, Strubenvale and Endicott.

#### ***8.2.1.2 Neighbouring Properties***

Livelihood activities on properties forming the north-east, east, and southern boundary of the MRA mostly comprise commercial maize farming (including dry land and irrigated fields), livestock grazing, commercial poultry farming operations and some residential uses (Figure 4). Generally these properties are sparsely populated with residential uses limited to the homes of the primary land user's household and a number of dwellings occupied by either

domestic or farm labourers. It should be noted that a number of residential structures on the north-eastern and eastern boundary of the MRA falls within a 500m radius of the open pit.

Aston Lake forms a substantial part of the western boundary of the mining right area, and separates the proposed mining operation from the Aston Lake Community on the opposite side of the water body (Figure 4 and Section 8.2.1.3.1).

### **8.2.1.3 Institutions and Settlements Surrounding the Primary Study Area**

Several sensitive socio-economic *elements* were identified in the vicinity of the primary study area; each of these is described below:

#### ***8.2.1.3.1 Aston Lake Community***

Land uses within Aston Lake vary considerably and include residential, business and recreational uses. It is expected that those who own lakeside properties settled alongside the lake due to the proximity to the lake, tranquillity of the area, and associate recreational activities, while other landowners have purchased properties with the intention to develop residential accommodation.



**Figure 6: Aston Lake and Community**

#### ***8.2.1.3.2 Aston Lake***

Aston Lake, also known as the Umbila Dam, is home ground to Benoni Angling Society. The Lake is used almost exclusively for recreational and/or competitive fishing, as no boats or jet skies are allowed. The Lake is mostly visited on weekends and is furnished with basic camping facilities and ablution services.



**Figure 7: Recreational fishing at Aston Lake**

#### ***8.2.1.3.3 Commercial Poultry Farming Operations***

Several Commercial Poultry Farms are situated within the vicinity of the primary study area (Figure 4), with the closest operation situated just more than 500m to the north of the proposed location of the Palmietkuilen open-pit. These operations include Rossouw Poultry and Broilers (Pty) Ltd that is part of the Rossgro Group, which has commenced commercial operations in 2003. The Rossgro Group is a family owned business, which specialises in the poultry industry, especially egg production, layer hen rearing, broiler production, and animal feeds.

Rossgro's rearing farms receives chicks from stock breeding farms, these chicks are kept in chicken houses, which houses tens of thousands of birds at a time. Rearing operations in turn supply stock to Rossgro's broiler breeder and egg production farms. The Company have distribution outlets in Mpumalanga, Gauteng and Limpopo. Poultry produce is sold to major South African food retailers including Checkers Hyper, Shoprite and Pick and Pay.

Poultry farms are generally managed and controlled on an exceptionally delicately balanced protocol which ensures the stability and well-being of the birds, any minor disturbance thereto will create a disruption and death. The major factors influencing the wellbeing of the birds are water, food, light, noise level, vibrations, and air quality. Due to the fact that mines often result in bio-physical impacts that change the levels of the aforementioned variable, these operations strongly prefer to be located some distance away from Mining and/or other Industrial operations, which could impact on the viability of the operations. Other considerations that need to be taken into account:

- Substantial investments are required to develop a commercial farming operations, such as those surrounding the proposed Project;





- Poultry farms, especially farms like the Rossouw Farm, which forms part of a system of farms, directly and indirectly results in employment of hundreds of people, who are either employed at the operation or at operations which are dependent on the potentially affected operation; and
- It is unlikely that the operation can be re-established elsewhere due to the fact poultry farms are usually linked to a continuous production cycle, for instance production farms cannot deliver products if breeding is temporarily stopped.



**Figure 8: Commercial Poultry Farming Operation adjacent to the Mining Right Area**

### 8.2.2 Land Ownership

Figure 9 below indicates that the primary study area comprises mostly land under the private ownership of Palmietkuilen Pty Ltd, who also own Schoeman Boerdery, with several sections falling under parastatal ownership. Parastatal land within the study area is owned by Eskom Pty Ltd, who operates a substation from the property. Palmietkuilen Pty Ltd, as well as several others (e.g. Namutoni Boerdery, Silver Dune Trading), 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.



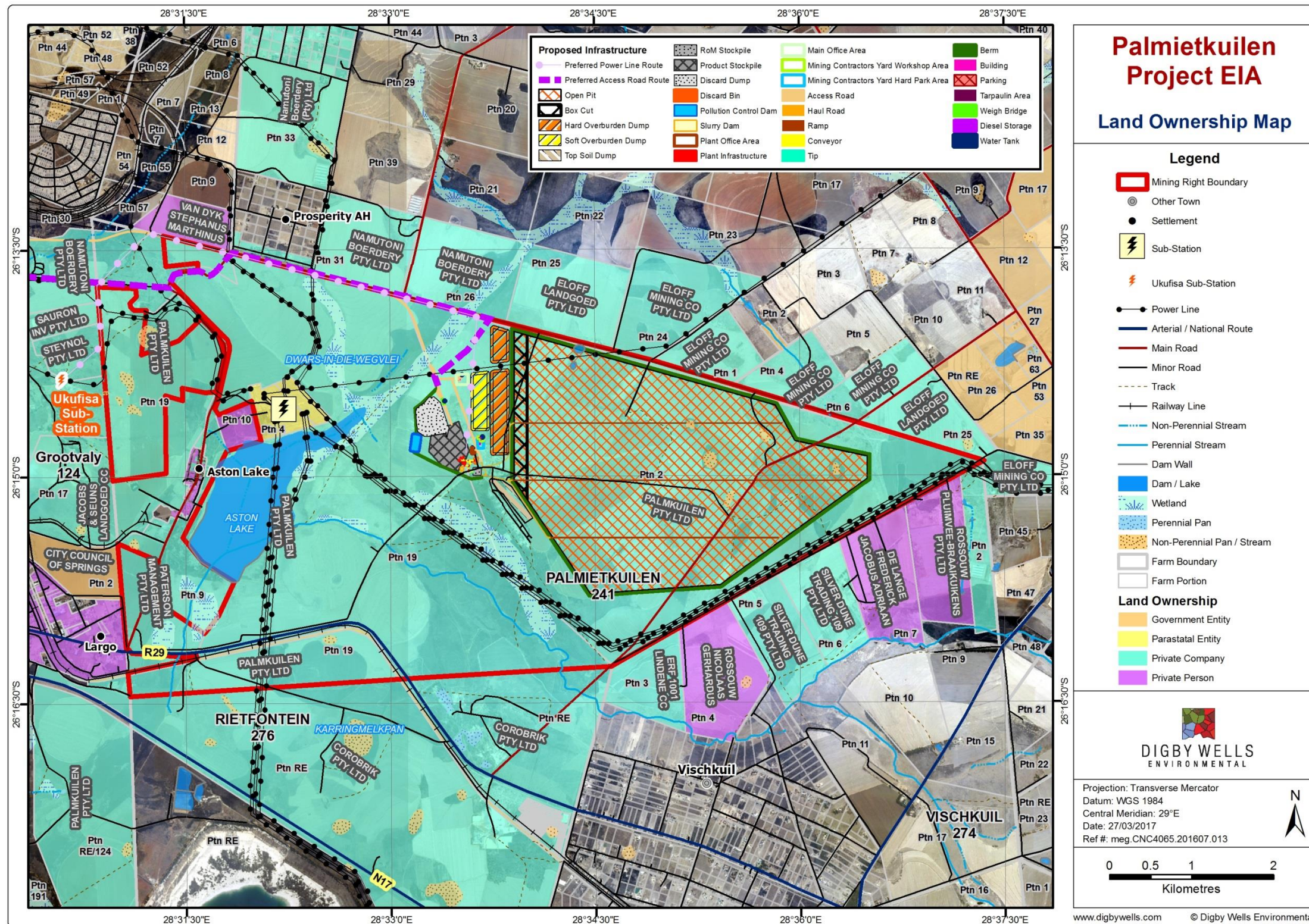


Figure 9: Ownership of Properties within the Primary Study Area



### 8.2.3 Socio-Economic Characteristics and Livelihoods

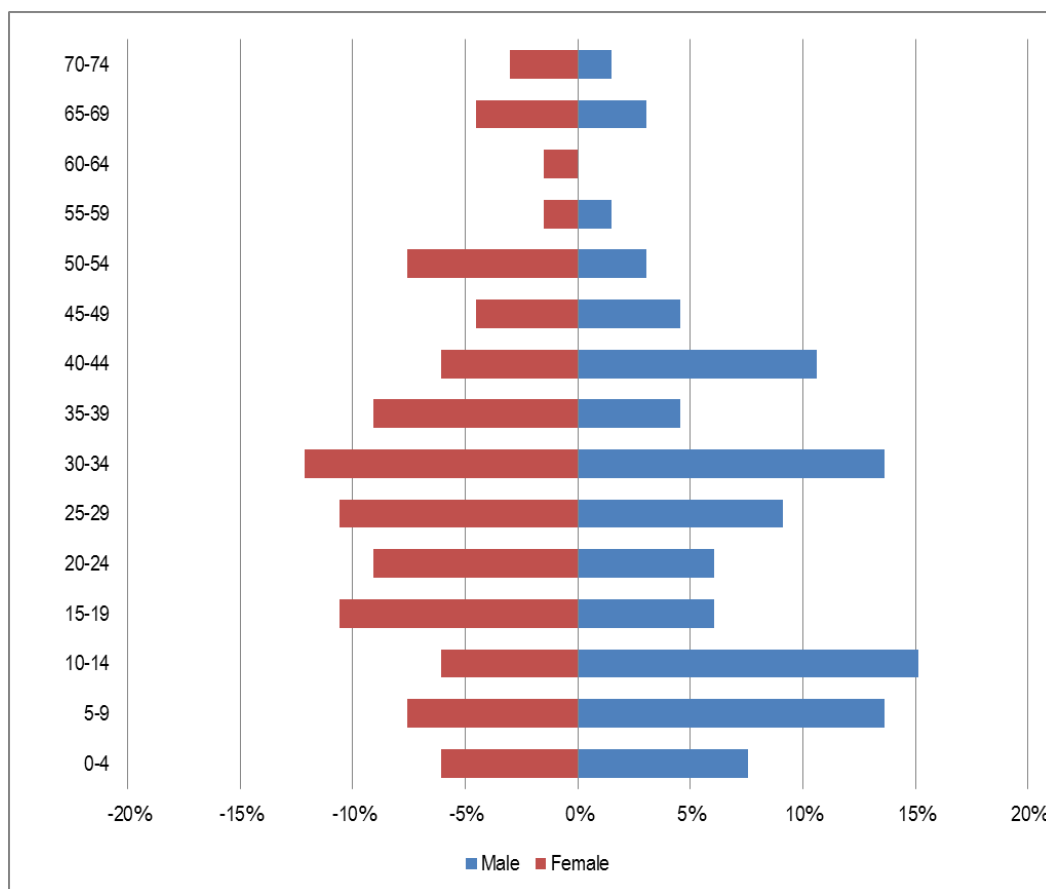
The socio-economic household survey conducted for the project explored the socio-economic characteristic of households and individuals who form part of the Community who resides on Ptn 2 of Palmietkuilen 241 IR (see Section 5.2). A total of 45 households were included in the survey; these households comprised 204 household members. The findings of the survey are presented in the remainder of this section.

#### 8.2.3.1 *Demographics*

The demographic attributes of surveyed households include the age and gender distribution of household members, sizes and composition of households, the incidence of polygamy, number of tenants, general migration trends, settlement patterns, home language, ethnicity and religion, as well as education and skills.

##### 8.2.3.1.1 *Age and Gender Distribution*

The age distribution of the surveyed population indicates a relatively old population with only 17% of household members being younger than 10 years, and an average age of almost 30 years. The population's gender ratio indicates that females and males are equally distributed. The age/gender distribution of the surveyed population is shown in Figure 10. The narrowing of the distribution amongst males in the 15-24 age brackets, likely suggests a nett out-migration of young men in search of economic opportunities elsewhere. Apart from that, the relatively narrow base of the pyramid (denoting a small proportion of young persons) suggests that the population growth rate is fairly low and/or potential high child mortality rate.



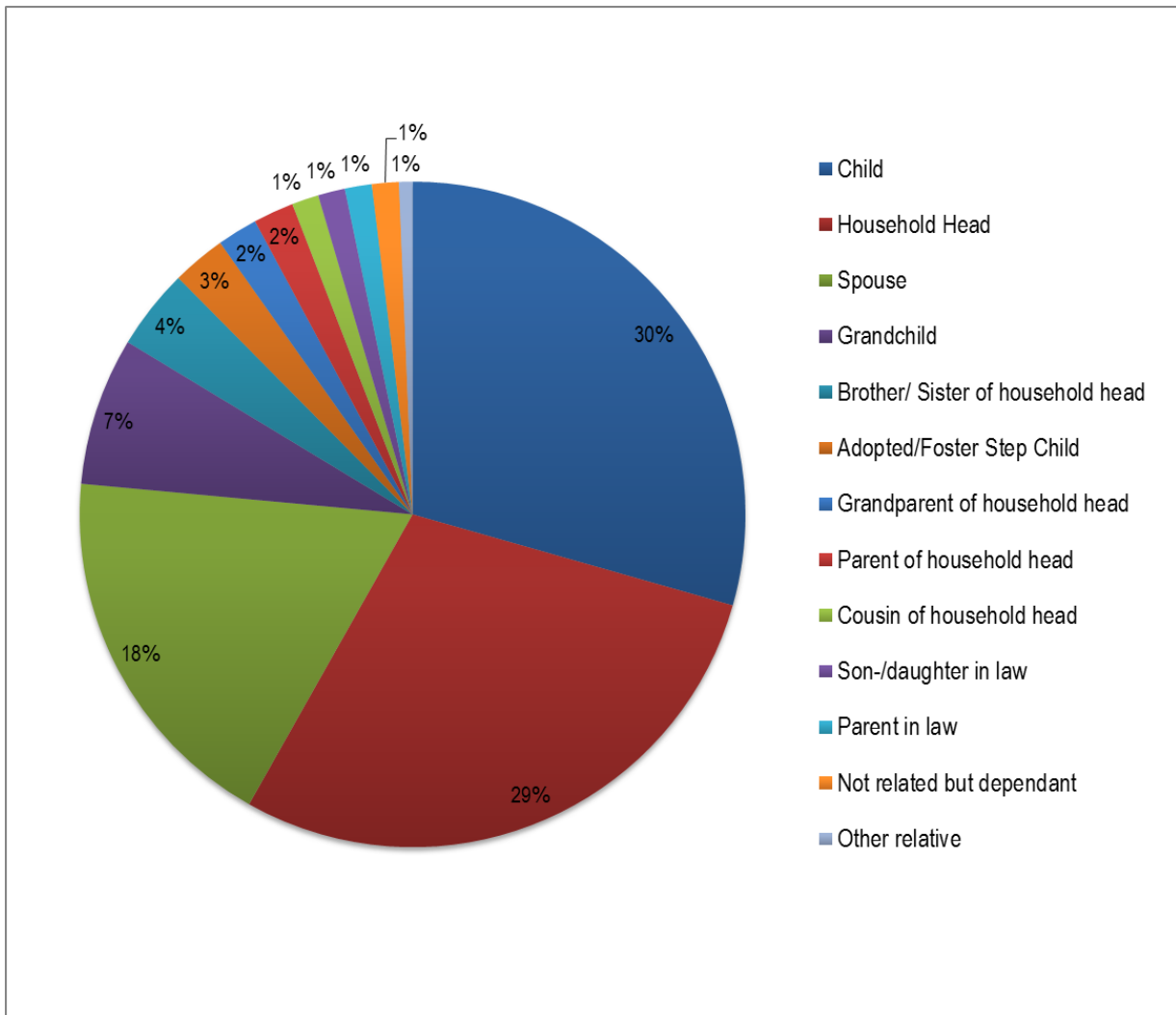
**Figure 10: Age and gender distribution**

**8.2.3.1.2 Household Composition**

The average household size (calculated by dividing the total number of household members recorded during the survey by the number of surveyed households) is between four and five members. It is relatively uncommon for extended family members to share the same household; siblings, grandchildren, nieces and nephews, in-laws and parents of household heads comprise only 20% of the members of the surveyed households.

The composition of the average household is shown in Figure 11. Comparing the ratio of children to parents (household head or his/her spouse), the average couple in an average sized household has at least 1 child living with them. None of the households reported a female household head. Only one quarter of the persons aged 19 years or older are married, while divorce is relatively rare – having been reported by only 1% of surveyed individuals. The remainder are either living together with their partner (30%) or are single (43%).

In addition to permanent household members several homesteads also offer accommodation to tenants. Just more than a quarter of households (27%) rent out rooms to tenants, with the average number of tenants per affected household being between two and three persons. The survey recorded a total of 30 tenants.



**Figure 11: Relationship of household members to the household head**

**8.2.3.1.3 Land Tenure and Residency**

On average households occupied their current homestead for 25 years, although this varies between households (Table 22); with almost half of the households indicating that they have resided at their current dwelling for more than 30 years, followed by approximately a third of households who resided in the area for less than 20 years.

The majority of surveyed households are South African (94%) followed by those that have migrated from Lesotho (6%). South African households generally moved to their current residence from elsewhere in Gauteng, Mpumalanga, Kwazulu-Natal, or Limpopo. In almost all instances, households indicated that they were given permission by the farm owner to occupy the land.

Only 27% of households reported that they had to pay for the land (or use of the land) where they reside, payment is usually to the farm owner. It should be noted that this figure does not take into account the number of households who pay indirectly for housing through working on the farm where they reside. Most households (84%) indicated that they did not have an

alternative home. Weekly or seasonal migration of household members is uncommon, with the entire adult population (aged 20 years or older) reportedly living in their households permanently.

**Table 22: Duration of residency at Palmietkuilen 241 IR Ptn 2**

Number of years	Proportion of households
5-9	13%
10-14	4%
15-19	13%
20-24	11%
25-29	9%
30-34	27%
35>	22%

#### **8.2.3.1.4 Language**

Household languages are relatively diverse, with IsiZulu spoken by just more than half of surveyed households, followed by Sepedi/Sesotho (20%), isiXhosa (14%) and isiNdebele (6%) speaking households.

#### **8.2.3.1.5 Education and Skills**

School attendance is relatively high amongst those of school going age (6-18 years), with most children (83%) attending primary school. Attendance varies considerably between boys (94%) and girls (69%), with attendance amongst girls being 25% lower.

Table 23 indicates that the relatively high rate of school attendance among the households' children is a relatively recent phenomenon; it is reflected in the relatively low education levels of adult household members, with nearly 51% of adults not having been able to complete primary schooling, of these 29% had no schooling at all. In contrast to the lower attendance rates among females reported earlier, the number of females who have completed primary education (50%) far outnumbers their male counterparts (29%). In terms of literacy, 59% of the surveyed population older than 10 years are able to read at a basic level, again the number of literate females is considerably higher when compared to their male counterparts.



**Table 23: Education levels of persons over 18 years**

Education level	Male	Female	Total
No education	39%	19%	29%
Some primary	26%	19%	22%
Some secondary	29%	50%	40%
Completed secondary	3%	13%	8%
Tertiary	3%	0%	2%

As part of the survey, respondents were presented with a list of skills (e.g., administrative, clerical, driving or mechanical skills.) that could provide opportunities for employment on mining-related projects. Respondents were asked to indicate whether any household members possessed one or more of the listed skills. Such “employable skills” are relatively rare among the surveyed household members; of the adult population, only 23 individuals indicated that they have any of the skills indicated in the questionnaire, with the most prominent skill being driving, followed by operation of heavy equipment (Table 24).

**Table 24: Prevalence of employable skills among persons over 18 years**

Skill	Total
Driving	13
Operation of heavy equipment	5
Computer Operating	2
Building/Construction	2
Plumbing	1
<b>Total</b>	<b>23</b>

### 8.2.3.2 Livelihoods

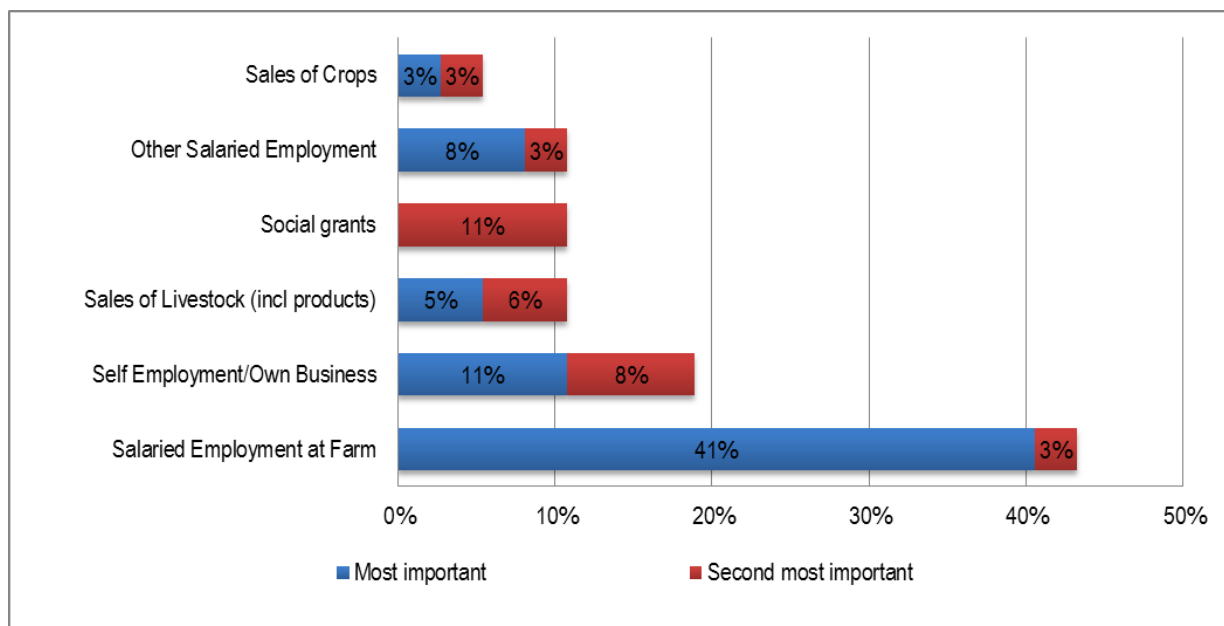
Livelihoods, in the sense that the term is used here, refer to strategies that households and individuals employ to meet their economic and survival needs. Such strategies may involve cash income, but this is not necessarily the case; as a household may also meet its needs through subsistence activities (e.g., growing food, and bartering produce for necessities). A household or individual may engage in more than one form of livelihood, some being cash-based and others being subsistence-oriented.

The first sub-section below outlines the main livelihood strategies of surveyed *households*. This is followed by a discussion of the economic activities of *individual* household members, and how this contributes to the overall household economy. The third sub-section gives an overview of households’ income and expenses. The final sub-sections discuss some of the

most prevalent livelihood strategies among the surveyed population, namely agriculture, self-employment/piecework and petty trading.

**8.2.3.2.1 Household Livelihood Strategies**

As was mentioned, a household may pursue more than one livelihood strategy. Nearly two thirds of surveyed households (63%) rely on two or more types of livelihoods. Figure 12 depicts the most common forms of livelihood identified amongst the survey population and indicates the percentage of households who identified each as being either their most important or second-most important form of livelihood. The figure shows that salaried employment at surrounding commercial farms is the most important means of survival for the majority of households: 41% of households identified this as their primary livelihood, while another 3% identified it as their second-most important source of livelihood. The next-most common forms of livelihoods are self-employment (which is important either as a primary or a secondary source of livelihood) and sales of livestock or livestock products (which is equally important as a primary and secondary source of livelihood). Social grants form the second most important source of livelihood for only 11% of surveyed households.



**Figure 12: Livelihood strategies and their importance to households**

**8.2.3.2.2 Contribution of individuals to the households economy**

In keeping with the results that farming related employment is the most common primary household livelihood strategy, this activity is also the most frequent occupation among individuals aged 18 years and older. As indicated in Table 25, 22% of surveyed adults cited farm-related employment as their primary occupation; this is followed by day labour/piecework and petty trading (if non-income related activities such as staying at home, not looking for work or still in school/studying are disregarded). Almost no adult household members indicated that they practice a secondary occupation to supplement household income.

**Table 25: Primary occupations of persons 18 and older**

Livelihood activity	% of population
Employed as Farmworker	22%
Unemployed and looking for Work	22%
Day Labourer/Pieceworker	14%
Petty Trading	12%
Staying at home not looking for work	8%
Social grants	8%
Livestock Sales	6%
Other salaried employment	6%
Domestic worker	2%
Too old/sick to work	2%

#### 8.2.3.2.3 Household Income and Expenses

Only 42% of surveyed households reported that they received some form of cash income in the month prior to the survey. Table 26 lists the most common sources of households' main monetary income. Following this, Figure 13 provides a more detailed breakdown of income sources; it also indicates which income streams are regular (i.e. weekly or monthly), occasional (several times a year) or infrequent (once or twice a year, or less). As can be seen from the figure, about one-quarter of the surveyed households earn cash income from farm related-employment. A relatively large proportion of households (17%) reported that they receive a regular income from social grants. Monthly income from farm-related to employment was between R 1000 and R 5000 per month, while the amount received from social grants tend to be less than R 1000.

**Table 26: Main sources of cash income**

Income source	Proportion of households
Salary from Farm related employment	23%
Other Salaried/Waged employment	16%
Social grants/pension	14%
Tenants	12%
Self-employment	9%
Livestock sales	9%
Crop sales	9%
Petty trading	8%
Mining employment	7%



**Figure 13: Sources of cash income**

The most important household *expenditure* items are shown in Table 27. The table indicates the percentage of households who deemed each item as important, and have spent money on that item during the month preceding the survey. Food is by far the most common and important expenditure item, followed by medical expenses and clothes.

The average amount spent on each item is shown in Table 28 below, which indicates that households on average spend more money on food than any other item; relatively large amounts are also spent on medical costs, transport, clothes and child care. It is estimated that households spent on average just more than R 5 500 in the month prior to the survey.

**Table 27: Most important expenditure items**

Expense item	% Households for which this is the <u>most important</u> expenditure item	% Households for which this is the <u>second most important</u> expenditure item	% Households for which this is the <u>third most important</u> expenditure item
Food	64%	14%	13%
Child care	4%	27%	26%
Clothes	0%	32%	13%
Furniture	28%	5%	0%
Household energy	0%	18%	9%
Education	0%	0%	13%
Personal care items	4%	0%	9%
Medical expenses	0%	0%	9%
Transport	0%	0%	4%
Cigarettes and alcohol	0%	0%	4%
Livestock expenditure	0%	5%	0%

**Table 28: Average expenditure on items during the previous month (entire household)**

Expense item	Estimated Amount
Food	R 929.07
Child Care	R 660.00
Clothes	R 762.50
Household Energy	R 160.00
Education	R 500.00
Personal Care Items	R 500.00
Medical Expenses	R 750.00
Transport	R 700.00
Cigarettes and Alcohol	R 300.00
Livestock Expenditure	R 250.00
<b>Total</b>	<b>R 5 511.57</b>

#### 8.2.3.2.4 Agriculture

Farming is an important livelihood strategy for several households, both as a supplementary food source, and as a means to generate an income. Almost two thirds of households



indicated that they have access to arable land which they use, or have used in the past, for cultivation. This land is usually limited to single fields or vegetables patches located near the homestead. The majority of households who *do not* have access to land (78%), indicated that they either have no need for land or that there is not enough land available to produce a sufficient amount of food.

Households are generally allowed by the landowner to use land for small-scale agriculture at no additional cost; however, several households indicated that they have to rent land from the farmer for cultivation. Households tend to have access to very small pieces of arable land, which limits cultivation to vegetable gardens. The most common types of vegetables grown by surveyed households include potatoes, pumpkin, spinach and beans. It is common for households to either sell all of these crops or consume all, with almost none of the households indicating that they produce enough for dual usage.

#### **8.2.3.2.5 Livestock**

Livestock husbandry is fairly uncommon amongst the surveyed households, and it is mostly limited to poultry; however some households do own sheep, pigs or goats. Only 13 of surveyed households have poultry (mostly chickens). Most households keep livestock and poultry either for domestic consumption or sales or a combination thereof.

**Table 29: Types, numbers and uses of livestock**

Type of livestock	Number of households with at least one	Average no. per household
Poultry	13	19
Pigs	2	16
Goats	2	23
Sheep	2	3

Almost two thirds of households (65%) reported that they do not have any access to grazing areas for their livestock, which is why very few households own livestock. This is understandable as the most common type of livestock is poultry, which are typically left to wander around the homestead. Households, who do have access to grazing areas, usually do not have to travel considerable distances to reach them, with an average time taken to reach a grazing area being within 3 minutes, indicating that animals are grazed within the general pastures of the community.

When households who reported *not* having access to grazing land were asked the reasons for this, the most common answers (apart from the one that the household does not own any livestock) were that they had no permission to graze animals on the lands surrounding the property they currently reside.

### 8.2.3.3 Infrastructure and Services

This section discusses infrastructure and services, including housing, water and sanitation, refuse disposal, energy and fuel used for domestic purposes, transport, communication, and access to education and health facilities.

Social services and amenities are relatively well utilised by the displaced households; Table 30 shows the percentage of households who use a variety of services, as well as the first, second and third most common location where the respective services/resources are accessed. The most common access points for services are Springs, Endicott and Kwa-Thema.

**Table 30: Utilisation of services/resources**

Service	Most common location for access	% accessing	2nd most common location for access	% accessing	3rd most common location for access	% accessing
Primary school	Kwa-Thema	64%	Springs	36%	n/a	-
Secondary school	Kwa-Thema	70%	Springs	30%	n/a	-
Clinic	Springs	44%	Endicott	44%	Kwa-Thema	8%
Hospital	Springs	61%	Heidelberg	26%	Endicott	13%
Shops	Springs	100%	n/a	-	n/a	-
Bank	Springs	100%	n/a	-	n/a	-
Pension/ grant pay point	Springs	86%	Endicott	14%	n/a	-
Police station	Springs	100%	n/a	-	n/a	-

#### 8.2.3.3.1 Housing and Structures

The average number of structures per household is two, although some have as many as 6 structures. More than 70% of households have a combination of structures which include at least a brick house, a tin shack and a standalone toilet facility Table 31.

**Table 31: Types of household structures**

Type of structure	Number	% of households with at least 1	Average number
Mud hut/ traditional dwelling	1	2%	2
Jojo Tank	1	2%	2
Standalone shop/Business	4	9%	1
Graves	6	13%	3

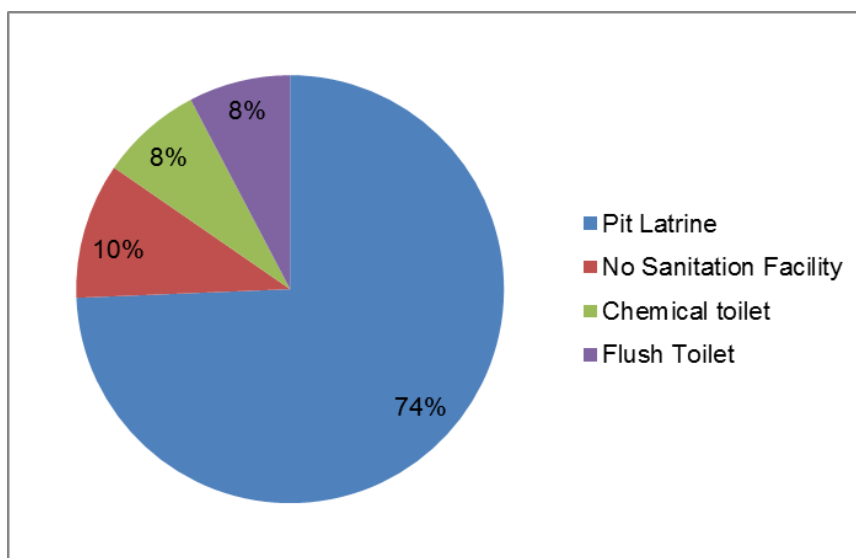
Type of structure	Number	% of households with at least 1	Average number
Storage	6	13%	1
Kitchen	8	17%	1
Veranda (Stoep)	22	47%	1
Toilet	33	70%	1
Tin shack	36	77%	1
Brick house	41	87%	5

**8.2.3.3.2 Water, Sanitation, Refuse disposal and Energy**

All households obtain water for domestic purposes from a tap inside their homestead. Apart from human consumption and washing, households also commonly use water for irrigation of crops and tending to livestock.

The types of sanitation facilities used by households are shown in Figure 14. Pit latrines are by far the most common, accessed by three quarters of all households; however, almost one tenth of households do not have access to any sanitation facility and resort to using the bush. It is relatively common for households to share sanitation facilities, with just less than 15% of households indicating that they share their facility with another household. Access to sophisticated refuse disposal methods are lacking among surveyed households. Village or communal dumping of refuse is by far the most common method of discarding refuse (75%).

All surveyed households indicated that they have access to electricity; despite this households still rely on a variety of energy sources (electricity, coal, wood and paraffin) for cooking purposes. In contrast all households use electricity for lighting.



**Figure 14: Type of household sanitation**

### 8.2.3.3.3 Transport

Table 32 shows the principal method of transport to work as well as shops and services, which reveals that the varying methods are used for each purpose. Travel by foot is the primary means of transport to work (which is mostly on surrounding farms), followed by public transport. Public transport is the most common mode of travel to shops and other public services, which are located in areas such as Springs and Kwa-Thema (Section 8.2.3.3).

**Table 32: Principal mode of transport to work and shops**

Destination	On foot	Public transport	Other
Work	71%	17%	12%
Shops and services	11%	81%	8%

### 8.2.3.3.4 Healthcare Facilities

Healthcare facilities are well utilised among the displaced households. All households indicated that they were able to access a public hospital or clinic the last time one of the household's members fell ill. Just less than two thirds of households indicated that at least one household member visited a public health care facility in the two weeks prior to the survey. None of the households opted to consult a traditional healer as their first point of consultation. On average, households are within an hour and 10 minutes' walk of a public health care facility.

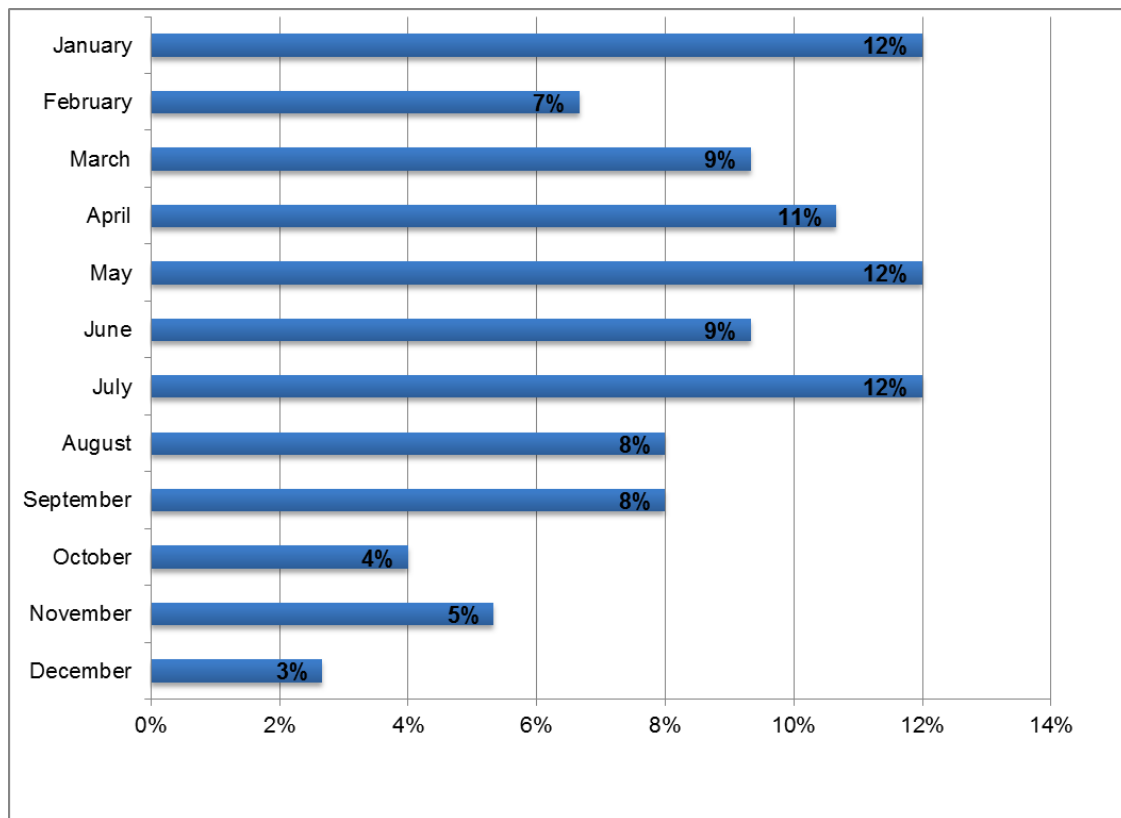
### 8.2.3.4 Indicators of Poverty and Vulnerability

Indicators of poverty and vulnerability investigated as part of the household survey includes food security, money shortages, health indicators, ownership of moveable assets, common problems and needs, and the presence of social networks.

#### 8.2.3.4.1 Food Security

The majority of households (72%) indicated that they had suffered food shortages at some period during the year prior to the socio-economic survey. The period during which household's experienced shortages varies considerably, however, a slightly larger proportion of households seem to have shortages during the first seven months of the year. The period of shortages coincides with the period during which money shortages are experienced by most households (Section 8.2.3.4.2), namely January to July (Figure 15).

Insufficient financial resources (which either prevent households from buying/growing food or force them to sell domestically-grown food to secure cash, as reported earlier), is the most frequently cited reason (84%) for inadequate nutrition, followed by lack of access to markets to purchase food (11%) and households who sold their food for cash income (5%).

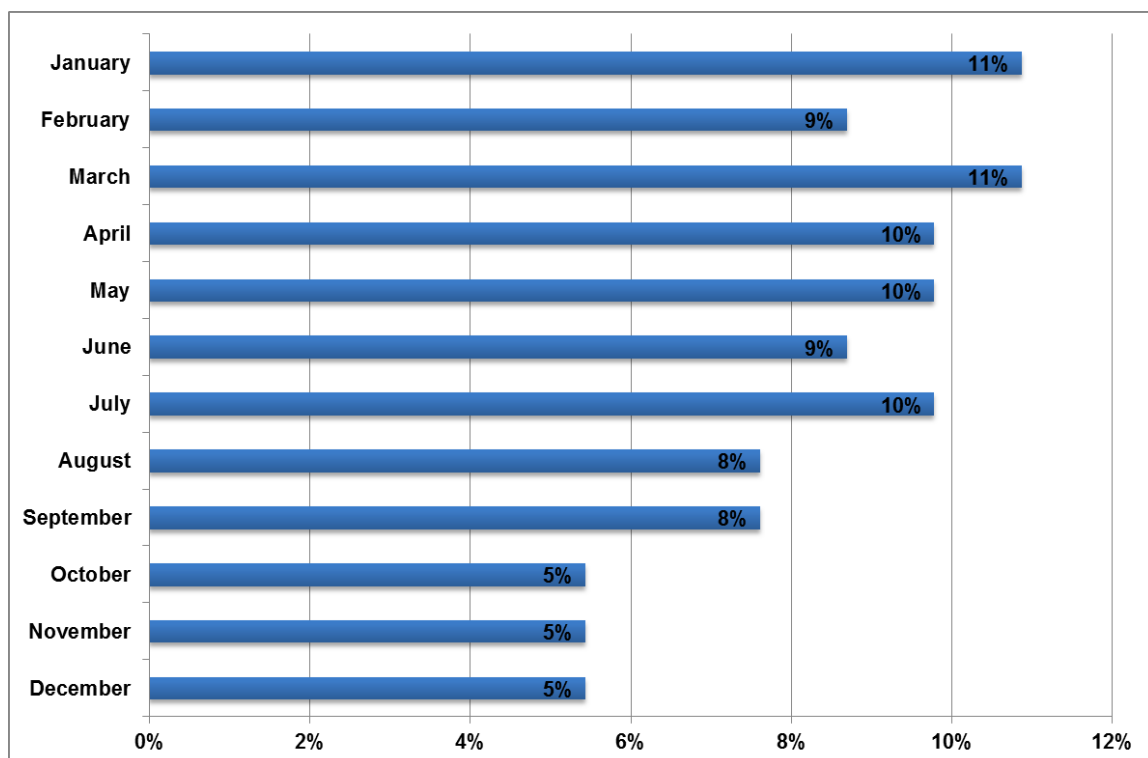


**Figure 15: Months during which food shortages were experienced**

#### **8.2.3.4.2 Money Shortages**

The majority (73%) of surveyed households experienced money shortages in the year prior to the survey. The average duration of shortages is three months, while some households experience a chronic shortage. Shortages are most common from January to July (Figure 16).





**Figure 16: Months during which money shortages occur**

#### **8.2.3.4.3 Health**

Aspects of community health that were assessed during the survey include:

- Prevalence of disabilities;
- Knowledge and behaviour pertaining to HIV/AIDS; and
- General community health issues.

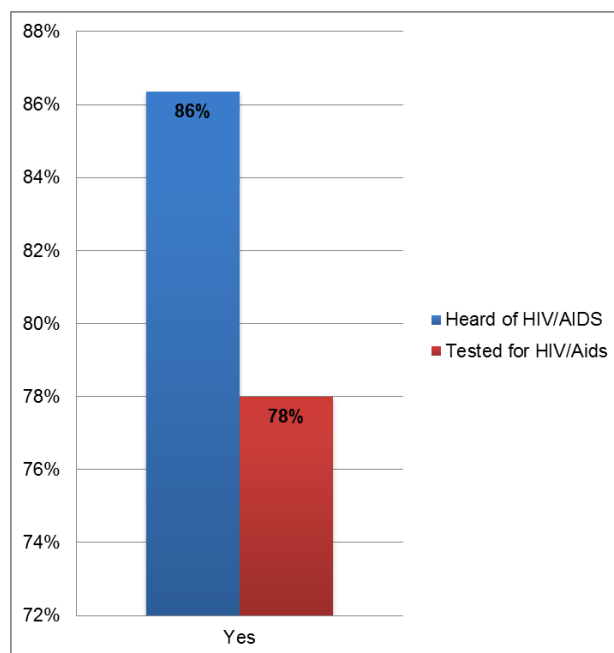
##### **8.2.3.4.3.1 Disabilities**

Disabilities pertaining to sight, hearing and mobility are the most common among surveyed households, with a total of 13 households having at least one member affected by one or more of these disabilities.

##### **8.2.3.4.3.2 Knowledge of HIV/ AIDS**

Knowledge and testing of HIV/AIDS is common among households, with 86% of interviewed members indicating that they are aware of the Virus, although being tested for the HIV/AIDS is lacking slightly behind awareness of the condition, with 11% less households having at least one member who has been tested (Figure 17). However, 52% of households reported that they had between two and five members tested for HIV/AIDS.

Related to the above aspect, is knowledge pertaining to the availability of condoms within the household's community. Almost all households (97%) affirmed that condoms are available in their community.



**Figure 17: Knowledge of HIV/ AIDS and prevalence of testing**

### 8.2.3.4.3.3 Community Health

Households were presented with a list of common health conditions, and were asked to indicate if any of their family members had suffered from the conditions over the past three years. As shown in Table 33 below, eye infections, stomach problems and high blood pressure is the most common disease to affect households, with between 15 and 20% of households having had on average one member infected over the past year. In most cases, households seek treatment from a modern health facility only.

Households were also asked about health problems resulting in death of family members, in the past five years. The mortality rate among the surveyed population was extremely low, with only 2% of households reported that they have lost someone during this period. In most instances the cause of death was unknown.

**Table 33: Prevalence of common health conditions**

Health condition	% affected households	Average number per household	Treatment method	
			Modern	Traditional and modern
Eye infection	20%	1	100%	0%
Stomach ache	20%	1	100%	0%
High blood pressure	15%	1	50%	50%
Skin rash	12%	1	80%	20%
Diabetes	10%	1	50%	50%

Health condition	% affected households	Average number per household	Treatment method	
			Modern	Traditional and modern
Witchcraft	5%	1	0%	100%
Edema	5%	1	100%	0%
Respiratory illness	5%	1	100%	0%
Worms	5%	1	100%	0%
Diarrhoea	5%	1	100%	0%
<b>Overall</b>		<b>1</b>	<b>82%</b>	<b>18%</b>

#### 8.2.3.4.4 Ownership of Assets and Facilities

As indicated in Table 34

**Table 34**, most common household assets include basic necessities, including cell phones (100% of households, average of two per households), beds and tables (more than 92% of households own at least 2 of each), stove, and bank accounts.

**Table 34: Assets and facilities**

Asset	% households who own at least one	Average per households (among those who own any)
Cell phone	100.0%	2
Table	96.2%	2
Television	96.2%	2
Bed	92.3%	2
Electric Stove	88.5%	1
Bank Account	80.8%	1
Refrigerator	76.9%	1
Radio	73.1%	1
DVD	69.2%	1
Washing Machine	53.8%	1
Coal/Paraffin Stove	46.2%	1
DSTV	34.6%	1
Satellite Dish	34.6%	1
Car	23.1%	1
Personal computer	23.1%	1

<b>Asset</b>	<b>% households who own at least one</b>	<b>Average per households (among those who own any)</b>
Geyser	11.5%	1
Bicycle	11.5%	1
Motorcycle	7.7%	1

#### ***8.2.3.4.5 Problems and Needs***

During the survey, respondents were presented with a list of putative problems or needs, and then asked to indicate the severity of each in their community. The responses are summarised in Figure 18. Lack of employment, transport, health care facilities, access to businesses or markets, and education are all problems that negatively influence the quality of life of at least 72% of households. Eviction from land, illegal land uses, community conflict and prostitution seemingly do not concern most households.

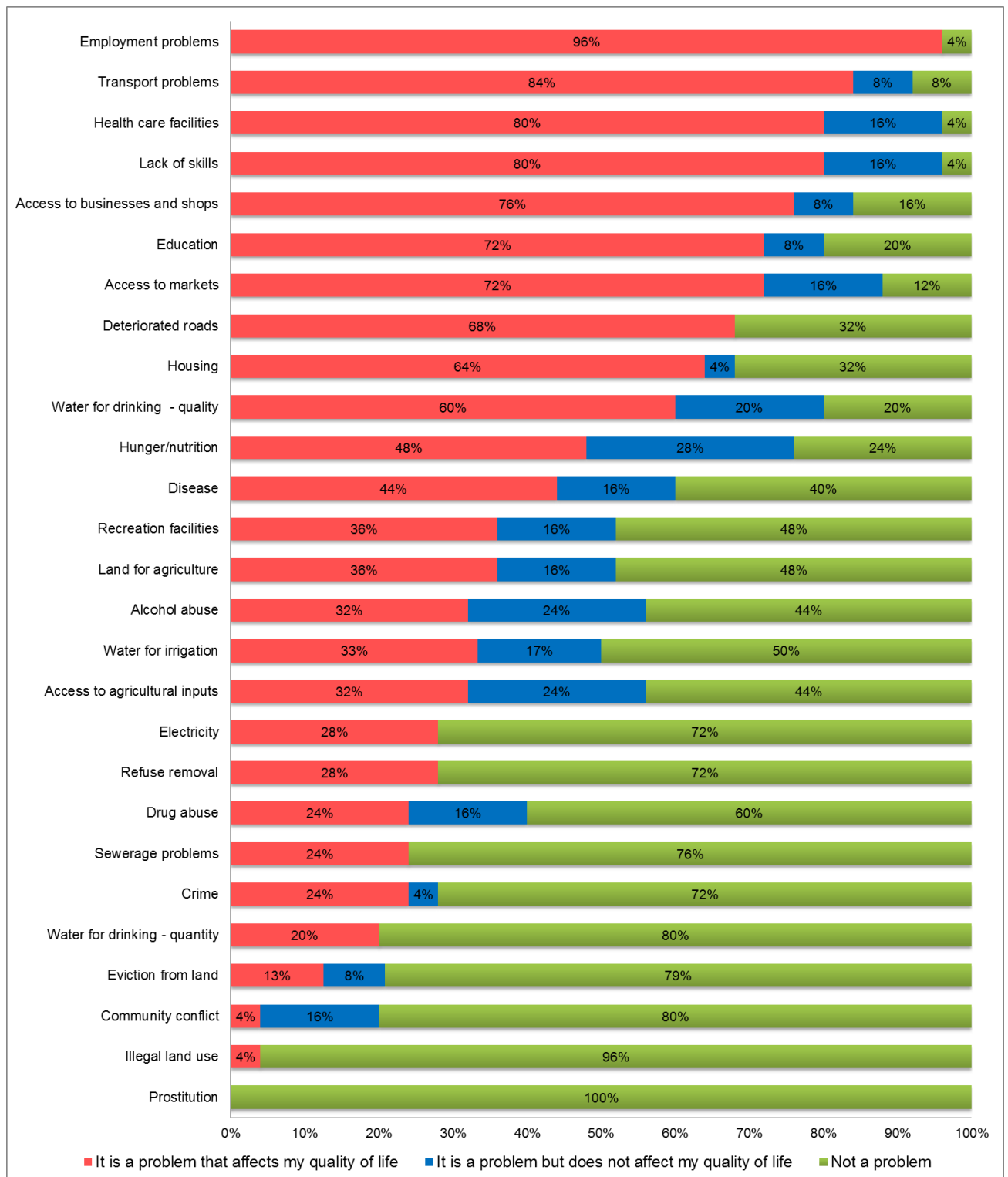


Figure 18: Needs analysis

8.2.3.4.6 Social Networks

The lack of social networks constitutes an indicator of vulnerability, since such networks can play a significant role in terms of providing support and assistance to households who are experiencing difficulties. During the socio-economic survey, almost two thirds of respondents



(63%) indicated that they have relatives in other households in the community where they reside. Just more than half of all households depend on relatives and friends in the same settlement for assistance with taking care of sick, elderly and children, finding employment, exchanging goods and services and borrowing money.

#### 8.2.4 Stakeholder Perceptions

Stakeholder perceptions of a proposed development are critical inputs into the SIA process. While perceptions are frequently based on insufficient information, this in itself may lead to, or increase, resistance to the proposed development. Insufficient project information could also raise unrealistic expectations amongst affected parties and/or host communities. 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 (see Section 5.2 above), the SIA also takes into account the stakeholder issues and concerns raised during the public participation process for the EIA study (which is on-going) (DWE, 2015g). The EIA public participation process has already consulted key stakeholders and government departments at the regional level, as well as some farm owners 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 by these respondents are summarised below:

- In general landowners are very resistant to the project, as they have seen what happens at other open cast coal mines, throughout the surrounding area, e.g. Delmas, Rehabilitated Gold Mining Operations in Springs etc. They are concerned that the implementation of mitigation will not continue and that rehabilitation will not take place;
- Coal dust will affect grazing capacity of land as well as have major implications for farmers who cultivate grazing, which they then harvest and sell to cattle farmers;
- Most directly affected households indicated that it would be impossible for them to reside within the vicinity of an operational Coal Mine, and recommended that the Mine purchases their entire property;
- Potential resettlement of farmworkers and associated loss of livelihoods: If property owners sell their farms, their farm workers will be without work and place of residence. They do not have the skills to work on the Project, and they and their families will be devastated;
- Loss of sense of community, mostly as a result that the proximity of the operation will result in people moving out of the immediate area, which will break up existing community networks – that are important to the farming community;
- Several landowners strongly recommended that if Canyon Coal considers to buy them out, the sales agreement should (a.) compensate for any standing business-related costs and (b.) allow sufficient time to re-establish the farm/business

elsewhere. It was cautioned that the relocation process is complicated by the fact that you need to re-establish infrastructure etc.;

- Stakeholders recommended that the Mine should appoint an independent property valuation expert to value their properties pre-mining, and that this valuation should inform any future negotiations in terms of purchases;
- Strongly feels that the regulatory authorities (DMR, DEA, Local and Regional Government etc.) are not competent and diligent enough to regulate stipulations in EMPs. In other words it is irrelevant of what the EIA team suggest to mitigate potential impacts, the regulation of these measures will inevitably fail, which has been seen at many other mines;
- Concerned that the project can exacerbate existing population influx into surrounding townships and/or informal settlement, which may place additional pressure on housing and increase the incidence of crime;
- Insufficient/selective consultation: Several landowners and land users have reportedly not been informed and consulted about project;
- Insufficient information leads to feelings of uncertainty/insecurity. Business owners are reluctant to plan ahead, or implement medium- to long term plans that are already in an advanced planning stage (for example expansion of current business and farming operations);
- Owners of properties neighbouring the mine, which will likely not be bought out by the mine, are concerned that the mine will ultimately result in a devaluation of property or impact the viability of their farming operations. Several landowners indicated that they purchased these properties for investment purposes and would actually incur financial losses if the Mine is developed;
- A large number of respondents are concerned that blasting will result in structural damage to residential and business structures;
- The land area in which the site falls is zoned for agriculture, and should be rezoned accordingly;
- Farmers will insist that the project proponent buys the whole property, in case properties are affected by mining or surface infrastructure, and not only portions thereof, as most farmers would not prefer farming next to a mining operation;
- 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. Property owners have acquired land and developed their properties out of a love for characteristics of the area, mining related pollution could have devastating effects on the sense of community among farmers;
- Pollution/depletion of ground and surface water. It is strongly believed that the proposed mine could deplete and/or pollute water sources. All the properties and livestock farming operations are exclusively reliant on underground water;

- Pressure on community services and public infrastructure, especially roads. Most respondents expressed a concern with regards to the potential deterioration of local roads;
- Population influx and the presence of a construction workforce will lead to increases in social pathologies; deteriorating safety and security conditions;
- Uncertainties to whether compensation will be sufficient and timed correctly to re-establish businesses and residences elsewhere.

## 9 Consideration of Alternatives and Sensitive Areas

As mentioned in Section 5.5 it is a requirement in terms of current environmental legislation that practical project alternatives be considered during impact assessment. Two types of project alternatives are considered in this section:

- The “no-go” option and alternative uses of the Project area in the event that the Project is not implemented; and
- Alternative infrastructure options and layouts.

### 9.1 The “No-Go” Option and Land Use Alternatives

#### 9.1.1 The No-Go Option

The most pertinent project alternative in the case of this project is the *no-go alternative*. The approach adopted in the assessment of impacts in this study entailed a comparison between anticipated future socio-economic conditions, with and without the Project. Hence the no-go alternative would essentially imply that none of the impacts (negative and positive) described in Section 11 would materialise, and that socio-economic conditions in the study area would continue to display their current characteristics and trends.

#### 9.1.2 Alternative Land Use Options

When considering the allocation of land for development and in deciding applications for planning permission affecting agricultural land, the agricultural implications must be considered together with the environmental, cultural and socio-economic aspects. In particular, prime quality agricultural land should normally be protected against permanent development or irreversible damage, such as in the case of the proposed project.

Land use decisions must be evaluated in terms of sustainability, broadly defined as balancing environmental, economic and social equity concerns. The primary land use categories that encompass basic functions are residential, commercial, industrial, recreational, institutional and agricultural uses. Optimal land use is determined by a number of factors, including climate, resources, population growth, economic activity and topography. When considering a new development for an area, it is required that other land use alternatives are considered to ensure that the development is justified and viable.

If not used for mining (the no-go option), possible alternative *land uses* include commercial agriculture combined with low-density residential uses (current land use). With regards to *agriculture*, the soils and land use impact assessment has found that the project site is situated on prime agricultural land (Digby Wells, 2015e). Due to the developed agricultural land, the possibility of using the proposed project site for *residential* purposes is unlikely. However, it should be considered that due to steady population growth and existing housing demand in the region, the likelihood of using the proposed project site for *residential* purposes is increasing as housing demand increases.

**Mining** appears to be the most viable and appropriate land use option from a social perspective, as it will result in considerably more economic growth and socio-economic development than either residential use and/or commercial agriculture (Economic impact Assessment, 2016), by offering the following:

- New direct and indirect employment opportunities for local community members;
- Enhancing the skills base among local community members and allowing for income generating activities;
- Growth and diversification of the local and regional economy;
- Increased economic contribution to the municipal areas, enabling better development of the towns and surrounding areas; and
- Increased power generation and associated downstream benefits as result of increase in security of coal supply.

## 9.2 Mine Plan, Infrastructure Layout and Affected Land Uses

As part of the Scoping Phase of the Project, sensitivities were identified for the various environmental and social aspects considered alongside the proposed development footprint. The identified sensitivities were plotted against the initial infrastructure site layout and conveyor and road routing options. Based on the results of the various specialist findings, the initial proposed development footprint was amended to reduce significant negative impacts to the current environment and associated aspects.

Current project planning indicates that alternative coal transport methods are still being considered, this being hauling coal via truck or conveyor to the Welgedacht siding, along the same route along the northern boundary of the mining right area. These two options are almost equally undesirable from a social perspective and will not result in significantly different impacts, as both alignments are uninhabited and are expected to have similar visual intrusion, property fragmentation and displacement impacts.



## 10 Impact Assessment

The impact assessment and mitigation methodology used to complete the SIA is presented in this section.

### 10.1 Identification of Impacts

A range of potential social impacts of the Project were identified based on information from: previous studies, socio-economic baseline conditions, the EIA public participation process, additional consultations during the impact assessment phase, a review of project activities, and specialist opinion. Impacts related to air, noise, dust and water pollution are only briefly referenced in the SIA report as the assessment and mitigation of these impacts are addressed in designated assessments (Digby Wells, 2016a; Digby Wells, 2016b; Digby Wells, 2016c; Digby Wells, 2016d; Digby Wells, 2016e; Digby Wells, 2016g; Digby Wells, 2016h and Digby Wells, 2016i).

### 10.2 Rating of Impacts

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

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

where

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

and

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

In the formula for calculating **consequence**:

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

The weight assigned to the various parameters for positive and negative impacts in the formula is presented in Table 35.

**Table 35: Impact Rating Options**

<b>Rating</b>	<b>Criteria and definitions</b>	
	<b>Negative impacts (Type of impact = -1)</b>	<b>Positive impacts (Type of impact = +1)</b>
<b>Intensity</b>		
7	Irreversible damage to highly valued items of great sociocultural significance or complete breakdown of social order	Noticeable, on-going social benefits which have improved the livelihoods and living standards of the local community in general
6	Irreparable damage to highly valued items of sociocultural significance or breakdown of social order	Great improvement to livelihoods and living standards of a large percentage of population
5	Very serious widespread social impacts. Irreparable damage to highly valued socio cultural items	On-going and widespread positive benefits to local communities which improves livelihoods
4	On-going serious social issues. Significant damage to structures / items of sociocultural significance	Average to intense social benefits to some people
3	On-going social issues. Damage to items of sociocultural significance	Average, on-going positive benefits, not widespread but felt by some
2	Minor medium-term social impacts on local population. Mostly repairable. Cultural functions and processes not affected	Low positive impacts experience by very few of population
1	Minimal social impacts, low-level repairable damage to commonplace structures	Some low-level social benefits felt by very few of the population
<b>Spatial scale</b>		
7	<u>International</u> : The effect will occur across international borders	
6	<u>Provincial/National</u> : Will affect the entire country	
5	<u>Regional/Provincial</u> : Extending beyond the secondary study area to affect District/Metropolitan Municipalities but contained within Gauteng and/or Mpumalanga Provinces	
4	<u>Municipal Area</u> : Extending throughout the secondary study area but contained within Local Municipal Areas	
3	<u>Local</u> : Extending across the site and to nearby settlements within the secondary study area	
2	<u>Limited</u> : Limited to the site and its immediate surroundings (i.e. primary study area)	
1	<u>Very limited</u> : Limited to specific isolated parts of the primary study area	
<b>Duration</b>		
7	<u>Permanent</u> : The impact will remain long after the life of the project	
6	<u>Beyond project life</u> : The impact will remain for some time after the life of the project	

Rating	Criteria and definitions	
	Negative impacts (Type of impact = -1)	Positive impacts (Type of impact = +1)
5	<u>Project Life</u> : The impact will cease after the operational life span of the Project (43 years)	
4	<u>Long term</u> : 6-15 years	
3	<u>Medium term</u> : 1-5 years	
2	<u>Short term</u> : Less than one year	
1	<u>Immediate</u> : Less than one month	
Probability		
7	<u>Certain/ Definite</u> : There are sound scientific reasons to expect that the impact will definitely occur	
6	<u>Almost certain/Highly probable</u> : It is most likely that the impact will occur	
5	<u>Likely</u> : The impact may occur	
4	<u>Probable</u> : Has occurred here or elsewhere and could therefore occur	
3	<u>Unlikely</u> : Has not happened yet but could happen once in the lifetime of the project, therefore there is a possibility that the impact will occur	
2	<u>Rare/ improbable</u> : Conceivable, but only in extreme circumstances and/ or has not happened during lifetime of the Project but has happened elsewhere. The possibility of the impact materialising is very low as a result of design, historic experience or implementation of adequate mitigation measures	
1	<u>Highly unlikely/None</u> : Expected never to happen.	

Impacts are rated prior to mitigation or enhancement and again after consideration of the proposed mitigation or enhancement measures. The impact is then determined and categorised into one of eight significance categories, as indicated in the Table 35. The relationship between consequence, probability and significance ratings is graphically depicted in Figure 19.

**Table 36: Significance Ratings**

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





### 10.3 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. Crucial measures contained in Canyon Coal's existing project policies were incorporated in pre-mitigation impact significance ratings.

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.

### 10.4 Presentation of Assessment Results

The structure according to which each impact is discussed is as follows:

- Narrative description of the impact;
- List of measures/procedures identified to avoid and/or ameliorate negative impacts and enhance positive ones; and
- A table presenting the rating of the impact before and after the implementation of recommended mitigation or enhancement measures, a summary of these measures, and motivation for assigning particular ratings.

### 10.5 Cumulative Impacts

The anticipated cumulative impacts associated with the Project are discussed in Section 11.4. Cumulative impacts are defined as impacts arising from the combined effects of two or more projects or developments. The importance of identifying and assessing cumulative impacts stems from the fact that, in social, as well as natural systems, the whole is often more than the sum of its parts – implying that the total effect of multiple stressors or change processes acting simultaneously on a system could be greater than the sum of their effects when acting in isolation (population influx into an area, for instance, might not only double the pressure on local infrastructure and services – it may cause them to collapse completely).

## 11 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. For example, 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.

Secondly, the linkages between various potential project impacts are complex and can be mutually reinforcing. For example, in-migration and increased incomes can combine to put pressure on economies and public infrastructure. Impacts may also have both positive and negative dimensions. For example, employment creation is an important project benefit, but may also contribute to social conflict or excessive in-migration. Finally, many social impacts cascade. For example, in-migration could in itself be project-induced impact, but in turn may engender additional impacts, such as pressures on available services and natural resources.

Although it is necessary to keep the complexity of social impacts in mind, it is also necessary to produce an SIA report that will be accessible to a non-specialist audience and meet the requirements of the Project. For this reason, predicted impacts have been categorised in terms of the Project phase in which it is likely to originate (construction, operation or closure), recognising that many impacts will span over more than one project phase. Within each category, anticipated positive and negative impacts have been grouped together.

Table 37 lists the social impacts that were identified for the Project. Activity/s that will directly or indirectly contribute to triggering the impact is also tabled. It should be noted that the tabled activities includes activities outlined in the MWP, SLP as well as activities generally associated with the identified impact.

**Table 37: Overview of Potential Impacts**

Phase	Type	Impact name	Activities triggering impact
<b>Construction</b>	Positive	Employment creation during construction	Most project activities during construction and operation will require a workforce. The following activities are direct trigger of employment: <ul style="list-style-type: none"> <li>▪ Employment and capital expenditure; and</li> <li>▪ Construction of mine related infrastructure, including haul roads, pipes and dams</li> </ul>
		Multiplier effects on the local economy	All project activities, which involves expenditure, especially the following <ul style="list-style-type: none"> <li>▪ Employment and capital expenditure;</li> <li>▪ Construction of mine related infrastructure, including haul roads, pipes and dams; and</li> <li>▪ Implementation of activities outline in the SLP and Social Performance Policies.</li> </ul>
		Community development and social upliftment	All project activities which are necessary to sustain the construction and functioning of the Project, as the Project as a whole is obligated to adhere to its SLP and community development commitments, the following activities will be the primary triggers: <ul style="list-style-type: none"> <li>▪ Employment and capital expenditure; and</li> <li>▪ Implementation of SLP commitments and Social Performance Policies.</li> </ul>
	Negative	Displacement-related impacts	The following activities will be the primary triggers of direct displacement related impacts: <ul style="list-style-type: none"> <li>▪ Land acquisition;</li> <li>▪ Creation of Open pit to access coal reserves;</li> <li>▪ Site clearing, including removal of topsoil and vegetation;</li> <li>▪ Construction of surface infrastructure; and</li> <li>▪ Blasting and development of initial box-cut, including stock piling</li> </ul>
		Disruption of movement patterns	The following activities will disrupt movement: <ul style="list-style-type: none"> <li>▪ Relocation of infrastructure, especially planned relocation of roads</li> </ul>

Phase	Type	Impact name	Activities triggering impact
			<ul style="list-style-type: none"> <li>▪ Blasting and development of initial box-cut, including stock piling;</li> <li>▪ Construction of mine related infrastructure, including haul roads, pipes and dams; and</li> <li>▪ Loading, hauling and stockpiling of overburden, and RoM coal.</li> </ul>
		Influx related impacts	<ul style="list-style-type: none"> <li>▪ All project activities will contribute to this impact, as it is the perception of the entire Project, as opposed to particular activities, which triggers influx. However, the following activities are usually the main drivers of influx;</li> <li>▪ - Employment and operational expenditure; and</li> <li>▪ - Construction of mine related infrastructure, including haul roads, pipes and dams.</li> </ul>
		Impact on community member's health and safety. Several project activities entail some inherent risk for human health	<p>All project activities will have some inherent risk for human health, however the following activities could have the most significant health and safety impacts</p> <ul style="list-style-type: none"> <li>▪ Blasting and development of initial box-cut, including stock piling;</li> <li>▪ Construction of mine related infrastructure, including haul roads, pipes and dams;</li> <li>▪ Loading, hauling and stockpiling of overburden, RoM coal;</li> <li>▪ Plant and equipment operations;</li> <li>▪ Storage, handling and treatment of hazardous products and waste;</li> <li>▪ Demolition and removal of all infrastructure; and</li> <li>▪ On-site water use and storage</li> </ul>
		Impacts on surrounding land users	<p>Most project activities will contribute to impacts on surrounding land users (e.g. noise, blasting, dust, etc.), especially:</p> <ul style="list-style-type: none"> <li>▪ Blasting and development of initial box-cut, including stock piling;</li> <li>▪ Construction of mine related infrastructure, including haul roads, pipes and dams;</li> <li>▪ Loading, hauling and stockpiling of overburden, RoM coal;</li> <li>▪ Plant and equipment operations;</li> <li>▪ On-site water use and storage</li> </ul>

Phase	Type	Impact name	Activities triggering impact
			<ul style="list-style-type: none"> <li>▪ Storage, handling and treatment of hazardous products and waste; and</li> <li>▪ Demolition and removal of all infrastructure</li> </ul>
		Opposition because of perceived negative impacts	<p>All project activities. Stakeholders usually form perceptions on the Project as whole and not individual activities. However it is anticipated that stakeholders would be inclined to submit grievances in relation to the impacts of the following activities:</p> <ul style="list-style-type: none"> <li>▪ Blasting and development of initial box-cut, including stock piling;</li> <li>▪ Construction of mine related infrastructure, including haul roads, pipes and dams;</li> <li>▪ Loading, hauling and stockpiling of overburden and RoM coal;</li> </ul>
<b>Operation</b>	Positive	Employment creation during operational phase	Most project activities during operation will require a workforce.
		Stimulation and growth of the local and regional economy	<p>The following activities will be the primary triggers of economic growth:</p> <ul style="list-style-type: none"> <li>▪ Employment and project expenditure;</li> <li>▪ Payment of royalties and taxes;</li> <li>▪ Implementation of SLP; and</li> <li>▪ Plant and equipment operations.</li> </ul>
<b>Decommissioning/ closure</b>	Negative	Dependency on mine for sustaining the local economy, including	<p>Activities triggering impact:</p> <ul style="list-style-type: none"> <li>▪ Employment and operational expenditure; and</li> <li>▪ Dismantling of major equipment and infrastructure.</li> </ul>





## 11.1 Construction Phase

This section assesses the social impacts that will originate during the construction phase of the proposed Project, which will span one year (see Section 2.6). Predicted construction phase impacts include three positive and six negative impacts (Section 11.1.1-11.1.9). 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.

### 11.1.1 Employment Creation during Construction

#### 11.1.1.1 *Impact Description*

The proposed Project will require the establishment of substantial surface infrastructure (see Section 2.6) and therefore has the potential to provide direct employment to people within the secondary and primary study area during the construction phase. It is estimated that Canyon Coal's mining activities will directly create 168 full-time equivalent employment<sup>5</sup> (FTE) opportunities (Urban-econ, 2017).

Canyon Coal indicated that at least 136 employment opportunities will be available to individuals from communities within LLM (see Section 2.8.1). These positions will only last for a relatively short period (maximum 12 months), and will likely involve semi-skilled, but also some unskilled positions. However, the acquisition of new skills during the construction period will make individuals more employable in the future phases of the Project (Section 11.2.1).

A large number of households within the secondary and primary study areas face significant socio-economic challenges such as poverty, unemployment, and underdevelopment (Sections 8.1.2 and 8.2.3.2.3). Any construction related employment therefore has the potential to improve the livelihoods and income stability of future employees and their dependants, especially if employees originate from households which are socio-economically depressed.

Whether unemployed and under-employed individuals will be able to take up employment opportunities depends largely on their level of education, skill and work experience. Canyon Coal has indicated that only individuals who completed secondary school will be considered for employment at the Project (Section 2.8.1). A relatively large proportion (31-36%) of the population within the secondary study area has graduated from secondary school (Section 8.1.1.4). Data collected in the primary study area revealed a contrasting pattern, with only a small minority of individuals within the area (13%) that have completed secondary school;

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<sup>5</sup> Full time equivalent employment: One FTE man-year is equal to one person working for 40 hours per week for about 50 weeks per year. A FTE man-year means that if one person worked only 20 hours per week for 50 weeks in a year, its FTE equivalent would be 0.5; if two people worked for 20 hours per week for 50 weeks in a year, the combined work load would be estimated as one FTE man-year or one FTE job.



however, some of these individuals do have mining related skills (e.g. driving, operating heavy machinery – Section 8.2.3.1.5).

Relatively high education levels within the secondary study area, together with the fact that mining and quarrying is a relatively prominent industry in the region (Section 8.1.1.4), implies that at least some of the unemployed will have the potential and skills to qualify them for employment at the Mine. In addition Canyon Coal's SLP outlines several skill development and basic education initiatives that can provide relevant skills training and education to individuals who do not yet have the required skills to make them employable in future (see Section 2.9). It is therefore expected that sufficient labour will be available to fulfil and possibly exceed Canyon Coal's local recruitment target of 50%.

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 Project's activities (discussed in Section 11.1.2). It is estimated that Canyon Coal's mining activities will indirectly create an additional 313 FTE opportunities (Urban-econ, 2017).

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 (e.g. Endicott and Vischkuil). 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).

#### **11.1.1.2 Recommended Enhancement Measures**

Given that communities in the vicinity of the Mine (e.g. Palmietfontein Community, Welgedaght, Vischkuil, Slovo Park, etc.) will be most affected by the Project, it is consistent with national legislation (e.g. MPRDA, 2002; Mining Charter, 2016) and international good-practice standards (such as IFC PSs) that they should be given special consideration in terms of the benefits arising from the 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 women and youth, above the targets set out in the Mining Charter (Section 2.9.1.2). The positions reserved for the youth and women may only be filled with persons outside of these categories if it can be demonstrated that no suitable persons are available to fill these positions. The performance indicator for the promotion of employment of women and youth could be the number of local women and persons under the age of 30 who are employed during the construction phase of the project;



- 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, municipal structures and landowners in order to ensure local recruitment;
- Canyon Coal should consult neighbouring coal mines to determine if they would be willing to make their skills registers/ databases available to identify adequately qualified locally sourced labour (e.g. Leeuwpan Coal Mine, Kangala Coal Mine); especially mines within the region that have completed their construction phase or are entering mine closure (e.g. Manungu Coal Colliery);
- Canyon Coal 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 (e.g. Palmietfontein Community, Welgedaght, Vischkuil, Slovo Park, etc.) within the secondary study area, and structure its skills development endeavours (as part of its SLP commitments) accordingly. This option should be investigated during the next update of the mine's SLP;
- Where feasible, Canyon Coal 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 local Department of Labour (DoL) or institutions recommended by the local authorities (if 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 Canyon Coal and its subcontractors honour local employment policies and other measures to enhance local employment; 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.

### 11.1.1.3 *Impact Rating*

<b>IMPACT DESCRIPTION: Employment creation during construction</b>				
Predicted for project phase:	Pre-construction	Construction	Operation	Decommissioning
Dimension	Rating	Motivation		
<b>PRE-ENHANCEMENT</b>				
Duration	Short term (2)	Construction activities will take place during the first 12 months of the life of Mine	Consequence: Slightly beneficial (9)	Significance: Minor - positive (36)
Extent	Regional (4)	Although a substantial proportion of the workforce will likely originate from within the secondary study area, a considerable number of employees will be from areas located elsewhere in Gauteng and Mpumalanga Province		
Intensity type of impact	Moderate - positive (3)	Recruitment policies already promote local employment; however employment numbers expected to be low and for short period. Generally contractors tend to use their existing workforce, thereby sustaining current employment with these companies.		
Probability	Probable (4)	It is probable that local employment targets will be achieved; however, without appropriate mitigation and regulation, local employment targets will not be maximised.		
<b>ENHANCEMENT</b>				
<ul style="list-style-type: none"> <li>- Assign preferred employment status to those experiencing the bulk of the negative project impacts (communities located within and surrounding the Project footprint e.g. Palmietkuilen Community, Vischkuil, Endicott, Welgedach, Slovo Park, Aston Lake, and Prosperity);</li> <li>- Promotion of local, female and youth employment to achieve and where feasible exceed the targets set out by the Mining Charter;</li> <li>- Where possible labour-intensive construction methods should be promoted;</li> <li>- Verification of local residential status through consultation with appropriate authorities (e.g. municipal structures, community leaders, and landowners)</li> <li>- Consult neighbouring businesses/mines to determine if they would be willing to make their skills registers available;</li> <li>- Identify required core skills, expand skills audits to community and align and implement training and skills development initiatives to findings of audit;</li> <li>- Expand skills development programmes, especially ABET programmes, to include surrounding communities;</li> <li>- Recruitment via a registry of job seekers and potentially coordinated through the DoL;</li> <li>- Provide local employees with reference letters certificates of completion for in-house (on-the-job) training; and</li> <li>- Monitor subcontractors in terms of local employment targets.</li> </ul>				
<b>POST-ENHANCEMENT</b>				
Duration	Short term (2)	Construction activities will take place during the first 12 months of the life of Mine	Consequence: Moderately beneficial (12)	Significance: Moderate - positive (84)
Extent	Regional (4)	Although a substantial proportion of the workforce will likely originate from within the secondary study area, a large number of employees will be from areas elsewhere in Gauteng and Mpumalanga Province		
Intensity type of impact	Very high - positive (6)	Measures will ensure and potentially increase employment from local labour sending area, which will intensify positive change, especially among economically depressed households.		
Probability	Certain (7)	Monitoring will ensure that local recruitment targets are achieved		



## 11.1.2 Multiplier Effects on the Local Economy

### 11.1.2.1 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 (it is estimated that project related capital expenditure will accrue to R 712 000 000 during the LoM, while operational expenditure will amount to a total of R 4 231 000 000 during the first ten years of the Project, Section 2.8.2).

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 economy (Section 8.1.3). It is anticipated that the proposed project will have a total production impact of R 819.7 mill, a total GDP-R impact of almost R208 mill, and will create a total 739 FTE opportunities, primarily through increased production among businesses (Urban-econ, 2017). 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. Current indications are that Businesses supplying inputs to the mine's establishment will indirectly earn up to R33 700 000 in household income (Urban Econ, 2017).

Canyon Coal intends to focus on increasing opportunities for local HDSA suppliers of goods and services to the Project, and is committed through the Mining Charter to procure 40% of capital goods, 50% of consumables and 70% of services from HDSA suppliers (Section 2.9.1.2). A considerable part of the mine's needs will, however, be highly technical and unlikely to be found within the secondary study area. For these needs, Canyon Coal may procure from businesses in neighbouring Mpumalanga Province (which has a highly developed coal mining sector), or in Gauteng (which has a highly technical service and manufacturing sector). Such procurement will expose a wider area to the Mine's economic stimulus, albeit to a diluted degree.

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 accommodation options (e.g. guest houses or rental options) either locally (e.g. Vischkuil, Endicott, Strubenvale) or regionally; 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. Canyon Coal's estimated expenditure on wages during the first ten years will amount to R 214 613 000, with R 44 910 000 going towards semi-



skilled employees, who will mostly originate from within the secondary study area (Section 2.8.1).

The Project will likely trigger some population influx into the primary and secondary study area, which is mostly associated with negative socio-economic consequences (Section 11.1.6). 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.

Finally, the local economy will benefit from R 1 313 827 to be spent on LED and R 5 596 166 on HRD (Section 2.8); these aspects, if implemented effectively and sustainably, could represent progress within the primary and secondary study area (IFC, 2012), thereby also creating conditions conducive to economic growth.

#### **11.1.2.2 Recommended Enhancement Measures**

The measures recommended in Section 11.1.1 to maximise local employment 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 (Section 2.9.1.2);
- If any subcontractors are appointed, Canyon Coal should give preference to suitable subcontractors/SMMEs located in nearby towns (e.g. Welgedacht, Vischkuil, Endicott, Slovo Park, Springs, Aston Lake., etc.), then elsewhere in the secondary study area (e.g. Delmas, Springs, Nigel, etc.), and then only to contractors located in areas elsewhere in Gauteng or Mpumalanga;
- Where appropriate SMMEs do not exist locally, Canyon Coal 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, Canyon Coal should (a.) consider developing a register of local SMMEs and the types of goods and services provided by them; and/or (b.) consult nearby mines (e.g. Kangala and



Leeuwpaan Coal Mine) to determine if they would be willing to make their business registers/ databases available for use by the Project; and

- 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.

### 11.1.2.3 *Impact Rating*

<b>IMPACT DESCRIPTION: Multiplier effects on the local economy</b>				
Predicted for project phase:	Pre-construction	Construction	Operation	Decommissioning
Dimension	Rating	Motivation		
<b>PRE-ENHANCEMENT</b>				
Duration	Project life (5)	Will continue throughout the life of mine as per stipulations of MPRDA and will only taper down after closure	Consequence: Moderately beneficial (12)	Significance: Minor - positive (48)
Extent	Regional (4)	Will mostly include impacts in the secondary, however some specialised services will, at least initially, be procured from elsewhere in Gauteng or Mpumalanga Province		
Intensity type of impact	Moderate - positive (3)	Will derive from increased cash flow, stimulation of economic sectors, procurement, economic growth, increased local markets, and LED and HRD initiatives		
Probability	Probable (4)	Will depend on: proportion of local spending by employees; capacity of local enterprises to supply; effectiveness of LED and HRD initiatives.		
<b>ENHANCEMENT:</b> As for maximising employment benefits. Also: <ul style="list-style-type: none"> <li>- Give preference first to capable local service providers;</li> <li>- Develop local service provision capacity;</li> <li>- Monitoring of sub-contractors procurement;</li> <li>- Development of a register of local SMMEs;</li> <li>- Linkages with skills development/ SMME development institutions and other mining operations;</li> <li>- SMME skills development as part of mine SLP/LED commitments; and</li> <li>- Local procurement targets should be formalised in Canyon Coal's procurement policy.</li> </ul>				
<b>POST-ENHANCEMENT</b>				
Duration	Project life (5)	Will continue throughout the life of mine as per stipulations of MPRDA and will only taper down after closure	Consequence: Highly beneficial (15)	Significance: Moderate - positive (90)
Extent	Regional (4)	Will mostly include impacts in the secondary, however some specialised services will, at least initially, be procured from elsewhere in Gauteng or Mpumalanga Province		
Intensity type of impact	Very high - positive (6)	Mitigation will increase the intensity of multiplier effects substantially as it will concentrate impact to local area; sustainability of initiatives outlined in the SLP will also be increased if aligned with other those of other institutions		
Probability	Highly probable (6)	Increased local employment and procurement as well as skilled SMMEs will enhance likelihood of benefits to local economy		



### 11.1.3 Community Development and Social Upliftment

#### 11.1.3.1 Impact Description

Canyon Coal 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 (Section 2.9.1.2). 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 (see Section 8.1.2 and 8.2.3). These initiatives – especially if implemented in consultation with those of other developmental role-players (such as the LLM, Non-governmental organisation, mines, and other existing development programmes e.g. CRDCP, Municipal LED programmes) – can contribute substantially towards socio-economic development, sustainable jobs and income stability within the study area.

Canyon Coal's SLP and procurement policy outlines several actions that will enhance socio-economic development among local communities, particularly the following (Section 2.9):

- As part of 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 (e.g. Artisans), portable skills development, and ABET. HRD will mainly be focussed on mine workers; as mentioned previously, a minimum of 50% of the Mine's workforce will be sourced from local labour sending, likely in un- and semi-skilled positions, these employees will also benefit from work experience;
- As part of its LED strategy which will provide agricultural training and focus on communities affected by the proposed Project (see Section 2.9), it is recognised that, unless LED projects are designed to be sustainable beyond the life of the mine, they can also have negative long-term impacts by increasing economic dependency on the mine;
- 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 its procurement policy, which states Canyon Coal's 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.

### 11.1.3.2 Recommended Enhancement Measures

In order to maximise this positive impact, the following measures are recommended:

- In order to ensure that future skills development, 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 CRDP, Municipal LED Projects, or LED projects at nearby Mines. It is proposed that Canyon Coal's department responsible for 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;
- It is recommended that a monitoring system be established to ensure that Canyon Coal and its contractors comply with the company's policy in terms of preferential HDSA procurement;
- Canyon Coal should expand its skills development and capacity building programmes to non-employees, to include especially residents of communities within the primary study area (e.g. Palmietkuilen Community). 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.



### 11.1.3.3 Impact Rating

IMPACT DESCRIPTION: Community development and social upliftment				
Predicted for project phase:	Pre-construction	Construction	Operation	Decommissioning
Dimension	Rating	Motivation		
<b>PRE-MITIGATION</b>				
Duration	Project Life (5)	Will continue for the life of mine (43 years)	Consequence: Moderately beneficial (11)	Significance: Minor - positive (44)
Extent	Local (3)	Will benefit mine workers and some beneficiaries of LED projects, as well as HDSA vendors within local communities		
Intensity type of impact	Moderate - positive (3)	A relatively small proportion of population within the primary and secondary study area would be exposed to benefits		
Probability	Probable (4)	LED and Skills Development projects will promote community development		
<b>MITIGATION:</b>				
<ul style="list-style-type: none"> <li>- Liaison with beneficiaries to ensure needs are met;</li> <li>- Collaboration with other developmental role players during implementation;</li> <li>- Expanding skills development and capacity building programmes to non-employees;</li> <li>- Establish external monitoring system to regulate HDSA procurement;</li> <li>- Where feasible, training should be NQF accredited; and</li> <li>- A record of training courses completed per individual should be kept</li> </ul>				
<b>POST-MITIGATION</b>				
Duration	Beyond project life (6)	If well managed, benefits could be sustainable beyond project life	Consequence: Highly beneficial (14)	Significance: Moderate - positive (84)
Extent	Local (3)	Will benefit mine workers and some beneficiaries of LED projects, as well as HDSA vendors within local communities		
Intensity type of impact	High - positive (5)	Recommended measures will result in greater development within surrounding communities		
Probability	Highly probable (6)	Recommended measures will increase probability of socio-economic development initiatives having the desired effect		

## 11.1.4 Displacement Related Impacts

### 11.1.4.1 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). It should be noted, that good practice recognises that direct project impacts not associated with land acquisition and/or restrictions on land use can also result in physical and economic displacement (IFC, 2012). Consequently "Displacement" within the context of





this SIA report distinguishes between the displacement of (a.) land users/uses on land areas to be acquired by the Project for infrastructure development (direct displacement), and (b.) land users/uses which may potentially be displaced within surrounding areas as a result of project impacts (indirect displacement).

As discussed in Section 8.2.1, the area comprising the Project’s infrastructure footprint is currently used for residential, commercial farming and livestock grazing purposes. Due to its nature and location, the proposed Project will result in direct and indirect physical and economic displacement of several land users/uses.

Table 38 details the likely extent of displacement (also see Figure 4), and indicates whether productive assets (e.g. commercial farm land and grazing areas) or households (a.) coincide with infrastructure footprints, (b.) are located within a 500m buffer surrounding infrastructure, and (c.) are within a 100m of major mine infrastructure components. The inclusion of the last two categories is motivated by the fact that international good practice advocates clearing a safety buffer of 500m around areas where blasting will take place (in this the open pit) (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.).

**Table 38: Land Uses Proximity Relative to Infrastructure**

Primary infrastructure components	Land use and displacement if land is acquired (E - economic displacement; P - Physical displacement)											
	Land use within footprints				Land use within 100m				Land use within 500m			
	Residential	Cultivation	Grazing	Commercial/ business operations	Residential	Cultivation	Grazing	Commercial/ business operations	Residential	Cultivation	Grazing	Commercial/ business operations
Open pit	P	E	E		P	E	E		P	E	E	E
RoM stockpile		E	E			E	E	E	P	E	E	E
Product stockpile		E	E		P	E	E	E	P	E	E	E
Plant infrastructure		E			P	E	E	E	P	E	E	E



Primary infrastructure components	Land use and displacement if land is acquired (E - economic displacement; P - Physical displacement)											
	Land use within footprints				Land use within 100m				Land use within 500m			
	Residential	Cultivation	Grazing	Commercial/ business operations	Residential	Cultivation	Grazing	Commercial/ business operations	Residential	Cultivation	Grazing	Commercial/ business operations
Hard and soft overburden dumps		E	E			E	E	E	P	E	E	E
Parking lots and associated buildings	P		E		P		E		P	E	E	E
Discard bin						E			P	E	E	E
Slurry dam		E	E			E	E			E	E	
Diesel storage		E	E			E	E			E	E	
Pollution Control Dam		E	E			E	E			E	E	
Access road network		E	E	E	P	E	E	E	P	E	E	E

The proposed location of infrastructure components would result in the direct physical displacement of several land owning households and approximately 70 vulnerable households currently occupying Palmietkuilen 241 IR Ptn 2. Households within the aforementioned category do not own the land on which they currently reside, and will therefore not be entitled to any compensation if the land is sold or leased to Canyon Coal (Section 8.2.3.1.3).

The Project will also result in several instances of *direct economic displacement*, as follows:

- All properties on which infrastructure will be developed is used for commercial farming and/or grazing purposes. Loss of this land would constitute economic displacement as landowners/users will have to secure alternative farming and grazing land at a considerable financial cost, or jeopardise the sustainability and



profitability of larger farming units, as farm lands are usually operated as one business unit. Therefore, the severity of the impact will be determined by (a.) the proportional contribution of the affected property to the business operation, and (b.) the likelihood of securing a suitable replacement property with compensation paid to the affected party (if any).

- Produce from livestock and commercial crop farming is sold for income. The loss of the property will constitute economic displacement, as both the aforementioned activities contribute to the livelihoods of the property owners and their employee's households (Urban-Econ, 2017). It is anticipated that land owners will be compensated for their property at least at a market-related price that is if affected properties are purchased by Canyon Coal. Fair compensation does not however mean that the current land owner and employees will not experience a significant impact when the land is acquired by the Project. This is true, not only in terms of the stress associated with replacing the land and establishing farming operations elsewhere, but also in terms of adapting to new farming environments/communities. The employees depending on the properties may lose their positions and livelihoods with no guarantees that they will be able to re-establish their living conditions and livelihoods once the property owner re-establishes the farm elsewhere.

It is anticipated that the impacts of surface infrastructure and open pit development could contribute to *indirect* economic displacement. Farming operations, especially commercial poultry farms (Section 8.2.1.3.3), located on properties directly adjacent to major infrastructure components would likely have to relocate due to (a.) potential visual, blasting, vibration, noise and air quality impacts (Section 11.1.8), and (b.) health and safety risks associated with residing adjacent to construction sites and an operational coal Mine (Section 11.1.6 and 11.1.7). Neighbouring farmers, especially poultry farming operations, indicated that together these factors would likely force them to close down their farming businesses. Such a trend would increase the number of occupants who would be displaced as it would result in the indirect economic displacement of the owners, their households, 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. It is estimated that between 260 and 332 employees work at the potentially affected poultry farms.

#### **11.1.4.2 Recommended Mitigation Measures**

Canyon Coal 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:

- Canyon Coal should finalise the Project layout plan and determine its policy and approach to displacement, as this would inform the extent of resettlement, i.e.



whether it will recognise both direct and indirect forms of displacement and if it will apply buffer zones prescribed by good practice standards or national legislation;

- The sales agreement of any land to be acquired by the Project should reflect the holistic value of the land prior to mining (including business value and investments/improvements made to the property, e.g. investments into precision and irrigated farming, roads, poultry farms and associate infrastructure, boreholes etc.). This value should be determined by a professional property valuator and be inclusive of the potential relocation cost of commercial farms and/or business operations on a case by case basis, irrespective of whether they are directly or indirectly impacted upon. For instance the relocation of a commercial crop or poultry farm would include establishing supporting infrastructure at the new property, moving animals to the new property, preparation of fields constructing new battery cages or production houses, etc.;
- The physical and economic displacement of households (i.e. landowning households as well as vulnerable households) and individuals should be considered on a case-by-case basis. The Project should negotiate a favourable solution with each displaced household, and the extent of economic displacement should be investigated by a suitably qualified professional. The Project should seriously consider the recommendations made by such a professional and reach a favourable solution with each economically displaced individual, for instance properties directly affected by the conveyor or access roads could be valued with and without the these components, with the difference in value being paid as compensation to the land owner;
- Any temporary loss of cultivated/grazing land during construction should be included in the negotiation process with the land owner;
- Prior to finalising the sales agreement of land, it should be clear who will assume responsibility for the resettlement of households comprising the community currently residing on Palmietkuilen 241 IR Ptn 2 – the land owner selling the land, or the Project;
- If Palmietkuilen assumes responsibility for the physically displaced household and other cases of displacement, due process should be followed when the household is relocated. It is recommended that the process be aligned to IFC PS 5, to ensure that these households are not worse off after resettlement. In this regards a Resettlement Action Plan (RAP) should be developed in consultation with the affected households;
- Consider including employees and businesses indirectly displaced by the project in the aforementioned process;
- Implementation of measures suggested in the Economic Impact Assessment report conducted for the proposed project to manage impacts on surrounding Poultry farms (Urban Econ, 2017), including:



- Engage with respective researchers and specialists to determine with greater certainty the effect that any negative environmental impacts could affect the production of eggs on the nearby egg farms;
  - 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; and
  - In the event that the production is affected and proven to be the result of mining activity, engage with adjacent landowners and investigate appropriate alternatives suitable for all the parties to ensure overall production is not affected (relocation, expansion of other facilities, etc.)
- It is important to point out that based on Digby Wells' experience with other large projects; employees on farms and other impacted businesses are often not compensated and/or provided with alternative accommodation by land owners if the farms on which they reside are acquired by the project. Moreover, 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 by the Applicant.

**11.1.4.3 *Impact Rating***

<b>IMPACT DESCRIPTION: Displacement related impacts</b>				
<b>Predicted for project phase:</b>	Pre-construction	Construction	Operation	Decommissioning
<b>Dimension</b>	<b>Rating</b>	<b>Motivation</b>		
<b>PRE-MITIGATION</b>				
Duration	Permanent (7)	Affected households and economic land uses will be permanently displaced.	Consequence: Highly detrimental (-16)	Significance: Major - negative (-112)
Extent	Limited (2)	Although a considerable number of households will be directly displaced and a comparatively larger number of people will be exposed to indirect displacement impacts, the impact will be limited to certain areas of the primary study area		
Intensity type of impact	Extremely high - negative (-7)	Displacement will have a major impact on the livelihood on a large proportion of the population who currently resides within the primary study area		
Probability	Certain (7)	Nature and location of the Project will inevitably result in the displacement of households, agricultural land, grazing and associated livelihoods, if existing mining plan is executed		
<b>MITIGATION:</b>				





Canyon Coal should where possible endeavour to minimise the extent of, displacement through project design, where displacement cannot be minimised the following measures are recommended to alleviate the adverse impacts:

- Canyon Coal should finalise the Project layout plan and determine its policy and approach to displacement, as this would inform the extent of resettlement, i.e. whether it will recognise both direct and indirect forms of displacement as well as whether they will strive towards international good practice or local standards;
- The sales agreement of land should reflect the holistic value (determined by a professional valuator) of the land and should also be inclusive of the potential relocation cost of commercial farms and/or business operations;
- The displacement of non-vulnerable households and individuals should be considered on a case-by-case basis;
- Areas impacted upon during construction should be rehabilitated upon completion of the construction activities to ensure that the land is returned in the same condition;
- Prior to finalising the sales agreement of land, it should be clear who will assume responsibility for the resettlement of vulnerable households, especially households comprising the community residing on Palmietkuilen 241 IR Ptn 2;
- If Canyon Coal assumes responsibility for displaced households, due process should be followed when these households are relocated. It is recommended that the process be aligned to IFC PS 5 and that a RAP be developed; and
- Consider including farm employees and other impacted businesses in the aforementioned process.

**POST-MITIGATION**

Duration	Permanent (7)	Affected households and economic land uses will be permanently displaced.	Consequence: Highly detrimental (-15)	Significance: Moderate - negative (-90)
Extent	Limited (2)	The impact will be limited to certain areas of the primary study area		
Intensity type of impact	Very high - negative (-6)	Although adequate mitigation will reduce the adverse effects of displacement, it will not prevent it		
Probability	Highly probable (6)	Measures would decrease the probability of impacts occurring to the intensity predicted		

**11.1.5 Disruption of Movement Patterns**

**11.1.5.1 Impact Description**

Disruption of movement will primarily occur as a result of (a.) project-related traffic on local roads (b.) upgrading of existing roads (e.g. intersection of site-access road with the R29) and (c.) restricting access on the road network, which currently runs through the Project area.

Project-related construction and operational traffic could disrupt the daily movement patterns and lives of people by affecting traffic on the R29 roadway; however, the Traffic Impact Assessment completed for the proposed Project established that disruption will likely be minimal (Mariteng Consulting Engineers, 2016). The R29 connect areas such as Leandra, Vischkuil, Endicott, Devon, Aston Lake and a large number of commercial and residential properties and operations adjacent to the roadway to Springs and vice versa. The R29 will initially provide the main access route for external traffic to the proposed Project site via a gravel road which leads to Portion 2 of Palmietkuilen 241 IR. Current project planning includes the upgrade of the intersection of the access road with the R 29 and, although this will initially add to traffic disruptions, it will ultimately alleviate traffic disruptions resulting from project related traffic.

The location of the open pit coincides with the Strijdpan Road, which carries vehicular and pedestrian traffic from the R29 to allow access to areas such as Strijdpan, places of employment at commercial farms and/or poultry operations and several residential properties. Canyon Coal intends to relocate the Strijdpan Road, which will result in temporary disruptions in movement.



Disruption in travelling patterns may also result from the eventual deterioration of roads. Although the condition of most roads are in a relatively good condition (due to recent road rehabilitation efforts), it was established that heavy moving vehicles (HMV) traffic on roads results in rapid road deterioration. Therefore, additional heavy traffic caused by construction vehicles could fast-track road deterioration cycles of tar and especially affected gravel roads.

This impact will continue during the construction and operational phases of the project. It is important to consider that increased traffic levels and deteriorating road conditions could also affect long distance travellers and any tourists travelling through the area.

#### **11.1.5.2 Recommended Mitigation Measures**

In order to minimise the adverse impacts described above, the following is recommended:

- Implementation of measures suggested in the traffic impact assessment report conducted for the proposed project (Mariteng Consulting Engineers, 2016);
- Road upgrading measures, in addition to those already planned for the R29, should be investigated and implemented in conjunction with the relevant government department (e.g. sealing roadways to increase its capacity for Heavy Moving Vehicles and upgrading of intersections affected by high levels of Mine traffic); in the case of road upgrades and relocation, Canyon Coal should ensure that residents are informed of when access will be restricted;
- Traffic at the intersections between the R29 and site-access roads, must be regulated at all times;
- Where possible, ensure that access to key services in areas such as Springs and Kwa-Thema are uninterrupted by providing alternative access routes and/or temporary access points where construction activities disrupt or restrict access, especially during the relocation of the Strijdpans Road; and
- The measures suggested (Section 11.1.6.2) to minimise traffic related problems will also serve to minimise the disruption of daily movement patterns on affected roadways.



**11.1.5.3 Impact Rating**

<b>IMPACT DESCRIPTION: Disruption of daily movement patterns</b>				
<b>Predicted for project phase:</b>	Pre-construction	Construction	Operation	Decommissioning
<b>Dimension</b>	<b>Rating</b>	<b>Motivation</b>		
<b>PRE-MITIGATION</b>				
Duration	Project Life (5)	Will be most pronounced during construction phase, but continue into operations as result of operational traffic (e.g. workforce), as well as into decommissioning when infrastructure will be deconstructed	Consequence: Moderately detrimental (-12)	Significance: Minor - negative (-72)
Extent	Local (3)	Will mostly affect road users using the R29, Strijdpán Road and affected gravel roadways		
Intensity type of impact	Moderately high - negative (-4)	Disruption of movement will impact a considerable number of road users. Traffic impact assessment, predicted a significant impact on traffic loads in the local road network; however some impact will stem from deterioration of local roads due to HMTV. It should be noted that the study area is furnished with alternative routes, which will decrease intensity to a certain degree.		
Probability	Highly probable (6)	Construction and operational traffic, road upgrades, and relocation of the Strijdpán road will disrupt travelling on major roads		
<b>MITIGATION:</b> Measures to prevent deterioration of roads suggested in Traffic Impact Assessment; - Regulation of traffic at intersections between the R29 and site-access roads to construction and operational site; - Road upgrading measures should be investigated and implemented in conjunction with the relevant government department; - Inform communities of planned construction activities that would affect vehicle/ pedestrian traffic; and - Ensure that access to key services in areas such as Springs are uninterrupted by providing alternative access routes, especially during relocation of Strijdpán Road				
<b>POST-MITIGATION</b>				
Duration	Project Life (5)	Will be most pronounced during construction phase, but continue into operations as result of operational traffic (e.g. workforce), as well as into decommissioning when infrastructure will be deconstructed	Consequence: Moderately detrimental (-10)	Significance: Minor - negative (-40)
Extent	Local (3)	Will mostly affect road users using the R29, Strijdpán Road and affected gravel roadways		
Intensity type of impact	Low - negative (-2)	Mitigation measures should be effective in reducing severity of impacts		
Probability	Probable (4)	Mitigation will reduce the likelihood of this impact occurring to the extent predicted		



## 11.1.6 Influx Related Impacts

### 11.1.6.1 *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 (e.g. Vischkuil, Endicott, Slovo Park, Aston Lake, Kwa-Zanele, and nearby informal settlements) may experience an influx of job seekers. This trend is already evident in the secondary study area (Sections 8.1.5). 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 socio-economic profile of the population within the secondary and primary study area (Section 8.1.2 and 8.2.3.2) indicates that poverty and unemployment are widespread throughout these study areas. It can therefore be anticipated that job seekers (and sometimes whole families), as well as entrepreneurs and opportunists, will move to the broader project area. The portion of the workforce which will be recruited from outside the local area (70%) (Section 2.9.1.2), 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; these are briefly discussed in turn below.

#### ***11.1.6.1.1 Increased Pressure on Local Services, Resources and Facilities***

A significant population surge will increase pressure on local infrastructure and services. This pressure may increase further when the operational workforce of the mine is activated. The fact that several aspects of municipal service delivery and infrastructure are already taking strain throughout the secondary study area, especially Ward 7 (VKLM) and Ward 12 (LLM) means that any additional service delivery requirements imposed by population influx will exacerbate the situation (Section 8.1.5). Therefore there is some risk that the various municipalities would not be able to meet the additional demand for services.

#### ***11.1.6.1.2 Establishment and Growth of Informal Settlements***

The shortage of services in the local area described in Section 8.1 includes a shortage of housing. This issue deserves special mention as it underlies an increasing social problem in the local study area – the establishment and growth of informal settlements. These settlements, because of their lack of access to services, tend to be associated with several economic, social and health-related problems such as: increased dependency on local government, and increase in social pathologies.



It was mentioned earlier that there are a number of informal residences in both the primary and secondary study area (Sections 8.1.5); these are situated within informal extensions of formalised settlements like Vischkuil, Slovo Park or on affected or surrounding farm properties (e.g. Palmietkuilen community and informal settlements located a few kilometres north and south of the Project area). Unless properly managed, an influx of job-seekers and workers from elsewhere will contribute to the growth of such settlements, and possibly also the establishment of new ones.

A related risk is that of speculative building – a term referring to the practice of some community members to erect structures (and often also plant fields) in an area where they know a development is to take place. The motivation behind this practice is the hope that they would be able to convince the project developers that they had been staying in the area prior to the proposed development becoming public knowledge, and are therefore eligible for compensation.

#### ***11.1.6.1.3 Increase in Social Pathologies***

The presence of mining activities and resulting influx of job-seekers are usually also associated with an increase in social pathologies, such as substance abuse, prostitution, increased incidence of sexually transmitted diseases (STDs) and other communicable diseases (IFC, 2012). HIV/AIDS is a concern in various parts within the secondary study area. Several social pathologies, especially drug and alcohol abuse, gender violence, are reportedly also already a problem in the primary study area (Section 8.2.3.4.5). Incidence of social pathologies is also more prevalent in areas where there is a combination of poverty and limited community services and facilities.

This scenario makes the rural households within and directly surrounding the primary study area especially susceptible to this impact. It is also conceivable that risky behaviour, such as substance abuse and sexual promiscuity, could increase as a result of irresponsible spending associated with newly available or increased disposable income in the local and primary study area (IFC, 2012).

An influx of non-local job-seekers might also be accompanied by an increase in crime; many job-seekers are usually left unemployed or underemployed, due to formal employment policies usually excluding them. The incidence of crime can increase if failed job-seekers stay in the area and revert to criminal strategies to survive. Even if particular instances of crime are not as a result of the newcomers, they may still be attributed to them by local communities.

Population influx combined with increased disposable income will result in a higher demand and increased markets for food, including meat. This scenario could inflate prices and result in increased poaching from livestock farmers within and surrounding the primary study area (Section 8.2.1.1.2).



#### ***11.1.6.1.4 Conflict / Competition between Newcomers and Incumbent Population***

As was mentioned in Section 11.1.1, a substantial proportion of the construction and mine workforce for the Project will be locals; however, at least a certain percentage employees (mostly semi- and highly skilled) will be sourced from outside the secondary study area or be part of existing contractor teams. It is possible that *conflict* might arise between those perceived as outsiders and local residents. One possible reason for such conflict would be the perception among locals that the outsiders are taking up jobs that could have gone to unemployed members of the local community. The likelihood of this impact will increase as a result of a relatively high unemployment rate in the rural and township areas located in the secondary and primary study areas (Section 8.1.2 and 8.2.3.2) and if migrant workers fill positions that could have been filled from within these areas. Also if outsiders instigate sexual relationships with spouses or partners of locals, this would exacerbate the problem.

#### **11.1.6.2 Recommended 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. In this regard it is suggested that Canyon Coal should commission a detailed situation analysis and, depending on the findings of this analysis, commission an Influx Management Plan;
  - The recruitment of employees and contractors should be executed as discussed in Section 11.1.1 (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, so as to discourage an influx of job-seekers from other areas;
  - 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;
  - It is strongly recommended that Canyon Coal liaise with the municipality to ensure that expected population influx is taken into account in spatial and infrastructure development planning of the area; and
- The following management measures will serve to minimise the occurrence of social pathologies:
  - Implement HIV/AIDS and alcohol abuse prevention campaigns in the communities;





- Canyon Coal should make their HIV/AIDS awareness and prevention programmes a condition of contract for suppliers and sub-contractors;
  - Canyon Coal 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 regular basis. This will involve a voluntary test which is available to 100% of the workforce. The results of the survey will help to determine a HIV/AIDS and STD prevention strategy;
  - 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 Canyon Coal's employees;
    - Liaison structures are to be established with local police to monitor social changes in crime patterns during the construction phase. 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
    - Canyon Coal 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;
  - 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.



### 11.1.6.3 Impact Rating

IMPACT DESCRIPTION: Influx related impacts				
Predicted for project phase:	Pre-construction	Construction	Operation	Decommissioning
Dimension	Rating	Motivation		
<b>PRE-MITIGATION</b>				
Duration	Beyond project life (6)	Likely to extend into the decommissioning phase, especially if social pathologies such as HIV/AIDs and other communicable diseases are left un-mitigated	Consequence: Highly detrimental (-15)	Significance: Moderate - negative (-90)
Extent	Local (3)	Will mostly affect settlements within the primary and secondary study area		
Intensity type of impact	Very high - negative (-6)	Influx will likely exacerbate existing negative social conditions in several ways: increased social pathologies, pressure on service, conflict between locals and non-locals and establishment of informal settlements		
Probability	Highly probable (6)	Pressure on services and growth of informal settlements is already a problem		
<b>MITIGATION:</b>				
<ul style="list-style-type: none"> <li>- Develop an Influx management plan together with other industry role players and government;</li> <li>- Discourage influx of job-seekers by prioritising employment of unemployed members of local communities;</li> <li>- Liaise with local municipalities to ensure that expected population influx is taken into account in infrastructure development and spatial development planning;</li> <li>- Create synergies with local government IDP and other companies' SLP/CSR projects to promote infrastructure development;</li> <li>- Extensive HIV/ AIDS awareness and general health campaign;</li> <li>- Identify if recorded criminal activities involved members of the mine's workforce;</li> <li>- Clear identification of workers; prevention of loitering;</li> <li>- Liaison with police, community policing forum;</li> <li>- Community education; and</li> <li>- Measures to address potential conflict between locals and non-locals</li> </ul>				
<b>POST-MITIGATION</b>				
Duration	Project Life (5)	Successful mitigation will restrict long-lasting consequences of influx to within the LoM	Consequence: Moderately detrimental (-10)	Significance: Minor - negative (-40)
Extent	Limited (2)	Measures to address influx will limit the extent, especially through proactive spatial development planning		
Intensity type of impact	Moderate - negative (-3)	Mitigation measures should be effective in reducing severity of impacts to a limited degree		
Probability	Probable (4)	Mitigation will reduce the likelihood of this impact occurring to the extent and intensity initially predicted		

## 11.1.7 Impact on Community Member's Health and Safety

### 11.1.7.1 Impact Description

Health and safety impacts could be triggered by any of the following project activities (as discussed in Section 2.6):

- Construction related traffic (construction phase, also see Section 11.1.5)



- Construction sites and establishment of surface infrastructure (construction phase);
- Blasting (construction and operational phase);
- Stockpiling (construction and operational phases);
- Operation of crushing and screening plant (operational phase); and
- Transportation of coal via conveyor and/or haul trucks (operational phase).

With regards to the **construction site, stockpiles and crushing and screening plant**, safety impacts will emanate from the risk of non-mine workers wandering onto site and being exposed to the aforementioned sites without personal protective equipment (PPE) and knowledge of the dangers of these sites. However, Canyon Coal will be required to fence off these areas prior to commencing any construction activities, which will negate this impact.

Impacts on community safety associated with **blasting activities** emanate from fly-rock which may injure passers-by that are unaware of blasting activities, and vibrations compromising the structural integrity of occupied structures. Impacts from blasting activities were quantitatively assess in a blasting impact assessment (Blast Management and Consulting, 2016), which established that (a.) without mitigation fly-rock could pose health and safety risks to passers-by and (b.) blasting and air vibration will likely result in structural damage of structures within 447m and 101m respectively (Blast Management and Consulting, 2016).

The **transportation of construction materials and machinery on roads** sections of which is also used by private motorists, could impact on motorists' and other road users (e.g. school children and other commuters travelling on the R 29 Roadway to areas such as Springs, Kwa-Thema, Endicott, etc.) safety due increased traffic volumes and the presence of HMVs on the roads. Some community members may be relatively naïve to risks from road traffic accidents and the larger volumes of traffic may increase their exposure risk. Also, the expected deterioration of roads as a result of HVM also poses a safety risk for motorists.

It should be noted that in some instances, the social impact experienced may not necessarily be the actual increase of risk to one's safety, but the perceived increase of such a risk, which has the potential to have a debilitating effect on the psychological well-being of the local populace (Claeson, 2013; Deary, Chalder, and Sharpe, 2007; Ganzel, Morris and Wethington, 2010; McEwen, 2007; Richardson and Engel, 2004).

#### **11.1.7.2 Recommended Mitigation Measures**

The following measures are recommended to mitigate the impacts described above:

- Unauthorised access to all the project elements (specifically the construction site, stockpiles, crushing and screening plant and storage facility for hazardous products) must be prevented and enforced through appropriate fencing and security to be



erected/ established prior to construction and maintained throughout the life of the proposed Project;

- Blasting should take place at designated times, and such times should be communicated to the surrounding land owners and local population. An effective manner for doing this is by the erection of signs (similar to road signs) on at least four corners of the project site indicating when blasting will take place. The Project could also investigate the feasibility of a mobile messaging service for surrounding land owners;
- Measures suggested in the Blast Impact Assessment completed for the Project will serve to minimize the risk associated with blasting related fly-rock (Blast Management and Consulting, 2016), especially the following:
  - A minimum safe clearance distance of 447 m must be applied.
  - Farming activities and travelling on farm roads must be considered when areas are cleared prior to blasting operations.
  - Ground vibration limits as recommended and presented in the Blast Impact Assessment should be adhered to.
  - The use of a third party to monitor the blasting operations for ground vibration and air blast is recommended.
- Implementation of management measures suggested in the Traffic Impact Assessment to reduce road accidents and injuries;
- Regarding HMV traffic:
  - Safe travelling speeds must be determined for mining vehicles and measures implemented to ensure that these restrictions are enforced. Such measures may include monitoring vehicle speeds; and
  - Headlights of heavy moving vehicles should be on at all times;
- Community education should take place as part of an on-going community engagement process and include the following:
  - A community awareness campaign to be implemented in the surrounding communities to sensitise community members to traffic and blasting safety risks;
  - Activities undertaken as part of the awareness campaign and the education/ communication programme should be recorded and reflected in a formal progress report compiled on a quarterly basis;
  - Feedback sessions should be arranged with landowners and communities to assess the impact of this programme in terms of knowledge, attitudes and behaviour; and



- Mechanisms must be established to ensure that problems are dealt with promptly. In this regard, it is recommended that a Community Liaison Officer (CLO) be appointed by Canyon Coal. The CLO should preferably be a local resident, as he/she will serve as a point of contact between the community and the proponent.

### 11.1.7.3 *Impact Rating*

<b>IMPACT DESCRIPTION: Impacts on community health and safety</b>				
Predicted for project phase:	Pre-construction	Construction	Operation	Decommissioning
Dimension	Rating	Motivation		
<b>PRE-MITIGATION</b>				
Duration	Project Life (5)	Will continue for the duration of the project	Consequence: Moderately detrimental (-13)	Significance: Moderate - negative (-78)
Extent	Limited (2)	Will primarily affect those within the primary study area and commuters on local roads		
Intensity type of impact	Very high - negative (-6)	Injuries and vehicular accidents could have fatal consequences. Could place the lives of employees, land occupants and road users at risk, especially those travelling on the R29 roadway		
Probability	Highly probable (6)	The nature of the project requires the infrastructure and activities described. These activities hold an inherent health and safety risk making it highly probable that the impact will transpire.		
<b>MITIGATION:</b>				
<ul style="list-style-type: none"> <li>- Access control to all project elements, including fencing prior to commencing construction;</li> <li>- Notification of blasting activities;</li> <li>- Storage of blasting and hazardous materials should adhere to prescribed regulation;</li> <li>- Measures suggested minimising the impact of fly-rock on surrounding roads and structure (Blast Management and Consulting, 2016);</li> <li>- Measures suggested in the Traffic Impact Assessment to minimize traffic related accidents <a href="#">[Traffic Impact Assessment, 2016]</a>;</li> <li>- Road maintenance; and</li> <li>- Community education</li> </ul>				
<b>POST-MITIGATION</b>				
Duration	Project Life (5)	Will continue for the duration of the project	Consequence: Moderately detrimental (-12)	Significance: Minor - negative (-36)
Extent	Limited (2)	Will primarily affect those within the primary study area and commuters on local roads		
Intensity type of impact	Moderately high - negative (-5)	Appropriate mitigation will reduce the incidence of this impact; however, fatal accidents will not be entirely prevented		
Probability	Unlikely (3)	Impacts will still occur, albeit not to the degree it was initially expected		

## 11.1.8 Impact on Surrounding Land Users

### 11.1.8.1 *Impact Description*

The expected impacts of the proposed Project on the land owners/occupiers located in the vicinity of the proposed Project (but that will not be acquired by the Project), will be qualitatively different from the impacts on the properties that will be acquired by the Project (see Section 11.1.4). This difference stems from the fact that several properties within and





surrounding the mining right areas might not be acquired by Canyon Coal, which means that these property owners and occupants will be faced with the prospect of living with the mine's potential impacts, as discussed below, or else potentially relocating at their own expense.

The manner in which surrounding land users (those which are not acquired by the mine) could be impacted by the mine are numerous and inter-related. First, mining activities could lead to a reduction in the quantity and quality of both ground and surface water, while land users (including commercial maize, poultry and livestock farmers) in the area are generally reliant on these water sources (Digby Wells, 2016a; Digby Wells, 2016c). Second, blasting, combined with construction and operational traffic, will lead to increased noise and vibration, as well as changes in air quality – these impacts will likely affect the viability of livestock and poultry farming operations by affecting the health and breeding of the animals; blasting could also result in physical damage to privately owned assets, increased risk to personal health and safety (Traffic Impact Assessment, 2016; Blast Management and Consulting, 2016; Digby Wells, 2016b; Digby Wells, 2016d).

Third, the aforementioned traffic and blasting impacts, combined with the visual impact of surface infrastructure and various influx-related social changes discussed earlier (Section 11.1.6) could alter the area's sense of place. "Sense of place" refers to the identity and character of a landscape perceived by local inhabitants, and often visitors (e.g. tourists travelling through the area). This attribute is derived from the natural environment and a mix of natural and cultural features in the landscape, and it usually includes the people who occupy the place.

It should be noted that although the timing of the aforementioned impacts will not be perfectly aligned, for instance surface water and acoustic impacts usually peak during construction, whereas groundwater quantity and quality impacts occur over a period of time, these impacts will however overlap and could have significant social implications for surrounding land users. The quantitative assessment of the geohydrological, acoustic, visual, traffic-related and blasting impacts of the project is the subject of separate specialist studies and will not be repeated here (refer to the main EIA report, Digby Wells, 2016k). Instead, this section focuses on the social implications of these impacts. These implications can be divided into three main categories:

- First, impacts on quality and quantity of ground and surface water sources and other bio-physical elements could impact the health and breeding of animals, especially poultry, which could potentially affect the profitability and viability of several commercial poultry farming operations, which could in turn have severe secondary consequences such as the loss of employment, decrease in food security, etc. (Urban-Econ, 2017);
- Second, changes in the area's sense of place, combined with actual or perceived changes in safety and security, could negatively affect the quality of life of land owners, especially those who purchased properties at Aston Lake (Digby Wells, 2016b; Urban-Econ, 2017);



- Third, blasting could result in physical deterioration of personal assets in the vicinity of the open-pit area;
- Fourth, both social (e.g. sense of place) and the majority of biophysical impacts could combine to negatively affect economic activities including tourism and recreational establishments (e.g. Benoni Angling Club and recreational fishing at Aston Lake, and any nearby Guesthouses) dependant on the sense of place in the area to attract business; and
- Fifth, changes in noise, groundwater, and air quality could affect the health and well-being of neighbouring communities. During the PPP stakeholders expressed concern about health impacts related to excessive dust (especially the black coal dust, usually associated with open cast coal mining) and potential deterioration in ground and surface water quality (Digby Wells, 2015f). Increased noise levels will also emanate from mining activities, which will likely disturb sleeping patterns of surrounding land owners; constituting an impact on individuals' general, sense of well-being.

Land and business owners will not experience these impacts in the same way or to the same degree. With regard to impacts on the profitability of farming and poultry operations, this will largely depend on (a.) an operation's distance from the mine, with closer operation's being more severely affected and (b.) the significance of residual bio-physical impacts (i.e. after mitigation) as well as the sensitivity of the poultry, livestock or crop to the residual impact. It should be noted that investigations undertaken as part of this SIA have shown that several Poultry farms within the secondary study area do operate within relative proximity to operational open-cast coal mining projects elsewhere in the study area.

With regard to sense of place, additional factors need to be considered. One of these factors is the *current state of the landscape*: The impact of a large and visible artificial structure on the sense of place will be correspondingly larger than if the landscape already bears the marks of development (Digby Wells, 2015c). Another factor is the *meanings* and feelings that people attach to the anticipated changes. If a development promises to offer tangible benefits to surrounding communities (for example job creation), it is unlikely that its impact on the character of the landscape will be perceived in a negative light by most community members – even if that impact is substantial from an aesthetic point of view. If the proposed project is evaluated against these criteria, it is evident that it will likely produce a substantial impact on a number of households residing within the primary study area (e.g. landowning households located adjacent to the Mining Right Area as well as communities residing at Aston Lake, Endicott, Sundra and Prosperity), except perhaps for those that will benefit most from project related employment or procurement. During the PPP it was established that stakeholders, especially residents from the aforementioned communities are concerned about the change in sense of place that will be induced by an open-cast coal mine.

Guest houses and other institutions in Aston Lake that depend on the sense of place of the area could also be impacted upon. It was established that several angling clubs make use of



Aston Lake for recreational and competitive angling purposes. Although the deterioration in sense of place can result in a decline of the number of people utilising Aston Lake for recreational purposes (Section 8.2.1.3.2), project-induced population influx will likely increase the clientele for other establishments such as local Guest or rental houses (Section 11.1.2.1).

The Project's impact on the area's sense of place will likely affect property values in the primary study area (Williams, 2011) (Urban-Econ, 2017). Negative impact on property prices will impact several landowners, especially those within Aston Lake who (a.) purchased retirement/investment properties, due to the proximity to the Lake and/or (b.) recently made major investments to develop properties. It is unlikely that these owners will now or in future get the return on investment or the kind of lifestyle, they envisaged when they purchased and/or developed these properties.

#### **11.1.8.2 Recommended Mitigation Measures**

In order to mitigate the negative impacts on the surrounding land users, it is recommended that:

- Appropriate mitigation measures are implemented to ameliorate the hydrological, hydrogeological, acoustic, visual, traffic-related and blasting impacts of the project, as stipulated in the specialist reports undertaken as part of the EIA for the proposed project;
- Measures to address the impact of the Project on the area's sense of place include adequate rehabilitation of the landscape at the appropriate time. Furthermore, a neat appearance of the site, during the construction and operational phases, will also assist in reducing the negative visual impacts; and
- The Project should establish efficient channels of communication with surrounding communities, public institutions and NGOs to promote the early identification of any water quality and quantity problems. Reported problems should be subject to objective monitoring, which will allow the mine to verify the validity of each claim. The result of the monitoring should be made available to potentially affected landowners. Similar mechanisms should be established for other bio-physical impacts (e.g. air quality and blasting). Such channels of communication will also serve to manage stakeholder's perceptions and concerns.



### 11.1.8.3 Impact Rating

IMPACT DESCRIPTION: Impact on surrounding land users				
Predicted for project phase:	Pre-construction	Construction	Operation	Decommissioning
Dimension	Rating	Motivation		
<b>PRE-MITIGATION</b>				
Duration	Beyond project life (6)	Residual biophysical impacts could occur beyond the life of mine, especially if rehabilitation is not executed	Consequence: Highly detrimental (-14)	Significance: Moderate - negative (-84)
Extent	Limited (2)	Project area and neighbouring settlements		
Intensity type of impact	Very high - negative (-6)	- Mine could impact on visual character of area and on peoples' sense of place. - Mine could impact on viability of current economic activities on neighbouring properties - Mine may impact on existing water sources.		
Probability	Highly probable (6)	Impacts are largely unavoidable as a result of mining activities		
<b>MITIGATION:</b>				
<ul style="list-style-type: none"> <li>- Refer to recommendations of specialist studies (see Visual Impact Assessment, Surface-and Ground Water Impact Assessment, Noise Impact Assessment, Air Quality Impact Assessment, Blasting and Vibration Impact Assessment and Traffic Impact Assessment, Economic Impact Assessment);</li> <li>- Optimise mine plan/infrastructure placement to avoid/minimise negative impacts, especially in terms of visual intrusion, displacement, air quality and disruptions of traffic;</li> <li>- Undertake continuous information sharing and consultation with adjacent/affected farm owners; and</li> <li>- Implement communication mechanisms to report changes in water quality/quantity, air quality or vibrations</li> </ul>				
<b>POST-MITIGATION</b>				
Duration	Project Life (5)	Although adequate mitigation of biophysical impacts and successful decommissioning will likely limit the duration of most impacts to within the life of the project, some groundwater impacts will likely continue post mine closure.	Consequence: Moderately detrimental (-11)	Significance: Minor - negative (-44)
Extent	Limited (2)	Project area and neighbouring settlements		
Intensity type of impact	Moderately high - negative (-4)	Mitigation will slightly lessen physical impacts.		
Probability	Probable (4)	Impacts will still occur, albeit not to the degree it was initially expected. Affected people will likely adapt over time		

## 11.1.9 Opposition because of Perceived Negative Impacts

### 11.1.9.1 Impact Description

This impact differs from the preceding ones in that it deals with potential impact of community and stakeholder attitudes and actions on the Project, rather than impacts of the Project on communities. The relevance of such impacts in the context of this report stems from the fact that, as with the other impacts discussed above, appropriate mitigation will be



required – the difference being that, in this instance, the mitigation measures would be aimed at changing aspects of stakeholder perceptions and behaviour rather than changing aspects of the project's design and implementation.

The impact assessed here pertains to the fact that perceptions regarding potential negative project impacts (whether these be accurate or not) could intensify community opposition to the proposed Project – which, in turn, could potentially increase active community resistance to project plans. Strained stakeholder relations could have a very detrimental impact on the successful implementation of a project: if a mining company's affected parties view the operation with suspicion or disdain, they have the power not only to delay the environmental authorisation process through appeals; they can also damage the company's public image through bad publicity. Acrimonious stakeholder and community relations often give rise to active social mobilisation against a project or to costly litigation.

Despite Canyon Coal's best intentions to fostering positive community relations, there is considerable risk that one or more of the negative scenarios sketched above could materialise during project implementation. This risk stems primarily from the fact that the stakeholders that will be affected are sensitive about (a.) practices of coal mining in general, especially the lack of successful mine rehabilitation in nearby areas (e.g. Delmas) and (b.) the potential impact on biodiversity and sense of community in the area. This sensitivity poses a risk for the proposed Project. These concerns and attitudes were verified during stakeholder consultation undertaken during the PPP and should not be ignored and their potential to solidify into active community opposition to the Project should not be underestimated.

#### **11.1.9.2 Recommended Mitigation Measures**

There is some potential for generating goodwill among communities, especially impoverished communities, stemming from the fact that the Project is expected to create job opportunities and other positive impacts, which would benefit a number of socio-economically depressed households (as discussed in Sections 11.1.1 - 0).

These positive expectations have the potential to persist into project implementation, engendering a sense of social goodwill towards the project and the project proponent among the affected population. Although such goodwill is not something tangible that can be measured in physical or monetary terms, its importance in terms of fostering positive external relations and reducing the risk of further litigation or negative publicity for the company should be acknowledged. Experience with other projects has shown that efforts to secure a social license to operate do, in the long run, incur significant benefits and cost savings for project proponents. As such, Canyon Coal should seek to further any existing goodwill through appropriate mitigation, as follows:

- Canyon Coal should honour the commitments made in the existing SLP as well as other policies which guides Canyon Coal's social performance;



- Canyon Coal should be transparent regarding employment practices and LED and CSI initiatives, and these should be communicated to the local communities; and
- The findings of the various specialist studies conducted as part of the EIA should be summarised and presented to the surrounding land owners and communities in a simple and clear manner in order to illustrate that Canyon Coal has taken their concerns into account, to explain how these concerns will be addressed or mitigated, as well as to illustrate the significance of the resultant impacts after mitigation.

In addition, the following mitigation measures are recommended:

- Community expectations should be managed and the Project should not commit itself to something it does not have the means to deliver on. It is important for the Project to monitor community attitudes to anticipate/prevent active opposition (implying actions taken against the project, as opposed to passive opposition);
- As mentioned earlier, Canyon Coal should employ a CLO or similar function to improve its communication with communities and to serve as a source of information for the project regarding prevalent community attitudes; and
- In addition to the appointment of a CLO, Canyon should also establish a community forum that meets at least quarterly, to provide the opportunity for the communities to be informed about project activities, progress and impacts. The forum should promote two-way communication with the community, thus community members should be allowed sufficient time to raise and discuss their concerns, problems and requests.





**11.1.9.3 Impact Rating**

<b>IMPACT DESCRIPTION: Opposition because of perceived negative impacts</b>				
<b>Predicted for project phase:</b>	Pre-construction	Construction	Operation	Decommissioning
<b>Dimension</b>	<b>Rating</b>	<b>Motivation</b>		
<b>PRE-MITIGATION</b>				
Duration	Beyond project life (6)	May continue throughout the life of the operation	Consequence: Highly detrimental (-14)	Significance: Minor - negative (-56)
Extent	Local (3)	Will not only elicit opposition from primary study area, but stakeholders in the broader area (e.g. activist groups)		
Intensity type of impact	High - negative (-5)	Could lead to negative publicity for the company; community mobilisation against the project and stoppages in construction and operation		
Probability	Probable (4)	Stakeholders, especially private landowners, are sensitive towards many possible impacts that may result from development		
<b>Mitigation</b> -Communicate commitments regarding LED; - Transparency regarding employment practices; - Presentation of EIA findings in clear and understandable manner; - Monitor community attitudes to anticipate/prevent active opposition; - Establish a community forum which meets quarterly; and - Appointment of a CLO to enhance communication				
<b>POST-MITIGATION</b>				
Duration	Beyond project life (6)	May continue throughout the life of the operation	Consequence: Moderately detrimental (-11)	Significance: Negligible - negative (-33)
Extent	Local (3)	Will not only elicit opposition from primary study area, but stakeholders in the broader area (e.g. activist groups)		
Intensity type of impact	Low - negative (-2)	Widespread awareness of the project, especially project benefits could decrease negative perceptions and offset some negative sentiments towards Canyon Coal.		
Probability	Unlikely (3)	Mitigation will reduce the probability of the impact occurring as opposed to reversing the nature of the impact.		



## 11.2 Operational Phase

This section deals with the socio-economic impacts that will be triggered by activities that will commence during the operational phase of the proposed Project. The only impact identified in Section 11.1 that will not continue into the operational phase is construction-related employment creation. Additional impacts expected to arise during the operational phase include two positive impacts (operational employment, and stimulation and growth of the local and regional economy). Each of the aforementioned impacts is discussed in greater detail below.

### 11.2.1 Employment Creation during the Operational Phase

#### 11.2.1.1 *Impact Description*

Employment during the operational phase has the potential of being over a long period (operational phase will span at least 47 years), which can have a major, long term (as opposed to short-term construction opportunities), positive impact for successful job applicants and their dependents. The operational workforce requirement for the mine is 320 employees (Section 2.8).

With mining and quarrying being an established industry in the region (Section 8.1.3.2), 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 preparing them for specific roles during operations.

This means that local communities can potentially take maximum advantage of employment opportunities to be created by the proposed mine, and that Canyon Coal 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 be readily available in available labour sending areas, therefore a certain percentage of the mine's workforce will be recruited from elsewhere in Gauteng or Mpumalanga.

As is the case with the construction phase, 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). It is estimated that the mine will indirectly stimulate the creation of 985 sustainable employment opportunities through production and consumption induced impacts (Urban-Econ, 2017).

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.

#### **11.2.1.2 Recommended Enhancement Measures**

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

- Most of the measures recommended in Section 11.1.1 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 Canyon Coal's 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.



### 11.2.1.3 *Impact Rating*

IMPACT DESCRIPTION: Employment creation during operation				
Predicted for project phase:	Pre-construction	Construction	Operation	Decommissioning
Dimension	Rating	Motivation		
<b>PRE-ENHANCEMENT</b>				
Duration	Project Life (5)	Equal to the duration of the operational phase		Consequence: Moderately beneficial (11)  Significance: Minor - positive (55)
Extent	Regional (4)	Many positions will be filled by persons living in the municipal wards and regional municipal area; however some will be recruited from elsewhere in the Province		
Intensity type of impact	Low - positive (2)	Limited employment opportunities will be available for un- and semi-skilled individuals		
Probability	Likely (5)	It is probable that local employment targets will be achieved; however, without appropriate mitigation and regulation, local employment targets will not be maximised.		
<b>ENHANCEMENT:</b>				
<ul style="list-style-type: none"> <li>- Measures to enhance local employment during construction (see measures to enhance employment during construction);</li> <li>- Provide focused training to construction phase employees from the host communities to increase their chances for employment during the operations;</li> <li>- Measures recommended to maximise benefits from local employment, and economic multiplier effects; and</li> <li>- 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.</li> </ul>				
<b>POST-ENHANCEMENT</b>				
Duration	Project Life (5)	Equal to the duration of the operational phase		Consequence: Highly beneficial (15)  Significance: Moderate - positive (90)
Extent	Regional (4)	Many positions will be filled by persons living in the municipal wards and regional municipal area; however some will be recruited from elsewhere in the Province		
Intensity type of impact	Very high - positive (6)	Mitigation will maximise local job creation		
Probability	Highly probable (6)	Mitigation will maximise probability that local recruitment targets are achieved and local benefits optimised		

## 11.2.2 Stimulation and Growth of the Local and Regional Economies

### 11.2.2.1 *Impact description*

An economic impact assessment conducted for the proposed Project established that it will have a positive effect in terms of stimulation of domestic production, job creation, and government revenue (Economic Impact Assessment, 2017). More specifically the project will during its operational phase have an annual production impact of R 1 161 mill, a total GDP-R impact of R R19.9 billion, and will create a total of 1 305 direct and indirect employment opportunities (Economic Impact Assessment, 2017).

The State will receive royalty and tax payments for the permanent extraction of non-renewable commodities by Canyon Coal (MPRDA, 2002; SARS, 2011); royalty payments will amount to almost R 20 996 million annually (Section 2.8.2). 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 (Section 2.8.2).

The Project will also be required to pay a considerable amount of rates and taxes. Canyon Coal's annual tax contribution will amount to approximately R 97 000 000 (Section 2.8.2). 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, 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. Canyon Coal's preferential procurement strategy adheres to the stipulations of the MPRDA and aims to achieve HDSA procurement targets set out in the Mining Charter (Section 2.9.1.2). 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.

The mine will employ a sizable workforce during its operational phase and the projected monthly operational wage and procurement bill will result in a substantial injection of cash into the economy of the secondary study area, current indications are that Canyon Coal's annual wage bill will amount to R 68 676 300 (Section 2.8.2). This will stimulate the formal and informal retail and service sectors and other downstream industries.

#### **11.2.2.2 Recommended enhancement measures**

Measures recommended to enhance the benefits from local employment and economic multiplier effects (Section 11.1.1.2 and 11.1.2.2), as well as community development (Section 11.1.3.2); 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 the Economic Impact Assessment (Economic Impact Assessment, 2016)
- 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.



### 11.2.2.3 *Impact Rating*

<b>IMPACT DESCRIPTION: Stimulation and growth of the local and regional economies</b>				
<b>Predicted for project phase:</b>	Pre-construction	Construction	Operation	Decommissioning
<b>Dimension</b>	<b>Rating</b>	<b>Motivation</b>		
<b>PRE-ENHANCEMENT</b>				
Duration	Project Life (5)	Expenditure on procurement, wages and royalties will continue for the entire life of Mine	Consequence: Moderately beneficial (12)	Significance: Minor - positive (48)
Extent	Regional (4)	Royalties and taxes will aid regional development - culmination of positive economic effects will stimulate economic growth		
Intensity type of impact	Moderate - positive (3)	Economic growth will have positive outcomes for a substantial number of businesses and households		
Probability	Probable (4)	Canyon Coal is obliged by law to pay royalties and taxes, and some economic multiplier effects will spill-over into regional economic development		
<b>ENHANCEMENT:</b>				
<ul style="list-style-type: none"> <li>- Measures recommended to maximise benefits from local employment, economic multiplier effects, as well as community, economic and skills development;</li> <li>- Procure from local HDSA suppliers throughout the life of the mine; and</li> <li>- Establish a monitoring system to ensure that the mine and its contractors comply with government regulations</li> </ul>				
<b>POST-ENHANCEMENT</b>				
Duration	Beyond project life (6)	Successful mitigation will prolong benefits of economic development beyond life of mine	Consequence: Highly beneficial (14)	Significance: Moderate - positive (84)
Extent	Regional (4)	Royalties and taxes will aid regional development - culmination of positive economic effects will stimulate economic growth		
Intensity type of impact	Moderately high - positive (4)	Successful mitigation will promote an environment conducive for economic growth		
Probability	Highly probable (6)	Mitigation will increase the chance of the manifestation of this impact		

## 11.3 Decommissioning Phase

The eventual termination of a Mine's operating life inevitably result in several socio-economic consequences (IFC, 2002; United Nations Environment Programme, 2005). It should be noted that any predictions concerning the characteristics of the receiving socio-economic environment at the time of decommissioning (year 47) are subject to a large margin of error, thus significantly reducing the accuracy of impact assessment. Several socio-economic impacts could arise when the Mine is decommissioned and should therefore form part of the scope of study when the EIA for decommissioning the Project is planned.

Most socio-economic impacts related to decommissioning are related to dependencies created by the Project throughout its operations. A more detailed description of this impact and potential mitigation measures are provided below.





## 11.3.1 Dependency on the Project to Sustain the Local Economy

### 11.3.1.1 Impact Description

While the proposed Project's operation can contribute significantly to economic development through its lifetime (Section 11.2.1 and 11.2.2), this positive impact also has an adverse aspect, in that the Mine will inevitably close, and this can have devastating consequences for an area that has not invested in economic diversification.

A considerable number of people and their families will also become increasingly dependent on the Project for their livelihood. Employment opportunities associated with the proposed Project will be lost at closure (approximately 320 workers, 50% of whom will have been sourced from the local area or have become permanent residents in the area), as will be the corresponding project benefits such as community development, LED and CSI programmes implemented by Canyon Coal. Retrenchments before the end of life of the Project are another possibility and could be necessitated by downscaling as a result of external forces such as reduced profitability, and technical innovation. At such a time, project employees may not be able to secure alternative employment.

Job losses and retrenchments would lead to loss of income and local expenditure. Unemployed staff may be unable to pay for municipal services and will be unable to service their debts, including home mortgages. Taking into consideration the likely dependency on employee income, the loss of income will have considerable negative impacts on the wellbeing of households, especially where employees were the sole breadwinners.

Suppliers could also be affected as the opportunity to sell goods and services to the Project will be lost. This could furthermore affect those companies that supply these businesses with goods and services. This impact will mostly be felt by suppliers at a local municipal level.

Economic downturn and the resultant loss of employment could also result in increases in social pathologies, such as crime, prostitution and substance abuse (IFC, 2012).

Other socio-economic impacts usually associated with Project dependencies include:

- **Impacts on the workforce** – *Psychological issues* (distraction from normal activities, with a potentially negative impact on performance and safety), and *personal and family income issues* (e.g. concerns about the effect of reduced income on family life); and
- **Impacts on the wider community** - *the regional economy* (e.g. impact on the viability of other indigenous industries due to the loss of locally produced outputs, for instance coal), *financing of decommissioning* (e.g. adequate funds may not have been provided for decommissioning and site rehabilitation); and *infrastructure* (e.g. possible requirement for reconfiguration of essential national systems to maintain stability and reliability in power supply to the communities who are benefitting from the supply).



### **11.3.1.2 Recommended Mitigation Measures**

Canyon Coal's SLP specifies that, in the event of retrenchments becoming unavoidable, the mine will develop strategies to introduce measures that could prevent job loss in the event of circumstances threatening guaranteed employment (Canyon Coal, 2016).

If it becomes evident that the mine is entering a downscaling or closure phase, alternatives to save jobs and avoid downscaling will be investigated beforehand. In the event of downscaling or retrenchment, the mine will develop and implement turnaround strategies and mechanisms to save jobs and prevent unemployment (through exploring alternative employment avenues).

It is recommended that a Social Closure Plan be formulated at least five years before planned closure, including the undertaking of a SIA and stakeholder consultation process, which should focus on the following:

- Predicting the likely socio-economic impact on employee households, communities and the region;
- Identifying critical issues affecting the on-going sustainability of employees and communities during closure, by means of a detailed consultation process;
- Identification of alternative livelihood and socio-economic development opportunities and projects, which may become sustainable over the long term; and
- Mitigating and managing the adverse impacts of closure.

The mine should make every effort to ameliorate the social and economic impact on individuals, regions and economies where retrenchment and closure of the mine are certain. Should downscaling and retrenchment take place, the mine should assist affected employees in finding alternative employment or livelihood opportunities. This should be done in cases where employees cannot be integrated or redeployed to any of the other mining operations, or where they are not of a retirement age.

The mine, in partnership with the Department of Provincial and Local Government, should jointly manage any process of this nature. The integration of the workforce into various LED projects, if required, could be done in collaboration with relevant municipalities, and other stakeholders serving on Municipal Development Forums, especial LED Forums. Where workers cannot be absorbed into LED initiatives, they should be furnished with portable skills training opportunities, enabling them to find alternative employment after decommissioning or retrenchment. Other initiatives could focus on assessment and counselling services for affected individuals.



### 11.3.1.3 *Impact Rating*

<b>IMPACT DESCRIPTION: Dependency on mine for sustaining local economy</b>				
<b>Predicted for project phase:</b>	Pre-construction	Construction	Operation	Decommissioning
<b>Dimension</b>	<b>Rating</b>	<b>Motivation</b>		
<b>PRE-MITIGATION</b>				
Duration	Long term (4)	Effects of retrenchments/ decommissioning will be long-lasting	Consequence: Moderately detrimental (-13)	Significance: Moderate - negative (-91)
Extent	Local (3)	Will most severely affect employees and service providers from the secondary study area		
Intensity type of impact	Very high - negative (-6)	Local economy may become increasingly dependent on mining		
Probability	Certain (7)	The project will come to an end, and retrenchments are likely due to duration of operational phase		
<b>MITIGATION:</b>				
<ul style="list-style-type: none"> <li>- Develop alternative and sustainable livelihoods;</li> <li>- Collaborate with other industries to support the diversification of the local economy;</li> <li>- The Mine's SLP should provide strategies and measures that prevent job loss;</li> <li>- Alternatives to avoid downscaling should be investigated beforehand;</li> <li>- Develop a Mine Closure Plan;</li> <li>- Proactively assess and manage the social and economic impacts on individuals, regions and economies where retrenchment and/or closure of the mine are certain; and</li> <li>-Partner with the relevant government departments, to jointly manage Closure process</li> </ul>				
<b>POST-MITIGATION</b>				
Duration	Medium term (3)	Successful mitigation will reduce the duration of the impact	Consequence: Moderately detrimental (-10)	Significance: Minor - negative (-50)
Extent	Local (3)	Will most severely affect employees and service providers from the secondary study area		
Intensity type of impact	Moderately high - negative (-4)	Mitigation will reduce the impact of retrenchment on a considerable number of households		
Probability	Likely (5)	Mitigation will reduce severity of impact on retrenched workers		

## 11.4 Impact Summary

Table 39 shows that a total of 12 social impacts were identified for the proposed Project. Of these, five are positive, and seven negative. If all mitigation measures are implemented according the recommendations given in Section 11.1-11.3, it is anticipated that the consequence and/or probability of most negative impacts will be reduced.

**Table 39: Summary of Impacts, Impact Ratings and Recommended Mitigation and Enhancement Measures**

Code	Impact	Pre-mitigation:						Recommended mitigation	Post-mitigation:					
		Duration	Extent	Intensity	Consequence	Probability	Significance		Duration	Extent	Intensity	Consequence	Probability	Significance
EmpConstr	Employment creation during construction	Short term	Regional	Moderate - positive	Slightly beneficial	Probable	Minor - positive	<ul style="list-style-type: none"> <li>- Assign preferred employment status to those experiencing the bulk of the negative project impacts (communities located within and surrounding the Project footprint e.g. Palmietkuilen Community, Vischkuil, Endicot, Welgedach, Slovo Park, Aston Lake, Prosperity);</li> <li>- Promotion of local, female and youth employment to achieve and where feasible exceed the targets set out by the Mining Charter;</li> <li>- Where possible labour-intensive construction methods should be promoted;</li> <li>- Verification of local residential status through consultation with appropriate authorities (e.g. municipal structures, community leaders, and landowners)</li> <li>- Consult neighbouring businesses/mines to determine if they would be willing to make their skills registers available;</li> <li>- Identify required core skills, expand skills audits to community and align and implement training and skills development initiatives to findings of audit;</li> <li>- Expand skills development programmes, especially ABET programmes, to include surrounding communities;</li> <li>- Recruitment via a registry of job seekers and potentially coordinated through the DoL;</li> <li>- Provide local employees with reference letters certificates of completion for in-house (on-the-job) training; and</li> <li>- Monitor subcontractors in terms of local employment targets.</li> </ul>	Short term	Regional	Very high - positive	Moderately beneficial	Certain	Moderate - positive
MutiEcon	Multiplier effects on the local economy	Project Life	Regional	Moderate - positive	Moderately beneficial	Probable	Minor - positive	<ul style="list-style-type: none"> <li>As for maximising employment benefits. Also:</li> <li>- Give preference first to capable local service providers;</li> <li>- Develop local service provision capacity;</li> <li>- Monitoring of sub-contractors procurement;</li> <li>- Development of a register of local SMMEs;</li> <li>- Linkages with skills development/ SMME development institutions and other mining operations;</li> <li>- SMME skills development as part of mine SLP/LED commitments; and</li> <li>- Local procurement targets should be formalised in Canyon Coal's procurement policy.</li> </ul>	Project Life	Regional	Very high - positive	Highly beneficial	Highly probable	Moderate - positive
Com_Dev	Community development and social upliftment	Project Life	Local	Moderate - positive	Moderately beneficial	Probable	Minor - positive	<ul style="list-style-type: none"> <li>- Liaison with beneficiaries to ensure needs are met;</li> <li>- Collaboration with other developmental role players during implementation;</li> <li>- Expanding skills development and capacity building programmes to non-employees;</li> <li>- Establish external monitoring system to regulate HDSA procurement;</li> <li>- Where feasible, training should be NQF accredited; and</li> <li>- A record of training courses completed per individual should be kept</li> </ul>	Beyond project life	Local	High - positive	Highly beneficial	Highly probable	Moderate - positive
Disp	Displacement related impacts	Permanent	Limited	Extremely high - negative	Highly detrimental	Certain	Major - negative	<ul style="list-style-type: none"> <li>Canyon Coal should where possible endeavour to minimise the extent of, displacement through project design, where displacement cannot be minimised the following measures are recommended to alleviate the adverse impacts:</li> <li>-Canyon Coal should finalise the Project layout plan and determine its policy and approach to displacement, as this would inform the extent of resettlement, i.e. whether it will recognise both direct and indirect forms of displacement as well as whether they will strive towards international best practice or local standards;</li> <li>-The sales agreement of land should reflect the holistic value (determined by a professional valuator) of the land and should also be inclusive of the potential relocation cost of commercial farms and/or business operations;</li> <li>-The displacement of non-vulnerable households and individuals should be considered on a case-by-case basis;</li> <li>-Areas impacted upon during construction should be rehabilitated upon completion of the construction activities to ensure that the land is returned in the same condition;</li> <li>-Prior to finalising the sales agreement of land, it should be clear who will assume responsibility for the resettlement of vulnerable households, especially households comprising the community residing on Palmietkuilen 124 IS Ptn 2;</li> <li>-If Canyon Coal assumes responsibility for displaced households, due process should be followed when these households are relocated. It is recommended that the process be aligned to IFC PS 5 and that a Resettlement Action Plan be developed; and</li> <li>-Consider including employees and other impacted businesses in the aforementioned process.</li> </ul>	Permanent	Limited	Very high - negative	Highly detrimental	Highly probable	Moderate - negative
Disrp Move	Disruption of daily movement patterns	Project Life	Local	Moderately high - negative	Moderately detrimental	Highly probable	Minor - negative	<ul style="list-style-type: none"> <li>Measures to prevent deterioration of roads suggested in Traffic Impact Assessment;</li> <li>- Regulation of traffic at intersections between the R29 and site-access roads to construction and operational site;</li> <li>- Road upgrading measures should be investigated and implemented in conjunction with the relevant government department;</li> <li>- Inform communities of planned construction activities that would affect vehicle/ pedestrian traffic; and</li> <li>- Ensure that access to key services in areas such as Springs are uninterrupted by providing alternative access routes, especially during relocation of Strijdpn Road</li> </ul>	Project Life	Local	Low - negative	Moderately detrimental	Probable	Minor - negative
Influx	Influx related impacts	Beyond project life	Local	Very high - negative	Highly detrimental	Highly probable	Moderate - negative	<ul style="list-style-type: none"> <li>-Develop an Influx management plan together with other industry role players and government;</li> <li>- Discourage influx of job-seekers by prioritising employment of unemployed members of local communities;</li> <li>- Liaise with local municipalities to ensure that expected population influx is taken into account in infrastructure development and spatial development planning;</li> <li>- Create synergies with local government IDP and other companies' SLP/CSR projects to promote infrastructure development;</li> <li>- Extensive HIV/ AIDS awareness and general health campaign;</li> <li>- Identify if recorded criminal activities involved members of the mine's workforce;</li> <li>- Clear identification of workers; prevention of loitering;</li> <li>- Liaison with police, community policing forum;</li> </ul>	Project Life	Limited	Moderate - negative	Moderately detrimental	Probable	Minor - negative

Code	Impact	Pre-mitigation:						Recommended mitigation	Post-mitigation:					
		Duration	Extent	Intensity	Consequence	Probability	Significance		Duration	Extent	Intensity	Consequence	Probability	Significance
								- Community education; and - Measures to address potential conflict between locals and non-locals						
H&S	Impact on community member's health and safety	Project Life	Limited	Very high - negative	Moderately detrimental	Highly probable	Moderate - negative	- Access control to all project elements, including fencing prior to commencing construction ; - Notification of blasting activities; - Storage of blasting and hazardous materials should adhere to prescribed regulation; - Measures suggested minimising the impact of fly-rock on surrounding roads and structure (Blast Management and Consulting, 2016); - Measures suggested in the Traffic Impact Assessment to minimize traffic related accidents (Traffic Impact Assessment, 2016); - Road maintenance; and - Community education	Project Life	Limited	High - negative	Moderately detrimental	Unlikely	Minor - negative
Sur_Landuse	Impact on surrounding land users	Beyond project life	Limited	Very high - negative	Highly detrimental	Highly probable	Moderate - negative	- Refer to recommendations of specialist studies (see Visual Impact Assessment, Surface-and Ground Water Impact Assessment, Noise Impact Assessment, Air Quality Impact Assessment, Blasting and Vibration Impact Assessment and Traffic Impact Assessment); - Optimise mine plan/infrastructure placement to avoid/minimise negative impacts, especially in terms of visual intrusion, displacement, air quality and disruptions of traffic; - Undertake continuous information sharing and consultation with adjacent/affected farm owners; and - Implement communication mechanisms to report changes in water quality/quantity, air quality or vibrations	Beyond project life	Limited	Moderately high - negative	Moderately detrimental	Probable	Minor - negative
Opposition	Opposition because of perceived negative impacts	Beyond project life	Local	High - negative	Highly detrimental	Probable	Minor - negative	-Communicate commitments regarding LED; - Transparency regarding employment practices; - Presentation of EIA findings in clear and understandable manner; - Monitor community attitudes to anticipate/prevent active opposition; - Establish a community forum which meets quarterly; and - Appointment of a CLO to enhance communication	Beyond project life	Local	Low - negative	Moderately detrimental	Unlikely	Negligible - negative
EmpOpertn	Employment creation during operation	Project Life	Regional	Low - positive	Moderately beneficial	Likely	Minor - positive	- Measures to enhance local employment during construction ( see measures to enhance employment during construction); - Provide focused training to construction phase employees from the host communities to increase their chances for employment during the operations; - Measures recommended to maximise benefits from local employment, and economic multiplier effects; 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.	Project Life	Regional	Very high - positive	Highly beneficial	Highly probable	Moderate - positive
EconDev	Stimulation and growth of the local and regional economies	Project Life	Regional	Moderate - positive	Moderately beneficial	Probable	Minor - positive	- Measures recommended to maximise benefits from local employment, economic multiplier effects, as well as community, economic and skills development; - Procure from local HDSA suppliers throughout the life of the mine; and - Establish a monitoring system to ensure that the mine and its contractors comply with government regulations	Beyond project life	Regional	Moderately high - positive	Highly beneficial	Highly probable	Moderate - positive
Dependency	Dependency on mine for sustaining local economy	Long term	Local	Very high - negative	Moderately detrimental	Certain	Moderate - negative	- Develop alternative and sustainable livelihoods; - Collaborate with other industries to support the diversification of the local economy; - The Mine's SLP should provide strategies and measures that prevent job loss; - Alternatives to save jobs/avoid downscaling should be investigated beforehand; - Develop a Mine Closure Plan; - Proactively assess and manage the social and economic impacts on individuals, regions and economies where retrenchment and/or closure of the mine are certain; and - Partner with the relevant government departments, to jointly manage Closure process	Medium term	Local	Moderately high - negative	Moderately detrimental	Likely	Minor - negative



## 12 Cumulative Impacts

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). As was mentioned 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 (Section 11).

The most prominent existing and proposed future industrial and mining developments in the broader project area are listed below (also see Figure 4) (Ekurhuleni Metropolitan Municipality, 2015; LLM, 2016; LLM, 2016a; Mining ATLAS, 2016; VKLM, 2013). 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:

- Kangala Coal Mine (existing);
- Eloff Coal Mining Project (planned);
- Wolvenfontein Coal Mine (planned);
- The Vlakplaats Coal exploration Project (planned)
- Leeuwpan Coal Mine (existing);
- Ergo Gold Reclamation Project (planned);
- Stuart Coal Mine (existing);
- Ikwhwezi Open Cast Coal Mine (existing);
- Manungu Coal Colliery (existing);
- New Clydesdale Colliery (existing);
- SamQuarz Silica Mine (existing);
- Delmas 600MW KiPower Station (existing);
- Optimum Colliery (existing); and
- Delmas Colliery (existing).

Potential cumulative impacts associated with the Project are listed in Table 40. 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).





Hence, the list below is of a general nature, and represents the most prominent combined impacts for the broader project area.

**Table 40: Potential Cumulative Impacts**

<b>Nature</b>	<b>Direction of change</b>	<b>Extent of impact</b>
Improved standard of living through increased employment, local business development and improved public infrastructure and community services and facilities (the latter will be dependent on government and private-sector contributions).	Positive	Local and regional
Urban sprawl, housing backlog and/or growth of informal settlements.	Negative	Local and regional
Added pressure on local public service delivery and infrastructure, including housing, roads, water and sewage treatment works, schools, police services and waste management facilities.	Negative	Local and regional
Community disruption and impact on social cohesion as a result of population influx, the presence of a non-local workforce, lack of services and facilities.	Negative	Local
The use of non-local labour, due to unavailability of local skilled workers causing tension in local communities as a result of the expectation that the Project should provide local employment.	Negative	Local
The visual impact of mining infrastructure and other industrial developments, and associated changes in land use, are significant and imprint an industrial character onto the rural landscape.	Negative	Local and regional
Increased pressure on water resources to maintain the reserves required to supply basic human and ecological needs.	Negative	Local and regional
Compounded effects of lighting, noise, traffic, water, pollution and dust emission, groundwater abstraction and physical reduction in habitat has cumulative impacts on the social and biophysical environment.	Negative	Local and regional
Increased sterilisation of agricultural land and decrease in food security	Negative	Regional and national
Potential impact on climate change through emission of greenhouse gasses	Negative	Local, regional and national

Development of the Project, together with other planned developments, could result in large-scale socio-economic changes in the Project area. Associated impacts include the following:



- **Land acquisition, sterilisation of agricultural land and decrease in food security:** The project is likely to sterilise a relatively large land area, with high agricultural potential (Digby Wells, 2015e). The land has been extensively developed for commercial farming, and currently produces considerable amounts of maize for local markets. It was established during the field investigations that available land with similar soil capability, water resources and irrigation infrastructure, is virtually non-existent within the relative proximity of the study area. The land which is available is already being occupied by agricultural operations; the high occupation rate is partially attributed to high demand of agricultural products. This situation will result in a nett decrease in food supply (Urban-Econ, 2017). If the mining operation results in the closing down of Rossouw poultry farm and businesses that depends on this operation, it will add to the extent of this impact (Urban-Econ, 2017). The Project will, in combination with other projects, contribute to a loss of productive land for other economic purposes. It is recognised that the productivity of land acquired by the Project cannot always be fully restored to its original state through the rehabilitation of project sites. However, it is important that the Project rehabilitate sites as far as possible to allow for alternative end-land uses.
- **Economic development:** The Project, together with other large projects, could result in several economic benefits for local communities through both direct and multiplier effects (Urban-Econ, 2017). These effects are stimulated by wage bills, local and regional procurement spend, and any investment into LED and skills development. Future developments in the Project area may also have a cumulative effect on the sustainable development of municipal areas. The formulation and successful implementation of community-based projects will contribute to the management of cumulative impacts resulting from development intervention in the broader project area.
- In addition, the Project's direct and indirect contribution to **job creation, LED and power generation** will facilitate income growth, capacity development and national level economic benefits. The Project intends to contribute to infrastructure and service improvements in LLM, which would, impact positively on the local and regional socio-economic status. These positive impacts, in combination with those of other developments, will boost the overall development in surrounding municipal areas.
- **Increased income and income stability:** An increase in the number of employed persons may increase average household incomes and levels of disposable income. This expansion of local spending power would increase the demand for goods and services, which in turn could attract further investment and secondary businesses. It could also increase income stability in the area. The Project will contribute to income stability through maximising local employment and economic development.
- **Population influx:** Existing and new developments in the broader project area will accelerate population influx to the area, with associated increased pressure on land,



resources and public services/facilities, as well as an increase in informal settlement. It is proposed that the Project investigates joint measures and procedures with other projects and local municipalities to promote sustainable land use and management.

- **Increase in traffic volumes:** The Project is expected to increase traffic volumes on local roads. Together with traffic increases resulting from other projects, these increases will put additional pressure on existing road infrastructure and pose risks to the safety of road users, pedestrians and animals in project area. Increased traffic will also increase the levels of noise and dust generated in the area. It is recommended that the Project's Health and Safety Management Plans include specific measures to manage road safety and traffic control, taking into consideration the cumulative effects of traffic generated by multiple development projects.
- **Social pathologies:** The introduction of large development projects into a relatively remote rural environment can bring about substantial social change as a result of the large numbers of contractors, job-seekers (often accompanied by their families) and entrepreneurs that move into the rural area in the hope of participating in the real or perceived economic opportunities associated with these developments. Associated with this change, is increased vulnerability of host communities to social pathologies such as substance abuse, increase in crime and increased incidence of sex workers. The Project's Health and Safety Management Plans should identify programmes and actions to address safety and security impacts.
- **Health aspects:** An increase in the spread of diseases is expected as a result of the introduction of the Project and other development projects in the broader project area. Together, these developments may exacerbate conditions such as the spread of HIV/AIDS and other communicable diseases following significant population influx and settlement densification. The Project should (together with other companies in the area), collaborate with national, provincial and local government, as well as leading NGOs to promote an integrated approach to combating communicable diseases in the secondary study area.

It is emphasised that isolated attempts by the Project to ameliorate the above impacts will only have limited success. It is essential that the Project collaborates with the appropriate local government structures and forums, local economic development programmes, as well as through partnerships with both government and other power generation/mining projects.

### 13 Potential Social Risks

The aim of this section is to identify aspects of the receiving socio-economic environment or unplanned events that could represent significant social risks *to the Project*. These may constitute constraints that will have to be accommodated in project design, as well as issues that would require appropriate management and mitigation throughout.



Social risk is linked to the actions of a project's stakeholders and could either be a risk to a project as a result of the impact on stakeholders or stakeholders' impact on the project. In most cases a risk can be financial, delay or reputational, as follows:

- *Financial:* A financial risk can result in a project being financially unfeasible due to costs associated with project delays;
- *Delay due to community protest or appeals against the project:* could result in major timeframe implications for the project; and
- *Reputational:* Community protest, human rights violations (e.g. air and water pollution, destruction of arable land, and biodiversity loss which could impact on human rights to life, health, water, food, culture and a healthy environment) and severe social impacts could cause damage to a company's reputation, which could result in delays, financial implications and detract from their social licence to operate.

It is recognised that some "social" events cannot necessarily be planned in advance but could still represent risks to the Project (i.e. unplanned events). Aspects that could potentially give rise to these events will require appropriate management and mitigation throughout the life of the Project (starting at the feasibility stage of the Project.). The potential social risks to which the Project might be exposed to are discussed below and summarised in Table 41.

### 13.1 Community Expectations

Community expectations regarding the proposed project are most frequently related to employment, but also to sharing in project benefits through socio-economic development. When such hopes are not met or addressed with appropriate communication, they may lead to potential stakeholder opposition and public mobilisation against the project.

In a context of relatively high unemployment (Section 8.2.3.4.5), local residents, especially households from socio-economically depressed communities have reiterated that they will be dissatisfied if access to the finite construction and operational phase jobs and the provision of associated services is perceived to be biased and preferential. In other words, employment of locals is a sensitive issue and social mobilisation against the Project as a result of perceived unfair practices can be a real threat to the Project. This is particularly the case if the operational workforce will be sub-contracted and if contractors do not comply with the Project's local recruitment targets. Such practices could increase the risk of community resistance and social mobilisation against the Project.

Communities living around mines are generally well-acquainted with the obligations that mining companies have to develop labour sending communities through SLPs and often acquire legal counsel to ensure such benefits.

Expectations of local communities must be managed by informing them as to exactly what to expect from the Project in terms of community investment (e.g. through project-sponsored LED and CSI projects). The Project should continuously involve community and municipal

structures in the development of any LED and/or community development programmes. The Project could also consider conducting a needs assessment to determine the types of investments it can make towards local development, a high-level needs assessment undertaken among households residing within the primary study area is presented in Section 8.2.3.4.5. Often, there are already initiatives underway, in need of some financial or technical support that the Project could provide.

It is essential that communication channels are accessible and transparent between local communities and the Project to allow stakeholders to discuss major concerns. As previously mentioned it is recommended that:

- A CLO is appointed; and
- A Grievance mechanism is established, which is accessible to aggrieved members of the communities residing in the primary and secondary study area.

It is possible that regardless of Canyon Coal's efforts to foster amicable stakeholder relations, there will still be stakeholders who are dissatisfied with the process. This potential for local instability should be taken into account (through a structured stakeholder engagement process) together with the threats of labour strikes and negative perceptions regarding mining. When combining these dynamics it can be argued that affected communities might become resistant or hostile towards the proposed Project, if not treated in a socially justifiable, sensitive and transparent manner.

### **13.2 Risks Associated with Land Acquisition and Displacement**

As discussed in Section 8.2.3, the primary study area is currently used for purposes other than mining and the proposed project will likely result in extensive physical and economic displacement (Section 11.1.4), which could result in significant delays or additional financial costs to the Project. If not carefully managed in an open, transparent and appropriate manner, land acquisition can result in a stop to the Project when affected people are not satisfied with the process (IFC, 2012). It could also result in a reputational risk if it is perceived that a Project is not following best practice or displacement mitigation is not fair.

**Table 41: Risks Associated with Unplanned Events**

Event	Mitigation/Management/ Monitoring
Community expectations and actions	<p>Expectations of communities must be managed by informing them what to expect from the Project in terms of LED and/or community development projects.</p> <p>Continuously involve community and municipal structures in the development of any LED or community development projects</p> <p>Appoint CLOs to provide communities with an accessible communication mechanism</p> <p>Establish grievance mechanism which is accessible to aggrieved members of the surrounding communities.</p> <p>Use public media to inform and enlighten stakeholders with regard to project limitations, progress and outcomes</p>
Timing and financial implications of land acquisition and physical and economic displacement	<p>Follow a transparent consultation and negotiation process.</p> <p>Adequately compensate landowners as well as displacement-affected people</p>

Failure to avoid any of the aforementioned risks could detract from Canyon Coal's "social licence to operate." A social licence to operate is defined as the on-going approval and acceptance from a host community and stakeholders for a project to operate. A social licence to operate is intangible and dynamic. It is granted by the communities in which the Project operates and is rooted in stakeholder perceptions and opinions about the Project, which could, in turn, be influenced by NGOs, political parties, labour unions and other community based organisations within the Project area. A social licence to operate is acquired through on-going, transparent communications and mutual trust. It is, therefore, earned and needs to be maintained as opinions and perceptions can change. A social license to operate is gained through an investment in host communities and constructive stakeholder engagement.

## 14 Social Management Framework

The social management framework proposed in this section aims to ensure (a) that the anticipated negative social impacts of the Project on host communities are mitigated and managed, and (b) that potential positive impacts on host communities are optimised and enhanced in a sustainable manner.

Effective integration of the impact assessment results and the eventual implementation of management measures are, therefore, critical. It is also important that the social management actions recommended in the SIA are successfully integrated with other plans in the EMP, as well as employment, skills development/training and procurement policies and the management of contractors and suppliers. Management measures should form part of the Project's overall Environmental and Social Management System.





The management measures presented in this section place heavy emphasis on aspects such as training, skills development and local economic development as these components would constitute the basis for enhancing the Project's 'social' benefits. Moreover, negative impacts, such as increased pressure on infrastructure/services, and economic dependence on the Project could be more effectively mitigated when the social benefits of the Project are enhanced.

The Project should develop the necessary corporate policies and procedures that will hold senior management accountable for the effective implementation of management actions. These policies should explicitly state the company's commitment to contribute to the health and safety of host communities and the sustainable economic development of the areas in which the Project operates. Implementation of management actions could require specific organisational arrangements to ensure that the implementation is effectively managed by dedicated managers. Organisational arrangements may also require the appointment and capacity building of staff that have a proven record of dealing with host communities and project-related social aspects.

Management actions required to mitigate biophysical impacts such as increases in dust and noise, and impacts on water supply and water quality, are addressed in the EIA and EMP for the Project.

### 14.1 Project Activities with Potentially Significant Impacts

Table 42 below presents a summary of the pre- and post-mitigation significance of the social impacts associated with the Project. If all mitigation measures are implemented according to the recommendations presented in Section 11, it is expected that the consequence and/or probability of most negative impacts will be reduced. This is reflected in the post-mitigation significance ratings assigned to negative impacts. While not all negative impacts can be reduced to baseline levels, most positive impacts could be significantly enhanced to maximise benefits to surrounding communities and to a degree offset residual negative impacts.

**Table 42: Potential Social Impacts according to Significance**

Impact	Activities contributing to impact	Pre-mitigation	Post-mitigation
Employment creation during construction	Most project activities during construction and operation will require a workforce. The following activities are direct trigger of employment: <ul style="list-style-type: none"> <li>▪ Employment and capital expenditure; and</li> <li>▪ Construction of mine related infrastructure, including haul roads, pipes and dams</li> </ul>	Minor - positive	Moderate - positive
Multiplier effects on the local economy	All project activities, which involves expenditure, especially the following <ul style="list-style-type: none"> <li>▪ Employment and capital expenditure;</li> </ul>	Minor - positive	Moderate - positive



Impact	Activities contributing to impact	Pre-mitigation	Post-mitigation
	<ul style="list-style-type: none"> <li>Construction of mine related infrastructure, including haul roads, pipes and dams; and</li> <li>Implementation of activities outline in the SLP and Social Performance Policies.</li> </ul>		
Community development and social upliftment	<p>All project activities which are necessary to sustain the construction and functioning of the Project, as the Project as a whole is obligated to adhere to its SLP and community development commitments, the following activities will be the primary triggers:</p> <ul style="list-style-type: none"> <li>Employment and capital expenditure; and</li> <li>Implementation of SLP commitments and Social Performance Policies.</li> </ul>	Minor - positive	Moderate - positive
Displacement related impacts	<p>The following activities will be the primary triggers of direct displacement related impacts:</p> <ul style="list-style-type: none"> <li>Land acquisition;</li> <li>Creation of Open pit to access coal reserves;</li> <li>Site clearing, including removal of topsoil and vegetation;</li> <li>Construction of surface infrastructure; and</li> <li>Blasting and development of initial box-cut, including stock piling</li> </ul>	Major - negative	Moderate - negative
Disruption of daily movement patterns	<p>The following activities will disrupt movement:</p> <ul style="list-style-type: none"> <li>Relocation of infrastructure, especially planned relocation of roads</li> <li>Blasting and development of initial box-cut, including stock piling;</li> <li>Construction of mine related infrastructure, including haul roads, pipes and dams; and</li> <li>Loading, hauling and stockpiling of overburden, RoM coal.</li> </ul>	Minor - negative	Minor - negative
Influx related impacts	<p>All project activities will contribute to this impact, as it is the perception of the entire Project, as opposed to particular activities, which triggers influx. However, the following activities are usually the main drivers of influx:</p> <ul style="list-style-type: none"> <li>Employment and operational expenditure; and</li> <li>Construction of mine related infrastructure, including haul roads, pipes and dams.</li> </ul>	Moderate - negative	Minor - negative
Impacts on community member's health and safety	<p>All project activities will have some inherent risk for human health, however the following activities could have the most significant health and safety impacts:</p> <ul style="list-style-type: none"> <li>Blasting and development of initial box-cut, including</li> </ul>	Moderate - negative	Minor - negative



Impact	Activities contributing to impact	Pre-mitigation	Post-mitigation
	stock piling; <ul style="list-style-type: none"> <li>▪ Construction of mine related infrastructure, including haul roads, pipes and dams;</li> <li>▪ Drilling and blasting</li> <li>▪ Loading, hauling and stockpiling of overburden, RoM coal;</li> <li>▪ Plant and equipment operations;</li> <li>▪ Storage, handling and treatment of hazardous products and waste; and</li> <li>▪ Demolition and removal of all infrastructure</li> <li>▪ On-site water use and storage</li> </ul>		
Impact on surrounding land users	Most project activities will contribute to impacts on surrounding land users (e.g. noise, blasting, dust, etc.), especially: <ul style="list-style-type: none"> <li>▪ Blasting and development of initial box-cut, including stock piling;</li> <li>▪ Construction of mine related infrastructure, including haul roads, pipes and dams;</li> <li>▪ Drilling and blasting</li> <li>▪ Loading, hauling and stockpiling of overburden, RoM coal;</li> <li>▪ Plant and equipment operations;</li> <li>▪ On-site water use and storage</li> <li>▪ Storage, handling and treatment of hazardous products and waste; and</li> <li>▪ Demolition and removal of all infrastructure</li> </ul>	Moderate - negative	Minor - negative
Opposition because of perceived negative impacts	All project activities. Stakeholders usually form perceptions on the Project as whole and not individual activities. However it is anticipated that stakeholders would be inclined to submit grievances in relation to the impacts of the following activities: <ul style="list-style-type: none"> <li>▪ Blasting and development of initial box-cut, including stock piling;</li> <li>▪ Construction of mine related infrastructure, including haul roads, pipes and dams;</li> <li>▪ Drilling and blasting; and</li> <li>▪ Hauling and stockpiling of overburden and RoM coal.</li> </ul>	Minor - negative	Negligible - negative
Employment creation during operation	Most operational activities will require a workforce.	Minor - positive	Moderate - positive



Impact	Activities contributing to impact	Pre-mitigation	Post-mitigation
Stimulation and growth of the local and regional economies	The following activities will be the primary triggers of economic growth and diversification: <ul style="list-style-type: none"> <li>▪ Employment and project expenditure;</li> <li>▪ Payment of royalties and taxes;</li> <li>▪ Successful implementation of SLP; and</li> <li>▪ Mine and equipment operations.</li> </ul>	Minor - positive	Moderate - positive
Dependency on mine for sustaining local economy	<ul style="list-style-type: none"> <li>▪ Employment and operational expenditure; and</li> <li>▪ Dismantling of major equipment and infrastructure</li> </ul>	Moderate - negative	Minor - negative

## 14.2 Summary of Mitigation and Management

Table 43 to Table 44 provide a summary of the proposed project activities, environmental aspects and impacts on the receiving environment, information on the frequency of mitigation, relevant legal requirements, recommended management plans, timing of implementation, and roles / responsibilities of persons implementing the EMP.

**Table 43: Mitigation and Management Plan**

Activities	Potential impact	Size and scale of disturbance	Aspects affected	Phase	Mitigation type/measures	Compliance with standards/Standard to be achieved	Time period for Implementation
<p>Most project activities during construction and operation will require a workforce. The following activities are direct triggers of employment:</p> <ul style="list-style-type: none"> <li>Employment and capital expenditure; and</li> <li>Construction of mine related infrastructure, including haul roads, pipes and dams</li> </ul>	Employment creation during construction	At least 136 jobs will be created for individuals from local communities, during operations another 320 jobs will be created (50% local). The Project's economic multiplier effects will also result in a considerable number of opportunities in downstream industries.	Appointment of workforce	Construction and operation	<ul style="list-style-type: none"> <li>Assign preferred employment status to those experiencing the bulk of the negative project impacts (communities located within and surrounding the Project footprint e.g. Palmietkuilen Community, Vischkuil, Endicott, Welgedacht, Slovo Park, etc.);</li> <li>Promotion of local, female and youth employment to achieve and where feasible exceed the targets set out by the Mining Charter;</li> <li>Where possible labour-intensive construction methods should be promoted;</li> <li>Verification of local residential status through consultation with appropriate authorities (e.g. municipal structures, community leaders, and landowners)</li> <li>Consult neighbouring businesses/mines to determine if they would be willing to make their skills registers available;</li> <li>Identify required core skills, expand skills audits to community and align and implement training and skills development initiatives to findings of audit;</li> <li>Expand skills development programmes, especially ABET programmes, to include surrounding communities;</li> <li>Recruitment via a registry of job seekers and potentially coordinated through the DoL;</li> <li>Provide local employees with reference letters certificates of completion for in-house (on-the-job) training;</li> <li>Monitor subcontractors in terms of local employment targets;</li> <li>Provide focused training to construction phase employees from the host communities to increase their chances for employment during the operations;</li> <li>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.</li> </ul>	<p><b>Yes</b></p> <p>Mineral and Petroleum Resource Development Act (Act of 2002). National Environmental Management Act (Act of 1998) 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); Skills Development Act (Act No. 97 of 1998 as amended); and Company employment policies, especially the Project's SLP</p>	Prior to start of construction and on-going
<p>All project activities, which involves expenditure, especially the following</p> <ul style="list-style-type: none"> <li>Employment and capital expenditure;</li> <li>Construction of mine related infrastructure, including haul roads, pipes and dams; and</li> <li>Implementation of activities outline in the SLP and Social Performance Policies.</li> </ul>	Multiplier effects on the local economy	Will include some local, but mostly regional and provincial impacts	Procurement of goods and services Investment in the local economy	Construction and operation	<p>As for maximising employment benefits. Also:</p> <ul style="list-style-type: none"> <li>Give preference first to capable local service providers;</li> <li>Develop local service provision capacity;</li> <li>Monitoring of sub-contractors procurement;</li> <li>Development of a register of local SMMEs;</li> <li>Linkages with skills development/ SMME development institutions and other mining operations;</li> <li>SMME skills development as part of mine SLP/LED commitments; and</li> <li>Local procurement targets should be formalised in Canyon Coal's procurement policy.</li> </ul>	<p><b>Yes</b></p> <p>Mineral and Petroleum Resource Development Act (Act of 2002); IDPs and SPFs of affected municipalities; Company Procurement Policy; Skills Development Act (Act No. 97 of 1998 as amended); and Company SLP.</p>	At the start of construction and on-going
<p>All project activities which are necessary to sustain the construction and functioning of the Project, as the Project as a whole is obligated to adhere to its SLP and community development commitments, the following activities will be the primary triggers:</p> <ul style="list-style-type: none"> <li>Employment and capital expenditure; and</li> <li>Implementation of SLP commitments and Social Performance Policies.</li> </ul>	Community development and social upliftment	All employees as well as some members of the local community will benefit from actions outlined in the Mine's SLP and other social performance policies	Skills development of employees and host communities	Construction and operation	<ul style="list-style-type: none"> <li>Liaison with beneficiaries to ensure needs are met;</li> <li>Collaboration with other developmental role players during implementation;</li> <li>Expanding skills development and capacity building programmes to non-employees;</li> <li>Establish external monitoring system to regulate HDSA procurement;</li> <li>Where feasible, training should be NQF accredited; and</li> <li>A record of training courses completed per individual should be kept</li> </ul>	<p><b>Yes.</b></p> <p>Mineral and Petroleum Resource development Act (Act of 2002); 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). Company employment policies IDPs and SPFs of affected municipalities Company CSI Policy</p>	Prior to the start of construction and on-going
<ul style="list-style-type: none"> <li>The following activities will be the primary triggers of direct displacement related impacts:</li> <li>Land acquisition;</li> <li>Creation of Open pit to access coal reserves;</li> <li>Site clearing, including removal of topsoil and vegetation;</li> <li>Construction of surface infrastructure; and</li> <li>Blasting and development of initial box-cut, including stock piling</li> </ul>	Displacement related impacts	A substantial number of individuals in the primary study area will be directly displaced, with a comparatively larger number of people being exposed to indirect displacement impacts	Relocation of existing land uses	Pre-construction	<p>Canyon Coal should where possible endeavour to minimise the extent of, displacement through project design, where displacement cannot be minimised the following measures are recommended to alleviate the adverse impacts:</p> <ul style="list-style-type: none"> <li>Canyon Coal should finalise the Project layout plan and determine its policy and approach to displacement, as this would inform the extent of resettlement, i.e. whether it will recognise both direct and indirect forms of displacement as well as whether they will strive towards international best practice or local standards;</li> <li>The sales agreement of land should reflect the holistic value (determined by a professional valuator of the land and should also be inclusive of the potential relocation cost of commercial farms and/or business operations);</li> <li>The displacement of non-vulnerable households and individuals should be considered on a case-by-case basis;</li> <li>Areas impacted upon during construction should be rehabilitated upon completion of the construction activities to ensure that the land is returned in the same condition;</li> <li>Prior to finalising the sales agreement of land, it should be clear who will assume responsibility for the resettlement of vulnerable households, especially households comprising the community residing on Palmietkuilen 241 IR Ptn 2;</li> </ul>	<p><b>Yes.</b></p> <p>Mineral and Petroleum Resource development Act (Act of 2002); IFC PS 5: Land Acquisition and Involuntary Resettlement; Mine Health and Safety Act (Act of 1996); Extension of Security of Tenure Act, 1997 (Act No. 62 of 1997); National Environmental Management Act (Act of 1998); and Constitution of South Africa</p>	Pre-construction



Activities	Potential impact	Size and scale of disturbance	Aspects affected	Phase	Mitigation type/measures	Compliance with standards/Standard to be achieved	Time period for Implementation
					-If Canyon Coal assumes responsibility for displaced households, due process should be followed when these households are relocated. It is recommended that the process be aligned to IFC PS 5 and that a Resettlement Action Plan be developed; and -Consider including employees and other impacted businesses in the aforementioned process.		
The following activities will disrupt movement: <ul style="list-style-type: none"> <li>Relocation of infrastructure, especially planned relocation of roads</li> <li>Blasting and development of initial box-cut, including stock piling;</li> <li>Construction of mine related infrastructure, including haul roads, pipes and dams; and</li> <li>Loading, hauling and stockpiling of overburden, and RoM coal.</li> </ul>	Disruption of daily movement patterns	Will mostly affect road users using the R29 and affected gravel roadways; as well as movement of livestock across these Roads	Traffic and temporary obstruction of some movement routes	Construction, operation, and decommissioning	Measures to prevent deterioration of roads suggested in Traffic Impact Assessment; <ul style="list-style-type: none"> <li>Regulation of traffic at intersections between the R29 and site-access roads to construction and operational site;</li> <li>Road upgrading measures should be investigated and implemented in conjunction with the relevant government department;</li> <li>Inform communities of planned construction activities that would affect vehicle/pedestrian traffic; and</li> <li>Ensure that access to key services in areas such as Springs are uninterrupted by providing alternative access routes, especially during relocation of Strijdpans Road</li> </ul>	<b>Yes.</b> Mineral and Petroleum Resource development Act (Act of 2002); Mine Health and Safety Act (Act of 1996); National Environmental Management Act (Act of 1998); and Constitution of South Africa	Construction and on-going
All project activities will contribute to this impact, as it is the perception of the entire Project, as opposed to particular activities, which triggers influx. However, the following activities are usually the main drivers of influx: <ul style="list-style-type: none"> <li>Employment and operational expenditure; and</li> <li>Construction of mine related infrastructure, including haul roads, pipes and dams.</li> </ul>	Influx related impacts	Will mostly affect settlements within the primary and secondary study area (e.g. Lesedi), as well as remaining property owners and administrative authorities	Influx will likely exacerbate existing negative social conditions in several ways: increased social pathologies, pressure on service, conflict between locals and non-locals and establishment of informal settling	Pre-construction, construction and operation	-Develop an Influx management plan together with other industry role players and government; - Discourage influx of job-seekers by prioritising employment of unemployed members of local communities; - Liaise with local municipalities to ensure that expected population influx is taken into account in infrastructure development and spatial development planning; - Create synergies with local government IDP and other companies' SLP/CSR projects to promote infrastructure development; - Extensive HIV/ AIDS awareness and general health campaign; - Identify if recorded criminal activities involved members of the mine's workforce; - Clear identification of workers; prevention of loitering; - Liaison with police, community policing forum; - Community education; and - Measures to address potential conflict between locals and non-locals	<b>Yes.</b> Mineral and Petroleum Resource development Act (Act of 2002); National Environmental Management Act (Act of 1998); SPLUMA (Act 16 of 2013); IFC Guidelines on Project-induced in-migration; IDPs and SPFs of affected municipalities; and Company CSI Policy.	Pre-construction
All project activities will have some inherent risk for human health, however the following activities could have the most significant health and safety impacts <ul style="list-style-type: none"> <li>Blasting and development of initial box-cut, including stock piling;</li> <li>Construction of mine related infrastructure, including haul roads, pipes and dams;</li> <li>Loading, hauling and stockpiling of overburden, RoM coal;</li> <li>Plant and equipment operations;</li> <li>Storage, handling and treatment of hazardous products and waste; and</li> <li>Demolition and removal of all infrastructure</li> <li>On-site water use and storage</li> </ul>	Health and Safety impacts on Community members	Will mostly affect the population within primary study area and some users of local roads	Workers and communities in close proximity to potentially hazardous activities	Construction, operation, and decommissioning	- Access control to all project elements, including fencing prior to commencing construction ; - Notification of blasting activities; - Storage of blasting and hazardous materials should adhere to prescribed regulation; - Measures suggested minimising the impact of fly-rock on surrounding roads and structure (Blast Management and Consulting, 2016); - Measures suggested in the Traffic Impact Assessment to minimize traffic related accidents (Traffic Impact Assessment, 2016); - Road maintenance; and - Community education	<b>Uncertain.</b> Mineral and Petroleum Resource development Act (Act of 2002); Mine Health and Safety Act (Act of 1996); Occupational Health and Safety, 1993 (Act no. 85 of 1993) (OHS); International Human Rights Guiding Principles; IFC PS 4: Community Health, Safety and Security; and National Environmental Management Act (Act of 1998).	At start of construction and on-going



Activities	Potential impact	Size and scale of disturbance	Aspects affected	Phase	Mitigation type/measures	Compliance with standards/Standard to be achieved	Time period for Implementation
<p>Most project activities will contribute to impacts on surrounding land users (e.g. noise, blasting, dust, etc.), especially:</p> <ul style="list-style-type: none"> <li>Blasting and development of initial box-cut, including stock piling;</li> <li>Construction of mine related infrastructure, including haul roads, pipes and dams;</li> <li>Loading, hauling and stockpiling of overburden, RoM coal;</li> <li>Plant and equipment operations;</li> <li>On-site water use and storage</li> <li>Storage, handling and treatment of hazardous products and waste; and</li> <li>Demolition and removal of all infrastructure</li> </ul>	Impact on surrounding land users	Land users adjacent to the Project area and neighbouring settlements could be affected	Neighbouring farmers being in close proximity to Project activities	Construction, operation, and decommissioning	<ul style="list-style-type: none"> <li>Refer to recommendations of specialist studies (see Visual Impact Assessment, Surface and Ground Water Impact Assessment, Noise Impact Assessment, Air Quality Impact Assessment, Blasting and Vibration Impact Assessment and Traffic Impact Assessment);</li> <li>Optimise mine plan/infrastructure placement to avoid/minimise negative impacts, especially in terms of visual intrusion, displacement, air quality and disruptions of traffic;</li> <li>Undertake continuous information sharing and consultation with adjacent/affected farm owners; and</li> <li>Implement communication mechanisms to report changes in water quality/quantity, air quality or vibrations</li> </ul>	<p>Uncertain.</p> <p>Mineral and Petroleum Resource development Act (Act of 2002);</p> <p>Mine Health and Safety Act (Act of 1996);</p> <p>Occupational Health and Safety, 1993 (Act no. 85 of 1993) (OHS);</p> <p>International Human Rights Guiding Principles;</p> <p>IFC PS 4: Community Health, Safety and Security; and</p> <p>National Environmental Management Act (Act of 1998).</p>	Construction and on-going
<p>All project activities. Stakeholders usually form perceptions on the Project as whole and not individual activities. However it is anticipated that stakeholders would be inclined to submit grievances in relation to the impacts of the following activities:</p> <ul style="list-style-type: none"> <li>Blasting and development of initial box-cut, including stock piling;</li> <li>Construction of mine related infrastructure, including haul roads, pipes and dams;</li> <li>Loading, hauling and stockpiling of overburden, RoM coal;</li> </ul>	Opposition because of perceived negative impacts	Will not only elicit opposition from primary study area, but stakeholders in the broader area	Could lead to negative publicity for the company; and community mobilisation against the project	Pre-construction, construction and operation	<ul style="list-style-type: none"> <li>Communicate commitments regarding LED;</li> <li>Transparency regarding employment practices;</li> <li>Presentation of EIA findings in clear and understandable manner;</li> <li>Monitor community attitudes to anticipate/prevent active opposition;</li> <li>Establish a community forum which meets quarterly; and</li> <li>Appointment of a CLO to enhance communication</li> </ul>	<p><b>Yes.</b></p> <p>Mineral and Petroleum Resource development Act (Act of 2002);</p> <p>IFC PS 4: Community Health, Safety and Security; and</p> <p>National Environmental Management Act (Act of 1998).</p> <p>Company policies, especially the Project's SLP</p>	Pre-construction, construction and operation
<p>The following activities will be the primary triggers of economic growth:</p> <ul style="list-style-type: none"> <li>Employment and project expenditure;</li> <li>Payment of royalties and taxes;</li> <li>Successful implementation of SLP; and</li> <li>Plant and equipment operations.</li> </ul>	Economic growth and diversification	Socio-economic development impacts will be concentrated in the secondary study area and the Districts, however, diluted impacts will occur in the Province and country	Socio-economic development impacts will be concentrated in the secondary study area and the Districts, however, diluted impacts will occur in the Province and country	Construction and Operation	<ul style="list-style-type: none"> <li>Measures recommended to maximise benefits from local employment, economic multiplier effects, as well as community, economic and skills development;</li> <li>Procure from local HDSA suppliers throughout the life of the mine; and</li> <li>Establish a monitoring system to ensure that the mine and its contractors comply with government regulations</li> </ul>	<p><b>Yes.</b></p> <p>National Environmental Management Act (Act of 1998)</p> <p>Constitution of South Africa</p> <p>IDPs and SPFs of affected municipalities;</p> <p>National and Provincial Development Planning Policies</p> <p>Company Employment and Procurement Policies, especially the Project's SLP</p>	Operation
<p>Activities triggering impact:</p> <ul style="list-style-type: none"> <li>Employment and operational expenditure; and</li> <li>Dismantling of major equipment and infrastructure.</li> </ul>	Dependency on mine for sustaining local economy	Will most severely affect employees and service providers from the local municipal area	Local economy may become increasingly dependent on the Project and dependant industries	Operation and Decommissioning	<ul style="list-style-type: none"> <li>Develop alternative and sustainable livelihoods;</li> <li>Collaborate with other industries to support the diversification of the local economy;</li> <li>The Mine's SLP should provide strategies and measures that prevent job loss;</li> <li>Alternatives to save jobs/avoid downscaling should be investigated beforehand;</li> <li>Develop a Mine Closure Plan;</li> <li>Proactively assess and manage the social and economic impacts on individuals, regions and economies where retrenchment and/or closure of the mine are certain; and</li> <li>Partner with the relevant government departments, to jointly manage Closure process</li> </ul>	<p><b>Uncertain.</b></p> <p>Mineral and Petroleum Resource Development Act (Act of 2002);</p> <p>Mine's SLP and Project Closure Plan;</p> <p>Basic Conditions of Employment Act, 1997 (Act No. 75 of 1997);</p> <p>Labour Relations Act, 1995 (Act No. 66 of 1995); and</p> <p>Skills Development Act (Act No. 97 of 1998 as amended).</p>	Operation and closure



### 14.3 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.).

Table 44 provides a framework for monitoring the implementation and performance of social management actions. Each indicator is classified in terms of the four categories as defined above. Objective means of verification, optimal frequency of reporting and responsibility for verification are also defined.

**Table 44: Monitoring Plan**

Indicator	Type of indicator				Means of verification	Reporting frequency	Responsible party
	Input	Output	Outcome	Impact			
<b>Employment creation</b> (Employment during construction and operation – see Section 11.1.1 and 11.2.1)							
Local Employment Policy is developed that assigns preferential status to local, female and youth employment, as well as associated targets	X				Local Employment Policy on file	Once-off	Human Resource Department
Applicable requirements of the existing Recruitment and Selection Policy are applied when employing locally by Canyon Coal and its contractors		X			Recruitment records, checked against policy	Every six months	HR Department
Local employment requirements are included in contractor management plans		X			Contractor management plans on file	Monthly	Procurement and Supply Chain Management Department
Engagement with relevant groups to ensure that all understand the Project's employment requirements in terms of skills, type of employment	X				Minutes or records of engagement	Prior to construction, thereafter every six months	CLO, HR Department, and Social Manager
Compilation and implementation of Structured Stakeholder Engagement Plan and Grievance mechanism	X				Stakeholder engagement plan and grievance mechanism is on file	Prior to construction,	Consultant, Social Manager and CLO
Labour pool database is developed and kept up-to-date	X				Date of latest revision of database	Every six months	Procurement and Supply Chain Management Department
Targets in terms of local recruitment are met by Project and contractors			X		Records of employee places of origin	Monthly	HR Department
All locally recruited employees are recruited by means of the database			X		Verify recruits details with database	Annually	HR Department
Percentage of locally-recruited employees increases on an annual basis				X	Records of employee places of origin	Annually	HR Department
Turnover among locally-recruited employees is below 5%				X	Employee records	Annually	HR Department
<b>Economic development</b> (i.e. multiplier effects on the local economy and stimulation and growth of the local and regional economy – see Section 11.1.2 and 11.2.2)							
Procurement and Supply Chain Management Department and Committee are established	X				Record of Department and Committee establishment	Once-off prior to the start of construction, updated when operations commence	HR Department; Social Manager
Management and operational procedures are developed to ensure and maximise preferential procurement from capable local or regional suppliers	X				Procedures are on file	Once-off prior to the start of construction, updated when operations commence	SLP Manager Procurement and Supply Chain Management Department
Preferential Local Procurement Plan is developed	X				Preferential Local Procurement Plan on file;	Once-off at start of construction, updated every five years	Procurement and Supply Chain Management Department; HR Department SLP Manager

Indicator	Type of indicator				Means of verification	Reporting frequency	Responsible party
	Input	Output	Outcome	Impact			
Skills development and training targets for local businesses are defined for local procurement plan, and included in contractor management plans		X			Targets included in Procurement Plan and contractor management plans	Once-off at start of construction, updated every five years	SLP Manager Procurement and Supply Chain Management Department; HR Department
Skills development and training targets for local procurement are met			X		Training records on file	Annually	SLP Manager Training Service Provider; HR Manager
LED consultant is appointed for local business capacity assessment	X				Consultant appointment contract	Once-off at start of construction	Procurement and Supply Chain Management Department; Social Manager
Inventory is compiled of local businesses		X			Inventory on file	Once-off prior to the start of construction, updated when operations commence	SLP Manager; and Consultant
Capacity assessment is undertaken of local businesses		X			Report on capacity assessment	Once-off at start of construction, updated every three years	Consultant and human resources
Existing supplier database is updated regularly to include suppliers that have received training and support, and could qualify for procurement opportunities			X		Date of latest revision of database	Bi-annually	SLP Manager Procurement and Supply Chain Management Department
Procurement opportunities are identified that may be available to local contractors		X			Record of identified opportunities	Once-off at start of construction, updated annually	SLP Manager Procurement and Supply Chain Management Department, with input from technical departments
Goods and services are identified that could be supplied by local contractors (e.g. through unbundling of contracts)		X			Record of identified opportunities	Once-off at start of construction, updated annually	Procurement and Supply Chain Management Department, with input from technical departments
Local businesses are aware of the procurement needs of the Project and have sufficient information to prepare tenders			X		Record of enquiries/ responses received to advertised tenders; record of consultation with local business chambers.	Annually	SLP Manager Procurement and Supply Chain Management Department; CLO
Local businesses actively participate in tenders				X	Record of tenders awarded	Annually	Procurement and Supply Chain Management Department
Community Development Forum/Committee is established	X				Record of Forum establishment	At start of construction	Social Manager; CLO
Regular meetings of the Community Development Forum are held		X			Minutes of meetings	Every 3 months	Community Development Forum; Social Manager SLP Manage

Indicator	Type of indicator				Means of verification	Reporting frequency	Responsible party
	Input	Output	Outcome	Impact			
Technical Consultant is appointed to develop LED and/or CSI Plan, with impact indicators	X				Consultant appointment contract	Once-off at start of construction, updated annually	SLP Manager Procurement and Supply Chain Management Department; Social Manager
Linkages with role-players involved with skills development/ SMME development (e.g. local municipality, surrounding mines and power plants, and NGOs)	X				Record of consultation	Annually	Social Manager; and SLP Manager
LED and/or CSI Plan is reviewed and refined		X			Updated plans are reviewed and on file	Once-off at start of construction, reviewed annually and updated every five years	HR Department, Social Manager and SLP Manager
LED and/or CSI plans is implemented			X		Implementation reports	Annually	HR Department; CLO
LED impact indicators are achieved				X	Evaluation of impact indicators are on file	Annually	HR Department;
CSI Policy and Programme are developed and signed off by senior management	X				CSI Policy and proposed programmes/initiatives are on file	Once-off	SLP Manager; Social Manager and senior management
Service providers are appointed to assist with/manage CSI and community development projects		X			Service providers' appointment contracts	Once-off at start of construction, with contracts reviewed annually based on success	Procurement and Supply Chain Management Department; Social manager
CSI and community development projects are implemented			X		Annual CSI implementation reports	Annually	Service provider; Social Manager
Impact indicators (as defined in CSI Programme) are achieved				X	Annual CSI implementation reports	Annually	Senior management assisted by social manager
<b>Displacement-related impacts (see Section 11.1.4)</b>							
Project design parameter has avoided/minimised displacement	X				Final mine plan approved	Pre-construction	Senior management
A realistic exclusion zone has been identified and approved			X		Affected parties have been informed Documentation on file	Pre-construction	Land Acquisition/access Manager
A transparent negotiation process has been implemented		X			Documentation on file Grievances are recorded and addressed	Pre-construction	Land Acquisition/access Manager Public relations manager
Compensation and resettlement is implemented			X		Development and implementation of a displacement management plan or RAP Completion Audit	Every 3 months at completion	Land Acquisition/access Manager Social Manager CLO
Develop Company policy to manage various displacement impacts	X				Record of policy on file	Once off	Consultant

Indicator	Type of indicator				Means of verification	Reporting frequency	Responsible party
	Input	Output	Outcome	Impact			
Implement policy when cases of displacement occur, to ensure that affected people are not worse-off after displacement		X			Implementation records	Directly after displacement	Social Manager, CLO
A RAP has been developed (if applicable)		X			According to IFC PS requirements	Once-off (RAP report)	Social Manager RAP consultant
Improved quality of life of those affected by displacement impacts				X	Report of quality of life of those affected by displacement	Three years after displacement	Consultant , social manager
<b>Disruption of movement patterns (see Section 11.1.5)</b>							
Complete Traffic Management Plan	X				Plan on file	Once off	Consultant
Implement mitigation measures of specialist reports (especially traffic impact assessment)	X				Record of implementation	Monthly	Social Health Environmental and Quality (SHEQ) Manager Social Manager
Measures implemented (e.g. Grievance procedure)			X		Reporting as per specialist reports	Once off	SHEQ Manager Social Manager
Grievance Procedures implemented				X	Grievance log and outcome reports	Every 3 months	SHEQ Manager Social Manager
Number of grievances related to disruption in movement				X	Continuous reduction in the number of reported grievances	Monthly	SHEQ Manager
<b>Influx related impacts (see Section 11.1.6)</b>							
Develop Influx management Plan	X		X		Record of plan and implementation thereof	Pre-construction	SHEQ Manager Social Manager
Implement recommendations and mitigation outlined in the Influx Management Plan		X			Record of implementation	Pre-construction	Senior Management
Investigate partnerships with local authorities	X				Strategic projects have been identified with municipalities	Once-off during construction, thereafter annually	Social Manager Public Relations Manager Legal Department
Develop partnership agreements		X			Strategic projects have been identified with surrounding industries	Once-off	Social Manager; Senior Management; and Public Relations Manager
Sign agreements with local authorities on assistance with IDPs and SDFs			X		Sign-off completed and documents on file	Once-off	Senior Management
<b>Impacts on community health and safety (see Section 11.1.7)</b>							



Indicator	Type of indicator				Means of verification	Reporting frequency	Responsible party
	Input	Output	Outcome	Impact			
Technical Consultant is appointed to develop a Community Health Safety and Security Plan (CHSSP), which should include an awareness campaign	X				Consultant appointment contract	Once-off at start of construction, and with a detailed revision when operation commences	Procurement and Supply Chain Management Department; Social Manager
CHSSP is adopted		X	X		Adoption Plan is signed-off by senior management	Once-off at start of construction, and with a detailed revision when operation commences	Senior management
CHSSP is implemented			X		Quarterly and annual reports submitted and approved	Every 4 months and annually	SHEQ Manager Social Manager
Relevant mitigation measures in the EMP are implemented			X		Environmental & social monitoring reports	Annually	SHEQ Manager Social Manager
Policing Forum is established			X		Forum ToR, Minutes of founding meeting	Once-off at start of operation	Social Manager
Policing Forum actively participates in addressing community safety and security issues				X	Minutes of forum meetings	Every 3 months	Policing Forum; Social Manager
HIV/AIDS policy is expanded to include HIV awareness campaigns in communities and provision of Voluntary Counselling and Testing (VCT) for communities	X				HIV/AIDS Policy on file	Once-off	SHEQ Department; senior management
Service providers appointed to implement HIV awareness campaigns in communities and provide VCT for communities		X			Service providers' appointment contracts	Once-off	Procurement and Supply Chain Management Department; Social Manager
HIV awareness campaigns in communities and provision of VCT for communities are implemented			X		HIV/AIDS prevention programme implementation reports	Annually	Service provider; Social Manager
HIV awareness in communities is improved, and VCT services are accessed				X	Sample survey on community knowledge, awareness and practice related to health & safety	Annually	Service provider; Social Manager
<b>Community development and social upliftment (see Section 11.1.3)</b>							
Detailed skills inventory is prepared for the Project	X				Skills inventory on file	Once-off, reviewed every 3 years	SLP Manager HR Department, with input from the Project's technical departments
Appoint qualified Technical Consultant for Skills Survey	X				Consultant appointment contract; and detailed terms of reference for skills survey	Once-off prior to construction	Procurement and Supply Chain Management Department; Social Manager

Indicator	Type of indicator				Means of verification	Reporting frequency	Responsible party
	Input	Output	Outcome	Impact			
Skills survey is undertaken in the local communities and local skills database is developed		X			Report & database on skills survey results	Once-off prior to construction, updated every five years	Consultant; Social Manager
Qualified Training Consultant is appointed to develop training programmes	X				Consultant appointment contract	Once-off prior to construction	HR Department; Procurement and Supply Chain Management Department.
Training programme is developed based on the skills gaps identified for the Project		X			Training programme approved by Social Manager & HR Department	Once-off at start of construction, updated every five years	Consultant; HR Department; Social Manager
Training programme is implemented			X		Annual report and Workplace Skills Plan Report	Annually	HR Department
Staff skills levels and job performance improve				X	Staff performance appraisals	Annually	HR Department, with input from line managers
Locally recruited construction workforce who received skills training is employed during the operation of the Project				X	Comparing training records with details of operational workforce	Once-off at start of construction	HR Department
Skills levels in local communities improve				X	Follow-up skills surveys	Annually	HR Department, with input from line managers
ABET programmes are implemented for both workers and people from local communities			X		Training records on file	Annually	SLP Manager Training Service Provider; Social Manager; CLO
Locals who received training (and qualified) are employed on the Project or receive procurement contracts with the Project				X	Employee and procurement records	Annually	HR Department; Supply chain management
<b>Dependency on the Project for sustaining local economy (Social Closure) (see Section 11.3.1)</b>							
Social Closure Plan is developed	X				Plan on file	5 years before closure	Consultant, Social Manager
Objectives as defined in Social Closure Plan are achieved				X	Closure Plan implementation report	At closure	Consultant, Social Manager



## 15 Consultation Undertaken

Several interviews were conducted during October 2016 as part of the impact assessment phase of the SIA (see Section 5.2). The objectives of the interviews were to verify land use and land occupancy and to obtain information from local stakeholders on their views and concerns about the Project. Not all potentially affected parties were interviewed, as their perceptions were captured in the stakeholder engagement process. Opportunities to engage farmworkers were limited due to their employment obligations. However, consultations were conducted with farm occupants and workers and observations, together with the information from respondents, are considered sufficient to develop a good understanding of the social baseline conditions in the primary study area, and assess the project-induced social impacts accordingly.

## 16 Comments and Responses

The Comments and Response Report of the EIA's public consultation process, together with comments received from stakeholders during consultation undertaken as part of the SIA (Section 5.2) highlights a number of concerns that may directly or indirectly also relate to socio-economic conditions (Digby Wells, 2016h). Stakeholder's main concerns or comments are related (but are not limited to) aspects pertaining to following themes:

- Water quality and quantity;
- Loss of commercial crop and livestock farming potential, as these land uses are perceived to incompatible with the proposed Project;
- Expectations for employment at the Mine and other community development benefits;
- Impact of blasting on residential buildings;
- Impacts on heritage resources found through the primary study area;
- Concerns regarding future rehabilitation of the Mining area;
- Insufficient information has led to feelings of uncertainty/insecurity among directly affected stakeholders. Business and property owners are reluctant to plan ahead, or implement medium- to long term plans that are already in an advanced planning stage (for example expansion of current business and farming operations).
- Disruption of movement patterns;
- Community health, safety and security (e.g. population influx and related health and safety risk especially crime, blasting, and veld fires);
- Impacts on farmers living adjacent to project facilities/infrastructure or within the MRA on land that may not be acquired by the Project, especially impacts related to blasting, visual disturbances, noise, air quality and population influx; and



- The nature of relationships between companies and host communities, and the importance of on-going consultation with affected communities and land owners.

Where applicable, the socio-economics aspects of the abovementioned concerns have been addressed in this SIA. This section will, however, have to be updated continuously to reflect the outcome of further public consultations.

## 17 Conclusion and Recommendations

A total of 12 social impacts were identified for the proposed project. Of these, five are positive and seven negative. The significance ratings for **negative impacts without any mitigation** range from minor to major:

- One impact was rated major, this being the proposed Project's displacement related impacts;
- Four impacts were rated as moderate; and
- One impact was rated as minor.

Significance ratings of **positive impacts without any enhancement**, on the other hand were all rated as minor.

If all mitigation measures are implemented according to the recommendations given in Section 11 and 0, it is anticipated that the consequence and/or probability of most negative impacts will be reduced. This is reflected in the **residual or post-mitigation significance ratings** assigned to **negative impacts**, which range from minor to moderate:

- One impact being rated as moderate;
- Five impacts being rated as minor; and
- One impact being rated as negligible.

The **post-enhancement significance ratings of positive impacts** are sometimes higher than their pre-mitigation ratings. All positive impacts are expected to be at least moderately significant after mitigation. This summary confirms that adequate mitigation measures are expected to reduce the significance of almost all negative impacts albeit not always to baseline levels, while positive impacts will on average be significantly enhanced to maximise benefits to surrounding communities.

Consequently it is recommended from a social perspective that the proposed Project proceed. This recommendation is based on the following conditions (a.) mitigation measures outlined in this report will be given effect through the social management plan outlined in Section 14.2, (b.) measures to monitor and assess implementation of these mitigation measures and to take corrective action where necessary (as is outlined in the social monitoring plan outlined in Section 14.3) will be implemented; and (c.) impacts pertaining to other specialist disciplines that could have indirect socio-economic repercussions (e.g. impacts on groundwater, air quality, health etc.) will be effectively addressed as per the mitigation measures recommended in those specialist reports.

Throughout the SIA process, the specialist identified a number of issues that warrant consideration by the proponent when implementing the proposed project, the most paramount being risks associated with community expectations, land acquisition and displacement, and failure to acquire a social licence to operate. These risks require particular attention and close monitoring and management.

Lastly it is recommended that Canyon Coal establish linkages with other institutions (e.g. government, NGOs and other existing or planned mines) involved in local and regional economic development and social upliftment so as to maximise the benefits of its contribution to the welfare of local communities.



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