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FINAL SCOPING REPORT

SECTION 102 AMENDMENT TO THE ENVIRONMENTAL MANAGEMENT PLAN FOR MIVAMI AGRI-MINING PTY LTD TO INCLUDE THE REMAINING EXTENT OF KWAGGASLAAGTE 121 IP INTO THE PROSPECTING RIGHT FOR DUNBAR 119 IP, AND PORTION 9 OF HOUTKOP FARM 152 IP, WITHIN THE MAGISTERIAL DISTRICT OF LICHTENBURG IN NORTH WEST PROVINCE

DMR REFERENCE NO.: NW 30/5/1/1/3/2/1/737 PR

OCTOBER 2016

kimopax (Pty)Ltd

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Project No	Report No	Date	Version
KIMPENV2016/97	KIM-ENV-1016-89	NOVEMBER 2016	FINAL

Conducted on behalf of:

Mivami Agri- Mining Pty Ltd

Attention: Mr Mphahlele R

Prepared by:

_____

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REPORT DISTRIBUTION LIST

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Mivami Agri- Mining Pty Ltd	Mphahlele R	Soft and Hard Copy
DMR	Document Registry	Hard Copy
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mineral resources
Department:
Mineral Resources
REPUBLIC OF SOUTH AFRICA

SCOPING REPORT

FOR LISTED ACTIVITIES ASSOCIATED WITH MINING RIGHT AND/OR BULK SAMPLING ACTIVITIES INCLUDING TRENCHING IN CASES OF ALLUVIAL DIAMOND PROSPECTING.

SUBMITTED FOR ENVIRONMENTAL AUTHORIZATIONS IN TERMS OF THE NATIONAL ENVIRONMENTAL MANAGEMENT ACT, 1998 AND THE NATIONAL ENVIRONMENTAL MANAGEMENT WASTE ACT, 2008 IN RESPECT OF LISTED ACTIVITIES THAT HAVE BEEN TRIGGERED BY APPLICATIONS IN TERMS OF THE MINERAL AND PETROLEUM RESOURCES DEVELOPMENT ACT, 2002 (MPRDA) (AS AMENDED).

NAME OF APPLICANT: MIVAMI AGRI-MINING PTY LTD

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FILE REFERENCE NUMBER SAMRAD: NW 30/5/1/1/3/2/1/737 PR

IMPORTANT NOTICE

In terms of the Mineral and Petroleum Resources Development Act (Act 28 of 2002 as amended), the Minister must grant a prospecting or mining right if among others the mining "will not result in unacceptable pollution, ecological degradation or damage to the environment".

Unless an Environmental Authorisation can be granted following the evaluation of an Environmental Impact Assessment and an Environmental Management Programme report in terms of the National Environmental Management Act (Act 107 of 1998) (NEMA), it cannot be concluded that the said activities will not result in unacceptable pollution, ecological degradation or damage to the environment.

In terms of section 16(3)(b) of the EIA Regulations, 2014, any report submitted as part of an application must be prepared in a format that may be determined by the Competent Authority and in terms of section 17 (1) (c) the competent Authority must check whether the application has taken into account any minimum requirements applicable or instructions or guidance provided by the competent authority to the submission of applications.

It is therefore an instruction that the prescribed reports required in respect of applications for an environmental authorisation for listed activities triggered by an application for a right or permit are submitted in the exact format of, and provide all the information required in terms of, this template. Furthermore please be advised that failure to submit the information required in the format provided in this template will be regarded as a failure to meet the requirements of the Regulation and will lead to the Environmental Authorisation being refused.

It is furthermore an instruction that the Environmental Assessment Practitioner must process and interpret his/her research and analysis and use the findings thereof to compile the information required herein. (Unprocessed supporting information may be attached as appendices). The EAP must ensure that the information required is placed correctly in the relevant sections of the Report, in the order, and under the provided headings as set out below, and ensure that the report is not cluttered with un-interpreted information and that it unambiguously represents the interpretation of the applicant.

EXECUTIVE SUMMARY

Mivami Agri- Mining Pty Ltd has an existing Environmental Management Plan issued in 2016 for Prospecting Right on farm Dunbar 119 IP and portion 9 of Houtkop 152 IP (Reference Number: NW30/5/1/1/3/2/1/ (737) PR under the Minerals and Petroleum Resources and Development Act (Act No 28 of 2002) (MPRDA).

The impacts associated with prospecting of Diamond and Manganese Ore found in Dunbar 119 IP and portion 9 of Houtkop 152 IP were assessed as part of the original approved EMP, and mitigation and management measures provided, for which Prospecting Right was granted. Mivami Agri- Mining Pty Ltd now wishes to apply for section 102 for the Amendment of Environmental Management Plan covering Kwaggaslaagte 121 IP into the existing Dunbar 119 IP and portion 9 of Houtkop 152 IP Prospecting Right in terms of Section 102 of the MPRDA, in order to extend the development the mineral resource from its existing prospecting operations. No additional surface infrastructure is anticipated to be required to access the mineral resource under the identified land by extending the existing prospecting operations into the resource area, and managing the resource within the existing authorised operations.

In addition, this application will include the right to the associated minerals contained on farm Kwaggaslaagte 121 IP, for potential use as minerals Diamond and Manganese Ore.

Environmental authorisation (EA) is therefore required in terms of Section 102 of the MPRDA for the EMPR amendment process. An Environmental Impact Assessment (EIA)/EMPR will be compiled for authorisation from the decision making authorities before the proposed project may commence.

Kimopax (Pty) Ltd has been appointed as an independent consultant to conduct the EMPR amendment process as well as undertaking the public involvement component. The EIA/EMPR will be undertaken in two phases namely a scoping phase and impact assessment phase. This document is the Scoping Report and has been made available for public review whereby stakeholders were offered an opportunity to comment on the report. The comments on the Draft Scoping Report have been incorporated into the report, addressed and the Final Scoping Report will be submitted to the lead competent authority the Department of Mineral Resources (DMR).

Description of the Proposed Development

Mivami Agri- Mining Pty Ltd has existing Prospecting Right covering the Dunbar 119 IP and portion 9 of farm Houtkop 152 IP. Current prospecting activities indicate that the mineral resource under the subject area may be viable. In order to improve the confidence in the existing prospecting data additional prospecting drill holes could potentially be required, referred to as infill drilling, to fill in the

gaps in current information as to the depth, direction, extent and quality of the ore body. To develop the ore body into a prospecting operation it is necessary to amend the approved EMP and incorporate the respective land into the Prospecting Right covering Dunbar 119 IP and portion 9 of farm Houtkop 152 IP.

The inclusions of Kwaggaslaagte 121 IP into the Prospecting Right for Dunbar 119 IP and portion 9 of farm Houtkop 152 IP will provide for the prospecting of the minerals declared in respect of the mentioned Kwaggaslaagte 121 IP. No surface infrastructure will be located on the farm Kwaggaslaagte 121 IP with the only activity undertaken being on-going prospecting drilling (referred to as infill drilling), in accordance with the methodology and programme of prospecting drilling that has already taken place.

Motivation for the Proposed Project

Between 10 and 15 personnel will be employed during the operational phase. Mivami Agri- Mining Pty Ltd has conducted prospecting activities on Dunbar 119 IP and portion 9 of farm Houtkop 152 IP according to the prospecting right. Following results obtained during prospecting activities, Mivami Agri- Mining Pty Ltd plan to include Kwaggaslaagte 121 IP into the existing Mivami Agri-Mining Pty Ltd Prospecting Right.

This will increase and directly influence duration of employment opportunities for the people who were already working during initial application for Prospecting Right on farm Dunbar 119 IP and portion 9 of farm Houtkop 152 IP, and for associated service and secondary employment.

The project will have a significant impact on the economies of the North West Province and the Lichtenburg Municipal District. The Gross Domestic Product of the District and the Province will benefit from the proposed project. Service industries will additionally benefit resulting in a multiplier effect on the suppliers of goods and services in the surrounding regions if the proposed project becomes the mine.

GLOSSARY OF TERMS

Access Road: A road built exclusively for construction use.

Affected Environment: The affected environment refers to those parts of the socioeconomic and biophysical environment impacted on by the development.

Environment: The surroundings within which humans exist and that are made up of (i) the land, water and atmosphere of the earth; (ii) micro-organisms, plant and animal life; (iii) any part or combination of (i) and (ii) and the interrelationships among and between them; and the physical, chemical, aesthetic and cultural properties and conditions of the foregoing that influence human health and well-being. This includes the economic, cultural, historical, and political circumstances, conditions and objects that affect the existence and development of an individual, organism or group.

Environmental Impact Assessment: A planning and management tool for sustainable development, aimed at providing decision-makers with information on the likely consequences of their actions.

Environmental Impact: The positive or negative effects on human well-being and/or on the environment.

Interested and affected parties: Individuals, communities or groups, other than the proponent or the authorities, whose interests may be positively or negatively affected by a proposal or activity and/or who are concerned with a proposal or activity and its consequences. These may include local communities, investors, business associations, trade unions, customers, consumers and environmental interest groups. The principle that environmental consultants and stakeholder engagement practitioners should be independent and unbiased excludes these groups from being considered stakeholders.

Public Participation Process: A process in which potential interested and affected parties are given an opportunity to comment on, or raise issues relevant to the proposed development.

Social Impact Assessment: Social Impact Assessment includes the process of analysing, monitoring and managing the intended and unintended social consequences, both positive and negative, of planned interventions (policies, programmes, plans, projects) and any social change processes invoked by these interventions. Its primary purpose is to bring a more sustainable and equitable biophysical and human environment.

Stakeholders: A sub-group of the public whose interests may be positively or negatively affected by a proposal or activity and/or who are concerned with a proposal or activity and its consequences. The term therefore includes the proponent, authorities (both the lead authority and other authorities) and

all interested and affected parties (I&APs). The principle that environmental consultants and stakeholder engagement practitioners should be independent and unbiased excludes these groups from being considered stakeholders.

Stakeholder Engagement: The process of engagement between stakeholders (the proponent, authorities and I&APs) during the planning, assessment, implementation and/or management of proposals or activities. The level of stakeholder engagement varies depending on the nature of the proposal or activity as well as the level of commitment by stakeholders to the process. Stakeholder engagement can therefore be described by a spectrum or continuum of increasing levels of engagement in the decision making process.

Study Area: The area that will be covered by the EIA process within which possible study corridors will be investigated.

ABBREVIATIONS

BID	Background Information Document
DAFF	Department of Agriculture, Forestry & Fisheries
DEA	Department of Environmental Affairs
DMR	Department of Mineral Resources
DEIAR	Draft Environmental Impact Assessment Report
DEMP	Draft Environmental Management Plan
DSR	Draft Scoping Report
DWS	Department of Water and Sanitation
EA	Environmental Authorisation
ECO	Environmental Control Officer (ECO)
EAP	Environmental Assessment Practitioner
EA	Environmental Authorisation
EIA	Environmental Impact Assessment
EIAR	Environmental Impact Assessment Report
EMP	Environmental Management Plan
EMPR	Environmental Management Programme
GG	Government Gazette
GNR	General Notice Regulation
GIS	Geographic Information Systems
IDP	Integrated Development Plan
I&APS	Interested and Affected Parties
IEM	Integrated Environmental Management
CRR	Comments and Response Report

HIA	Heritage Impact Assessment
I&APs	Interested and Affected Parties
JV	Joint Venture
MPRDA	Mineral and Petroleum Resources Development Act (Act No. 22 of 2008)
NHRA	National Heritage Resources (Act No. 25 of 1999)
NSA	Noise Sensitive Areas
NEMA	National Environmental Management Act
NEMWA	National Environmental Management: Waste Act (Act 59 of 2008)
NWPG	North West Department of Public Works, Roads and Transport
NWDRDLR	North West Department of Rural Development and Land Reform
NWREAD	North West Department of Rural, Environmental and Agricultural Development
PPP	Public Participation Process
PM	Particulate Matter
PAIA	Promotion of Access to Information Act (Act No. 2 of 2000)
PoS	Plan of Study
SACNASP	South African Council for Natural Scientist
SANRAL	South African National Road Agency Limited
SAHRA	South African Heritage Resource Agency
SAHRIS	South African Heritage Resources Information System
S&EIR	Scoping and Environmental Impact Reporting (S&EIR)
SR	Scoping Report
STD	Sexual transmitted diseases
ToR	Terms of Reference

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1 OBJECTIVE OF THE SCOPING PROCESS

The objective of the scoping process is to, through a consultative process—

(a) identify the relevant policies and legislation relevant to the activity;

(b) motivate the need and desirability of the proposed activity, including the need and desirability of the activity in the context of the preferred location;

(c) identify and confirm the preferred activity and technology alternative through an impact and risk assessment and ranking process;

(d) identify and confirm the preferred site, through a detailed site selection process, which includes an impact and risk assessment process inclusive of cumulative impacts and a ranking process of all the identified alternatives focusing on the geographical, physical, biological, social, economic, and cultural aspects of the environment;

(e) identify the key issues to be addressed in the assessment phase;

(f) agree on the level of assessment to be undertaken, including the methodology to be applied, the expertise required as well as the extent of further consultation to be undertaken to determine the impacts and risks the activity will impose on the preferred site through the life of the activity, including the nature, significance, consequence, extent, duration and probability of the impacts to inform the location of the development footprint within the preferred site; and

(g) identify suitable measures to avoid, manage, or mitigate identified impacts and to determine the extent of the residual risks that need to be managed and monitored.

SCOPING REPORT

2 CONTACT PERSON AND CORRESPONDENCE ADDRESS

2.1 The EAP who prepared the report

Name of The Practitioner: Mpho Morotoba
Tel No: 011 312 9765
Fax No: 086 758 4413
E-mail address: mpho@ugwa.co.za

2.2 Expertise of the EAP.

2.2.1 The qualifications of the EAP

(With evidence attached as **Appendix 1**).

Mpho graduated from the University of Venda with a Bachelor of Environmental Science Honors in Environmental Management in 2010. Mpho is an Environmental Scientist and has five (5) years working experience.

Mpho's roles and responsibilities include the management of Basic Assessment Processes, Scoping and Environmental Impact Assessment Reporting Processes, Environmental Management Programmes/Plans, Water Use Licence Application Processes and Waste Licencing Processes.

Professional Qualifications:

- May 2016- Registered Professional Natural Scientist (Pr.Sci.Nat)
- 2008- 2010 Bachelor of Environmental Science (Honours)
- 2005- 2008 Bachelor of Environmental Science

2.2.2 Summary of the EAP's past experience.

(Attach the EAP's curriculum vitae as **Appendix 2**)

The different projects that Mpho has worked on are indicated in Table 1.

Table 1: Mpho Morotoba Project Experience

SECTOR	PROJECT
Stakeholder Engagement	**2015, Transnet SOC Ltd** Basic Assessment for proposed Expansion of Phalaborwa Yard Consolidation Loops, assist with stakeholder and public consultation. **2015, Rand Quip Pty Ltd** Diamond (general), Diamond (Alluvial) and diamond (Kimberlite) Prospecting Right Application.
Water Use Licence Applications	**2015, Just Coal cc** Integrated Water and Waste Management Plan (IWWMP) for Kendal Coal Beneficiation Plant.
Environmental Authorisation Process	**2014, Merbombo Project cc** Environmental Impact Assessment for Township Establishment in Carletonville **2016, Liikamva Construction and Development** Compilation of Basic Assessment Report for the development of Truck Stop **2014, Lethabo Exploration Pty Ltd** Amendment of Lethabo Exploration Pty Ltd Environmental Impact Assessment Report/ Environmental Management Programme for Mining Right Application. **2014, Ukufisa Investment Holdings Pty Ltd** Amendment of Ukufisa Investment Holdings Pty Ltd Environmental Authorization for Construction of a Coal crushing and screening plant and a coal blending yard and a 60m^3 above ground diesel storage tank. **2014, Black- Bond Pty Ltd** Amendment of Black- Bond Pty Ltd Environmental Authorization for Construction of Infrastructure for Premix Asphalt Plant **2016, Mivami Agri- Mining Pty Ltd**

	Scoping and EIR/ EMPR for Section 102 EMP Amendment for Prospecting Right Application. **2014, Municipal Infrastructure Support Agent (MISA)** Municipal Infrastructure Support Agent (MISA) project for the Waste Licence application for landfill sites for 29 sites in Mpumalanga and Kwazulu Natal **2014, Sephako Cement** Waste licence application.
Environmental Management Programme Reports	**2014, Mavava Pty Ltd** Amendment of Mavava Pty Ltd Environmental Management Plan for Section 102 and Prospecting Right Application. **2014, Mivami- Agri Mining Pty Ltd** Revised Environmental Management Plan for Mivami Pty Ltd for Prospecting Right Application **2014, Mivami- Agri Mining Pty Ltd** Platinum Group Metal, Nickel Ore, Chrome Ore, Gold Ore Environmental Performance Assessment Report for Mivami- Agri Mining Pty Ltd **2013, Victoblox Pty Ltd** Gold Ore Prospecting Environmental Management Plans for Victoblox Pty Ltd **2013, Fargograph Pty Ltd** Coal Prospecting Environmental Management Plan for Fargograph Pty Ltd **2013, Fargograph Pty Ltd** Coal and Iron Ore Prospecting Environmental Management Plan for Fargograph Pty Ltd **2013, MBG& Industrial Suppliers Pty Ltd**

	Coal Prospecting Environmental Management Plan for MBG& Industrial Suppliers Pty Ltd **2013, Camister Pty Ltd** Gold Ore Prospecting Environmental Management Plan for Camister Pty Ltd **2013, Conywise Pty Ltd** Platinum Group Metal, Uranium, Gold, Iron and Nickel Prospecting Environmental Management Plan for Conywise Pty Ltd **2013, Vapolex Pty Ltd** Platinum Group Metals, Nickel Ore, Gold Ore and Uranium Prospecting Environmental Management Plan for Vapolex Pty Ltd

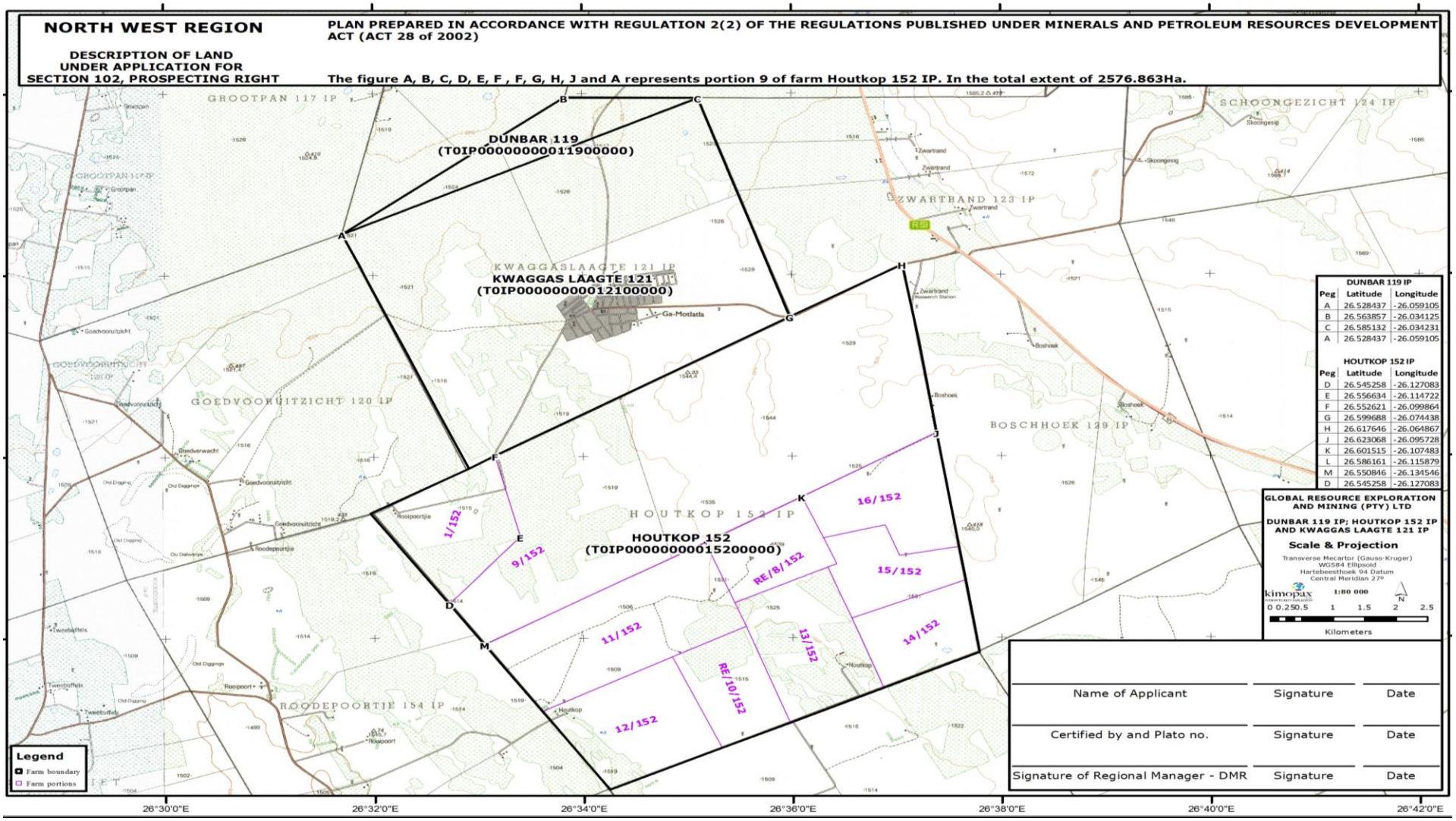
2.3 Description of the property.

Farm Name:	Remaining Extent of Kwaggaslaagte 121 IP
Application area (Ha)	2576.863Ha
Magisterial district:	Lichtenburg
Distance and direction from nearest town	40 km from Ventersdorp
21 digit Surveyor General Code for each farm portion	T0IP00000000012100000

2.4 Locality map

(show nearest town, scale not smaller than 1:250000 attached as Appendix 3).

Figure 1: Locality Map of the area



2.5 Description of the scope of the proposed overall activity.

2.5.1 Listed and specified activities

Provide a plan drawn to a scale acceptable to the competent authority but not less than 1: 10 000 that shows the location, and area (hectares) of all the aforesaid main and listed activities, and infrastructure to be placed on site and attach as **Appendix 4**

Table 2: Listed activities applied

NAME OF ACTIVITY (All activities including activities not listed) (E.g. Excavations, blasting, stockpiles, discard dumps or dams, Loading, hauling and transport, Water supply dams and boreholes, accommodation, offices, ablution, stores, workshops, processing plant, storm water control, berms, roads, pipelines, power lines, conveyors, etc…etc…etc.)	**Aerial extent of the Activity Ha or m^2**	**LISTED ACTIVITY Mark with an X where applicable or affected.**	**APPLICABLE LISTING NOTICE (*GNR 544, GNR 545 or GNR 546)/NOT LISTED***
The removal and disposal of minerals contemplated in terms of section 20 of the Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002), including associated 19. infrastructure, structures and earthworks, directly related to prospecting of a mineral resource, including activities for which an exemption has been issued in terms of section 106 of the Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002).	2576.863 ha	X	R984 Activity 19
Any activity including the operation of that activity which requires a prospecting right in terms of section 16 of the Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002), including associated infrastructure, structures and earthworks, directly related to prospecting of a mineral	2576.863 ha	X	R983 Activity 20

resource, including activities for which an exemption has been issued in terms of section 106 of the Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2008)			
Drilling Programme - incl. Core drilling	614.7939 ha	X	GN983, Activity 20
Desktop studies, Further feasibility study investigations and mineral resource estimation	2576.863 ha	_	Not listed
Geological mapping and Geophysical surveying	2576.863 ha	_	Not listed
Water required for drilling *	n/a	_	Not listed
Sanitation requirements (Chemical toilets)	n/a	_	Not listed
Ablution facilities	5 ha	_	Not listed
Equipment Storage	10 ha	_	Not listed
Access Routes	1500m^2	_	Not listed
Stockpiling		_	Not listed
Topsoil Storage Area		_	Not listed

*It is important to note that drilling water requirements fall within the "small industrial user" where the use is less than twenty cubic metres per day for prospecting. Therefore the water that will be used for the prospecting activities will be sourced on agreement from an existing authorized water user which could be either the land owner or local municipality. No water will be abstracted in terms of section 21(a) of National Water Act, 1998 (Act no. 36 of 1998).

2.5.2 Description of the activities to be undertaken

(Describe Methodology or technology to be employed, and for a linear activity, a description of the route of the activity

Overview

Mivami Agri- Mining Pty Ltd has lodged an application for Section 102 for the approved EMP Amendment over the properties Dunbar 119 IP and portion 9 of farm Houtkop 152 IP to include Kwaggaslaagte 121 IP on their existing Prospection Right. Mivami Agri- Mining Pty Ltd proposes to conduct prospecting activities in terms of GNR. 983, activity 20, and GNR 984, activity 19 of the Environmental Impact Regulation of 2014.

Prospecting for Diamond and Manganese Ore is a dynamic and result-driven process which advances in phases. The outcome of one phase of work in forms a decision about whether to advance to the next phase of prospecting. Consequently, by its very nature, the prospecting process is an iterative process which cannot be predicted or predetermined with any measure of confidence. A prospecting programme could be stopped at any stage during its implementation if the results obtained are negative (no Diamond and Manganese Ore detected) or indicated that the Diamond and Manganese Ore would not be economical to mine.

Prospecting activities that are proposed to be undertaken include non-invasive desktop studies and ground geophysical surveys that would be followed by field assessment including the need to drill to intersect and sample Diamond and Manganese Ore. This latter phase is done to develop an understanding of the depth of the potential ore body and the lateral extent of the ore body together with the subsurface shape of that ore body.

Where drilling will be carried out, the drill site footprint is less than 614.7939 Ha at each drill site. Truck-mounted drill rigs are used. This equipment can typically travel to site on existing roads. The drill site itself, and possibly an axis tracking of no road exists, will need to be cleared. This is typically a light scraping to clear the site of surface vegetation for safety purposes and to enable efficient working on site. Heavy dozing of site is not required. Consequently, prospecting drill sites of this nature typically do recover fairly rapidly following completion of exploration activities.

Drilling water requirements fall within the “small industrial user” class where the water use is less than twenty cubic metres per day for prospecting. Therefore water used for prospecting activities is typically sourced on agreement from an existing authorized water user which could be either the land owner or local municipality. No boreholes will be drilled to abstract water in terms of section 21(a) of National Water Act, 1998 (Act no. 36 of 1998). Drilling may take a few days to up to two months to complete per site depending on the geology of the area, technical challenges and other factors.

A more detailed description of the proposed prospecting activities is provided below:

Literature Survey/ Desktop study

Literature Survey/ Desktop analysis in an exploration program is the gathering together of all available information pertinent to the area in question. This includes the study of published and unpublished scientific papers, geological maps, reports and theses as well as topographic and cadastral maps, legal records, aerial photographs and satellite imagery. Collection of all these literature which facilitate picking up of targets for further probing, form the first step in exploration process. From such a study the geologic

framework of the area should be able to be assessed as well as the topographical, access, water supply, land ownership and other factors that may govern the exploration program.

The study should also indicate the type of base maps available for field studies and the need for any further ground surveying or photogrammetric mapping to allow fieldwork at the required scale. This phase has already been initiated through a literature review of geological articles and previous prospecting which took place on site. The synthesis of this information and the use of the information gained from this prospecting cycle will provide the full picture of the deposit as required by the applicants.

Geological mapping

Geological mapping Preparation of a good geological map of the area of interest, initially on a regional scale (1:50 000) by taking up number of field geological traverses, and with the help of aerial photographs and Landsat imageries is generally the next step. Topographical maps were compiled and the topographic data was processed to give a digital terrain model of the land surface. These targets will be explored by trenching and rock-chip sampling. Depending on the sampling results the target areas are demarcated for detailed sampling in three dimensions.

Ground Geophysical Surveys

Ground geophysical surveys involve the systematic measurement of magnetic, gravitational and electromagnetic fields over target areas of interest within the property. These surveys are carried out using handheld instruments. The surveyor moves through the identified survey area on foot, using these instruments to gather data from the ground surface. The individual survey areas vary between 500 x 500 m to 2 x 2 km in extent depending on the inferred size of the target area. Magnetic survey lines are spaced at a maximum of 50 m apart and readings will be taken at a minimum of 5 m intervals along the lines. Electromagnetic and gravity survey lines are spaced at a maximum of 100 m apart with readings taken at a maximum of 50 m along the lines. This method of data collection is non-invasive and does not require clearance or disturbance of the vegetation. Therefore the only potential impact of this data collection process is inconvenience to the landowner, who would need to grant access to the survey site. After data collection has been completed, data processing and visualization is carried out to allow the interpretation of the survey.

Drilling

Core drilling will be carried out on identified geophysical anomalies to test for the presence of Diamond and Manganese Ore. If Diamond and Manganese Ore is discovered, the primary objective for core drilling is for geological logging.

The exploration drilling holes may be vertical (to establish cover thickness and Diamond and Manganese Ore depth) or inclined up to a maximum angle of 60 degrees. The borehole depth will be determined by the geologist and will depend on the type of anomaly and the geological conditions, including overburden (the thickness of material that overlies the target kimberlite). The maximum depth of such holes is typically 400 meters where the cover is thin, and 600 meters where the cover is thick. It is proposed that a maximum of ±3 boreholes are to be drilled per target area. These boreholes will be drilled in order to outline the extent of the diamond, manganese and dolerite deposit and will be drilled to the base of the target horizon i.e. 25 metres. Should the initial exploration drills yield conclusive results, no further boreholes will be drilled within that particular target area. Mivami Agri- Mining Pty Ltd therefore does not anticipated that the prospecting activities would require the maximum number of boreholes.

The size of core drilled will be determined by such factors as cost, proposed core sampling, the degree of logging required and proposed geotechnical investigations. Sizes commonly used are HQ (63.5 mm diameter core) and NQ (47.6 mm diameter core) or variations on these. The orientation and depth of core holes will vary depending on the drilling objective. In the case of delineation drilling, angled core holes will be drilled to establish accurate kimberlite / country rock boundaries at depth (in other words, where the edge of the kimberlite is at depth). Vertical holes will be drilled for geological modelling and / or sampling of the core.

It is planned to drill these unconsolidated sediments using sonic drilling. Sonic drilling utilizes resonant sonic energy to achieve fast, clean, low-impact drilling in a wide variety of geotechnical, geothermal, environmental and mineral drilling and sampling applications. Sonic rigs can drill and sample many unconsolidated materials without the need for drilling fluids achieving high productivity and superior sample quality

A sonic drill head works by sending high frequency resonant vibrations down the drill string to the drill bit, while the operator controls these frequencies to suit the specific conditions of the soil/rock geology. Vibrations may also be generated within the drill head. Resonance magnifies the amplitude of the drill bit, which fluidizes the soil particles at the bit face, allowing for fast and easy penetration through most geological formations.

Air core drilling may be used for some of the boreholes. Hardened steel or tungsten blades are used to bore a hole into unconsolidated ground. The rods are hollow and contain an inner tube which sits inside the hollow outer rod barrel. The drill cuttings are removed by injection of compressed air into the hole via the annular area between the inner tube and the drill rod. The cuttings are then blown back to surface up the inner tube where they pass through the sample separating system and are collected if needed. Drilling continues with the addition of rods to the top of the drill string

Material derived from i.e. core will be examined on site for logging purposes and sampled for a variety of analyses as described below. Large Diameter Drilling (LDD), currently up to 610 mm diameter, provides good geological and especially grade data. LDD will be conducted when grade assessment is one of the primary objectives of the exercise. The sizes of the boreholes drilled will be determined by such factors as proposed sampling, availability of drilling equipment, cost and the volume of sample required. LDD will take place after pilot core drilling. The pilot hole will also be used as a guide for geological control and sample planning.

3 POLICY AND LEGISLATIVE CONTEXT

APPLICABLE LEGISLATION AND GUIDELINES USED TO COMPILE THE REPORT (a description of the policy and legislative context within which the development is proposed including an identification of all legislation, policies, plans, guidelines, spatial tools, municipal development planning frameworks and instruments that are applicable to this activity and are to be considered in the assessment process);	**REFERENCE WHERE APPLIED**
The Constitution of South Africa (No. 108 of 1996***)***	The Constitution is the most important piece of legislation that provides a framework for environmental management in South Africa. There are various sections that have implications for environmental management, hence for sustainable development. Section 24 of the Constitution states that: "Everyone has the right- • to an environment that is not harmful to their health or well-being; and • to have the environment protected, for the benefit of present and future generations, thorough reasonable legislative and other measures that- o prevent pollution and ecological degradation; o promote conservation; and

	○ secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development." This section of the Constitution provides the framework for the formulation and interpretation of other legislation which control environmental management. Other sections in the Constitution that are of importance are section 32 which deals with the right of access to information; section 33 which provides for just administrative action.
National Environmental Management Act, 1998 (Act No. 107 of 1998) (NEMA) as amended	The National Environmental Management Act (Act 107 of 1998) generally known as "NEMA" is South Africa's overarching framework for environmental legislation. The NEMA Act sets out the principles of Integrated Environmental Management (IEM). NEMA aims to promote sustainable development, with wide-ranging implications for national, provincial, and local government. The following are the principles of the Act: • All developments must be environmentally, economically and socially sustainable; • Environmental management must place people and their needs at the forefront, and equitably serve their physical, developmental, psychological, cultural and social interest; • Promote the participation of the interested and affected parties (I&APs) and that I&APs must be involved in decision making regarding environment governance; and • Promote community well-being and empowerment through education and environmental awareness. Section 2 of NEMA sets out a range of environmental principles that are to be applied by all organs of state when taking decisions that may significantly affect the environment. Section 24 as amended, states that the activities that may significantly affect the environment and require authorisation or permission by law must be investigated and assessed prior to granting approval of such

	activities to be undertaken. Section 28 of the Act place a duty of care on all persons not to degrade and pollute the environment, and should any such pollution or degradation occur, remedial steps must be taken. Kimopax Pty Ltd undertook a detailed analysis of the listed activities contained in Listing Notice 1, 2 and 3 in order to ascertain which of the activities are relevant to the Proposed Project. The activities, potentially applicable to the Proposed Project are as follows: ■ GNR 983: Activity 20; and ■ GNR 984: Activity 19. The result of the analysis indicated that an S&EIR process is required.
The Environmental Impact Assessment Regulations of 2014	This study is being undertaken in compliance with the EIA Regulations published in Government Notice R982, R983, R984 promulgated under the National Environmental Management Act (NEMA), Act 107 of 1998, which were published on the 4th December 2014. In terms of the NEMA EIA Regulations, the purpose of these regulations is to identify activities that would require an Environmental Authorisation (EA) before commencement of that activity and identify competent authority that will make a decision on those activities. The proposed activity is listed as an activity 20, under R983, and activity 19, under 984 which may have an impact on the environment. The activities that make up the proposed development are listed in Table 2 above.
National Water Act, 1998 (Act No. 36 of 1998) (NWA)	The National Water Act, 1998 (Act No. 36 of 1998) (NWA) is the primary legislation regulating both the use of water and the pollution of water resources. It is applied and enforced by the Department of Water and Sanitation (DWS). Section 19 of the National Water Act regulates pollution, which is defined as “the direct or indirect alteration of the

	physical, chemical or biological properties of a water resource so as to make it: • less fit for any beneficial purpose for which it may reasonably be expected to be used; or • harmful or potentially harmful to – • the welfare, health or safety of human beings; • any aquatic or non-aquatic organisms; • the resource quality; or • property." The persons held responsible for taking measures to prevent pollution from occurring, recurring or continuing include persons who own, control, occupy or use the land. This obligation or duty of care is initiated where there is any activity or process performed on the land (either presently or in the past) or any other situation which could lead or has led to the pollution of water. The following measures are prescribed in the section 19(2) of the NWA to prevent pollution: • cease, modify or control any act or process causing the pollution; • comply with any prescribed standard or management practice; • contain or prevent the movement of pollutants; • eliminate any source of the pollution; • remedy the effects of pollution; and • remedy the effects of any disturbance to the bed or banks of a watercourse. The NWA states in Section 22 (1) that a person may only use water: • without a licence – (i) if that water use is permissible under Schedule 1; (ii) if that water use is permissible as a continuation of an existing lawful use; or

	(iii) if that water use is permissible in terms of a general authorisation issued under section 39; • if the water use is authorised by a licence under this Act; or • if the responsible authority has dispensed with a licence requirement under subsection (3). Water use is defined in Section 21 of the NWA. **No water use license is required for this application**. Any water required for drilling activities will be obtained from a legal source within the area or brought in via mobile water tanker.
Minerals and Petroleum Resources Development Act (No. 28 of 2002)	In terms of Section 102 of the MPRDA A reconnaissance permission, prospecting right, mining right, mining permit, retention permit, technical corporation permit, reconnaissance permit, exploration right, production right, prospecting work programme, exploration work programme, production work programme, mining work programme environmental management programme or an environmental authorisation issued in terms of the National Environmental Management Act, 1998, as the case may be, may not be amended or varied (including by extension of the area covered by it or by the additional of minerals or a shares or seams, mineralised bodies or strata, which are not at the time the subject thereof) without the written consent of the Minister. Therefore, to ensure that prospecting within the study area is lawful the applicant must: - Lodge an Amendment of Environmental Management Plan with the DMR in terms of Section 102 of the MPRDA; - Conduct a Scoping and EIR process, accompanied by an EMPR in terms of Section 39 of the MPRDA and submit such to the DMR; and

	- Notify and consult with the landowner, lawful occupier and any interested and affected party in terms of Section 27 (5) (a) of the MPRDA.
National Environmental Management: Waste Act, 2008 (Act 59 of 2008)(NEMWA)	The National Environmental Management: Waste Act, 2008 (Act 59 of 2008)(NEMWA) commenced on 1 July 2009. In terms of this Act, all listed waste management activities must be licensed and in terms of Section 44 of the Act, the licensing procedure must be integrated with the environmental impact assessment process. Government Notice 921, which commenced on 29 November 2013, lists the waste management activities that require licensing in terms of the NEMWA. Licence applications for activities involving hazardous waste must be submitted to the national authority, the Department of Environmental Affairs (DEA) and those for general waste to the provincial authority. One of the major amendments effected by the National Environmental Management Amendment Act 2014 is the insertion of section 24S, as a result of which the NEMWA is now also applicable to mining residue deposits and residue stockpiles, as follows: ''Management of residue stockpiles and residue deposits 24S. Residue stockpiles and residue deposits must be deposited and managed in accordance with the provisions of the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008), on any site demarcated for that purpose in the environmental management plan or environmental management programme in question.'' Mining residues were classified as hazardous wastes by default In terms section 18, Schedule 3 of the National Environmental Management: Waste Amendment Act, 2014 (Act No. 26 of 2014) (NEMWAA), which commenced on 2 June 2014. In terms of Regulations GN R.632 and R.633,

	which commenced on 24 July 2015, mining residues must be characterised and classified, and the design and management of residue stockpiles and deposits must be based on an assessment of the potential impacts and risks. The generation of potential waste will be minimised through ensuring employees of the drilling contractor are subjected to the appropriate environmental awareness campaign before commencement of drilling. All waste generated during the drilling activities will be disposed of in a responsible legal manner. Proof of legal disposal will be maintained on site.
National Environmental Management Protected Areas Act (No. 57 of 2003)	Sections 48 to 53 of the NEM:PAA lists restrictions of activities that may not be conducted in a protected area. Section 48 states that no person my conduct commercial prospecting or mining activities in a: ■ Special nature reserve or nature reserve; ■ Protected environment without the written permission of the Minister and the Cabinet member responsible for minerals and energy affairs; and ■ Protected area referred to in Section 9: o (b) World heritage sites; or o (d) Specially protected forest areas, forest nature reserves and forest wilderness areas declared in terms of the National Forests Act (No. 84 of 1998). No protected areas were identified within the vicinity of the site.
National Environmental Management Biodiversity Act (No. 10 of 2004)	Sections 52(1)(a) and 56(1) of the National Environmental Management Biodiversity Act (No. 10 of 2004) (NEM:BA) state that the Minister may publish national lists of species and ecosystems, respectively, that are threatened or are in need of protection. A list of species that are threatened or are in need of protection was published in GNR 151 (23 February 2007), with GNR 152 (23 February 2007) detailing the regulations relating to such species. These regulations

	are imposed where restricted activities involve specimens of listed threatened or protected species. GNR 152 defines the requirements of permitting and the process related thereto.
National Heritage Resources Act (No. 25 of 1999)	Section 34 and 38 of the NHRA detail specific activities that require an approved heritage impact assessment by the SAHRA. The heritage activities identified as potentially applicable for the Proposed Project are as follows: 2 - Any development of the site where "development" means any physical intervention, excavation, or actions, other than those caused by natural forces, which results in a change to the nature, appearance or physical nature of a place, or influences its stability and future well-being, including: • Construction, alteration, demolition, removal or change of use of a place or a structure at a place; or • Carrying out any works on or over or under a place; or • Any change to the natural or existing condition or topography of land; or • Any removal or destruction of trees, or removal of vegetation or topsoil. Section 48(2) requires a permit from the SAHRA to perform such actions at such time and subject to such terms, conditions and restrictions or directions as may be specified in the permit. Phase 1 Heritage Impact Assessment shall be conducted prior to drilling to ensure that significant impacts on heritage artefacts, heritage site and graves. No drilling activities will take place with 50m of any identified heritage resource such as a grave.
National Environmental Management: Air Quality Act, Act 39 of 2004, National Dust Control Regulations (GN 827)	Appropriate dust extractions / suppression equipment will be a condition imposed on the drill contractor for their drill rigs.
Municipal Plans and Policies	
Ngaka Modiri Molema District Municipality IDP Review, 2015/2016	Used to identify relevant socio-economic background information as well as spatial development information

Ditsobotla Local Municipality IDP for 2015-2016	Used to identify relevant socio-economic background information as well as spatial development information

3.1 Need and Desirability of the proposed activities.

(Motivate the need and desirability of the proposed development including the need and desirability of the activity in the context of the preferred location).

The Broad Based Socio Economic Empowerment Charter for the South African Mining Industry, hereafter referred to as "the Mining Charter", is a government instrument designed to effect sustainable growth and meaningful transformation of the mining industry. The Mining Charter seeks to achieve the following objectives:

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

To this end, the prospecting of Diamond and Manganese Ore project has been earmarked by Mivami Agri- Mining (Pty) Ltd as a project to be developed, operated, and owned by a Black Economic Empowerment (BEE) company. Diamond and Manganese Ore will be sold on to local and international market.

The mining activity will also realise several advantages for the community. The mining activity will provide an income generation for the area, as well as a cash injection into the country's economy. The employment of local labour will decrease the unemployment rate in the area, as well as allow for the upliftment of these workers

The aim of the prospecting activities is to locate and evaluate diamond and Manganese Ore deposits hosted on the Remaining Extent of Kwaggaslaagte 121 IP, Dunbar 119 IP and portion 9 of Houtkop 152 IP.

The area applied for falls within the Ventersdorp Diamond field. It lies together with the Lichtenburg Diamond field in a vast area of approximately 140 kilometres long by 20 kilometres wide.

Prospecting activities are therefore needed to:

1. Confirm and obtain additional information concerning potential targets through non-invasive activities (e.g. desktop studies and ground geophysical surveys) and invasive (e.g. drilling) activities.
2. Assess if the resource can be extracted through future mining in an environmentally socially and economically viable manner.

Should prospecting activities prove that there are feasible minerals to allow for mining, a new mine may be developed which would generate extensive employment opportunities in an area where employment is needed.

3.2 Period for which the environmental authorization is required

The authorisation is required for the duration of the prospecting right which is an initial 5 years plus a potential to extend the right by an additional 3 years. Therefore a total period of 8 years is required.

3.3 Description of the process followed to reach the proposed preferred site.

NB!! – This section is not about the impact assessment itself; It is about the determination of the specific site layout having taken into consideration (1) the comparison of the originally proposed site plan, the comparison of that plan with the plan of environmental features and current land uses, the issues raised by interested and affected parties, and the consideration of alternatives to the initially proposed site layout as a result.

3.3.1 Details of all alternatives considered.

With reference to the site plan provided as Appendix 4 and the location of the individual activities on site, provide details of the alternatives considered with respect to:

In terms of Regulation 50 (d) of the MPRDA Regulations R. 527 under the Mineral and Petroleum Resources Development Act, Act 28 of 2002, an environmental impact assessment report must include *inter alia* the following:

"(d) A comparative assessment of the identified land use and development alternatives and their potential environmental, social and cultural impacts."

Alternatives Considered

Exact siting of drill activities is dependent on the early field geophysical studies and have therefore not yet been determined. The information provided in this section outlines the 4 areas of interest for which the prospecting rights are being sought.

a) the property on which or location where it is proposed to undertake the activity

Until such time that the non-invasive activities have been completed the exact location of the drill sites cannot be confirmed. However the following buffers will be applied to the final site selection:

- No drill site will be positioned within 50m of a structure
- No drill site will be positioned within 100m of a water course or wetland
- Where possible existing access roads will be utilised to access the drill sites.

b) the type of activity to be undertaken

In terms of the technologies proposed, these have been chosen based on the long term success of the company in terms of their prospecting history. The prospecting activities proposed in the Prospecting Works Programme is dependent on the preceding phase as previously discussed; therefore no alternatives are indicated, but rather a phased approach of trusted prospecting techniques.

c) the design or layout of the activity

Alternative site layout is considered to ensure that resting place and ablution facilities are located away from the drilling activities to minimise the noise impacts. Site establishment are done with closure in mind to ensure that only the required size is disturbed. Due to the location of the proposed drilling (close proximity to built-up areas such as Ga- Motlatla village), no camp site will be required. The drilling contractor can make use of existing accommodation within the area.

d) the technology to be used in the activity

The method and techniques employed for the investigation of potential targets and deposits are suitable for the proposed prospecting activities.

- Sonic drilling
- Excavator
- Bull Dozer
- Dumpers
- Production Unit
- Scrubber
- Sortex X-ray equipment

e) the operational aspects of the activity

Ideally, prospecting activities will occur continuously until such time that drilling at individual sites is completed. However, when reaching an access agreement with the impacted landowners, Mivami Agri-Mining Pty Ltd will ensure that drilling activities commence and operate at times that minimise disruption and exposure risks (i.e. daylight hours, school holidays, etc.) This will be discussed and agreed upon in consultation with stakeholders prior to the implementation of prospecting activities.

(f) the option of not implementing the activity.

The 'no-go' option will be a scenario in which there will be no mining. The reserves will not be mined, and no income generation will be realised. The area will remain a predominantly agricultural area. Prospecting activities are essential to investigate and confirm the presence of diamond and Manganese Ore deposits in the area. Future investment in mining activities will not transpire without this and if the prospecting right is denied, valuable economic and socio-economic opportunities may be squandered.

South Africa and the local communities will forego the benefits of the associated additional employment opportunities and revenue streams and the site will continue to be the way it is now. The establishment of the mining operation will result in a cash injection into secondary industries such as contractors, manufacturers and suppliers. These secondary industries will not benefit if there is no mining. This will result in no investment within the local community, and as a result there will be a loss in the potential for community upliftment.

3.4 Public Participation Process

Describe the process undertaken to consult interested and affected parties including public meetings and one on one consultation. NB the affected parties must be specifically consulted regardless of whether or not they attended public meetings. (Information to be provided to affected parties must

include sufficient detail of the intended operation to enable them to assess what impact the activities will have on them or on the use of their land.

Public participation is understood to be a series of inclusive and culturally appropriate interactions aimed at providing stakeholders with opportunities to express their views, so that these can be considered and incorporated into the S&EIR decision-making process. Effective public participation requires the prior disclosure of relevant and adequate project information to enable stakeholders to understand the risks, impacts, and opportunities of the Proposed Project.

3.4.1 Objectives of the Public Participation Process

The principles that determine communication with society at large are included in the principles of the National Environmental Management Act (NEMA) (Act 107of 1998, as amended) and are elaborated upon in General Notice 657, titled *"Guideline 4: Public Participation"* (Department of Environmental Affairs and Tourism, 19 May, 2006), which states that: *"Public participation process means a process in which potential interested and affected parties (I&APs) are given an opportunity to comment on, or raise issues relevant to, specific matters."*

Public participation is an essential and regulatory requirement for an environmental authorisation process, and must be undertaken in terms of Regulations 39 to 44 of the Environmental Impact Assessment (EIA) Regulations GN R.982 (December 2014). Public participation is a process that is intended to lead to a joint effort by stakeholders, technical specialists, the authorities and the proponent/developer who work together to produce better decisions than if they had acted independently.

Opportunities for Comment

Documents will be available at various stages during the EIA process to provide stakeholders with information, further opportunities to identify issues of concern and suggestions for enhanced benefits and to verify that the issues raised have been considered.

The public participation process is designed to provide sufficient and accessible information to Interested and Affected Parties (I&APs) in an objective manner and:

- Identify relevant individuals, organisations and communities who may be interested in or affected by the Proposed Project

- Clearly outline the scope of the Proposed Project, including the scale and nature of the existing and proposed activities
- Identify viable Proposed Project alternatives that will assist the relevant authorities in making an informed decision
- Identify shortcomings and gaps in existing information
- Identify key concerns, raised by Stakeholders that should be addressed in the subsequent specialist studies
- Highlight the potential for environmental impacts, whether positive or negative
- To inform and provide the public with information and an understanding of the Proposed Project, issues and solutions

3.4.2 The Roles and Responsibilities of the Stakeholder

Registered stakeholders have the right to bring to the attention of the competent authority any issues that they believe may be of significance to the consideration of the application. The rights of stakeholder are qualified by certain obligations, namely:

- Stakeholders must ensure that their comments are submitted within the timeframes that have been approved, or within any extension of a timeframe agreed by the Proponent, EAP or competent authorities
- Serve a copy of the comments submitted directly to the competent authorities, the Proponent or the EAP
- Disclose to the EAP any direct business, financial, personal or other interest that they might have in the approval or refusal of the application

Role of Stakeholders

The roles of stakeholders in a public participation process usually include one or more of the following:

- Assisting in the identification and prioritisation of issues that need to be investigated
- Making suggestions on alternatives and means of preventing, minimising and managing negative impacts and enhancing Proposed Project benefits
- Assisting in or commenting on the development of mutually acceptable criteria for the evaluation of decision options
- Contributing information on public needs, values and expectations
- Contributing local and traditional knowledge
- Verifying that their issues have been considered

Methodology

The following activities are undertaken as part of the Scoping phase and subsequent stakeholder engagement:

- Stakeholder identification
- Authority notification
- Stakeholder notification
- Stakeholder meetings
- Compilation of an Issues Trail
- Public review of the DSR
- Public review of the FSR

3.4.3 Identification Interested and/or Affected parties

The identification and registration of stakeholders is an on-going activity during the course of the S&EIR Process. It should be noted however that only a registered stakeholder is entitled to comment, in writing, on all written submissions made to the competent authority by the applicant or the EAP managing an application, and to bring to the attention of the competent authority any issues which that party believes may be of significance to the consideration of the application, provided that comments are submitted within the timeframes that have been approved or set by the competent authority or any extension of a timeframe agreed to by the applicant or EAP. Stakeholders were identified and will continue to be identified through several mechanisms.

These include:

- Utilising existing databases from other projects in the area
- Networking with local business owners, non-governmental agencies, community based organisations, and local council representatives
- Field work in and around the project area
- Advertising in the press
- Placement of community notices
- Distribution of background information documents
- Discussions with local community and relevant ward councillors
- Completed comment sheets
- Attendance registers at meetings

All Stakeholders identified to date have been registered on the project stakeholder database. The EAP endeavoured to ensure that individuals/organisations from referrals and networking were notified of the

Interested and Affected Parties were notified through Public meeting and consultation with the tribal authorities and lawful occupiers. Mivami Agri-Mining has formed a joint venture with the Bafokeng Ba-Motlatla Tribal Authority (Bafokeng tribe) called the "Ga-Motlatla Joint Venture" to exploit the mineral resources on this farm. The heads of agreement is attached to this document.

In terms of this proposed activity, the joint venture consulted in a public meeting with the community and the attendance register of the meeting held in the Ga-Motlatla Tribal Hall on 4 December 2004 to discuss the issue which has also been attached.

3.4.4 Authority Notification

Kimopax Pty Ltd notified a number of other national, provisional and local authorities of the Proposed Project via a notification letter at the start of the public participation process. No comment has been received from these authorities to date however communication lines will remain in place for the duration of the Proposed Project should the authorities wish to comment on the Proposed Project and the EA processes undertaken.

The following steps will be undertaken as part of the public participation process in order to notify interested and affected parties:

a) Potential I&APs will be identified through the use of an existing I&AP databases. The existing databases include landowners, neighbouring landowners, community members and non-governmental organisations (NGOs) who have participated in previous EIA processes in the area.
b) Potential I&APs will be notified about the project by means of:
    i. Letters of notification to directly affected landowners;
    ii. Media advertisements and site notices; and
    iii. Written notifications to other stakeholders including Local and District Municipalities (including tribal authorities where applicable).
c) Newspaper advertisements will be placed in the relevant regional and/or local newspapers to inform stakeholders of commencement of the Scoping process and invite the registration as stakeholders.
d) I&APs will have the opportunity to review and comment on the Draft Scoping Report.

e) Public meetings will be arranged in Ga- Motlatla to provide stakeholders the opportunity to review and comment on the Draft Scoping Report
f) I&APs will be notified of the environmental authorisation, once received and the appeal process to be followed.

3.4.5 Register of I&APs

The NEMA Regulations (GN R.982) distinguish between I&APs and registered I&APs. I&APs, as contemplated in Section 24(4)(d) of the NEMA include: *"(a) any person, group of persons or organisation interested in or affected by an activity; and (b) any organ of state that may have jurisdiction over any aspect of the activity".*

In terms of the Regulations:

"An EAP managing an application must open and maintain a register which contains the names, contact details and addresses of:

a) All persons who; have submitted written comments or attended meetings with the applicant or EAP;
b) All persons who; have requested the applicant or EAP managing the application, in writing, for their names to be placed on the register; and
c) All organs of state which have jurisdiction in respect of the activity to which the application relates.

As per the EIA Regulations, future consultation during the Impact Assessment phase will take place with registered I&APs. Stakeholders who were involved in the initial consultation and who attended the public open house during the Scoping Phase will be added to the register. The I&AP register will be updated throughout the EIA process.

3.4.6 Newspaper Advertisements

In accordance with the requirements of GNR 982, the proposed project was advertised in local newspapers. The purpose of the advertisement was to notify the public about the proposed project and to invite them to register as stakeholders **(see Appendix 5).** The relevant advertisement dates undertaken are listed in **Table 3** below.

Table 3: Date on which the adverts were published

Newspaper	Publication dates
Noordwester Newspaper	28 October 2016

3.4.7 Site Notices

The official site notices were erected in around the proposed site area **(see Appendix 6).**

3.4.8 Background Information Document

The purpose of a background information document (BID) is to provide stakeholders with introductory information on the applications, the S&EIR process and the public participation process. The BID also provides stakeholders who are interested in the Proposed Project with the opportunity to register by way of completing the registration sheet distributed with the BID. Information on the registration sheet will be used to register stakeholders on a database so that they will receive all future project-related information and invitations to meetings. The registration sheet includes a Section for comments and issues, which allows stakeholders an opportunity to provide the EAP with written comments and feedback. A copy of the BID is contained in **Appendix 7**.

This mechanism of notification is suitable for most stakeholder groupings however, in order to ensure an encompassing notification, email, and fax notifications were sent to all registered stakeholders (**Appendix 8**) and copies of the BID were distributed at the following locations:

- Library
- Local Municipality
- District Municipality
- Community in and around the proposed site
- Ga- Motlatla Tribal Office

3.4.9 Stakeholder Meetings

Stakeholder meetings will be held, as required, in order to present the proposed project to key stakeholders and to ask the stakeholder to raise concerns or queries.

3.4.10 Comment and Response Report

All concerns, comments, viewpoints and questions (collectively referred to as 'issues') will be documented and responded to adequately in a Comment and Response Report (**Appendix 9**).

The Comment and Response Report records the following:

- List of all issues raised
- Record of who raised the issues
- Record of where the issues were raised
- Record of the date on which the issue was raised
- Response to the issues

3.4.11 Public participation during Scoping Phase

3.4.11.1 Public Review of the Draft Scoping Report

The DSR will be placed on public review for a period of 30 days from **27 October 2016** to **26 November 2016**, at the following venues:

- Ditsobotla Local Municipality
- Ngaka Modiri Molema District Municipality
- Ga- Motlatla Tribal Office
- Lichtenburg Public Library

All registered stakeholders and authorising/commenting state departments were notified of the public review period as well as the locations of the DSRs via email and post. The above mentioned plan, for notification and provision of reports, will also be utilised for the review of the EIR once the EIR phase has commenced.

The availability of the report was announced on 27 October 2016 and stakeholders were invited to participate in the EIA and public participation process and to pass on the information to friends/colleagues/neighbours who may be interested and to register as I&APs.

The proposed project was announced as follows:

- Distribution of the Draft Scoping Report (DSR) and a letter of invitation to participate to all I&APs on the database, accompanied by a registration, comment and reply sheet that was mailed/emailed to the entire stakeholder database. Copies of the announcement documents are attached as **Appendix 10.**
- The abovementioned documents were made available at the public places listed on page above of this report,
- An advertisement was published in the local newspapers; and
- Site notices were placed at the entrance to the proposed project site and at visible places at the boundary of the property.

3.4.12 Public Meeting

Table 4 below outlines the meeting that were held. A site meeting was held on 27 October 2016 with the representative from the Ga- Motlatla Tribal Office. The purpose of the meeting was to introduce the project to the community and the land owner. No Minutes was taken.

Table 4: Meetings held to date

Date	Time	Venue	Attendance
27 October 2016	11:00	Ga- Motlatla Village	Mr Oupa Serobatse Mr Charles Chigurah Ms Mpho Morotoba

3.4.13 Final Scoping Report Submission

All issues raised during the Scoping phase of the Proposed Project will be incorporated into the FSR and will be addressed during the EIR phase. Once a decision has been reached, the stakeholders will be informed of the next phase of the public participation process.

The DSR will be updated after the expiry of the public review period and submitted to the Department of Mineral Resources (DMR).

3.4.14 On-going Consultation and Engagement

In addition to the public documents distributed to stakeholders, there will be on-going communication between Kimopax, the proponent, and stakeholders throughout the S&EIR process. These interactions include the following:

- In addition to the project announcement letters, a letter will be sent out to all registered stakeholders providing them with an update of the Proposed Project once the FSR has been approved
- Interactions with stakeholders will take place in English and Afrikaans as required
- Feedback to stakeholders, individually and collectively
- Written responses (email, faxes or letters) will be provided to stakeholders acknowledging issues and providing information requested (dependent on availability)
- As per the GNR 982, particular attention will be paid to landowners, and neighbouring communities, specifically where literacy levels and language barriers may be an issue

The consultation with all stakeholders will continue into the EIR phase. Consultation will continue and will include:

- Distribution of all project information and findings to stakeholders
- Review of the draft EIR
- EIA feedback open days and public meetings
- Information in the media and press

3.5 Summary of issues raised by I&Aps

(Complete the table summarising comments and issues raised, and reaction to those responses)

Interested and Affected Parties List the names of persons consulted in this column, and Mark with an X where those who must be consulted were in fact consulted.		Date Comments Received	Issues raised	EAPs response to issues as mandated by the applicant	Consultation Status (consensus dispute, not finalised,etc)
<u>AFFECTED PARTIES</u>					
Landowner/s	X				
Lawful occupier/s of the land					
Landowners or lawful occupiers on adjacent properties	X				

Municipal councillor	**X**				
Municipality	**X**				
Organs of state (Responsible for infrastructure that may be affected Roads Department, Eskom, Telkom, DWA e					
Communities					
Dept. Land Affairs					
Traditional Leaders					

Dept. Environmental Affairs					
Other Competent Authorities affected					
OTHER AFFECTED PARTIES					
INTERESTED PARTIES					

No issues has been raised so far, but the consultation process is still on-going and the issues raised will be submitted in the Final Scoping Report

4. ENVIRONMENTAL ATTRIBUTES AND DESCRIPTION OF THE BASELINE RECEIVING ENVIRONMENT

4.1 Type of environment affected by the proposed activity.

(its current geographical, physical, biological, socio- economic, and cultural character).

4.1.1. Geology

Malmani subgroup in the Transvaal basin is up to 200m thick and subdivided into 5 formations based on the chert content, stromatolite morphology, intercalculated shales and erosion surfaces. It starts above the black reef formation with the oak tree formation. This unit is transactional from siliciclastic sedimentation to platform carbonates and consist of 10-200m of carbonaceous shales, stromatolitic dolomites and locally developed quartzite. Monte Christo formation begins with an erosive breccias and oolitic plat formal dolomites. The lyttelton formation follows the monte Christo with 100-200m of shales, quartzite's and stromatolitic dolomites and is in turn overlain by the cherty dolomites of the Eccles formation up to 600m thick, and which include a series of erosion breccias. The erosion breccias within the Eccles are locally auriferous, mineralization of fluids by the bushveld complex. An erosion breccias separates the Eccles from the overlying frisco formation, the latter becomes more shale-rich towards the top, reflecting deeping depositional condition and is up to 400m thick Malmani subgroup supratidal flat stromatolitic mats to intertidal columnar stromatolites with subtidal zone characterized by a giant stromatolitic domes. Uncomformity sequences in the chuniespoort group and subdivided the malmani eperic sea sediments into four times.

4.1.2 Climate

Ventersdorp normally receives about 490mm of rain per year, with most rainfall occurring mainly during midsummer. It receives the lowest rainfall (0mm) in June and the highest (96 mm) in January, and the average midday temperatures for Ventersdorp range from 17.3^{0}C in June to 29^{0}C in January. The region is the coldest during June when the mercury drops to 0^{0}C on average during the night.

4.1.3 Vegetation

Of the seven major recognized biomes of South Africa, only the savannah and grassland biomes occur in Ventersdorp. Most of the Province (71%) falls within the Savannah Biome with its associated Bushveld vegetation. The remainder falls within the Grassland Biome comprising a wide variety of grasses typical of arid areas. Given the arid and semi-arid conditions of the western half of the North West Province, the vegetation of this region largely comprises plants that are adapted to these conditions (known as xerophytes). As a result, low biomass, productivity and species richness of plants tend to prevail in this region. With the east-west variation in climate and rainfall, there is a corresponding gradation in the vegetation types from xerophytic in the west to open grassland and savannah in the central region and bushveld in the eastern region.

According to Low and Rubelo (1998), nine different vegetation types are known from the Province, belonging to the clay, Kalahari, Kimberley, mixed bushveld and highveld grassland categories. Broadly speaking, there is a predominance of Kalahari deciduous Acacia thornveld (open savannah of Acacia erioloba and A. haematoxylon as well as desert grasses) and shrub bushveld in the dry western half of the Province. The rocky soil is conducive to Tarchonanthus veld on the dolomite Ghaap Plateau (Acocks, 1975).

4.1.4 Protected Areas

There are no recognised protected areas near the proposed drilling areas.

4.1.5 Flora

(will be included after the Biodiversity assessment study is done, and will be submitted in the EIR)

4.1.6 Fauna

(will be included after the Biodiversity assessment study is done, and will be submitted in the EIR)

4.1.7 Surface water

(will be included after the Geohydrological studies is done, and will be submitted in the EIR)

4.1.8 Archaeology and Cultural Heritage

(will be included after the Heritage Impact assessment is done, and will be submitted in the EIR)

4.1.9 Socio-Economic

4.1.9.1 Administrative Setting

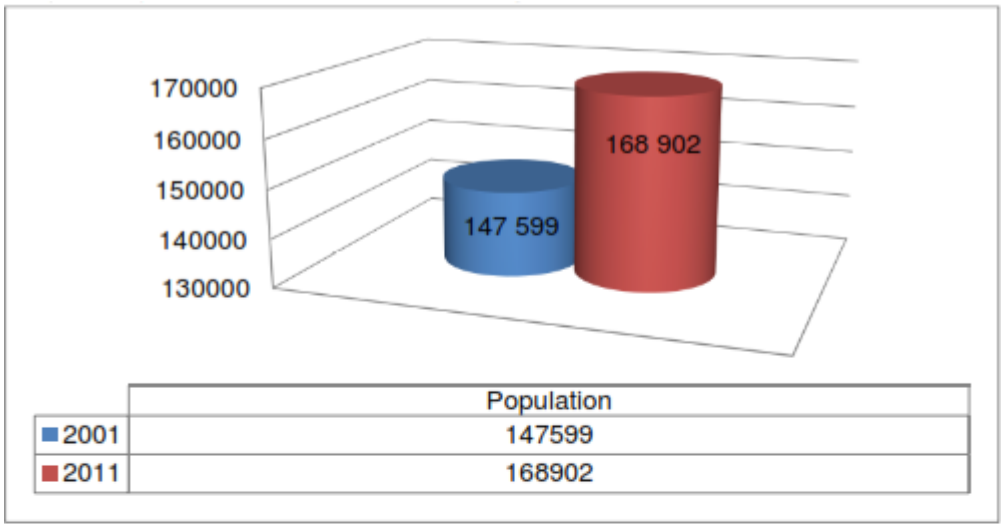
Remaining Extent of Kwaggaslaagte falls within Ngaka Modiri Molema District Municipality and Ditsobotla Local Municipality. Ditsobotla Local Municipality is a category B municipality established in terms of section 12 of the Local Government: Municipal Structures Act (Act 117 of 1998). The municipality is an amalgamation of the erstwhile Biesiesvlei Transitional Representative Council, Lichtenburg Transitional and Coligny Transitional Local Councils. Lichtenburg serves as the head-office of the municipality and is centrally located within the North West Province serving as a passage to major towns and cities within the province, notably the capital city, Mahikeng. The municipality covers about 6465.19 km2 of land. According to the 2007 Community Survey the total estimated population of the Ditsobotla Local Municipality is 200 141 with the total estimated household in the range of 38 608.

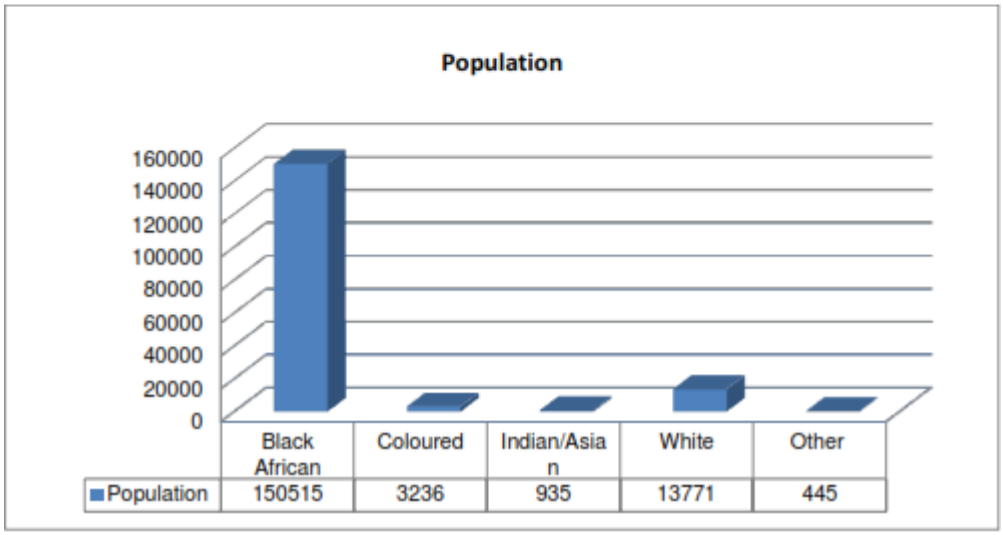
4.1.9.2 Demographic overview

Population Distribution

The recent Census 2011 reveals that the population of Ditsobotla Local Municipality has grown by an average of 1.35% from 147 599 in 2001 to 168 902. The total households have also increased from 35 582 to 44 500 with an average size of 3.8 persons. The population distribution figure below also indicates a dominant presence of black Africans who constitutes 10% of the population followed by whites.

Graphs 1: Population Growth & Distribution by race

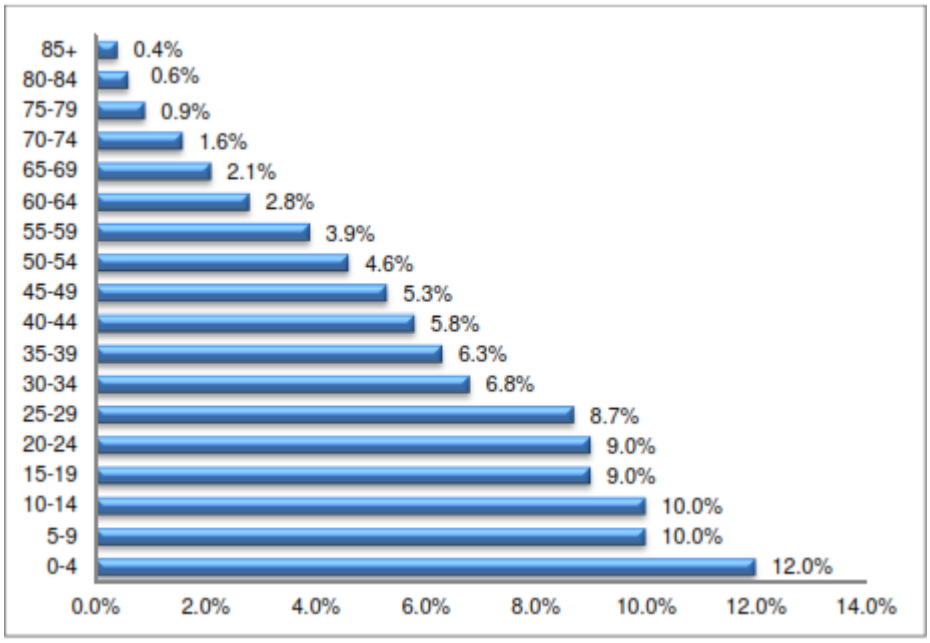




Age Structure

Ditsobotla age profile indicates that approximately 46% of the Ditsobotla population are younger than 20 years of age. Additionally, the proportion of people younger than 15 years accounts for 32.6% of the population. In the majority of wards between 40% and 50% of the total population are younger than 20 years of age. The highest concentration of people over 40 years of age is located in urban areas of Lichtenburg and Coligny towns.

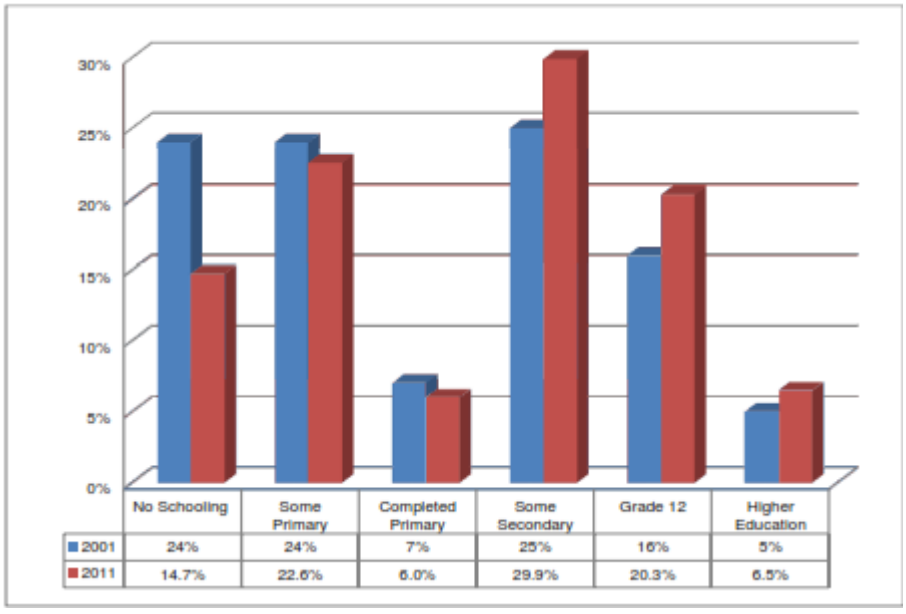
Graphs 2: Age Structure



Education/Literacy Levels

The proportion of the population (based on people of school-going age) without schooling has reduced by 9% from 24% to 15% between the period 2001 and 2011. Approximately 20% can be classified as having completed Grade 12 which represents a 4% growth, and 6.5% have higher education qualifications.

Graphs 3: Literacy Levels



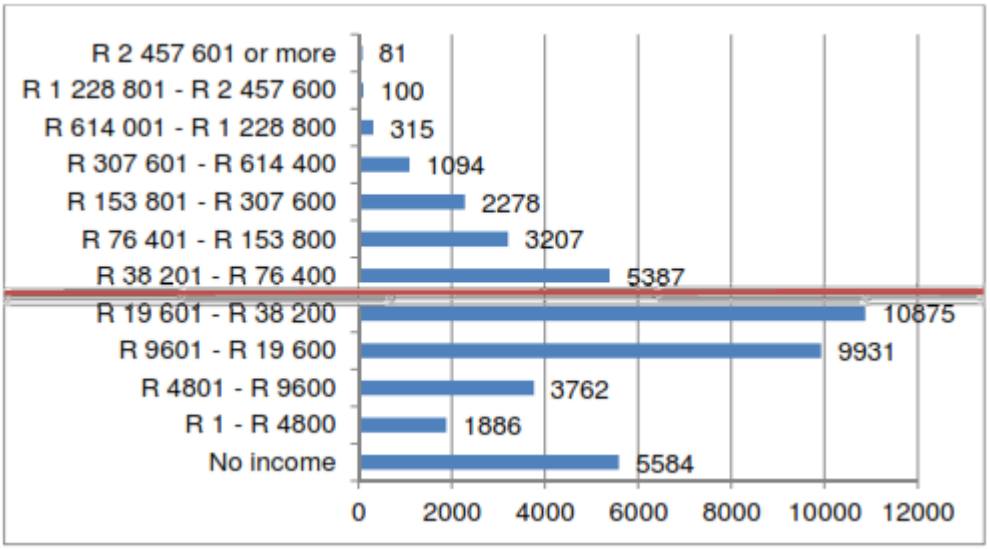
Employment Rate

The economically active population for Ditsobotla Local Municipality is 53.5% which represents a total population of 89 518. Approximately 42.2% is unemployed and 57.8% employed (Ditsobotla, SDF Review).

Household Income

The majority of households fall within the no income and R38 200 bracket. The highest average household income is concentrated in the Lichtenburg formal areas. The average household income in these areas is generally in excess of R6 000 per household per month. The average household income in the vast majority of the rural areas, as well as the majority of villages in the rural areas is less than R1500 per household per month.

Graphs 4: Annual Household Income

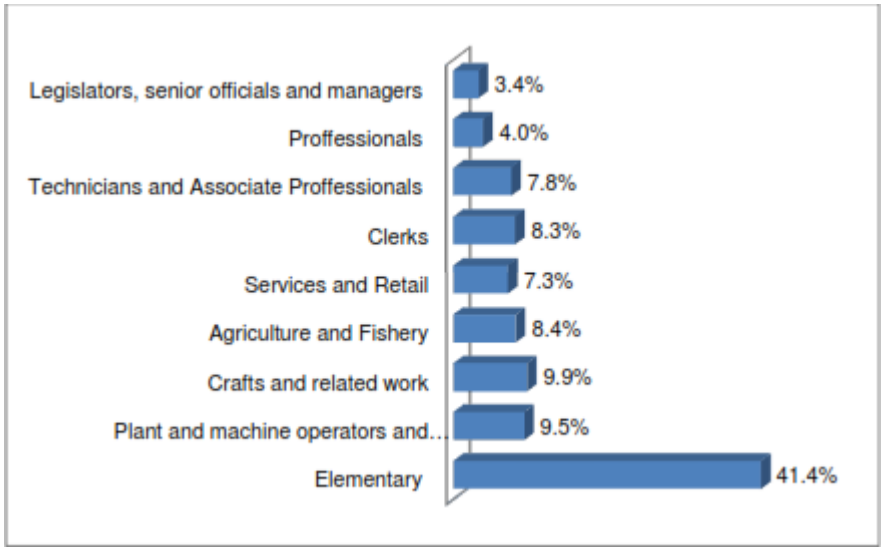


Occupation Profile

About 41% of the economically active population can be described as elementary occupations. In addition, 9.9% of the work force is active in the craft and related occupations sector and 9.5% and in the plant machine operator and assembling sector. The proportion of the economically active population in the skills and technical sectors are very limited. Only 7.8% of the economically active population can be described as technicians, approximately 8% as professionals, and roughly 3% as senior officials and

managers. The concentration of elementary occupations as well as skilled agricultural workers within the rural areas, highlight the importance of the agricultural sector within these areas. The skilled and clerical workers are mainly concentrated within the Lichtenburg town.

Graphs 5: Occupational Structure



4.1.9.3 Economic Overview

Economic Contribution and Regional Growth Trends

The Ditsobotla Local Municipality contributes 22.7% to the district economy. The finance and business services sector represent the largest contributing sector with a contribution of 24.7%. The trade sector represents the largest contributing sector with a contribution of 19.1% followed by the manufacturing sector which contributes 11.8%. The general government service is the fourth largest contributor with 11.4% in

The table below provides statistical view of sectoral performance for the period 2006 – 2010 based on Gross Value Adding (GVA) at basic prices. 2010.

Table 5: Sectoral Performance of the Municipal Economy 2006- 2010

Sector	2006 %	2008 %	2010 %
Agriculture	7.3	7.7	7.7
Mining	2.8	1.1	1.0
Manufacturing	12.3	12.4	11.8
Utilities	1.6	1.5	1.5
Construction	2.5	3.4	3.6
Trade	17.6	18.8	19.1
Transport and Communication	12.7	9.8	9.4
Finance and Business Services	18.9	24.6	24.7
Community, Social and Personal Services	10.9	9.8	9.9
General Government Services	13.5	10.9	11.4
Total	**100**	**100**	**100**

(*Source:* SDF, 2012)

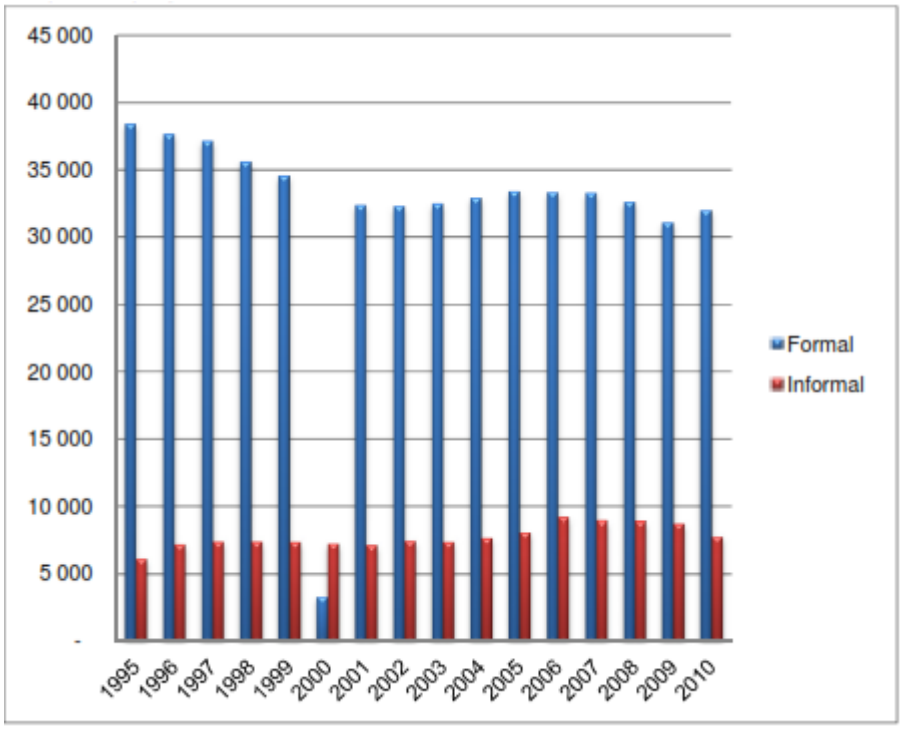
Economic Performance

Based on historical data for the period 1995 – 2009 the local economy registered higher average annual growth rate than the district and province. The average annual growth for the municipality is 3.8% compared to the national annual average of 3.3% and the provincial average of 2.3%.

Labour and Employment

The employment profile for Ditsobotla Local Municipality indicates that the employment figures of the regional economy decreased between 1995 and 2009, and picked again in 2010. In 2010 formal employment was estimated at 31 983 employees and informal employees were estimated at 7 781.

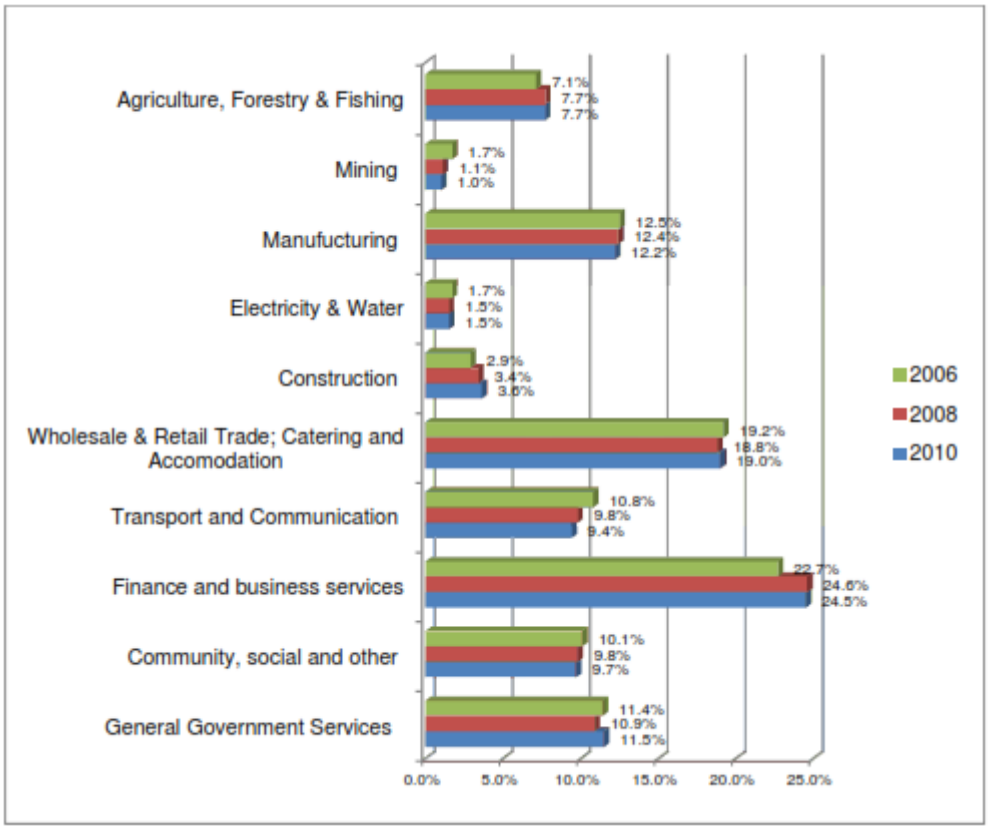
Graphs 6: Employment Profile 1995- 2010



Economic Sectors

The dominant economic sectors for Ditsobotla Local Municipality include finance and business services (25%); wholesale and retail trade, catering and accommodation (19%); manufacturing (12.2%); and general government services (11.5%). The graph below indicates the overall economic sector profile.

Graphs 7: Economic Profile



4.1.9.4 Performance and Employment Profile per Sector

Agriculture, Forestry and Fishing

The sector contributed 7.7% of the GVA of the local economy during 2010 and 9.7% towards the local economy's employment. The average annual GVA growth between 1995 and 2010 is 13.7% with an annual average formal employment contribution of -5.7% during the same period.

Mining

The mining sector contributed 10% of the GVA of the local economy during 2010 and 1.2% towards the local economy's employment. The average annual GVA growth between 1995 and 2010 is -8.5% with an annual average formal employment contribution of 1.1% during the same
period.

Manufacturing/Industrial

The manufacturing sector contributes approximately 12.2% of the total output of the local economy. As far as employment is concerned the manufacturing sector contributed approximately 10% of the total formal employment opportunities in the local economy during 2010. The annual average GVA growth for the manufacturing sector between 1995 and 2010 is 3.9% with the annual average employment contribution of -2.1% during the same period.

Construction

The construction sector contributes 3.6% towards the GVA of the local economy and 5.2% towards formal employment during 2010. The annual average GVA growth for the construction sector during the period 1995 –2010 is 5.6% with an employment contribution of -1.3%.

Electricity, Gas and Water (Utilities)

This sector contributes approximately 0.5% of the total economic production in the municipal area and less than 1% of total formal employment. This sector's role in the local economy is thus relatively limited.

The Trade Sector

The wholesale and retail sector contributes approximately 19% of the GVA in the local economy and 27.2% towards formal sector employment. The annual average GVA growth for the trade sector has been 5.6% between 1995 and 2010 with an employment contribution average of 3.3%.

The trade sector is inclusive of both formal and informal retail facilities.

Transport, Storage and Communication

This sector contributed 9.4% towards the GVA of the local economy and 1.7% towards formal employment during 2010. The average GVA growth in this sector during the period 1995 – 2010 has been 1.9% with a decline in employment growth of -7.3%.

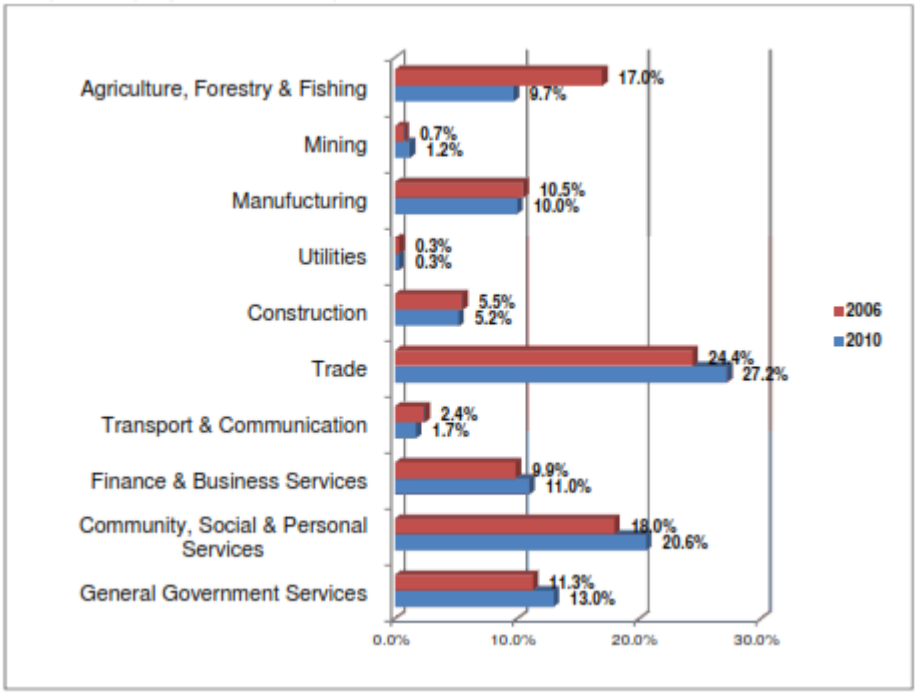
Finance and Business Sectors

The sector contributed 24.5% outputs towards the local economy and contributed 11% of formal employment during 2010. The annual average GVA for the sector between 1995 and 2010 is 6% with an average employment growth of 5.4%.

Community, Social and Personal Services

The sector contributed 9.7% towards the GVA of the local economy and 26% towards formal employment during 2010. The annual average GVA growth for the period 1995 – 2010 is 3.1% and average employment growth is 0.7%.

Graphs 8: Employment Profile per Sector



4.1.9.5 Access to Infrastructure Services

Water Services

In terms of the current powers and functions Ngaka Modiri Molema District Municipality is a water services authority and the Ditsobotla Local Municipality is a water services provider.

The total number of households with access to water is 39 662 which translate to 89% of which 29 353 (66%) has piped water inside dwelling and 10 309 (23%) has access to water outside the yard. The total backlog for households without access to water is 4 838 households.

A comparative analysis of households with access to water between the period 2001 and 2011 indicates a steady growth of 7% having risen from 82% to 89%. Whilst significant strides have been registered in ensuring access to basic services, the actual number of households without access to water has remained stable due to informal settlements.

The significant reduction in the number of households without access to water is attributable to the major bulk-water infrastructure programmes undertaken by the district municipality over the past three years in areas such as Tlhabologang and Itsoseng.

Table 6 : Access to piped water

Piped (tap) water inside yard/dwelling	Piped (tap) water outside the yard	No access
29,353 (66%)	10,309 (23%)	4,838 (11%)

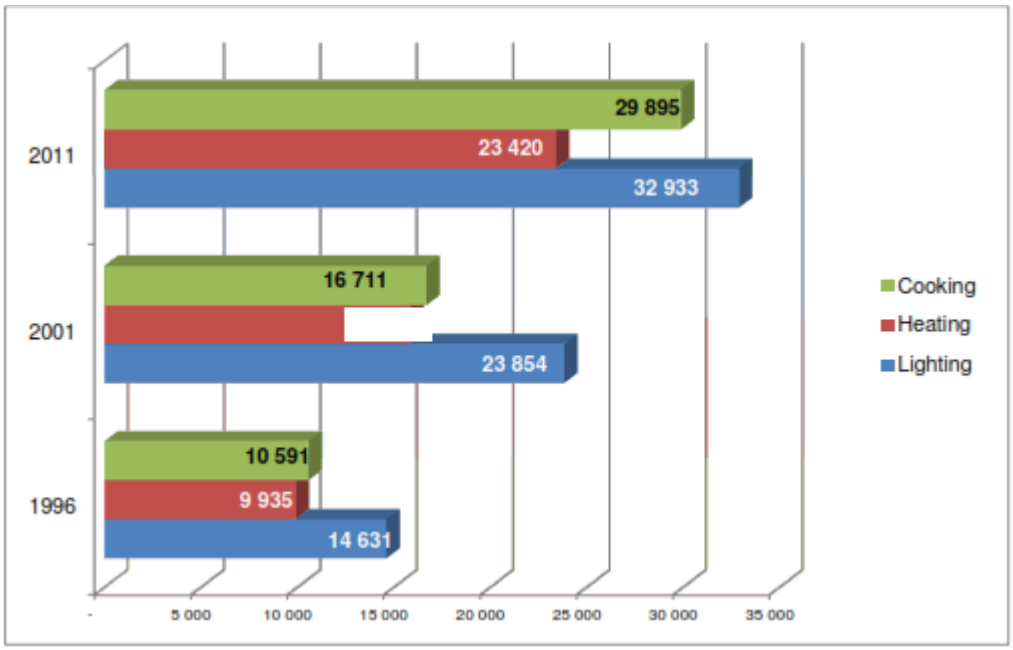
(*Source:* Statistics SA, Census 2011)

Electricity

The municipality is licensed to provide electricity in the areas of Lichtenburg, Blydeville, and Coligny while the remainder is serviced by Eskom. The Ditsobotla Local Municipality has approximately 32 933 households connected to the electricity grid which represents 74%. This figure is based on the statistics provided by Stats SA (2011) for households using electricity for lighting. It therefore implies that the municipality has a total backlog of 11 567 households without access to electricity which represents 26%.

The graph below represents the distribution of households with access to electricity within the municipality. The graph indicates that household access to electricity has almost doubled between 2001 and 2011 from 14 631 to 29 895 which represents 49% increase.

Graphs 9: Access to Electricity



Sanitation

The percentage of households with access to flush toilets connected to sewerage remained constant for the period 2001 and 2011 at 42.7% and 43.9% respectively. The remaining part of the municipality is reliant on pit latrines with small parts of informal settlement using buckets. Reliance on pit-latrines is mostly prevalent in rural areas and villages such as Ga-Motlatla, Sheila, Matile, Meetmekaar, and Springbokpan.

Table 7: Distribution of households by type of toilet (2001& 2011)

TYPE	2001	2011
Flush/chemical	17 297	21 303
Pit-latrine	12 101	15 807
Bucket	2 887	2 197
None	3 298	4 079

The above figures also indicate that the number of households without any access to sanitation services represents 9.4%. However, the combined percentage of households with access beyond the required RDP standards is 16%.

Roads and Stormwater

The greatest demand for internal roads and Stormwater is in the residential areas of Boikhutso, Itekeng, Itsoseng, Coligny and all rural areas where there are no basic access and/or internal roads. The absence of a Roads Master Plan renders it difficult to quantify the exact backlog in kilometres and the required levels of development.

In the short-term the Ditsobotla Local Municipality will institute the following measures to address this challenge:

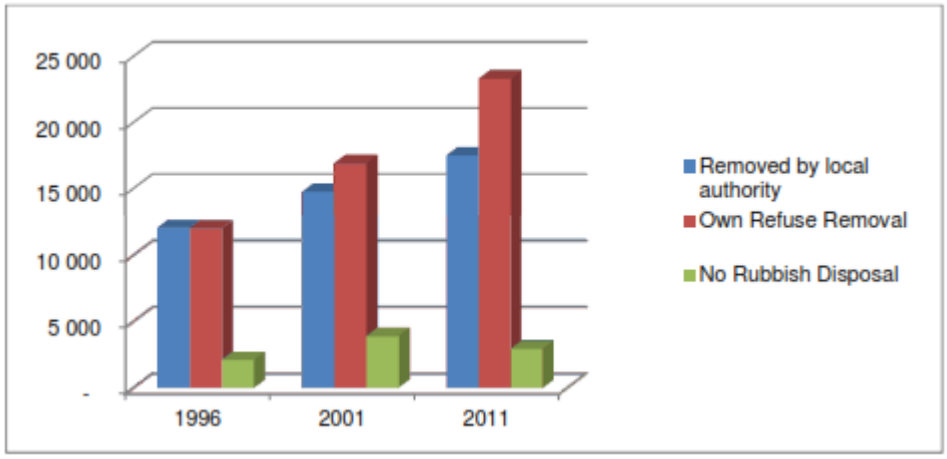
- Provide for side-walks/bicycle paths be provided in the Lichtenburg CBD (along R52 on both sides of Lichtenburg);
- Provision of an intermodal facility at Bodibe to provide for at least 20 mini-bus taxis and one bus departures.
- The provision of road signage and broadening of streets where traffic congestions are experienced.

Refuse Removal

Recently released statistics (Census 2011) indicates that the number of households with access to refuse removal provided by the municipality is 17 507 while those with access to communal or own dumping stands at 23 329. A total of 2 949 households does not have any form of access to refuse removal services.

The spatial distribution of refuse removal clearly indicates that provision of formal refuse removal services by the municipality occurs only in formal towns/residential areas of Lichtenburg, Blydeville, Boikhutso, Coligny, Tlhabologang, Itsoseng and Itekeng. The challenge facing the municipality is to extend the refuse removal service to the rural and village communities in the long-term and to initiate waste recycling projects.

Graphs 10: Access to refuse removal



Waste Disposal Facilities

The Lichtenburg Waste Disposal Site is located 8km outside town on the Deelpan road on the farm Elandsfontein 34IP. The Lichtenburg waste site is registered but does not fully satisfy the required standards. The available top soil to be used for the on-going rehabilitation of the site has been used to slope the quarry walls ensuring that it does not pose any danger for people and animals. The site is underlain by dolomite. The landfill site is not fenced and has informal waste recyclers operating and living at the site.

The frequency of waste removal in Lichtenburg, Boikhutso, Blydeville and Shukran is once a week for residential areas and daily for all business areas. The Lichtenburg waste collection service is provided by two trucks with capacities of $12m^3$ and $10m^2$ respectively.

Other communities within the municipality utilize informal communal dumping sites and undertake their own waste disposal. In terms of the latter this normally entails a pit being dug in the vicinity of the residence where the waste is discarded and burnt on a regular basis.

The cement industries within the municipal area manage their waste independently of the municipality and have active recycling initiatives in order to contribute towards waste minimization. The Biesiesvlei/Itekeng area does not have registered waste sites. Waste is currently collected twice a week and disposed at an unofficial site. The Itsoseng, Verdwaal and Sheila area currently have a temporary site for which authorization have been obtained from DACET to dump the waste and burn it.

Housing Profile

The municipality's Human Settlement Sector Plan (2012) projects the municipal housing needs to be 16 514. The housing backlog is perpetuated by pressures such as migration of farm-workers into urban areas in search for job opportunities and/or security of tenure.

In terms of the estimates provided the required land for new housing is 6 210 hectares. The service delivery infrastructure capital estimate is R141 million. The backlogs are broken down as follows (2012:76):

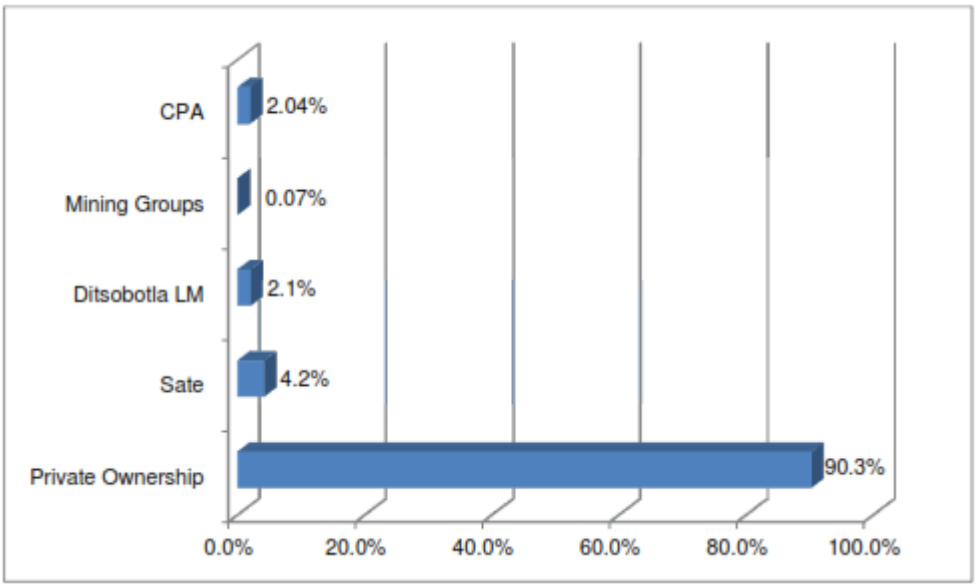
Table 8: Housing Backlog (Human Settlement sector plan, 2012)

SETTLEMENT CLUSTERS	HOUSING NEEDS TYPOLOGY				TOTAL HOUSING NEEDS
	Informal Housing	Backyard Shacks	Rural Demand	Other	
Lichtenburg/Bolkhutso/Blydeville	2 967	449	Unknown	Unknown	3 939
Itsoseng/Sheila/Verdwaal	975	376	Unknown	Unknown	3 922
Bodibe	283	106	Unknown	Unknown	1 094
Coligny/Tlhabologang	2 498	245	Unknown	Unknown	2 097
Itekeng/Bleslesvlei	728	148	Unknown	Unknown	1 500
Ga-Motlatla	42	3	Unknown	Unknown	210
Bakerville/Grasfontein/Welverdiend	1 060	0	Unknown	Unknown	1 797
Rural	1 674	0	2 734	Unknown	1 955
Total	**10 227**	**1 327**	**2 734**	**-**	**16 514**

Land Ownership and Size

The land ownership pattern is summarized in the figure below. This information indicates the vast majority of land within the Ditsobotla Local Municipality is privately owned (in excess of 90%). Approximately 27,120ha of land is state owned (representing 4.2% of the total land area) and just over 2% is owned by the municipality. This implies that the availability of public owned land strategically located for future development in the municipal area is relatively limited.

Graphs 11: Land ownership



4.1.9.6 Availability of Educational, Health and Social Facilities

Educational Facilities

Available figures indicate a total of 107 primary schools across the Ditsobotla Local Municipality (including junior primary, primary and senior primary). These facilities are mainly concentrated in the central and south-western parts of Ditsobotla where the highest population densities are prevalent. The primary schools facilities are broken up according to the following categories:

Table 9: Number of Primary Schools

Category	Number
Junior primary	30
Primary	74
Senior Primary	3

The total number of secondary school education facilities is 26. These facilities consist of the following components:

Table 10: Number of Secondary Schools

Category	Number
Combined schools	2
Intermediate schools	6
Secondary schools	14
Senior secondary schools	1

The analysis of available information indicates that the municipality is theoretically sufficiently provided with primary and secondary school facilities based on the general planning norms and standards. The highest ratio between population and primary schools is prevalent in the Coligny/Tlhabologang area where the total population per primary school is approximately 6 425. The average figure for the entire municipality is one primary school for every 1 253 people.

The average ratio between secondary schools and population of the entire municipality is one secondary school for every 6 589 people. The highest ratio is prevalent in the Bodibe cluster with a figure of 1 secondary school for every 14 942 people.

4.1.1.1.1 Description of the current land uses.

The area is mainly used for agricultural activities. There is no alternative land use/s that may be affected by the proposed prospecting activities.

5. DESCRIPTION OF SPECIFIC ENVIRONMENTAL FEATURES AND INFRASTRUCTURE ON THE SITE.

Air Quality

Dust suppression techniques will need to be implemented to avoid the dispersion of dust particles into the air.

- Vehicles will be limited to drive at 40km/h
- Spraying of water to supress dust in the prospecting area.
- Dust from vehicles will be negligible along access roads as the crew bakkie will only drive the road few times and the drill dig will use the existing road once to access the site and then move from borehole to borehole.

Topsoil removal and storage

- No topsoil will be removed from the drilling site
- The top soil contours at the drilling point may be disturbed during drilling but will be re-established once drilling has been completed

Storage materials

- Hazardous materials (e.g. diesel, grease and oils) will be stored in sealed containers within drip trays on site.

Soil, Land Use and Land Capability

- Excavation and soil stockpiling during site preparation may result in the dilution of highly fertile organic components within the soil and may result in the loss of topsoil on the site
- Excavation and soil stockpiling may result in the ingress of alien invasive plant species to the area, impacting on the future sustainable land use potential and land capability after mining
- Mining activities may cause erosion (e.g. stormwater runoff), resulting in a loss of fertile topsoil resources that could impact on surrounding surface water bodies
- Compaction of soil may concentrate surface water runoff from the site, resulting in downstream erosion, flooding or loss of biodiversity
- Leachate from overburden or product stockpiles may contaminate soils from infiltration, resulting in surface and groundwater contamination
- Soil contamination may occur from spillages and leakages of hydrocarbons, contaminated water, plant runoff, etc. onsite Contamination from the poor management of wastes generated onsite
- Potential loss of cultivated agriculture as a result of mining activities

There will be oil leakages and spillages which will in turn result in the death of organisms that live on and in the soil. Measures to prevent oil leakages and spillages include:

- Drip trays will be used to store all hazardous materials.
- Drip trays will be used under the bakkies and drill rig truck while they are parked on site.
- Should any spillages occur, they will be dealt with immediately and cleaned using appropriate remediation.
- Spillages from drip trays will be disposed of in the empty jerry cans.

Topography

There will be no detrimental effects to the topography of the area.

Surface Water

Surface water can be contaminated only if drilling will take place close to a river or dam, a buffer zone of 100 metres should be left protected to avoid contamination of surface water.

Water Resources

Water contamination could be as a result of spillages of oil from vehicles and siltation as a result of run-off. To avoid siltation and disturbance of river flow, no mining activities will take place within 100 metres from any water resource and drip trays will be used for leakages of oils from vehicles.

Noise

Noise generated by construction activities can create problems for landowner residing on the site and other landowners residing closer proximity.

Vegetation

It is anticipated that the proposed development could cause permanent damage to the receiving biophysical environment. There will be need to clear the vegetation, the removal of vegetation will result in loss of habitat for small mammals and reptiles that potentially live in the study area.

The digging of trenches and excavation of topsoil can also potentially lead to erosion of soil from the excavations. The eroded soil may end up in the stream due to water or wind erosion quality of water in the receiving stream.

Economic impacts

Construction workers require specific knowledge and skill which the local residents may not have. As a consequence, local people are likely only going to secure employment that does not require those specific knowledge and skills. It is important to note that these informal jobs will be temporary and that fewer jobs can be created than anticipated. However, it is also possible that certain community members could benefit from the project.

Impact on land use

The proposed project is anticipated to have negative impacts on the existing agricultural land or agricultural activities within the study area. The land will be permanently changed from agricultural land, and thereby changing the potential of land for potential agricultural opportunities. It is anticipated that the tourism point of view die to game animals will be negatively affected, the effect will be due to dumps. Furthermore, the visual and aesthetic value will be impacted.

Topography and soils

Excavation of topsoil during mining will have potential impacts on topography and soils alteration of topography may be due to stockpiling of soil, building materials, debris, cutting of platforms and waste materials on the development site. The soil can be contaminated due to spillage or leakages of oil or other contaminants associated with vehicles and could result in fire or explosion which may have a significant impact on both physical and biophysical environment. It is anticipated that mining will result in loss of soil by wind, water especially on areas with steep slopes.

The significant impacts for the proposed project would however be mainly related to the disruption of surface soils and vegetation. Vegetation clearing and disruption of soil surface is likely to increase soil erosion potential, and as a result mobilization of loose soils during rainy

Biodiversity

- The mining activities may have a potential loss of RDL that could occur within the site.
- Mining and associated activities may disturb indigenous fauna and flora in the area
- Potential impact on habitat corridors, or isolation of sensitive areas may result in the degradation of indigenous flora and fauna species, and changes in populations reliant on movement or interchange between habitats
- Potential impact on biodiversity through mismanagement of dangerous goods
- Mining activities may result in the generation of alien vegetation, which may encroach and impact on the ecosystem
- Contamination of surrounding biodiversity from the poor management of wastes generated onsite
- Potential loss of habitats resulting from uncontrolled burning regimes
- The accumulative effect of emissions into the air could have an adverse effect on the flora and fauna populations

- Release, spillages and leakages of chemicals, hydrocarbons and sewage may competent to a depletion of the natural ecosystem
- Impact of traffic and transport activities on flora and fauna species (construction, operation, decommissioning)

Traffic

There may be an increase in traffic within the immediate area which would result in the generation of dust, noise, air emissions and hydrocarbon spillages. Increased traffic could cause road deterioration and have a negative impact on the movement of affected parties in the region (all phases of the project).

Visual

The mining and associated activities may have an impact on the aesthetics of the area and impact on the general 'sense of place'. The generation of dust and smoke may have visual impact within the surrounding area, resulting in associated health and safety impacts.

Archaeology, Historic and Cultural

The proposed mine may have an impact on sites of archaeological, historic and cultural importance/significance Identified and unidentified graves may be impacted on from mining related activities and subsidence in the area

Socio-economic

- Job opportunities may be made available to the surrounding local citizens
- Training may be provided to employees resulting in an improvement of the local skills base
- Support may be given to the local and national economy by the purchase of goods and services
- The proposed mine may have negative impacts on the health and safety of the surrounding community and future employees from the generation of dust, air emissions (noxious gases and smoke), noise, traffic, and contamination of surface and groundwater on downstream water users
- The mine may have an aesthetic impact on the surrounding communities the 'sense of place' may be affected, thereby impacting on the surrounding community
- The project may have positive impacts on public infrastructure and services, such as upgrading roads, installing power lines, etc. The project may create social upliftment

through the construction of educational facilities. The project may create employment opportunities for the surrounding community

- Increase in economic growth and local economic development within the Ngaka Modiri Molema District and Steve Ditsobotla Local Municipalities
- Training and skills development may be provided to unskilled labourers in the area, thereby expanding the local skills base
- The mine may result in an increase of individuals into the area, increased individuals may result in the establishment of illegal settlements
- The increase in individuals in the area may impact on social pathologies, such as social ills, crime, etc.

5.1 Environmental and current land use map.

(Show all environmental and current land use features)

See Appendix 4

5.2 Impacts identified

(Provide a list of the potential impacts identified of the activities described in the initial site layout that will be undertaken, as informed by both the typical known impacts of such activities, and as informed by the consultations with affected parties together with the significance, probability and duration of the impacts

The following potential environmental and socio-economic impacts associated with the proposed project have been assessed in this document. The impacts include all aspects of the mining and associated activities during the construction, operation, decommissioning and closure phases:

- Geology
- Topography
- Air quality
- Soil, land use and land capability
- Biodiversity
- Surface water
- Noise

- Visual aspects
- Sites of archaeological, historic or cultural interest
- Socio-economic aspects
- Traffic

5.3 Methodology used in determining the significance of environmental impacts

(Describe how the significance, probability, and duration of the aforesaid identified impacts that were identified through the consultation process was determined in order to decide the extent to which the initial site layout needs revision).

5.3.1 Methodology

The potential environmental impacts associated with the project will be evaluated according to its nature, extent, duration, intensity, probability and significance of the impacts, whereby:

- Nature: A brief written statement of the environmental aspect being impacted upon by a particular action or activity.
- Extent: The area over which the impact will be expressed. Typically, the severity and significance of an impact have different scales and as such bracketing ranges are often required. This is often useful during the detailed assessment phase of a project in terms of further defining the determined significance or intensity of an impact. For example, high at a local scale, but low at a regional scale;
- Duration: Indicates what the lifetime of the impact will be;
- Intensity: Describes whether an impact is destructive or benign;
- Probability: Describes the likelihood of an impact actually occurring; and
- Cumulative: In relation to an activity, means the impact of an activity that in itself may not be significant but may become significant when added to the existing and potential impacts eventuating from similar or diverse activities or undertakings in the area.

For each potential impact, the **DURATION** (time scale), **EXTENT** (spatial scale), **IRREPLACEABLE** loss of resources, **REVERSIBILITY** of the potential impacts, **MAGNITUDE** of negative or positive impacts, and the **PROBABILITY** of occurrence of

potential impacts must be assessed. The assessment of the above criteria will be used to determine the **SIGNIFICANCE/RISK** of each impact, with and without the implementation of the proposed mitigation measures. The scales to be used to assess these variables and to define the rating categories are tabulated in **Table** below.

Table 11: Criteria used for the rating of impacts

CRITERIA	DESCRIPTION
Extent (E)	Refers to the physical or geographical size that is affected by the impact. It can be categorised into the following ranges: • Onsite – Within specific site boundary (weight value – 1) • Local – Within municipal boundary (weight value – 2) • Regional – Outside municipal boundary (weight value – 3) • National- Beyond Provincial boundaries and within National boundaries (weight value- 4) • International- Beyond National boundaries (weight value- 5) • None- (Weight value- 0)
Duration (D)	Time span associated with impact: • Immediate – 1 Year or less (weight value – 1) • Short term – 1-5 Years (weight value –2) • Medium term – Longer than 5 Years (weight value – 3) • Long term- Impact ceases after operational phase/life of the activity (> 20 years) (weight value-4) • Permanent (weight value- 5)
Irreplaceable (I)	Definite- loss of irreplaceable resources (weight value- 5)

loss of resources	High- potential for loss of irreplaceable resources (weight value- 4) Moderate- potential for loss of irreplaceable resources (weight value- 3) Low-potential for loss of irreplaceable resources (weight value- 2) Very low- potential for loss of irreplaceable resources (weight value- 1) None- (weight value- 0)
Intensity and Reversibility (R)	The severity of an impact on the receiving environment: • No Impact- (Weight value- 0) • Low – Natural and/or cultural processes continue in a modified way and is reversible (weight value – 1) • Medium – Natural and/or cultural processes stop and is partially reversible (weight value – 2) • High – Natural and/or cultural processes disturbed to an irreversible state (weight value – 3) • Low- Low potential that impact might be reversed (weight value- 4) • Impact cannot be reversed (weight value- 5)
Magnitude of **Negative Impact** (at the indicated spatial scale	• Very high- Bio-physical and/or social functions and/or processes might be *severely* altered (weight value – 10) • High- Bio-physical and/or social functions and/or processes might be *considerably* altered (weight value – 8) • Medium- Bio-physical and/or social functions and/or processes might be *notably* altered (weight value – 6) • Low- Bio-physical and/or social functions and/or

	processes might be *slightly* altered (weight value – 4) • Very Low- Bio-physical and/or social functions and/or processes might be *negligibly* altered (weight value – 2) • Zero- Bio-physical and/or social functions and/or processes will remain *unaltered* (weight value – 0)
Magnitude of **Positive Impact** (at the indicated spatial scale	• Very high (positive)- Bio-physical and/or social functions and/or processes might be *substantially* enhanced (weight value – 10) • High (positive)- Bio-physical and/or social functions and/or processes might be *considerably* enhanced (weight value – 8) • Medium (positive)- Bio-physical and/or social functions and/or processes might be *notably* enhanced (weight value – 6) • Low (positive)- Bio-physical and/or social functions and/or processes might be *slightly* enhanced (weight value – 4) • Very Low (positive)- Bio-physical and/or social functions and/or processes might be *negligibly* enhanced (weight value – 2) • Zero (positive)- Bio-physical and/or social functions and/or processes will remain *unaltered.* (weight value – 0)
Impact Significance/Consequence	Adding the extent, duration and intensity together provides the significance of the impact (High, Medium or Low). **Extent + Duration + Intensity = High/Medium/Low Impact**
Probability (P)	The likelihood of an impact occurring: • Unlikely – 0% - 45% chance of the potential impact

	occurring (weight value – 1 • Possible – 46% - 75% chance of the potential impact occurring (weight value – 2 • Likely - >75% chance of the potential impact occurring (weight value – 3 • High probability - 75% - 95% chance of the potential impact occurring (weight value- 4) • Definite- >95% chance of the potential impact occurring (weight value- 5)
Environmental Risk (refer to the table below with colour codes)	Multiplication of the significance of the impact by the probability of the impact occurring produces a final conclusion of the overall risk that an impact poses to the surrounding environment. **High/Medium/Low Impact X Probability = High/Medium/Low Environmental Risk**

Significance of Impact

Once the evaluation components have been ranked for each potential impact, the significance of each potential impact will be assessed (or calculated) using the following formula:

SP (significance points) = (duration + extent + irreplaceable + reversibility + magnitude) x
Probability

The maximum value is 150 SP (significance points). The unmitigated and mitigated scenarios for each potential environmental impact should be rated as per Table below.

Table 12: Definition of significance ratings (positive and negative)

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

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

5.4 The positive and negative impacts that the proposed activity (in terms of the initial site layout) and alternatives will have on the environment and the community that may be affected.

(Provide a discussion in terms of advantages and disadvantages of the initial site layout compared to alternative layout options to accommodate concerns raised by affected parties)

The majority of the prospecting activities are non-invasive and hence will have no environmental or social impact. The invasive activities that entail the drilling of a maximum of 8 exploration boreholes per target area will have a minimal environmental and social impact as each drill site will be confined to an area of approximately 614.7939 hectares. This needs to be viewed in the context of the entire prospecting license area under application which covers more than 2576.863 hectares.

All of the identified impacts will occur for a limited time and the extent of the impacts will be localised. All of the identified impacts can be suitably mitigated with residual impact ratings of ***low***. After drilling activities have been completed and the drill pads rehabilitated to pre-drilling status, the impacts will cease to exist.

5.5 The possible mitigation measures that could be applied and the level of risk.

(With regard to the issues and concerns raised by affected parties provide a list of the issues raised and an assessment/ discussion of the mitigations or site layout alternatives available to accommodate or address their concerns, together with an assessment of the impacts or risks associated with the mitigation or alternatives considered).

There are no issues/ concerns raised or received from the I&AP's at the moment. No mitigation measures have been included in this report, the proposed mitigation measures and recommendations will be included in detail in the EIA Report/EMPR.

5.6 The outcome of the site selection Matrix. Final Site Layout Plan

(Provide a final site layout plan as informed by the process of consultation with interested and affected parties)

See Appendix 4

5.7 Motivation where no alternative sites were considered.

Due to the fact that the location of the mining operation is determined by the viability of the mineral reserve, there is no alternative location. The proposed prospecting right area is targeted as it is known for diamond and Manganese Ore deposits. The proposed prospecting area is therefore regarded as the preferred site and alternative site have not been considered.

5.8 Statement motivating the preferred site.

(Provide a statement motivation the final site layout that is proposed)

Refer to Section 5.7 above

6. PLAN OF STUDY FOR THE ENVIRONMENTAL IMPACT ASSESSMENT PROCESS

This Plan of Study for the EIA is compiled in terms of Section 23 of Government Notice No R.982 of 04 December 2014 of the NEMA EIA Regulations and its purpose is to ensure that the impact assessment phase of this EIA process satisfies the requirements of the NEMA. Accordingly, this Plan of Study for EIA outlines the tasks that will be undertaken and the anticipated process to meet the objectives for the EIA phase.

The aim of the EIA Phase is to address the significant issues highlighted in the Scoping Phase through specialist investigation and detailed assessment of the biophysical and social (including heritage) environments affected by the proposed project. Also, assess the study area in terms of environmental criteria, identify and recommend appropriate mitigation measures for potentially significant environmental impacts and undertake a fully inclusive public participation process to ensure that issues and concerns as raised by the public are recorded and addressed.

Anticipated Outcomes of the Impact Assessment Phase

The purpose of this phase is to provide or determine:

- An assessment of the environmental aspects likely to be affected by the proposed project;
- An assessment of the environmental aspects likely to be affected by any identified alternatives;
- An assessment of the extent, duration, intensity, probability and significance of the identified potential environmental impacts of the proposed project;
- A comparative assessment of the proposed land use and development alternatives in terms of their respective potential environmental impacts;
- Identify appropriate mitigation measures for each significant impact of the proposed project;
- Details of PPP followed during the course of the assessment and record of how the issues or impacts raised have been addressed;
- Identify gaps in knowledge and underlying assumptions or uncertainties encountered in compiling the required information;
- The adequacy of assessment methods,
- A description of the measures and procedures for monitoring and management of environmental impacts; and
- Technical and supporting information where available.

6.1 Description of alternatives to be considered including the option of not going ahead with the activity.

Location Alternative

Exact siting of drill activities is dependent on the early field geophysical studies and have therefore not yet been determined. The information provided in this section outlines the 4 areas of interest for which the prospecting rights are being sought.

Until such time that the non-invasive activities have been completed the exact location of the drill sites cannot be confirmed. However the following buffers will be applied to the final site selection:

- No drill site will be positioned within 50m of a structure
- No drill site will be positioned within 100m of a water course or wetland
- Where possible existing access roads will be utilised to access the drill sites.

Activity Alternatives

In terms of the technologies proposed, these have been chosen based on the long term success of the company in terms of their prospecting history. The prospecting activities proposed in the Prospecting Works Programme is dependent on the preceding phase as previously discussed; therefore no alternatives are indicated, but rather a phased approach of trusted prospecting techniques.

Option of not implementing the activity/ No- Go Option

The 'no-go' option will be a scenario in which there will be no mining. The reserves will not be mined, and no income generation will be realised. The area will remain a predominantly agricultural area. Prospecting activities are essential to investigate and confirm the presence of diamond and Manganese Ore deposits in the area. Future investment in mining activities will not transpire without this and if the prospecting right is denied, valuable economic and socio-economic opportunities may be squandered.

South Africa and the local communities will forego the benefits of the associated additional employment opportunities and revenue streams and the site will continue to be the way it is now. The establishment of the mining operation will result in a cash injection into secondary industries such as contractors, manufacturers and suppliers. These secondary industries will not benefit if there is no mining. This will result in no investment within the local community, and as a result there will be a loss in the potential for community upliftment.

6.2 Description of the aspects to be assessed as part of the environmental impact assessment process

(The EAP must undertake to assess the aspects affected by each individual mining activity whether listed or not, including activities such as blasting, Loading, hauling and transport, and mining activities such as Excavations, stockpiles, discard dumps or dams, water supply dams and boreholes, accommodation, offices, ablution, stores, workshops, processing plant, storm water control, berms, roads, pipelines, power lines, conveyors, etc…etc…etc.).

a. Access Roads

Existing roads will be used to access the site area and to transport equipment onto and off the site. If necessary new roads in the site will be build.

b. Ablution Facilities

Chemical toilet facilities will be utilised if the use of existing facilities is not possible. Number of toilets will be controlled by the project phase and number of employees and contractors on-site.

c. Storage and Staking Area

Stockpiling will be monitored not to exceed 2.5m in height

d. Topsoil Storage Area

It is assumed that the topsoil thickness averages 1.5 m over the disturbed area. The topsoil stockpile is tentatively located in an area south – east of the contractor's surface facilities.

e. Fencing

A temporary net perimeter fence of 50m x 50m (2500m^2) will be constructed around the prospecting site which will be limited to the demarcated site to protect the workings and prevent persons from harm.

f. Storage of Fuel

No fuel will be stored on site.

6.3 Description of aspects to be assessed by specialists

Terms of Reference for Specialist Studies

All specialist studies will include a description of the baseline environment, the identification and assessment of potential impact (including cumulative impacts) and the provision of management and mitigation measures. The terms of reference for each of the above mentioned specialist studies during the EIR phase of the project are detailed below.

Biodiversity Impact Assessment

The operation of the mine will likely have a significant ecological impact. An ecological investigation is required to determine the faunal and floral integrity of the area and how significant the impacts on the ecology will be. The assessment will also make recommendations on rehabilitation requirements to ensure an acceptable rehabilitated land use is obtained. The assessment will be conducted to best meet the Department of Environment's requirements for ecological assessments. The assessment will include the following methodology:

- Desktop study to determine background information on the site, including vegetation type, conservational status, geology, potential biodiversity
- Special emphasis will be placed on RDL fauna and flora which have a known distribution in the various areas
- A habitat evaluation in terms of ecological integrity and present status
- Floral assessment:
  - General ecological integrity
  - Exotic vegetation encroachment and status evaluation
  - RDL species identification and marking (if applicable) and potential habitat assessment
- A brief overview of the fauna at each site including:
  - Invertebrate assessment
  - Amphibians
  - Reptiles
  - Birds
  - Mammals
- Water quality analysis of the site
- Mitigation measures will be recommended on completion of the study

Geohydrological Studies

The groundwater study will be undertaken by Mr V Lethole from Kimopax Pty Ltd. The scope of work includes:

- Desk top study and data evaluation

  - Collection and review of existing data
  - Conduct a hydro census to updated time dependent groundwater level data
  - Develop progress report and data gap analysis
- Testing of selected boreholes
  - Boreholes will be drilled and tested for modelling purposes. Pump tests and water sampling of these is required for data inputs into the model
- Development of mass flow transport models
  - A conceptual model is developed based on the mining layout and raw data received in the field form the relative boreholes. The model will undergo a sensitivity analysis and simulate the impact of mining and development of extent of pollutions plumes. This will be used to quantify groundwater impacts
- Groundwater environmental impact and management report based on results from the study:
  - The findings of the study will be discussed in detail and management recommendations made. The management recommendations will include input into management practices during the life of the operations, the remediation plan, extension of the groundwater monitoring network, post-closure requirements

Cultural and Heritage Resources

As required in terms of Section 38 of the National Heritage Resources Act 25 of 1999 (NHRA), the South African Heritage Resources Agency (SAHRA) will be notified of the intended development and a phase I heritage study will be undertaken to assess the impacts of the proposed project on the baseline situation. Where appropriate, mitigation measures will be formulated. These will include chance find procedures, as the possibility of unearthing buried artefacts or human remains during construction and stripping of topsoil and overburden cannot be ruled out.

6.4 Proposed method of assessing the environmental aspects including the proposed method of assessing alternatives

<u>Impact Assessment Methodology</u>

The objective of the assessment of impacts is to identify and assess all the significant impacts that may arise as a result of the proposed coal mine. The process of assessing the impacts of the project encompasses the following four activities:

- Identification and assessment of potential impacts
- Prediction of the nature, magnitude, extent and duration of potentially significant impacts
- Identification of mitigation measures that could be implemented to reduce the severity or significance of the impacts of the activity
- Evaluation of the significance of the impact after the mitigation measures have been implemented i.e. the significance of the residual impact

The possible impacts associated with the project were primarily identified in the Scoping phase through on-site and desktop study and public consultation. In the EIR phase, additional impacts will be identified through the more in-depth specialist investigations to be undertaken and through the ongoing consultation process with interested and affected parties.

The potential environmental impacts associated with the project will be evaluated according to its nature, extent, duration, intensity, probability and significance of the impacts, whereby:

- Nature: A brief written statement of the environmental aspect being impacted upon by a particular action or activity.
- Extent: The area over which the impact will be expressed. Typically, the severity and significance of an impact have different scales and as such bracketing ranges are often required. This is often useful during the detailed assessment phase of a project in terms of further defining the determined significance or intensity of an impact. For example, high at a local scale, but low at a regional scale;
- Duration: Indicates what the lifetime of the impact will be;
- Intensity: Describes whether an impact is destructive or benign;
- Probability: Describes the likelihood of an impact actually occurring; and
- Cumulative: In relation to an activity, means the impact of an activity that in itself may not be significant but may become significant when added to the existing and potential impacts eventuating from similar or diverse activities or undertakings in the area.

CRITERIA	DESCRIPTION
Extent (E)	Refers to the physical or geographical size that is affected by the impact. It can be categorised into the following ranges: • Onsite – Within specific site boundary (weight value – 1) • Local – Within municipal boundary (weight value – 2) • Regional – Outside municipal boundary (weight value – 3) • National- Beyond Provincial boundaries and within National boundaries (weight value- 4) • International- Beyond National boundaries (weight value- 5) • None- (Weight value- 0)
Duration (D)	Time span associated with impact: • Immediate – 1 Year or less (weight value – 1) • Short term – 1-5 Years (weight value –2) • Medium term – Longer than 5 Years (weight value – 3) • Long term- Impact ceases after operational phase/life of the activity (> 20 years) (weight value-4) • Permanent (weight value- 5)
Irreplaceable (I) loss of resources	Definite- loss of irreplaceable resources (weight value- 5) High- potential for loss of irreplaceable resources (weight value- 4) Moderate- potential for loss of irreplaceable resources (weight value- 3) Low-potential for loss of irreplaceable resources (weight

	value- 2) Very low- potential for loss of irreplaceable resources (weight value- 1) None- (weight value- 0)
Intensity and Reversibility (R)	The severity of an impact on the receiving environment: • No Impact- (Weight value- 0) • Low – Natural and/or cultural processes continue in a modified way and is reversible (weight value – 1) • Medium – Natural and/or cultural processes stop and is partially reversible (weight value – 2) • High – Natural and/or cultural processes disturbed to an irreversible state (weight value – 3) • Low- Low potential that impact might be reversed (weight value- 4) • Impact cannot be reversed (weight value- 5)
Magnitude of **Negative Impact** (at the indicated spatial scale	• Very high- Bio-physical and/or social functions and/or processes might be *severely* altered (weight value – 10) • High- Bio-physical and/or social functions and/or processes might be *considerably* altered (weight value – 8) • Medium- Bio-physical and/or social functions and/or processes might be *notably* altered (weight value – 6) • Low- Bio-physical and/or social functions and/or processes might be *slightly* altered (weight value – 4) • Very Low- Bio-physical and/or social functions and/or processes might be *negligibly* altered (weight value – 2) • Zero- Bio-physical and/or social functions and/or

	processes will remain *unaltered* (weight value – 0)
Magnitude of **Positive Impact** (at the indicated spatial scale	• Very high (positive)- Bio-physical and/or social functions and/or processes might be *substantially* enhanced (weight value – 10) • High (positive)- Bio-physical and/or social functions and/or processes might be *considerably* enhanced (weight value – 8) • Medium (positive)- Bio-physical and/or social functions and/or processes might be *notably* enhanced (weight value – 6) • Low (positive)- Bio-physical and/or social functions and/or processes might be *slightly* enhanced (weight value – 4) • Very Low (positive)- Bio-physical and/or social functions and/or processes might be *negligibly* enhanced (weight value – 2) • Zero (positive)- Bio-physical and/or social functions and/or processes will remain *unaltered.* (weight value – 0)
Impact Significance/Consequence	Adding the extent, duration and intensity together provides the significance of the impact (High, Medium or Low). **Extent + Duration + Intensity = High/Medium/Low Impact**
Probability (P)	The likelihood of an impact occurring: • Unlikely – 0% - 45% chance of the potential impact occurring (weight value – 1 • Possible – 46% - 75% chance of the potential impact occurring (weight value – 2 • Likely - >75% chance of the potential impact

	occurring (weight value – 3 • High probability - 75% - 95% chance of the potential impact occurring (weight value- 4) • Definite- >95% chance of the potential impact occurring (weight value- 5)
Environmental Risk (refer to the table below with colour codes)	Multiplication of the significance of the impact by the probability of the impact occurring produces a final conclusion of the overall risk that an impact poses to the surrounding environment. **High/Medium/Low Impact X Probability = High/Medium/Low Environmental Risk**

6.5 The proposed method of assessing duration significance

See section 6.4, where it is explained how durations ranging from immediate to are assigned scores ranging from 1 to 5.

6.6 The stages at which the competent authority will be consulted

The DSR will be submitted to the DMR for comment, where after the FSR will be submitted for authorisation. Once the Scoping Phase has been approved the DEIAR will be submitted to the DMR for comment, where after the FEIAR will be submitted for authorisation. It is anticipated that an authority meeting will be held during the EIR phase. Department of Mineral Resources (DMR) is the competent authority for the Section 102 application.

The competent authority will be consulted:

- Upon submission of the application for a Section 102;
- During the 30 day period for public review of the draft scoping report;
- During the 43 day period of evaluation of the scoping report by the DMR;
- During the 106 day period of development of the EIR and EMPr;
- During the 30 day period for public review of the EIR and EMPr;
- During the 107 day period of evaluation of the EIR and EMPr by the DMR; and

- In the event of an appeal.

6.7 Particulars of the public participation process with regard to the Impact Assessment process that will be conducted

6.7.1 Steps to be taken to notify interested and affected parties.

(These steps must include the steps that will be taken to ensure consultation with the affected parties identified in (h) (ii) herein).

Public participation during the EIR phase revolves around the review and findings of the environmental impact assessment, which will be presented in the EIR. All stakeholders will be notified of the progress to date and availability of the EIR, via mail, email and advertisements in local newspapers. A legislated period of 30 consecutive days will be allowed for public comment. Report will be made available in the following way:

- Distribution for comment at central public places, which were used during the Scoping phase.
- Copies of CDs will be made available on request

Either a public meeting or an open day (depending on specific requests) is proposed to be held during this phase (venue to be confirmed). The meeting/open day will be facilitated by key members of the project team. The purpose of the public meeting or open day will be to present the findings of the impact assessment. Focus group meetings will be held, if required, in accordance with topics of concern raised during the Scoping phase as well as the assessment phase. Stakeholders will be given the opportunity to debate and discuss key issues and concerns. All comments received during the EIR phase will be recorded in the comments and response report, which will be included in the draft and final EIR. The final EIR will incorporate public comment received on the Draft EIR and will be made available for public review with hard copies distributed mainly to the authorities and key stakeholders.

6.7.2 Details of the engagement process to be followed.

(Describe the process to be undertaken to consult interested and affected parties including public meetings and one on one consultation. NB the affected parties must be specifically

consulted regardless of whether or not they attended public meetings and records of such consultation will be required in the EIA at a later stage).

According to title deed T 39237/ 93 the farms Kwaggaslaagte 121 IP, Dunbar 119 IP, and Portion 9 of the farm Houtkop 152 IP belong to the Bafokeng Tribe.

The Joint venture:

Mivami Agri-Mining has formed a joint venture with the Bafokeng Ba-Motlatla Tribal Authority (Bafokeng tribe) called the "Ga-Motlatla Joint Venture" to exploit the mineral resources on this farms. The heads of agreement is attached to this document.

In terms of this proposed activity, the joint venture consulted in a public meeting with the community and the attendance register of the meeting held in the Ga-Motlatla Tribal Hall on 4 December 2004 to discuss the issue is also attached to this report.

Consultation Results

About 400 people attended the meeting and the following resolution was given:

- That Kgosi Serobatse can initiate, manage and conclude all negotiation relating to minerals and mining of the farms. The Kgosi agreed to the prospecting application and has signed with the tribal council and members of the royal family the confirmation of the mandate.
- That Mivami Agri-Mining is contracted to perform the work.
- The regular feedback is given.

Further consultation:

Further consultation will be done with Ga- Motlatla Tribal Authority to inform them about this new application. Local community have been consulted on the 27 October 2016 to inform them about the new project by means of BID distribution and placement of site notices in and around the proposed project area.

All the issues, comments and suggestions raised during the comment period on the Draft EIA Report/EMPr will be added to the Comments and Response Report (CRR) that will accompany the Final EIA Report/EMPr. The Final EIA Report/EMPr will be submitted to

the Department of Mineral Resources (DMR) for a decision about the proposed project. On submission of the Final EIA Report/EMPr to the authorities, a personalised letter will be sent to every registered I&AP to inform them of the submission and the opportunity to request copies of the final reports.

6.7.3 Description of the information to be provided to Interested and Affected Parties.

(Information to be provided must include the initial site plan and sufficient detail of the intended operation and the typical impacts of each activity, to enable them to assess what impact the activities will have on them or on the use of their land).

Interested and/or affected parties will be provided with the Background Information Document that details the project description and background. The meeting will be held to announce the project and give the interested and/or affected parties opportunity to raise their concerns and comment on the proposed project. The interested and/or affected parties will assist with identifying the potential impacts and potential mitigation measures that the project will have in the environment and socio-economic impacts. Site notices was placed in the local newspaper announcing the project. The specialist report will be provided/ made available to the registered interested and/or affected parties upon request.

6.8 Description of the tasks that will be undertaken during the environmental impact assessment process

Tasks to be undertaken

6.8.1 Authority Consultation

Consultation with the competent and commenting authorities identified during the scoping phase will continue throughout the duration of impact assessment phase. The authorities will also comment on whether they deem it necessary to conduct additional specialist assessments other than what is proposed already in this POSEIA. It is vital that we still receive detailed comment from government department, Local Municipality and all the interested and affected parties.

6.8.2 Compilation of Environmental Impact Assessment Report

Based on the additional information and above assessment of impacts, a Draft EIR will be compiled to meet the content requirements as per regulation 21 of No. R. 982 under the NEMA Environmental Impact Assessment Regulations (04 December 2014) and will also include a draft Environmental Management Programme containing the aspects contemplated in regulation 23.

6.8.3 Draft Environmental Management Plan

A Draft Environmental Management Programme (EMPr) will be compiled and submitted with the DEIAR to DMR for review and approval. The draft EMP will be updated to develop a site specific EMP to guide activities of mining. The EMP will outline how negative impacts should be managed and minimized, how positive impacts will be maximised, and how the construction of the proposed township will be managed in the course of the project implementation phase. The EMP will provide guidelines for the planning, design, construction, operation, maintenance and monitoring of the proposed development, as well as a holistic management for the entire project. Recommendations will be given with regard to the responsible parties for the implementation of the EMPr.

The EMPr will deal with the full life-cycle of the proposed development, including:

- Planning: Ensure that environmental concerns are taken into account at the planning stages.
- Design: The design and layout of the proposed development should be thoroughly assessed and modified to incorporate the mitigation of identified negative environmental impacts.
- Commissioning: Generic and site specific environmental specifications for contractors and consultants will be drafted.
- Operation and Maintenance: Generic environmental guidelines will be compiled to ensure environmental compliance during mining

6.8.4 I & AP and Authority Review

The draft EIAR and EMP will be made available to all stakeholders so that they can be given an opportunity to review and provide input on the findings of the EIA phase. all stakeholders will be given 30 day review period prior to submission to competent authority. Key Stakeholder workshops and Focus Group meetings will be held to present and discuss the findings.

Registered Stakeholders will be informed about the availability of the draft reports through newspaper adverts and via email.

6.8.5 Authority Decision

All issues raised and comments received and recorded in Stakeholder workshops, as well as Focus Group meetings will be recorded in an Issues and Response Report (IRR) and will be incorporated into the revised DEIAR prior to submission to DMR.

Once a decision has been issued by DMR, all I&APs on the project database will be informed of the decision by written notification and through the placement of a newspaper advertisement and personalised letters to stakeholders will be mailed also informing them (stakeholders) of the opportunity to appeal the decision and the timeframes thereof, as required by law.

6.8.6 EIA Phase Programme

According to Regulation 23 of the NEMA EIA Regulation 982, an environmental impact report inclusive of any specialist reports, and an EMPr, which must have been subjected to a public participation process of at least 30 days and which reflects the incorporation of comments received, including any comments of the competent authority will be submitted to DMR after 106 days of the acceptance of the scoping report submitted. The dates for submission will be 106 days after receiving the acceptance for EIA.

6.9 Measures to avoid, reverse, mitigate, or manage identified impacts and to determine the extent of the residual risks that need to be managed and monitored.

ACTIVITY whether listed or not listed. **(E.g. Excavations, blasting, stockpiles, discard dumps**	**POTENTIAL IMPACT** **(e.g. dust, noise,**	**MITIGATION TYPE** **(modify, remedy,**	**POTENTIAL FOR RESIDUAL RISK**

or dams, Loading, hauling and transport, Water supply dams and boreholes, accommodation, offices, ablution, stores, workshops, processing plant, storm water control, berms, roads, pipelines, power lines, conveyors, etc…etc…etc.).	**drainage surface disturbance, fly rock, surface water contamination, groundwater contamination, air pollution etc….etc…)**	**control, or stop) through (e.g. noise control measures, storm-water control, dust control, rehabilitation, design measures, blasting controls, avoidance, relocation, alternative activity etc. etc)** **E.g.** **Modify through alternative method.** **Control through noise control** **Control through management and monitoring through rehabilitation..**	
This will be discussed in the EMPr. The Environmental Management Programme Report will be determined and incorporated into the EIR Phase.			

7. OTHER INFORMATION REQUIRED BY THE COMPETENT AUTHORITY

Compliance with the provisions of sections 24(4)(a) and (b) read with section 24 (3) (a) and (7) of the National Environmental Management Act (Act 107 of 1998). the EIA report must include the:-

7.1 Impact on the socio-economic conditions of any directly affected person.

(Provide the results of Investigation, assessment, and evaluation of the impact of the mining, bulk sampling or alluvial diamond prospecting on any directly affected person including the landowner, lawful occupier, or, where applicable, potential beneficiaries of any land restitution claim, attach the investigation report as **Appendix 2.19.1** and confirm that the applicable mitigation is reflected in 2.5.3; 2.11.6.and 2.12.herein).

Job creation

The socio-economic conditions of persons on and non-adjacent will be affected by the proposed prospecting operation. This is because the project has a potential of creating jobs and as such reducing the poverty levels in the area.

Infrastructure development

The conditions of roads and other infrastructures in the area will be improved. Projects implemented by the nearby community for the benefit of the entire community (i.e. Youth Training Programmes; ABET and Environmental awareness) might receive support from the project. Community based Organisations will also receive financial support from the proposed project. If the project continues to a mining stage, people from surrounding communities will receive support (bursaries, etc.) from the mine to study at Universities and further education and training mostly in areas of science and technology. This will enable them to get good and better paying jobs as such improving their lives.

People from the nearby areas will gain experience in the field of mineral exploration and this will enable them to get better jobs in the mining industry which in turn will help in reducing the poverty levels in the Province. Businesses providing accommodation and catering services will benefit from the proposed operation because people from outside the project area who will be involved in the project will require their services and as such increasing the income or profits of the said businesses.

7.2 Impact on any national estate referred to in section 3(2) of the National Heritage Resources Act.

(Provide the results of Investigation, assessment, and evaluation of the impact of the mining, bulk sampling or alluvial diamond prospecting on any national estate referred to in section 3(2) of the National Heritage Resources Act, 1999 (Act No. 25 of 1999) with the exception of the national estate contemplated in section 3(2)(*i*)(vi) and (vii) of that Act,

attach the investigation report as **Appendix 2.19.2** and confirm that the applicable mitigation is reflected in 2.5.3; 2.11.6.and 2.12.herein).

Heritage Impact Assessment

The study will be undertaken by Munyadziwa Magoma an archaeologist and heritage consultant. The assessment will be undertaken in accordance with requirements for such a study outlined in the NHRA. The objective of the assessment will be to identify heritage and cultural resources and the development of measures to manage the expected impact on such resources. Mining will disturb a large surface area. Section 38 of the NHRA requires that all developments exceeding 5000 m^2 shall undertake a heritage assessment.

7.3 Other matters required in terms of sections 24(4)(a) and (b) of the Act.

(the EAP managing the application must provide the competent authority with detailed, written proof of an investigation as required by section 24(4)(b)(i) of the Act and motivation if no reasonable or feasible alternatives, as contemplated in sub-regulation 22(2)(h), exist. The EAP must attach such motivation as **Appendix 4)**.

- Section 24(4) (a) (iii) requires that a description of the environment likely to be significantly affected by the proposed activity be provided. This has been done – see section 4 of this report;
- Section 24(4) (a) (iv) requires an investigation of the potential consequences for or impacts on the environment of the activity and assessment of the significance of those potential consequences or impacts. See section 5 of this report, where potential impacts were identified. Their assessment, as detailed in the Plan of Study for Impact Assessment (section 6) will be done during the impact assessment phase of the EIA;
- Section 24(4) (a) (v) references public information and participation procedures, which have been dealt with in section 3.8.2 and 6.7 of this report.

8. UNDERTAKING REGARDING CORRECTNESS OF INFORMATION

I _____herewith undertake that the information provided in the foregoing report is correct, and that the comments and inputs from stakeholders and Interested and Affected parties has been correctly recorded in the report.

_ _____

Signature of the EAP

DATE:

9. UNDERTAKING REGARDING LEVEL OF AGREEMENT

I _____herewith undertake that the information provided in the foregoing report is correct, and that the level of agreement with interested and Affected Parties and stakeholders has been correctly recorded and reported herein.

_ _____

Signature of the EAP

DATE:

APPENDIX 1: EAP QUALIFICATION

APPENDIX 2: EAP CV

APPENDIX 3: LOCALITY MAP

APPENDIX 4: SITE PLAN

APPENDIX 5: ADVERTS

APPENDIX 6: SITE NOTICES

APPENDIX 7: BACKGROUND INFORMATION DOCUMENT AND COMMENT SHEET

APPENDIX 8: LETTERS TO STAKEHOLDERS PROOF OF EMAILS SENT TO I&AP'S

APPENDIX 9: COMMENTS AND RESPONSE REPORT

APPENDIX 10: STAKEHOLDER DATABASE

APPENDIX 11: MINUTES OF THE MEETING

APPENDIX 12: PROOF OF SUBMISSION OF DRAFT SCOPING REPORT

(See Appendix 8)

APPENDIX 13: CORRESPONDENCE FROM THE I&APS

APPENDIX 14: ACKNOWLEDGEMENT RECEIPT OF BID

APPENDIX 15: ACKNOWLEDGENT RECEIPT OF DRAFT SCOPING REPORT

APPENDIX 16: LAND CLAIMS ENQUIRY LETTER

APPENDIX 17: LAND OWNER INFORMATION