APPLICATION FOR A PROSPECTING RIGHT AND ASSOCIATED ENVIRONMENTAL AUTHORISATION AND WASTE MANAGEMENT LICENCE FOR DIAMOND IN GENERAL (ALLUVIAL AND KIMBERLITE) ON PORTION 1 AND 3 OF FARM MAHURA MUTHLA 198 AND PORTION 1, 2 AND REMAINDER OF TLARING 197 IN THE KURUMAN MAGISTERIAL DISTRICT, NORTHERN CAPE

Draft Scoping Report (Draft SR)

DMR Reference Number: NC30/5/1/1/2/13105 PR

Report Prepared for

Itereleng Mo Africa (Pty) Ltd

Report Prepared by

GEOLOGICAL CONSULTING SERVICES PTY (LTD)

September 2022

Title:	*Draft Scoping Report for Prospecting Right and Associated Environmental Authorisation and Waste Management Licence for diamond in general (alluvial and kimberlite) on Portion 1 and 3 of farm Mahura Muthla 198 and Portion 1, 2 and Remainder of Tlaring 197, situated in the Ga-Segonyana Local Municipality, Northern Cape Province.*
Status of report:	*Draft Report*
First Issue:	*September 2022*
Report By	*Ndi Geological Consulting Services (Pty) Ltd* GEOLOGICAL CONSULTING SERVICES PTY (LTD) *38 Ophelia Street* *Kimberley, 8301* *Cell: 082 760 8420* *Tel: 053 842 0687* *Fax: 086 538 1069* *atshidzaho@gmail.com* *ndi@ndigeoservices.co.za*
Environmental Assessment Practitioner	*Ndivhudzannyi Mofokeng*
Applicant	*Itereleng Mo Africa (Pty) Ltd* *19 Michau Street* *Diamond Park* *Kimberley* *Northern Cape* *8301*

Executive Summary

Introduction

Itereleng Mo Africa (Pty) Ltd (Itereleng Mo Africa) appointed Ndi Geological Consulting Services (Pty) Ltd as the independent Environmental Assessment Practitioner (EAP) to conduct the Prospecting Right Application (PRA) / Environmental Authorisation (EA) / Waste Management Licence (WML) application process for the project located in the magisterial district of Kuruman, Northern Cape Province.

The proposed prospecting project, which includes bulk sampling, will cover an area of ±4329.9 hectares and located on Portion 1 and 3 of farm Mahura Muthla 198 and portion 1, 2 and Remainder of Tlaring 197 located 58km Northeast of the town of Kuruman in the Northern Cape Province of South Africa.

Itereleng Mo Africa requires a prospecting right in terms of the Mineral and Petroleum Resources Development Act (Act No. 22 of 2002) (MPRDA). Before the prospecting right will be granted, Itereleng Mo Africa must undertake an EA and WML process in terms of the National Environmental Management Act (Act No. 107 of 1998) (NEMA) and National Environmental Management: Waste Act, 2008 (Act 59 of 2008) (NEM: WA). The competent authority for the EA/WML process is the Northern Cape Department of Mineral Resources (DMR).

The Department of Environment, Forestry and Fisheries (DEFF) has identified the need for the alignment of EA/WML and has promulgated a single environmental management system under NEMA whereby the DMR has become the competent authority for the authorisation of mining-related projects under the NEMA Environmental Impact Assessment (EIA) Regulations. This will result in simultaneous decisions in terms of NEMA, the NEM: WA and other environmental management acts.

The proposed project triggers activities listed in terms of Listing Notices 1, 2 and 3 of the NEMA and will therefore require an EA from the Department of Mineral Resources (DMR) Northern Cape Regional Office. In addition, the proposed project also triggers activities listed in Category B of GNR 921 of the NEM: WA, which requires a WML from the DMR. Activities listed in Listing Notice 2 of the NEMA and Category B of GNR921 of the NEM: WA require that a full Environmental Impact Assessment (EIA) (Scoping and Impact Assessment Phases) be conducted. An integrated application for an EA and WML will be conducted, and a full EIA (Scoping and Impact Assessment) process will be followed.

Who is conducting the EIA?

Ndi Geological Consulting Services (Pty) Ltd has been appointed by Itereleng Mo Africa (Pty) Ltd as the independent Environmental Assessment Practitioner (EAP) to conduct the PRA/EA/WML application process for the project.

The reports and documentation for the integrated EA/WML application process will be compiled and finalised for submission to the DMR for the EA/WML in terms of the NEMA for consideration and decision making. The DMR will consult with other government authorities as required in terms of Section 24(K) of the NEMA.

Who will evaluate the EIA?

Before the proposed development can proceed, approval must be obtained from the regulatory authorities. The Scoping Report will be submitted to the DMR for review. The competent authorities will then advise the project team as to how the project should proceed for the impact assessment Phase of the project. The impact assessment phase will entail detailed specialist investigations, reporting and further stakeholder involvement. Only once a Final Environmental Impact Assessment and Environmental Management Programme (EIA/EMPr Report) have been submitted to DMR can a decision be taken by the Department as to whether the project may proceed or not.

Description of the Proposed Development

The prospecting project will include:

- *Prospecting area;*
- *Access Roads;*
- *Power;*
- *Water Supply;*
- *Ablution Facilities;*
- *Fencing;*
- *Core and Chip Sample Storage and cutting facility;*
- *Plant Site;*
- *Slimes Dam;*
- *Vehicle Parking Area; and*
- *Temporary Site Office Area.*

The prospecting right will be required for three (3) years.

Motivation for the Proposed Project

- *Benefits of Prospecting: The definition of prospecting in terms of the MPRDA states: "intentionally searching for any minerals by means of any method which disturbs the surface or sub-surface of the earth, including any portion of the earth that is under the sea or under other water…". Prospecting is the physical search for minerals, fossils, precious metals or mineral specimens, which allows a company to survey or investigate an area of land for the purpose of identifying an actual or probable mineral deposit, before investments are made into the mining activities.*

  Assessment of the geological information available has determined that the area in question may have good quality diamond reserves. In order to ascertain the above and determine the nature, location and extent of the reserves within the proposed prospecting area, it will be necessary that prospecting be undertaken. The prospecting will also determine if there are any features that may have an impact on the economic extraction of the diamonds.

  The information that will be obtained from the prospecting to be undertaken will be necessary to determine, should diamonds be found, how and where the diamonds will be extracted and how much economically viable reserves are available within the proposed prospecting area.

  Should good quality diamonds be found in the project area, Itereleng Mo Africa will be able to mine the available reserves. This will result in job creation and boost to local businesses is continued.

  The benefits from the prospecting activities must be offset against the costs (negative impacts) of the project, including the impacts to landowners and land occupier. Further to the above, it has been determined that the prospecting project activities will not have a conflict with the spatial development plans for the Ga-Segonyana LM and John Taolo Gaetsewe DM, the Integrated Development Plans and the Environmental Management Framework (EMF) for the affected municipalities.

  A process that ensures consultation with Interested and Affected Parties (I&APs) for the project is being undertaken. The stakeholder engagement process is being conducted is a way to provide all interested and affected parties with an opportunity to comment on the project, with several platforms that allow public commenting opportunities to be offered to the I&APs. All issues raised by the interested and affected parties will be recorded and addressed throughout the EIA process.

- *Environmental responsibility: It is expected that the prospecting activities will have negative environmental impacts, including, but not limited to the impacts that have been included in Section 13 of this report. However, due to the nature of prospecting, the impacts will be of short duration and limited locality.*

  The impacts will be investigated in detail during the impact assessment phase of the project. Where possible, measures to mitigate the impacts of the project will be identified and will be finalised during the impact assessment phase of the project. The mitigation measures will include designs and management practices that will be embarked on, to prevent and/or minimise the identified impacts on the social, cultural and environmental aspects. For each potential significant impact identified, mitigation measures will be specified. High level mitigation measures have been included in Section 13 of this report. These mitigation measures will be described in more detail in the EMPr that Itereleng Mo Africa (Pty) Ltd will be required to comply with throughout the prospecting period.

  The EMPr will also include environmental monitoring programme that will allow that Itereleng Mo Africa (Pty) Ltd to keep track of the impacts of the project on the environment and where required, to take remedial action.

- *Socio-economic benefits: The proposed project will also result in limited and short-term job creation for local communities and a short-term boost for local businesses during the construction phase of the project. The prospecting itself will be undertaken by special sub-contractors and it is not anticipated that employment*

Alternatives Considered

The alternatives considered were as follows:

- *Location: The location of the proposed project components is constrained to the location with potential for the mineral resources (diamond). As such, no property alternatives were considered for the location of the prospecting area.*

- *Type of Activity: An alternative to the type of activity would be farming. An alternative to the type of activity would be farming. According to the GLM IDP, there are opportunities to be developed in the mining sector, which would be supported through the prospecting project. It is expected that due to the low rainfall and high temperatures in the area (high evaporation rates), the agriculture potential of the area is limited. The land use alternatives will be investigated in more detail in the EIA phase once specialist investigations have been completed.*

- *Design or Layout of the Activity: Since no complicated surface infrastructure will be required for this project no design and layout alternatives for the proposed project were determined. The applicant will revise the layout of the project should there be fatal flaws identified. This will be assessed in detail during the impact assessment phase of the project.*

- *The Technology to be used in the Activity: In terms of the proposed technologies, these have been chosen based on long term proven success in prospecting. The prospecting activities proposed in the Prospecting Works Programme are dependent on the preceding phase (desktop studies), therefore no alternatives have been indicated. The location of the intrusive drilling activities will be determined during Phase 1 of the Prospective Works Programme. All infrastructure will be temporary and/or mobile.*

- *The Operation Aspects of the Activity: No permanent services in terms of water supply, electricity, and or sewage facilities will be required. Temporary access roads will however be constructed in areas where there are no existing access routes. The activities will commence with Phase 1 and undertaken as described in Section 5.*

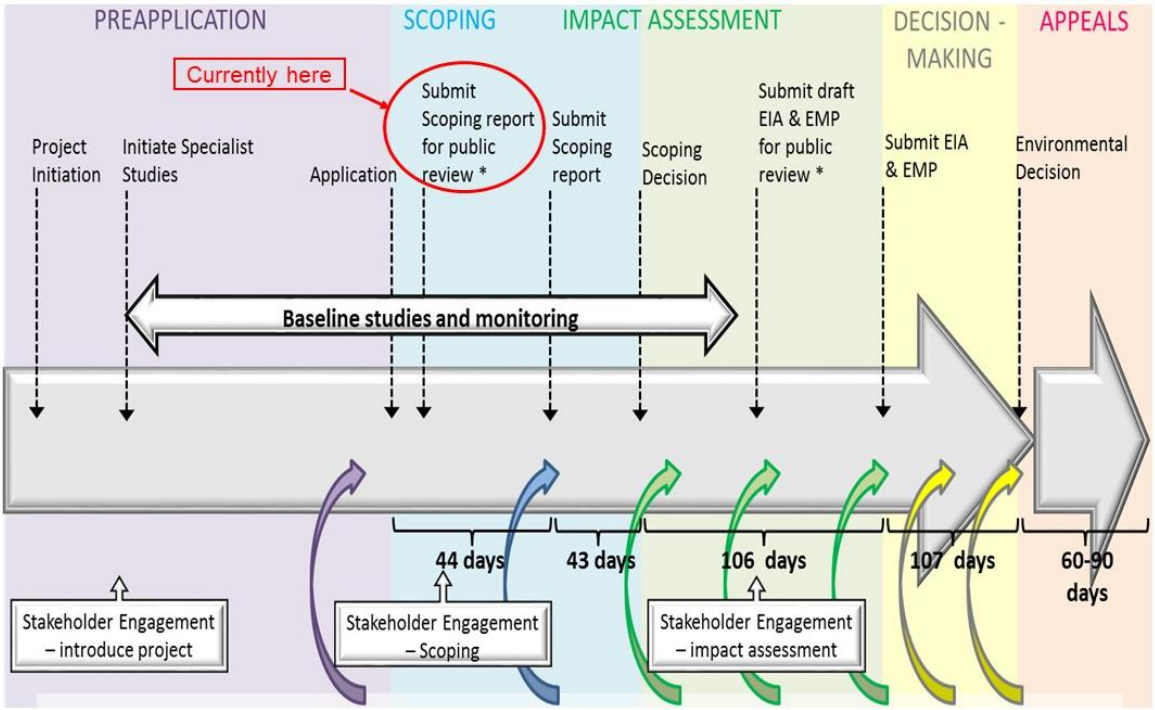
- *No-go Option: The option of not approving the activities will result in a significant loss of valuable information regarding the mineral status (in terms of diamond reserves), present on the identified properties. In addition, should economical reserves be present, and the applicant does not have the opportunity to prospect, the opportunity to utilize these reserves for future phases will be lost.*

All the identified alternatives will be assessed in detail in the specialist studies and impact assessment phase.

Environmental Impact Assessment Process

An EIA seeks to identify the environmental consequences of a proposed project from the beginning, and helps to ensure that the project, over its life cycle, will be environmentally acceptable, and integrated into the surrounding environment in a sustainable way. The project triggers activities listed in Listing Notice1, 2 and 3 of the NEMA and Category B of GNR921 of the NEM: WA and requires that a full EIA (scoping and impact assessment phases) be conducted.

Two parallel processes are followed during the scoping phase being the Environmental technical process and Stakeholder engagement process. This report is the draft Scoping Report and forms one of the first steps in the scoping process after which the EIA phase will be initiated. A summary of this process is shown in Figure ES-1.



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SIMPLIFIED E IA PROCESS

Figure ES-1: Illustration of the EIA process to be followed

Stakeholder Engagement Process

Activities that have been undertaken for the public involvement process during the scoping phase are:

- *Identification of Interested and Affected Parties (I&APs) and development of a stakeholder database: I&APs were identified using GIS and cadastral information to identify affected and adjacent properties.*

The affected and adjacent property owners were identified using the surveyor general website, www.deedsweb.gov.za. In addition, registered I&APs were also sourced from responses to the advertisements, site notices and written notification to I&APs associated with the project. The I&APs register will be maintained for the duration of the study where the details of stakeholders are captured and automatically updated upon communication to the EAP. The identification, registration, and comments from I&APs will be an on-going activity.

The opportunity to participate in the EIA and to register as an Interested and Affected Party (I&AP) was announced through the following means:

- *Letter of invitations to register and background information documents;*
- *Newspaper advertisements;*
- *Site notices erected at several places in and around the proposed prospecting area;*
- *Collation of comments received into a Comments and Responses Register (CRR); and*
- *Obtaining and documenting registration and comment sheets.*

The Draft Scoping Report will be made available for a 30-day commenting period. All issues, comments and suggestions received from stakeholders will be reviewed and collated into a CRR. Where necessary, comments from stakeholders will also be incorporated into the Final Scoping Report that will be submitted to the DMR for decision-making. Should it be required, a public meeting will be held during the Scoping Phase of the project.

Once the DMR has accepted the Final Scoping Report, the EAP will compile the EIA/ EMPr Report, which will also be made available to the stakeholders for a 30-day review and comment period. Where required, a public meeting to discuss the findings from the specialist studies and impact assessment phase will be held. Comments received will be incorporated into the Final EIA/EMPr Report which will be submitted to the DMR for decision making. The comments will also be collated into the CRR, which will form an Appendix to the EIA/EMPr Report.

The stakeholders will be notified of DMR's final decision on the project once it has been communicated to the EAP and applicant (Itereleng Mo Africa (Pty) Ltd).

Profile of the receiving environment

The scoping report provides a general description of the status quo of the receiving environment in the project area. It serves to set the scene and provide context to the area within which the scoping exercise was conducted. This section also includes the main issues/impacts associated with each aspect and how the proposed expansion will affect the biophysical and social environment. A summary of the main baseline aspects is included in Table ES-1, with more detail included in Section 11 of the report

Table ES-1: Summary of the Profile of the Receiving Environment

Aspect	***Description***
Socio-Economic Profile	*The proposed project is located within the Northern Cape Province, under the jurisdiction of the Ga-Segonyana Local Municipality (GLM). The Ga-Segonyana Local Municipality is a Category B municipality situated within the John Taolo Gaetsewe District Municipality (JTGDM) in the Northern Cape Province. It is one of the five municipalities that make up the district. Kuruman, is central to economic activity in the Ga-Segonyana Local Municipal area and pivotal to the greater region's mining industry.* *Ga-Segonyana Municipality originated as a cross-boundary municipality that straddled the boundary between the North-West and Northern Cape Provinces. It was established in 2000 through the amalgamation of Kuruman and Mothibistad Municipalities that*

Aspect	*Description*
	includes sections of the Bophirima District Municipality. Eighty (80%) percent of the population stays in rural villages. There was an increase in the population of Ga-Segonyana, from 61 967 persons in 1996 to 104 408 persons in 2016.
Topography	*The topography in the surroundings of Kuruman contains only modest variations in elevation, with a maximum elevation change of 50 m and an average elevation above sea level of 1.3 m. Within 16 km contains only modest variations in elevation (0.5 m). Within 80 km contains very significant variations in elevation (1.3 m).* *The area surrounding Kuruman is covered by shrubs (65%) and artificial surfaces (35%), within 16 km by shrubs (97%), and within 80 km by shrubs (85%).*
Climate	*In Kuruman, the summers are long, hot, and mostly clear and the winters are short, cold, dry, and clear. The best time to visit Kuruman is from January through May and August through December. In this period, you have a warm temperature and little precipitation. The highest average temperature in Kuruman is 31°C in January and the lowest is 17°C in July.* *Climate conditions are extreme (i.e., very cold in winter and extremely hot in summer). The highest temperatures are recorded for December at an annual average of 31°C and an annual average low temperature of 6°C in June/July*
Geology	*The proposed prospecting area is underlain by Vaalian aged rocks of the Reivilo Formation of the Ghaap Group of the Transvaal Supergroup. The Transvaal Supergroup is an end-Archean/earliest-Proterozoic succession developed on the Kaapvaal Craton. The Reivilo Formation is a member of the manganiferous Campbellrand Subgroup which consists mostly of dolomite.* *The Transvaal Supergroup in the Northern Cape and Northern Cape provinces of South Africa hosts some known large deposits of high-grade hematite ore, from which iron is mined. The Transvaal Group sequence of rocks contain large deposits of Iron, Manganese, Lead, Asbestos, Andalusite, Fluorine, Zinc and Tin ores. The lithologies of the Chuniespoort-Ghaap-Taupone Groups reflect a carbonate-Banded Iron Formation sequence which covered most of the Kaapvaal Craton, in reaction to thermal subsidence above Ventersdorp-aged rift-related fault system (Eriksson, et al; 1995). Alluvial diamond mining in the Northern Cape Province started in early 19th century. The diamondiferous gravels are distributed in areas overlain by dolomite.*
Land use and land capability	*The current land use on the affected properties is farming. It is expected that due to the low rainfall and high temperatures and evapotranspiration, the agriculture potential of the area is low.*
Biodiversity	*The proposed prospecting area is located in the Savanna Biome. The Savanna Biome is the largest Biome in southern Africa, occupying 46% of its area, and over one-third the area of South Africa. It is well developed over the lowveld and Kalahari region of South Africa. It is characterized by a grassy ground layer and a distinct upper layer of woody plants. Where this upper layer is near the ground the vegetation may be referred to as Shrubveld, where it is dense as Woodland, and the intermediate stages are locally known as Bushveld. Most of the savanna vegetation types are used for grazing, mainly by cattle or game. In the southernmost savanna types, goats are the major stock. In some types of crops and subtropical fruit are cultivated. These mainly include the Clay Thorn Bushveld, parts of Mixed Bushveld, and Sweet Lowveld Bushveld.* *The proposed prospecting area is located in the Eastern Kalahari Bushveld Bioregion. The Eastern Kalahari Bushveld Bioregion is the largest savanna bioregion and is on*

Aspect	*Description*
	average at the highest altitude. It is roughly bounded by Mafikeng, Bloemhof, Kimberley, Groblershoop and Van Zylsrus. *According to the SANBI database, there are no threatened ecosystems or remaining natural vegetation in the proposed project area.*
Heritage Resources	*Heritage resources may be tangible, such as buildings and archaeological artefacts or intangible such as landscapes and living heritage. Their significance is based upon their aesthetic, architectural, historical scientific, social, spiritual, linguistic economic or technological values; their representation of a particular period; their rarity and their sphere of influence.* *There are a number of heritage and cultural resources in the Northern Cape Province. However, there are no major heritage resources sites that are associated with the affected properties. It is however expected that there may be graves and burial sites that may be affected by the proposed prospecting activities.* *Should there be any heritage sites (graves) within the prospecting area, they will be identified and fenced before any prospecting activities take place. Potential impacts on heritage resources will be assessed in the impact assessment phase of the project and mitigation measures to be implemented in the event that heritage and cultural resources are encountered will eb included in the EMPr.*
Noise	*The PRA area is located in a rural area and the typical noise rating in the area is expected to be that for rural districts / suburban districts with little road traffic. According to SANS 10103:2008, the continuous noise rating level is thus likely between 35 dB(A) at night to 45 /50 dB(A) during the day.*
Wetlands	*The National Freshwater Ecosystems Priority Areas (NFEPA) database indicates that there are depression wetlands located on the affected properties.* *The NFEPA database indicates:* *Conditions of the wetlands within the subject property according to the NFEPA database are all indicated to be Natural/Good (AB = Percentage Natural Landcover ≥75%);* *The NFEPA database indicates that there are no Ramsar wetlands within the study area or within 500 m thereof*
Surface water	*The JTGDM falls in the Vaal Water Management Area with the most important catchment area in the district being the Korannaberg Mountains, from which the majority of the streams in the district spring and from where they drain into the Kuruman River system. However, it is basically an area with very little surface water and no rivers with permanent water flows* *The study area is located within quaternary catchment D41G in the Lower Vaal Water Management Area (WMA) (*Figure 11-19*).*
Groundwater	*The proposed prospecting area is characterised by low yielding groundwater (0.1ℓ/s to 0.5ℓ/s) except for the bottom or south corner where yield is estimated to be greater than 5ℓ/s. The groundwater recharge transmissivity is considered karstified. The groundwater in the area is generally of good quality, with almost equal proportions of Electrical Conductivity (EC) levels between 70-300mS/m and as Electrical Conductivity (EC) levels between 0-70mS/m*

Anticipated Impacts

The scoping phase aims to identify the potential positive and negative biophysical, socio-economic and cultural impacts that the proposed project. Anticipated impacts that have been identified by the project team. All impacts in terms of construction, operation and decommissioning together with their recommended mitigation measures will be and addressed in detail during the EIA/EMPr phase of the project.

The following impacts as described in Table ES-2 are anticipated because of the construction, operation and decommissioning phases of the project:

Table ES – 2: Anticipated Impacts

Element of Environment	***Potential Impact Descriptions***
Socio-Economic	*Possible job opportunities.*
Hydrogeology	*Possible groundwater contamination.*
Surface water	*Possible surface water contamination.*
Air Quality	*Possible impact on Air Quality in the area.*
Climate Change	*Possible contribution to climate change through emission of Green House Gases*
Noise	*Possible generation of noise during construction and operation.*
Visual	*Possible visual impacts*
Soils/Land Use/Land Capability	*Localised loss of soil resource and change in land capability and land use.*
Geology	*Localised impacts on geology*
Biodiversity	*Localise disturbance and loss of biodiversity, especially SCC.*
Heritage	*Unlikely but localised possible impact on heritage and cultural resources (including graves) in the area.*
Traffic	*Potential safety issues due to the increased traffic.*
Cumulative Impacts	*Cumulative Impacts*

Specialist Studies

Due to the size and localised nature of prospecting activities, it is not expected that specialist studies will be required. The EAP will make use of existing social and environmental information to assess the identified potential impacts.

In addition, the following will continue during the EIA phase:

- *Public participation and consultation;*
- *Environmental Management Programme;*
- *Comparative alternatives assessment; and*
- *Amend site layout designs and Prospecting Works Programme, if required.*

The EAP will assess the impact (including cumulative) of each proposed activity/aspect in relation to the construction, operational, closure and decommissioning phases and develop appropriate mitigation measures that can be implemented to reduce or eliminate the potential impacts identified. The EAP will make use of the impact assessment methodology described in Section 14, and will ensure that the EIA/EMPr complies with the requirements of the NEMA:

Quantification of Impacts

The anticipated impacts associated with the proposed project will be assessed according to a standardised impact assessment methodology which is presented Section 14. This methodology has been utilised for the

assessment of environmental impacts where the consequence (severity of impact, spatial scope of impact and duration of impact) and likelihood (frequency of activity and frequency of impact) have been considered in parallel to provide an impact rating and hence an interpretation in terms of the level of environmental management required for each impact.

Plan of Study for the EIA

The Scoping Report is concluded with a Plan of Study (PoS) for the EIA which explains how the EIA will be conducted for the project in accordance with the following:

- *Key environmental issues identified during the scoping phase to be investigated further in the EIA phase;*
- *Where applicable, feasible alternatives to be assessed further in the EIA phase;*
- *Development of a Waste Management Plan as part of the EMPr;*
- *The public participation process to be followed;*
- *Contents of the EIA/EMPr Report; and*
- *Consultation with the authorities.*

Conclusion and Recommendation

The Draft Scoping Report has presented:

- *The environmental process undertaken so far;*
- *A brief description of the proposed project;*
- *A baseline description of the current environment;*
- *The potential environmental and social impacts identified to date; and*
- *The recommended environmental process to be followed to develop the EIA/EMPr Report.*

A comprehensive public involvement process will be implemented during scoping. The EIA process is; however, iterative and therefore additional potential issues/impacts and alternatives may be identified during the impact assessment phase that may require further investigation/consideration.

It is anticipated that implementation of the PoS presented in this report will result in an adequate EIA process which will result in the formulation of a sound EMPr to be implemented throughout the prospecting activities by Itereleng Mo Africa.

The process followed during the detailed impact assessment phase will meet the requirements of the legislation to ensure that the DMR receives enough information to enable informed decision-making.

YOUR COMMENT ON THE SCOPING REPORT

This Draft Scoping Report will be available for comment for a period of 30 days from 12 September 2022 to 13 October 2022. Copies of the Scoping Report have been made available at the following public places for review

Public Place	Locality	Telephone
Ndi Geological website	http://www.ndigeoservices.co.za/	053 842 0687

An electronic copy will also be available on CD on request from the stakeholder engagement officers. I&APs are requested to provide comments and information on the following aspects of the proposed project:

1. Information on how I&APs consider that the proposed activities will impact on them or their socio-economic conditions;
2. Written responses stating their suggestions to mitigate the anticipated impacts of each activity;
3. Information on current land uses and their location within the area under consideration;
4. Information on the location of environmental features on site to make proposals as to how and to what standard the impacts on site can be remedied; and
5. How to mitigate the potential impacts on their socio-economic conditions and to make proposals as to how the potential impacts on their infrastructure can be managed avoided or remedied.

DUE DATE FOR COMMENT

13 October 2022

Please submit comments to the EAP:

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Disclaimer

The opinions expressed in this Report have been based on the information supplied to Ndi Geological Consulting Services (Pty) Ltd by Itereleng Mo Africa (Pty) Ltd. The opinions in this Report are provided in response to a specific request from Itereleng Mo Africa (Pty) Ltd to do so. Ndi Geological Consulting Services (Pty) Ltd has exercised all due care in reviewing the supplied information. Whilst Ndi Geological Consulting Services (Pty) Ltd has compared key supplied data with expected values, the accuracy of the results and conclusions from the review are entirely reliant on the accuracy and completeness of the supplied data. Ndi Geological Consulting Services (Pty) Ltd does not accept responsibility for any errors or omissions in the supplied information and does not accept any consequential liability arising from commercial decisions or actions resulting from them. Opinions presented in this report apply to the site conditions and features as they existed at the time of Ndi Geological Consulting Services (Pty) Ltd.'s investigations, and those reasonably foreseeable. These opinions do not necessarily apply to conditions and features that may arise after the date of this Report, about which Ndi Geological Consulting Services (Pty) Ltd had no prior knowledge nor had the opportunity to evaluate.

List of abbreviations

CA:	Competent Authority
CRR:	Comments and Responses Register
DEFF:	Department of Environment, Forestry and Fisheries
DMR:	Department of Mineral Resources
DMS:	Dense Media Separation
DWS:	Department of Water and Sanitation
EA:	Environmental Authorisation
EAP:	Environmental Assessment Practitioner
EIA:	Environmental Impact Assessment
EIAR:	Environmental Impact Assessment Report
EMPr:	Environmental Management Programme
EMPr:	Environmental Management Programme
GDP:	Gross Domestic Product
I&APs:	Interested and Affected Parties
IDP:	Integrated Development Plan
IWUL:	Integrated Water Use Licence
LM:	Local Municipality
Mamsl:	meters above mean sea level
MPRDA:	Mineral and Petroleum Resources Development Act, 2002 (Act 28 of 2002)
NEM: WA:	National Environmental Management: Waste Act, 2008 (Act 59 of 2008)
NEMA:	National Environmental Management Act, 1998 (Act 107 of 1998)
NFEPA:	National Freshwater Ecosystems Priority Areas
PAIA:	Promotion of Access to Information Act (Act No. 2 of 2000)
PHRA:	Provincial Heritage Resources Agency
PoS:	Plan of Study
PPE:	Personal Protective Equipment

PVC:	Polyvinyl chloride
SAHRA:	South African Heritage Resources Agency
SCC:	Species of Conservation Concern
SDF:	Spatial Development Framework
WMA:	Water Management Area
WML:	Waste Management Licence

mineral resources
Department:
Mineral Resources
REPUBLIC OF SOUTH AFRICA

SCOPING REPORT

FOR LISTED ACTIVITIES ASSOCIATED WITH DIAMOND IN GENERAL (ALLUVIAL AND KIMBERLITE) ON PORTION 1 AND 3 OF FARM MAHURA MUTHLA 198 AND PORTION 1, 2 AND REMAINDER OF TLARING 197 IN THE KURUMAN MAGISTERIAL DISTRICT, NORTHERN CAPE

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	Itereleng Mo Africa (Pty) Ltd
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FILE REFERENCE NUMBER SAMRAD	

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 considered 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.

OBJECTIVE OF THE SCOPING PROCESS

1) 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.

_____

1 Project background

Itereleng Mo Africa (Pty) Ltd (Itereleng Mo Africa) appointed Ndi Geological Consulting Services (Pty) Ltd as the independent Environmental Assessment Practitioner (EAP) to conduct the Prospecting Right Application (PRA) / Environmental Authorisation (EA) / Waste Management Licence (WML) application process for the project located in the magisterial district of Kuruman, Northern Cape Province.

The proposed prospecting project, which includes bulk sampling, will cover an area of ±f 4329.9 hectares and located 58km northeast of the town of Kuruman in the Northern Cape Province of South Africa.

Itereleng Mo Africa requires a prospecting right in terms of the Mineral and Petroleum Resources Development Act (Act No. 22 of 2002) (MPRDA). Before the prospecting right will be granted, Itereleng Mo Africa must undertake an EA and WML process in terms of the National Environmental Management Act (Act No. 107 of 1998) (NEMA) and National Environmental Management: Waste Act, 2008 (Act 59 of 2008) (NEM: WA). The competent authority for the EA/WML process is the Northern Cape Department of Mineral Resources (DMR).

The Department of Environment, Forestry and Fisheries (DEFF) has identified the need for the alignment of EA/WML and has promulgated a single environmental management system under NEMA whereby the DMR has become the competent authority for the authorisation of mining-related projects under the NEMA Environmental Impact Assessment (EIA) Regulations. This will result in simultaneous decisions in terms of NEMA, the NEM: WA and other environmental management acts.

The proposed project triggers activities listed in terms of Listing Notices 1, 2 and 3 of the NEMA and will therefore require an EA from the Department of Mineral Resources (DMR) Northern Cape Regional Office. In addition, the proposed project also triggers activities listed in Category B of GNR 921 of the NEM: WA, which requires a WML from the DMR. Activities listed in Listing Notice 2 of the NEMA and Category B of GNR 921 of the NEM: WA require that a full Environmental Impact Assessment (EIA) (Scoping and Impact Assessment Phases) be conducted. An integrated application for an EA and WML will be conducted, and a full EIA (Scoping and Impact Assessment) process will be followed.

Before the diamond (alluvial and general) mining operation can be planned and built, several tests and surveys must be conducted to ensure that the project is economically viable, technically feasible, and environmentally sound. The proposed prospecting project will consist of non-invasive and invasive (drilling sampling) activities. On surface, invasive methods include excavation of 4 pits (100m x 50m x 80m) and 5 diamond holes and 25 RC holes to the depth of 50m. The processing will entail the use of 8 X 16 feet rotary pans for diamondiferous gravel. The diamond recovery process will be a two-stage final recovery system utilizing both x-ray (Bourevestnik (BV)) and grease technology, ensuring that any diamonds not recovered by the x-ray machine will be captured by the grease technology thus maximizing recoveries. Diamond drill core will be logged, be split using a core cutting machine, sampled and sent to an offsite laboratory for assaying. Chip samples will also be logged and sent to an offsite laboratory for assaying. Non-invasive methods will include analytical desktop studies, aerial photograph interpretation, satellite interpretation, and decision-making on the viability of the project.

The total duration of the prospecting and evaluation activities is planned for three (3) years, including rehabilitation.

Most of the rehabilitation will be conducted while prospecting activities are undertaken. The final rehabilitation will be done once the prospecting activities have been completed at a site and before the drilling team leaves the site.

The stakeholder engagement process, as part of the EA/WML process, is conducted in terms of NEMA (as amended) which provides clear guidelines for stakeholder engagement during an EIA. One of the general objectives of integrated environmental management set out in Section 23(2) of NEMA is to ensure the "*adequate and appropriate opportunity for public participation in decisions that may affect the environment*".

The stakeholder engagement process is primarily aimed at affording stakeholders and Interested and Affected Parties (I&APs) the opportunity to gain an understanding of the project. In addition, the purpose of consultation with the landowners, affected parties and communities is to provide them with the necessary information about the proposed project so that they can make informed decisions as to whether and to which degree the project will affect them. The purpose of consultation with the stakeholders and I&APs is to provide the competent authority with the necessary information in order for them to make informed decisions.

Before an EAP submits a final report, they must have given registered I&APs access to, and an opportunity to comment on the report prior to the submission of the final report to the competent authority for approval. The registered I&APs will be provided with an opportunity to review and comment on this draft Scoping Report and the Impact Assessment Report once the Scoping Report has been finalised and approved by the DMR.

The reports and documentation for the integrated EA/WML application process will be compiled and finalised for submission to the DMR for the EA/WML in terms of the NEMA for consideration and decision making. The DMR will consult with other government authorities as required in terms of Section 24(K) of the NEMA.

2 Purpose and context of this document

The project triggers activities listed in terms of Listing Notice 1, 2 and 3 of the NEMA (as amended) and will require an EA) from the DMR. The proposed slimes dams will trigger activities listed in GNR 921 (Category B) NEM: WA and will therefore require a WML from the DMR. An integrated application for an EA and WML will be conducted where a full Environmental Impact Assessment (EIA) including Scoping and Impact Assessment will be followed as stipulated in GNR 326 of the NEMA and GNR921 of the NEM: WA.

This document serves as the draft Scoping Report for the first phase of the overall EIA process and includes the following objectives as a minimum:

- To establish the legal framework relevant to the proposed project;
- To identify and engage with Interested and Affected Parties (I&APs) and allow for adequate participation in the process;
- To assess the receiving environment in terms of current state and determine potential positive or negative impacts which may result due to the proposed development;
- To consider alternatives for achieving the project's objectives;
- To identify significant issues to be investigated further during the execution of the EIA phase; and
- To determine the scope of the EIA phase, specialist studies, public participation, assessment of impacts and alternatives; and allow for informed decision-making regarding the EIA process.

2.1 Integrated Environmental Authorisation and Waste Management Licence Application Process

The first Phase of the EA/WML application process is the scoping phase, which will inform the Impact Assessment Phase. This Phase provides Interested and Affected Parties (I&AP's) an opportunity to provide the EAP with issues and concerns with respect to the proposed project in order to inform the technical studies so that they can evaluate these concerns during the EIA Phase of the project.

This Scoping Report provides a description of the proposed project and sets out the proposed scope of the EIA and EMPr that will be undertaken for the proposed project. This includes alternatives that will be evaluated for various aspects of the project, the anticipated potential environmental impacts, issues raised by stakeholders, the specialist studies that will be undertaken including the terms of reference of the specialist studies, and the qualifications and experience of the study team.

Stakeholder engagement is a key element of the environmental decision-making process, and stakeholder engagement forms part of the scoping phase as well as the impact assessment phase.

The Draft Scoping Report will be made available for public review prior to submission to DMR for decision making. All the comments received will be captured and addressed where feasible in the final Scoping Report as well as the EIAR/EMPr Report.

Figure 2-1 provides an illustration of the proposed EIA process that will be followed.

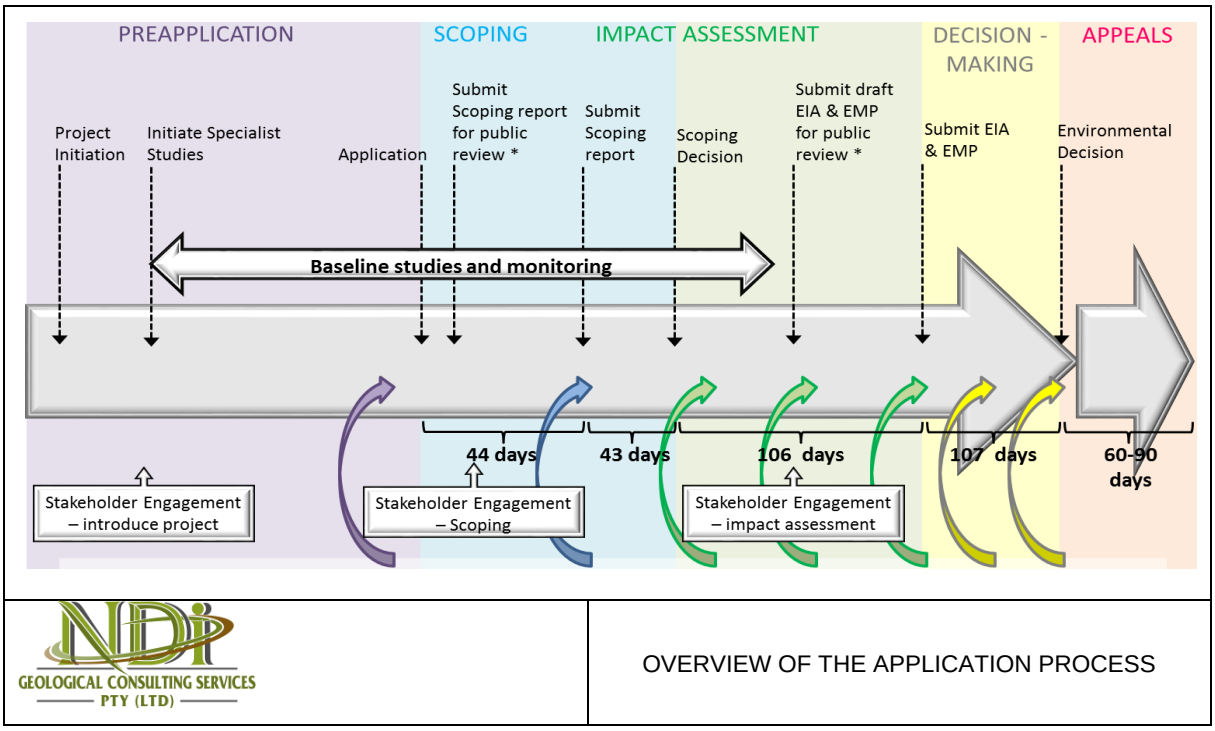

Figure 2-1: Overview the Environmental Impact Assessment Process

2.2 Report Index in Relation to the NEMA Regulations

Regulation 2, Appendix 2 of GNR 982 published in terms of NEMA stipulates the minimal requirements and issues that need to be addressed in the Scoping Report. This report strives to address all these requirements as per regulations. Table 2-1 indicates the regulations that have been addressed and the section of the Scoping Report where these requirements can be found.

Table 2-1: Requirements of Regulation 2 of GNR 982

Section of the EIA Regulations, 2014	Description of EIA Regulations Requirements for Scoping Reports	Section
Appendix 2 (a)	Details of – the EAP who prepared the report; and the expertise of the EAP, including a curriculum vitae	Section 3
Appendix 2 (b)	The location of the activity, including – The 21-digit Surveyor General code of each cadastral land parcel; Where available, the physical address and farm name; Where the required information in items (i) and (ii) is not available, coordinates of the boundary of the property or properties.	Section 4 Figure 4-1
Appendix 2 (c)	A plan which locates the proposed activity or activities applied for at an appropriate scale, or, if it is – A linear activity, a description and coordinates of the corridor in which the proposed activity or activities is to be undertaken; or On land where the property has not been defined, the coordinates within which the activity is to be undertaken; or.	Figure 5-5
Appendix 2 (d)	A description of the scope of the proposed activity, including – All listed and specified activities triggered; A description of the activities to be undertaken, including associated structures and infrastructure.	Section 5

Section of the EIA Regulations, 2014	Description of EIA Regulations Requirements for Scoping Reports	Section
Appendix 2 (e)	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.	Section 6
Appendix 2 (f)	A motivation for the need and desirability for the proposed development including the need and desirability of the activity in the context of the preferred location.	Section 7
Appendix 2 (g)	A full description of the process followed to reach the proposed preferred activity, site and location within the site, including-	Section 9
	Details of all alternatives considered;	Section 10
	Details of the public participation process undertaken in terms of regulation 41 of the Regulations, including copies of the supporting documents and inputs;	Table 10-6
	A summary of the issues raised by interested and affected parties, and an indication of the manner in which the issues were incorporated, or the reasons for not including them;	Section 11
	The environmental attributes associated with the alternatives focusing on the geographical, physical, biological, social, economic, heritage and cultural aspects;	
	The impacts and risks identified for each alternative, including the nature, significance, consequence, extent, duration, and probability of the impacts, including the degree to which the impacts-	Section 13
	(aa) can be reversed;	
	(bb) may cause irreplaceable loss of resources; and	
	(cc) can be avoided, managed, or mitigated.	
	The methodology used in determining and ranking the nature, significance, consequences, extent, duration and probability of potential environmental impacts and risks associated with the alternatives;	Section 14
	Positive and negative impacts that the proposed activity and alternatives will have on the environment and on the community that may be affected focusing on the geographic, physical, biological, social, economic, heritage and cultural aspects;	Section 13
	The possible mitigation measures that could be applied and level of residual risk;	Section 13
	The outcome of the site selection matrix;	Section 17
	If no alternatives, including alternative locations for the activity were investigated, the motivation for not considering such and;	Section 18
	A concluding statement indicating the preferred alternatives, including preferred location of the activity.	Section 19

Section of the EIA Regulations, 2014	Description of EIA Regulations Requirements for Scoping Reports	Section
Appendix 2 (h)	A plan of study for undertaking the environmental impact assessment process to be undertaken including- A description of the alternatives to be considered and assessed within the preferred site, including the option of not proceeding with the activity; A description of the aspects to be assessed as part of the environmental impact assessment process; Aspects to be assessed by specialists; A description of the proposed method of assessing the environmental aspects, including a description of the proposed method of assessing the environmental aspects including aspects to be assessed by specialists; A description of the proposed method of assessing duration and significance; An indication of the stages at which the competent authority will be consulted; Particulars of the public participation process that will be conducted during the environmental impact assessment process; A description of the tasks that will be undertaken as part of the environmental impact assessment process; Identify suitable 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.	Section 20
Appendix 2 (i)	An undertaking under oath or affirmation by the EAP in relation to- The correctness of the information provided in the report; The inclusion of the comments and inputs from stakeholders and interested and affected parties; and Any information provided by the EAP to interested and affected parties and any responses by the EAP to comments or inputs made by interested and affected parties.	Section 21
Appendix 2 (j)	An undertaking under oath or affirmation by the EAP in relation to the level of agreement between the EAP and interested and affected parties on the plan of study for undertaking the environmental impact assessment.	Section 22
Appendix 2 (k)	Where applicable, any specific information required by the competent authority.	Section 20.10
Appendix 2(l)	Any other matter in terms of Section 24(4)(a) and (b) of the NEMA	Section 20.10.3

3 Contact Person and Correspondence

Ndi Geological Consulting Services (Pty) Ltd has been appointed by Itereleng Mo Africa (Pty) Ltd as the independent Environmental Assessment Practitioner (EAP) to undertake the necessary environmental authorisation process and associated stakeholder engagement process to meet the requirements of NEMA and NEM: WA.

3.1 Details of EAP who prepared the report

The EAP involved in the compilation of this Scoping Report and contact details are provided in Table 3-1.

Table 3-1: EAP Contact Details

EAP Name	Contact Number	Fax Number	Email Address
Ndivhudzannyi Mofokeng	082 760 8420/ 053 842 0687	086 538 1069	atshidzaho@gmail.com ndi@ndigeoservices.co.za

3.2 Expertise of the EAP

3.2.1 Qualifications of the EAP

The qualifications of the EAP are provided for in Table 3-2 below, and copies of the qualifications are provided in Appendix B.

Table 3-2: EAP Qualifications

EAP Name	Qualifications	Professional registration	Years' Experience
Ndivhudzannyi Mofokeng	BSc (Hons) Earth Sciences in Mining and Environmental Geology	EAPASA Reg Number 2020/1554 GSSA Prof Reg	11

3.2.2 Summary of EAPs past experience

The EAP, Mrs Ndivhudzannyi is a registered EAP (EAPASA Reg Number 2020/1554) and a GSSA registered geologist with a BSc (Hons) Earth Sciences in Mining and Environmental Geology. She has close to 11 years' experience in the exploration and open cast work in the mining industry. She has proven leadership skills from supervising exploration rigs (Reverse Circulation and percussion drilling). She has proven working experience in field exploration and mapping, borehole logging, borehole sampling, sample preparation for laboratory analysis, handling of GPS, supervisory duties within the field, geological report and progress report writing, including Prospecting Work Programmes and Environmental Management Plans, handling the DMR documents in general.

Please refer to **Error! Reference source not found.** for a copy of the EAP's Curriculum Vitae and P rofessional Registration Certificate.

4 Project Location

4.1 Property Description

The project is located on Portion 1 and 3 farm Mahura Muthla 198 and Portion 1, 2 and Remainder of Tlaring 197 located 58km northeast of the town of Kuruman in the Northern Cape Province of South Africa, which is approximately 4329.9 hectares (ha) in extent. The description of the affected properties is provided in Table 4-1 and a map showing the affected property is provided in Figure 4-1.

Table 4-1: Description of Properties affected by the Itereleng Mo Africa Project

Farm Name:	Portion 1 and 3 of farm Mahura Muthla 198 and Portion 1, 2 and Remainder of Tlaring 197
Application area (Ha)	4329.9 ha
Magisterial district:	Kuruman
Distance and direction from nearest town	The proposed prospecting is 58km northeast of the town of Kuruman, in the Northern Cape Province of South Africa
21-digit Surveyor General Code for each farm portion	C04100000000019700000 C04100000000019700001 C04100000000019700002 C04100000000019800001 C04100000000019800003

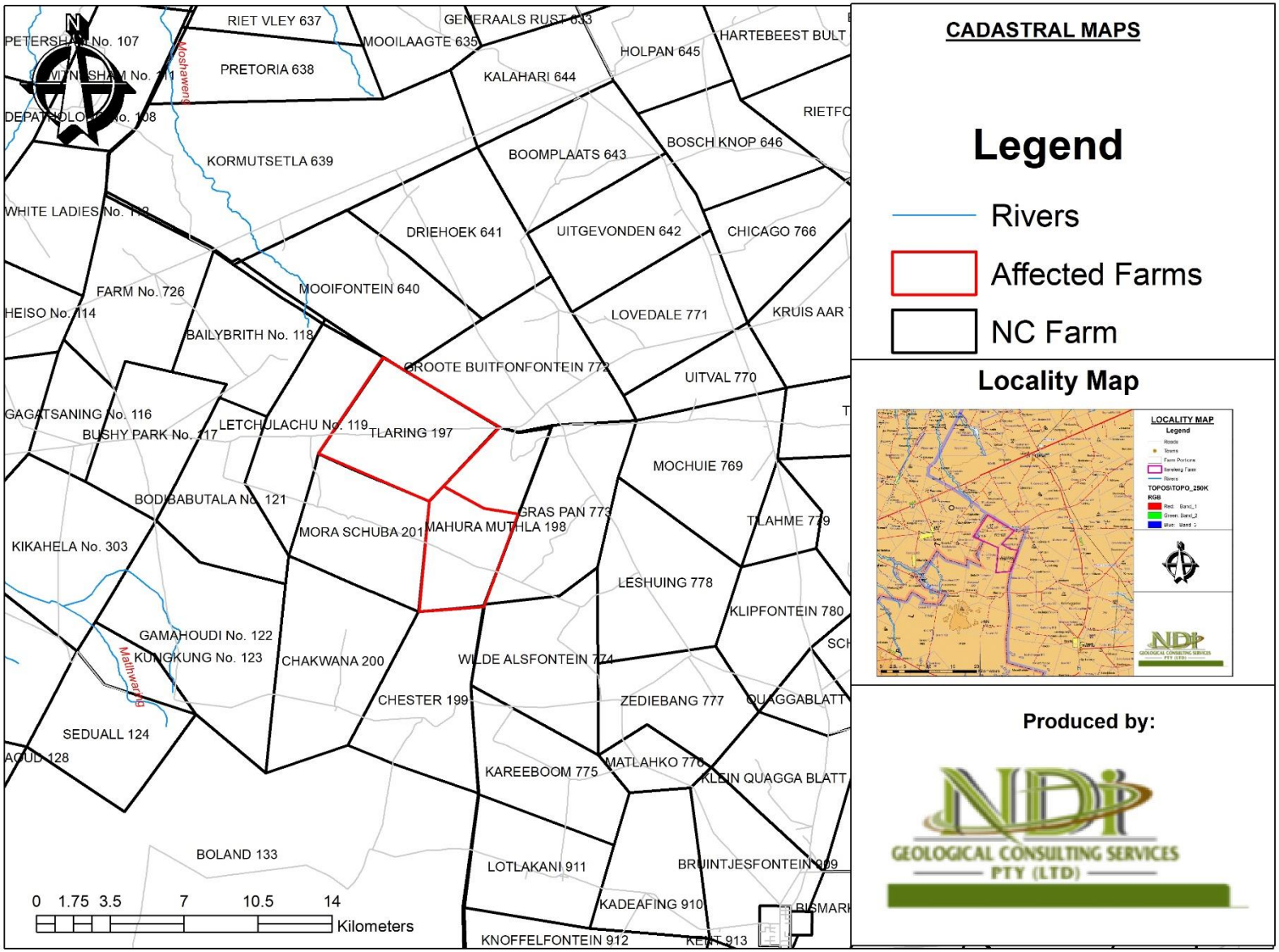

Figure 4-1: Cadastral Map

4.2 Locality map

The proposed prospecting is 58km northeast of the town of Kuruman, in the Northern Cape Province of South Africa (Figure 4-2).

A copy of the locality map is provided in Appendix 3.

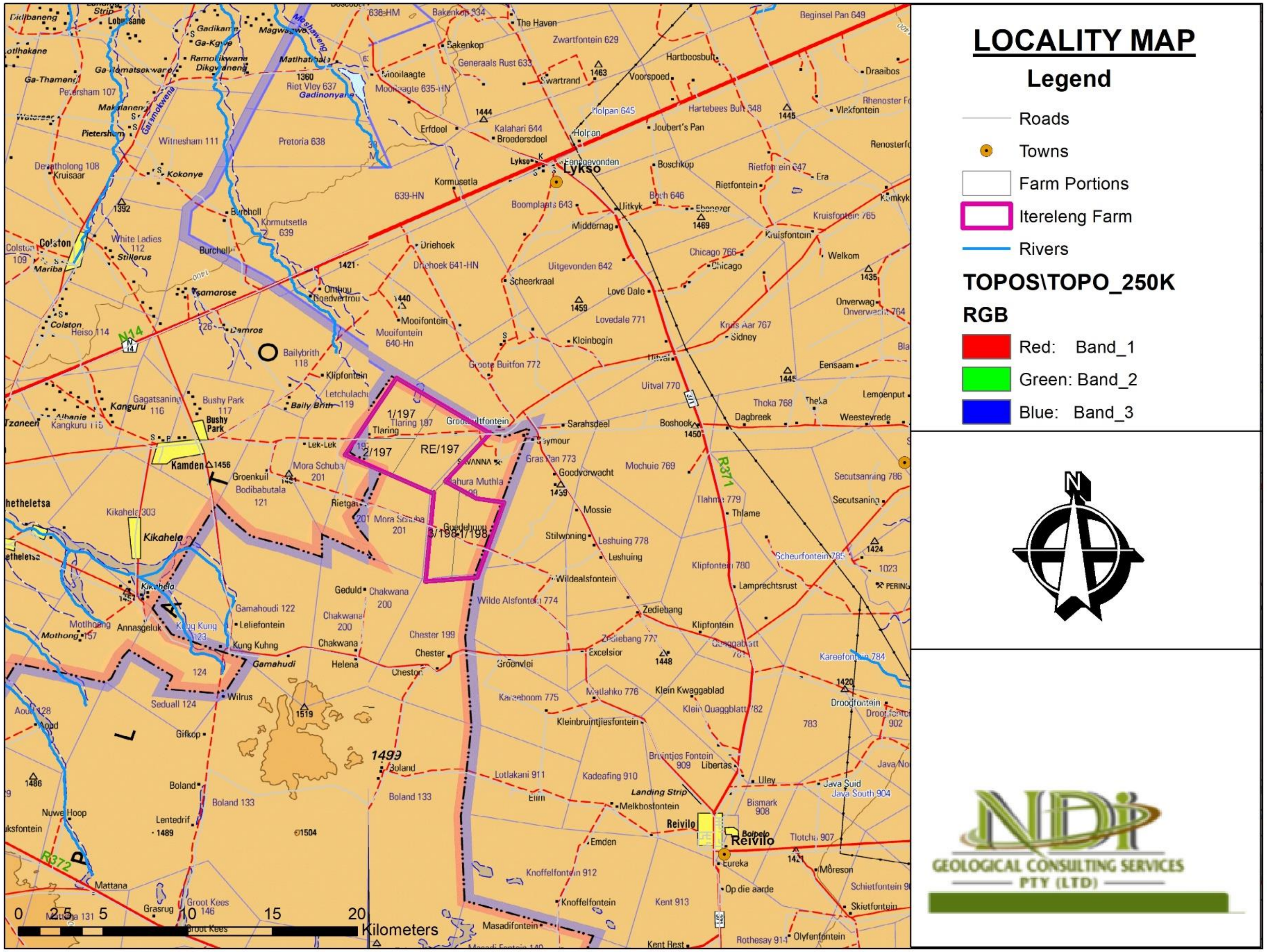

Figure 4-2: Locality Map

5 Project description

Prospecting activities carried out for this project will be both non-invasive and invasive. The non-invasive activities will be restricted to a desktop study (literature review), geological mapping and drill hole position planning. The aim of non-invasive activities is to better understand the nature of the deposits being prospected for. Thorough understanding of the deposit ensures the use of correct prospecting techniques for the deposit. Non-evasive techniques will also entail interpretation of available remotely sensed data for the prospecting area. Bulk sampling, diamond and reverse circulation drilling are the invasive prospecting activities that will be utilized for this project.

A standardized phased approach to all prospecting activities will be implemented for this project. Each activity will be undertaken on a scheduled timeline, with some activities being run concurrently, while others will run sequentially.

Determining the application area's mineral resource and distribution process will involve a desktop study (literature review) in which extrapolation of historical data with the proposed prospecting area will be undertaken. The stratigraphic succession of the area will also be studied and analysed. The step that follows will be geological mapping where a qualified geological scientist will physically explore the area to determine the environmental and geological components. Geological mapping will be done concurrently with planning of drill hole positions. These desktop studies and geological mapping exercises constitute what is deemed as Phase 1 of prospecting.

Positive geological mapping results will usher in Phase 2 where bulk sampling and drilling (both diamond and RC) will commence. During Phase 2 details that determine the economic viability of the project such as the grade and value of the minerals, the mining and processing methods will be obtained and thoroughly documented. Quality Control and Assurance (QA/QC) is important at this stage so that the results obtained are accurate and yield the highest degree of confidence. Geological interpretation and exploration data analysis will be conducted through means of statistical analysis and geostatistical analysis. A block model of the resources will be completed after a resource classification is done. An estimated grade of the minerals explored for, will be assigned to each identified mining block. Each block will then have a resource class assigned to it bringing Phase 2 to its completion.

Phase 3 will be a feasibility study of the area. A model will be used in determining aspects of the ore body that may significantly impact mining, processing, the environment, or the economic feasibility of the mineral. In general, the feasibility of mining the diamonds when all factors are considered. Results from each phase will determine if and how the next phase will be conducted.

5.1 Phase 1: Non-Invasive Activities

5.1.1 Desktop studies (3 Months)

Obtaining historical data pertaining to the mining of diamond in and around the proposed prospecting area is sometimes difficult because of the informal nature of the mining, especially relating to diamond. With informal mining practices, it is difficult to determine how much of a deposit has been mined out and how much is still left due to lack of documentation but, all available historic data with regard to the previous prospectors and miners will still be utilized. Data such as Landsat, Aerial Photographs, Airborne, Ground Penetrating Radar, Imaging Laser Altimetry, will be analysed and compiled.

5.1.2 Geological mapping and drill holes layouts (3 months)

Complied historic data to be assessed in detail to further develop and refine the ongoing prospecting activities. Once the desktop study is completed, a site geological mapping excursion will be

undertaken. The aim of the geological excursion is to visit all the mineralization targets identified during the desktop study in order to thoroughly map the physical characteristics of the lithologies hosting it and to their exact locations surveyed. During geological mapping, areas of interest are noted for possible drilling. A detailed geological map and planned layouts of drilling holes will be produced from this exercise. Planning for the bulk sampling and drilling will be done concurrently with the mapping.

5.2 Phase 2: Invasive Activities (Bulk Sampling and Drilling)

The aim of these activities is to extract mineralized material in the prospecting area. The initial step will be to remove vegetation followed by the topsoil (overburden) which will be stockpiled for rehabilitation purposes of the mined-out areas.

Earth moving machinery such as excavators and dump trucks will be used to remove the waste and mineralized materials. Because of the proposed dimensions and depths of the pits, proper pit planning is of utmost importance, thus the expertise of a qualified engineer familiar with open pit/open cast mining will be utilised. The right slopes (angles) and positions of the ramps (haul roads) into and out of the pits are important to ensure optimum and safe movement of machinery in and out of the pits. The depth of the water table must be determined by means of a drill hole to ensure that the proposed depth of the pit will be at least 5m above the water table. Preservation of groundwater resources is crucial. Stopping the pit well above the water table will also avoid the risk of flooding inside the pit. The overburden materials excavated from the pits must be stockpiled closest to the mined-out areas so that during rehabilitation, moving this material back into the pit will not be a costly exercise. The shape of the pits will be determined by the strike and dip of the lithologies. Highwall stability must be assessed and maintained at all times to avoid possible slope failure. Dressing down the highwalls to remove overhangs must be done frequently. A risk assessment checklist of the site and machinery must be done at the start of every working shift and identified risks must be addressed and fixed. The material (both ore and waste) removed from the pits will be loaded and transported from the pit using dump trucks and taken to either the plant for processing or the waste stockpile. Dump trucks transporting material to the plant must be put through a weigh bridge so that the exact tonnage of the material can be recorded before tipping. A weekly survey of stockpiled material must be done so that exact tonnage of material removed from the pit and stockpiled can be reconciled.

After diamond drilling, the core is placed on core trays and metre-marked by a competent drill site attendant and transported to a core yard where a geologist will log the core and mark areas of interest for sampling. Marked portions of the core will be split in half by a diamond core cutting machine. Half of the split core is taken to the lab for analysis and the other half remains for safe keeping. Photographs of the core must be taken before and after cutting for record keeping. During RC drilling, chip samples of the rocks will be taken at every 1M interval. The chip samples will be split using a splitter with half of the sample marked and taken to the lab while the other half will be logged by a geologist to determine the lithology and mineralisation. Chip samples to be logged are placed in marked chip trays and stored in the core yard.

5.3 Processing operations

The processing will entail the use of 2 X 16 feet rotary pans for diamondiferous gravel. Diamondiferous material will be screened and all the material less 0.5 mm diameter will be pumped into the tailings dam. The larger diamondiferous gravels of will be treated in a Dense Medium Separator (DMS) using 18 feet rotary pan processing plant. The plant can process a minimum of 45 tph and a maximum of 50 tph, all these depend on the SG of the material.

From the pans, a conveyor belt is used to feed the DMS where the material will go straight to the Bourevestnik (BV), and the tailing of BV goes straight to the grease tables and grease belt recovery for sorting.

A slimes dam for the finer material will be built according to engineers and surveyor instructions and specifications. It is important that it has steps since it will be built on a 100-yard flood line. The slimes dam will then be built using bedrock and strapping so that it can filter clean water for recycling.

The diamond recovery process will be a two-stage final recovery system utilizing both x-ray (Bourevestnik (BV)) and grease technology, ensuring that any diamonds not recovered by the x-ray machine will be captured by the grease technology thus maximizing recoveries. Diamond drill core will be logged, be split using a core cutting machine, sampled and sent to an offsite laboratory for assaying. Chip samples will also be logged and sent to an offsite laboratory for assaying.

5.4 Infrastructure Required

5.4.1 Access Roads

There are various main and minor roads passing over the proposed project area. Some of these roads will be used to access the proposed prospecting project area. Where sites cannot be accessed via existing roads, a temporary access road (tracks) will be established.

5.4.2 Power

Diesel powered vehicles and machinery will be used for the proposed project.

5.4.3 Water Supply

It is anticipated that water will be brought onto site and trucked to the identified drill sites. Water bowsers will be deployed to the sites as and when required.

5.4.4 Ablution Facilities

Sewage waste will be generated from the campsite and drilling sites. Portable chemical toilets will be used for the management of sewage waste generated on site.

5.4.5 Fencing

Fencing will be erected around the prospecting and drilling areas.

5.4.6 Core and Chip Sample Storage and cutting facility

A core and chip storage and cutting facility will be constructed on site.

5.4.7 Plant Site

A processing plant as described in Section 5.3 will be required.

5.4.8 Slimes Dam

It is expected that the design of the slimes dam will be based on the use of bedrock and strapping to ensure filtration of water for recycling. An engineer will be appointed to design the proposed slimes dam and the design drawings and design report will be submitted to the DMR with the EIA/EMPr Report.

5.4.9 Vehicle Parking Area

Parking areas for vehicles and machinery to be used will be provided. The parking areas will be made impervious to protect groundwater resources from possible hydrocarbon leakages.

5.4.10 Temporary Site Office Area

A temporary site office area will be erected at the drill sites.

5.5 Listed and specified activities

The map below shows the plan contemplated in Regulation 2(2) of the Mineral and Petroleum Resources Development Act, 2002 (Act 28 of 2002) (MPRDA), depicting the land to which application relates. The map also denotes the directly affected farms and the boundary coordinates of the application area.

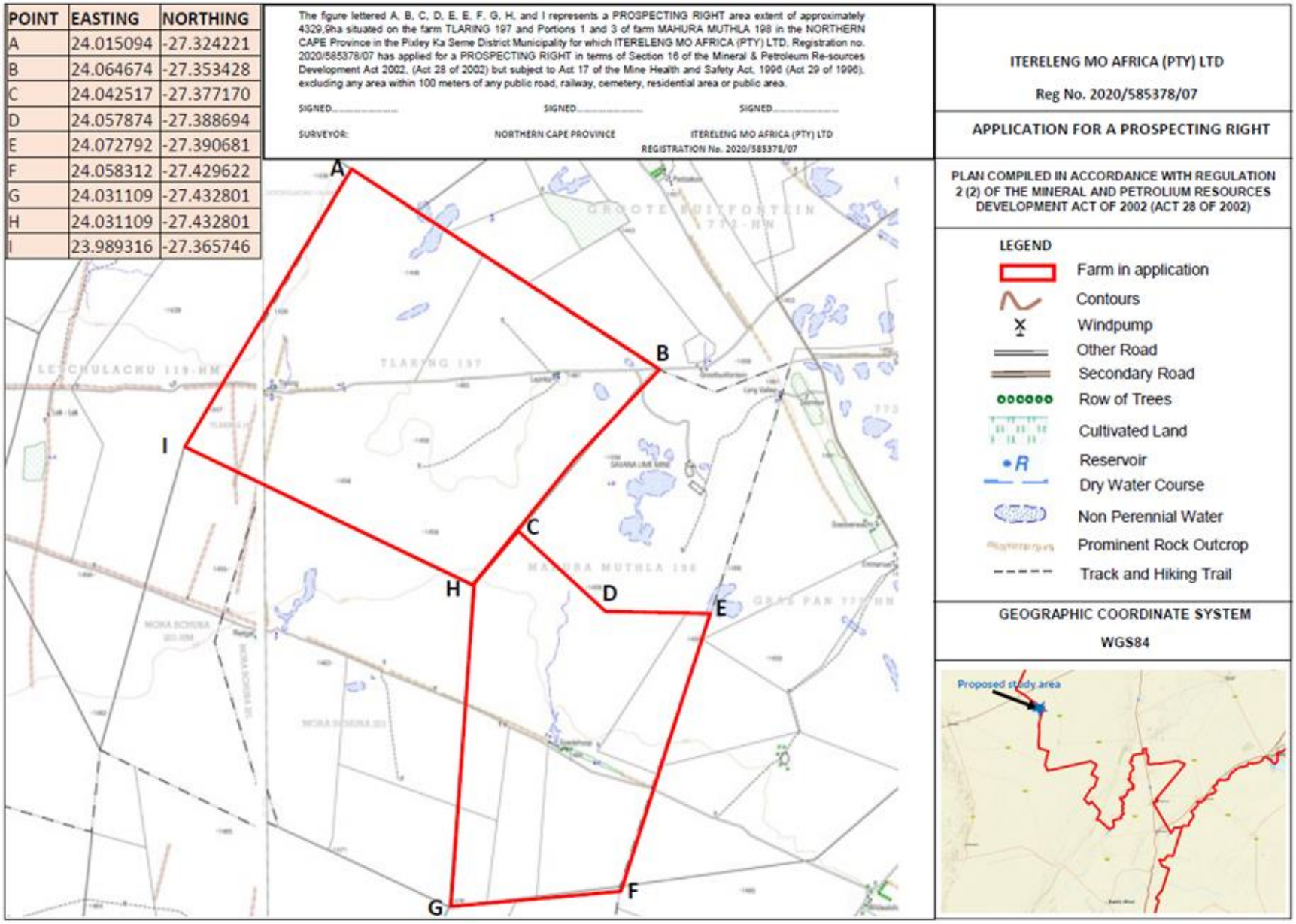

Figure 5-1: Prospecting Right Application Area

Due to the Integrated Environmental Process which the proposed Itereleng Mo Africa Prospecting Project will follow, all relevant activities which require authorisation in terms of NEMA and NEM: WA have been included in Table 5-1.

Table 5-1: Applicable Activities

NAME OF ACTIVITY	Aerial extent of the Activity Ha or m²	LISTED ACTIVITY	APPLICABLE LISTING NOTICE
Prospecting Right Application in terms of Section 16 and Regulation 7(1) of the Mineral and Petroleum Resources Development Act.	4329.9ha	X	GNR 983 (20)
Non-invasive Preparation Literature review and desktop studies Surface Mapping Airborne surveys and geophysical prospecting Determining sampling locations	4329.9ha		
Vegetation Clearance	<20ha	X	GNR 983 (27) GNR 985 (12 g (ii)
Prospecting of Diamond General Excavation of trenches.	<1 ha (100 X 50m X 80m pits)	X	GNR 983 (27) GNR 983 (19) GNR 984 (19) GNR 985 (12 g (ii)
Processing Plant (Rotary Pans and DMS)	2 X 18 feet		
Dense Media Separator			
Ablution facility	<0.025 ha	X	GNR 983 (25) GNR 985 (12 g (ii)
Topsoil Stockpile	<0.2 ha	X	GNR 983 (27) GNR 985 (12 g (ii)
Access roads	0.5 ha	X	GNR 983 (24, 27) GNR 985 (4 g (ii) (ee) (gg)) GNR 985 (12 g (ii)
Chemical storage	<0.025 ha	X	GNR 983 (14) GNR 985 (10 g (ee), (gg) GNR 985 (12 g (ii)
Fences	0.3ha	X	GNR 983 (27)

NAME OF ACTIVITY	Aerial extent of the Activity Ha or m²	LISTED ACTIVITY	APPLICABLE LISTING NOTICE
			GNR 985 (12 g (ii)
Office site	<0.025ha	X	GNR 983 (27) GNR 985 (12 g (ii)
Slimes dam	<0.1 ha	X	GNR 983 (27) GNR 985 (12 g (i), (ii), (iv) GNR 921 Category B (1, 5, 10)
Vehicle parking area	<0.2ha	X	GNR 983 (27) GNR 985 (12 g (ii)
Contractors' Camp	0.025 ha	X	GNR 983 (27 GNR 985 (12 g (ii)
Rehabilitation			Not Listed
Dust Suppression			Not Listed

6 Policy and legislative context

Table 6-1 lists the applicable legislation, policies and guidelines identified as relevant to the proposed project. In addition, a description of how the proposed activity complies with and responds to the legislation and policy context, is provided. This list is not exhaustive but rather represents an indication of the most applicable pieces of legislation relevant to the project.

Table 6-1: Policy and Legislative Context of Proposed Project

Legislation	Description and Relevance	Authority
Constitution of the Republic of South Africa, (No. 108 of 1996)	Chapter 2 – bill of rights Section 24 – Environmental Rights The proposed activities shall be conducted in such a manner that significant environmental impacts are avoided, where significant impacts cannot all together avoided be minimised and mitigated in order to protect the environmental rights of South Africans	N/A
Promotion of Access to Information Act (Act No. 2 of 2000) (PAIA	The Promotion of Access to Information Act (Act No. 2 of 2000) (PAIA) recognises that everyone has a right of access to any information held by the state and by another person when that information is required to exercise or protect any right. The purpose of the Act is to promote transparency and accountability in public and private bodies and to promote a society in which people have access to information that enables them to exercise and protect their right. The EIA/EMPr process will be undertaken in terms of the NEM: WA, NEMA and where required, the NWA, where the associated stakeholder consultation process will be aligned with the PAIA in the sense that all I&APs will be given an opportunity to register as an I&AP prior to the initiation of the project and all registered stakeholders will in turn be provided a fair opportunity to review and comment on any reports submitted to the competent authorities for decision making.	N/A
Minerals and Petroleum Resources Development Act 28 of 2002	The Mineral and Petroleum Resources Development Act, 2002 (Act 28 of 2002) (MPRDA) makes provision for equitable access to and sustainable development of South Africa's mineral resources. The MPRDA requires that the environmental management principles set out in NEMA shall apply to all mining operations and serves as a guideline for the interpretation, administration and implementation of the environmental requirements of NEMA. The MPRDA requires that a reconnaissance permission, prospecting right, mining right, mining permit, retention permit, technical corporation permit, reconnaissance permit, exploration right, production right, prospecting work programme; work programme, production work programme, mining work programme, environmental management programme, or an environmental authorization 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 addition of minerals or a share or shares or seams, mineralized bodies, or strata, which are not at the time the subject thereof) without the written consent of the Minister.	Department of Mineral Resources, Northern Cape Province

Legislation	Description and Relevance	Authority
	Section 22 of the MPRDA as amended by Section 18 of Act 49 of 2008 The proposed mining project requires a Prospecting Right from the DMR.	
National Environmental Management Act (NEMA) (No. 107 of 1998)	Section 24 – Environmental Authorisation (control of activities which may have a detrimental effect on the environment) Section 28 – Duty of care and remediation of environmental damage Environmental management principles will be incorporated into the EIA and EMPr, which the applicant will be required to comply with to ensure that negative impacts on the environment are avoided or kept to a minimum and that positive impacts are enhanced.	
National Environmental Management Act, 1998 (Act 107 of 1998) (NEMA) and the EIA Regulations 2014 (Government Notice (GN) 984), as amended	The EIA Regulations (GNR 982) were promulgated in terms of Sections 24 of the NEMA, to manage the process, methodologies and requirements for the undertaking of an EIA. The GNR 982 stipulates that the applicant for activities listed under GNR 983, 984 or 985 must appoint an independent EAP to manage the EIA process. Listed Activities are activities identified in terms of Section 24 of the NEMA which are likely to have a detrimental impact on the environment, and which may not commence without an EA from the Competent Authority (CA). EA required for Listed Activities is subject to the completion of either a Basic Assessment (BA) process or full Scoping and Environmental Impact Assessment (S&EIA) with applicable timeframes associated with each process. The EA must be obtained prior to the commencement of those listed activities. The project triggers activities listed in Listing Notices 1, 2 and 3 and will require an EA from the DMR. According to GNR 326 of the NEMA, activities listed in Listing Notice 2 require that a full S&EIA be undertaken. The applicable listed activities that will be triggered by the project is provided in Table 5-1.	
Department of Environmental Affairs (DEA) Integrated Environmental Management Guideline Series, Guideline 5: Assessment of the EIA Regulations, 2012 (Government Gazette 805)	Environmental impacts will be generated primarily in the construction phase of this project with associated operational phase impacts. These will be assessed as part of the EIA process.	
Integrated Environmental Assessment Guideline Series 11, published by the DEA in 2004	A full EIA (scoping and impact assessment) is required for the proposed project as activities are triggered under Listing Notice 2.	

Legislation	Description and Relevance	Authority
Review in Environmental Impact Assessment, Integrated Environmental Management, Information Series 13, Department of Environmental Affairs and Tourism (DEAT), Pretoria.		
DEA Integrated Environmental Management Guideline Series, Guideline 7: Public Participation in the Environmental Impact Assessment Process, 2012 (Government Gazette 807)	Public participation is a requirement of the Scoping/EIA Process and will be conducted for the proposed project as stipulated in Chapter 6 of the NEMA.	
National Water Act, 1998 (Act 36 of 1998)	There are a watercourses and wetlands located and where drilling and infrastructure will be located within 100m of any of the watercourse or 500m of the wetlands, a Section 21 (c&) IWUL will be required. **21 (c) & (i):** Impeding, diverting and altering the flow of water in a watercourse. Altering the bed, banks, course or characteristics of a watercourse: All activities taking place within 500 m of a wetland or 100 m of a watercourse will be licensed under Section 21 c and i	Department of Water and Sanitation (DWS), Northern Cape
National Environmental Management Waste Act (Act No. 36 of 1998)	It is expected that activities listed in GNR921 (Category B) will be triggered by the proposed Itereleng Mo Africa Prospecting project and will require a waste management licence. Table 5-1 provides a list of GNR921 activities triggered by the project.	DMR and DWS, Northern Cape through the integrated application process
National Environmental Management Air Quality Act (Act No. 39 of 2004)	Air quality management Section 32 – Dust control. Section 34 – Noise control. Section 35 – Control of offensive odours. The principles of the NEM: AQA, focusing on minimisation of pollutant emissions will also be taken cognisance of in the development of the EMPr.	Department of Environmental Affairs and Ga-Segonyana Local Municipality

Legislation	Description and Relevance	Authority
The National Forestry Act, 1998 (Act No. 84 of 1998) (NFA)	The NFA protects against the cutting, disturbance, damage, destruction or removal of protected trees. Due to the localised nature and short duration of the impacts on biodiversity, it is expected that no specialist studies will be required. However, the impact assessment process will include an assessment of the significance of biodiversity impacts and mitigation measures will be included in the EMPr. Should there be any protected trees that are affected by the project, Itereleng Mo Africa (Pty) Ltd will apply for the required permit for the removal and/or relocation of the trees.	Department of Agriculture, Forestry and Fisheries (DAFF)
The National Environmental Management: Biodiversity Act (Act No. 10 of 2004) (NEM:BA)	The National Environmental Management: Biodiversity Act (Act No. 10 of 2004) (NEMBA) provides for the management and conservation of South Africa's biodiversity within the framework of NEMA, as well as the protection of species and ecosystems that warrant national protection and the sustainable use of indigenous biological resources. The Act provides for listing of threatened or protected ecosystems, in one of four categories: critically endangered, endangered, vulnerable or protected During the EIA process, biodiversity hotspots and bioregions will be investigated to determine the potential impacts that the project may have on the receiving environment. The management and control of alien invasive species on the impacted areas during all the phases of the project will be governed by the NEM: BA. The NEM: BA ensures that provision is made by the site developer to remove any alien species, which have been introduced to the site or are present on the site	Department of Environmental Affairs
Mine Health Safety Act, 1996 (Act No. 29 of 1996) (MHSA)	The Mine Health and Safety Act (Act No. 29 of 1996) (MHSA) aims to provide for protection of the health and safety of all employees and other personnel at the mines of South Africa. Itereleng Mo Africa (Pty) Ltd will need to ensure that employees, contractors, sub-contractors and visiting personnel, adhere to this Act and subsequent amendment regulations on site.	Department of Mineral Resources (Northern Cape)
Conservation of Agricultural Resources Act (Act No. 43 of 1983)	Control measures for erosion Control measures for alien and invasive plant species The EMPr will include measures to control and manage alien invasive plant species.	Department of Agriculture Forestry and Fisheries
National Heritage Resources Act 25 of 1999	Heritage Permit for structures 60 years or older. Due to the localised nature of the impacts, it is expected that there will be limited impacts on heritage resources, and it is expected that no heritage specialist studies will be required. However, the impact assessment process will include an assessment of the significance of heritage impacts and mitigation measures will be included in the EMPr. Should there be any heritage and cultural resources that are	Northern Cape Heritage Resource Authority

Legislation	Description and Relevance	Authority
	affected by the project, Itereleng Mo Africa (Pty) Ltd will apply for the required permit for the destruction and/or relocation of the trees.	
Restitution of Land Rights Act, 1994 (Act No. 22 of 1994), as amended in 2014.	Land Claims. There are no land claims associated with the affected properties.	Department of Rural Development and Land Reform

6.1 Municipal Plans and Policies: Ga-Segonyana Integrated Development Plan

According to the Integrated Development Plan (IDP) for the Ga-Segonyana Local Municipality (2018/19), there are opportunities in i.e., tourism, mining, agriculture. There is therefore a need to put more efforts in the current performance plans that will develop the municipality in the areas of agriculture, heritage, tourism and mining.

It is expected that should the prospecting operation be successful, the resulting mining project will contribute significantly to the local, regional and national economy. The prospecting project will have limited socio-economic impacts since the project will be of short duration. The extent to which the project will contribute to the economy will be assessed during the impact assessment phase of the process.

6.2 Other guidelines

Other guidelines that were made use of include:

- Northern Cape Provincial Biodiversity Conservation Plan;
- DWS, 2010. Operational Guideline: Integrated Water and Waste Management Plan. Resource Protection and Waste;
- Department: Water Affairs and Forestry, 2007. Best Practice Guideline A2: Water Management for Mine Residue Deposits;
- Department: Water Affairs and Forestry, 2007. Best Practice Guideline A4: Pollution control dams;
- Department of Water Affairs and Forestry, 2008. Best Practice Guideline A6: Water Management for Underground Mines.
- White paper on Integrated Pollution and Waste Management in South Africa, 2000;
- Department of Water Affairs and Forestry, 2006. Best Practice Guideline G1 Storm Water Management;
- Department of Water Affairs and Forestry, 2006. Best Practice Guideline G2: Water and Salt Balances;
- Department of Water Affairs and Forestry, 2006. Best Practice Guideline G3. Water Monitoring Systems;
- Department of Water Affairs and Forestry, 2008. Best Practice Guideline G4: Impact Prediction;
- Department of Water Affairs and Forestry, 2008. Best Practice Guideline H1: Integrated Mine Water Management;
- Department of Water Affairs and Forestry, 2006. Best Practice Guideline H3: Water Reuse and Reclamation;
- DEAT. 2002. Integrated Environmental Management, Information series 2: Scoping. Department of Environmental Affairs and Tourism (DEAT. 2002);
- DEAT. 2002. Integrated Environmental Management, Information series 3: Stakeholder Engagement. Department of Environmental Affairs and Tourism (DEAT. 2002);
- DEAT. 2002. Integrated Environmental Management, Information series 4: Specialist Studies. Department of Environmental Affairs and Tourism (DEAT. 2002);

- DEAT. 2002. Integrated Environmental Management, Information series 12: Environmental Management Programmes. Department of Environmental Affairs and Tourism (DEAT. 2002);
- DEA. 2012. Companion to the EIA Regulations 2010, Integrated Environmental Management Guideline Series 7, Department of Environmental Affairs; and
- DEA. 2017. Guideline on Need and Desirability, Department of Environmental Affairs (DEA), Pretoria, South Africa.

7 Motivation

7.1 Benefits of Prospecting

The definition of prospecting in terms of the MPRDA states: "*intentionally searching for any minerals by means of any method which disturbs the surface or sub-surface of the earth, including any portion of the earth that is under the sea or under other water…*". Prospecting is the physical search for minerals, fossils, precious metals or mineral specimens, which allows a company to survey or investigate an area of land for the purpose of identifying an actual or probable mineral deposit, before investments are made into the mining activities.

Assessment of the geological information available has determined that the area in question may have good quality diamond reserves. In order to ascertain the above and determine the nature, location and extent of the reserves within the proposed prospecting area, it will be necessary that prospecting be undertaken. The prospecting will also determine if there are any features that may have an impact on the economic extraction of the diamonds.

The information that will be obtained from the prospecting to be undertaken will be necessary to determine, should diamonds be found, how and where the diamonds will be extracted and how much economically viable reserves are available within the proposed prospecting area.

Should good quality diamonds be found in the project area, Itereleng Mo Africa will be able to mine the available reserves. This will result in job creation and boost to local businesses is continued.

Itereleng Mo Africa expects that substantial benefits from the project will accrue to the immediate project area, the sub-region and the Northern Cape Province. This prospecting activity has a potential to decrease unemployment rates in proposed areas and surroundings. This prospecting activity will also bring revenue into the city and the province which will in turn boost the economy of the country.

These benefits must be offset against the costs of the project, including the impacts to landowners and land occupier. Further to the above, it has been determined that the prospecting project activities will not have a conflict with the spatial development plans for the Ga-Segonyana LM and John Taolo Gaetsewe DM, the Integrated Development Plans and the Environmental Management Framework (EMF) for the affected municipalities.

A process that ensures consultation with Interested and Affected Parties (I&APs) for the project is being undertaken. The stakeholder engagement process is being conducted is a way to provide all interested and affected parties with an opportunity to comment on the project, with several platforms that allow public commenting opportunities to be offered to the I&APs. All issues raised by the interested and affected parties will be recorded and addressed throughout the EIA process.

7.2 Environmental responsibility

It is expected that the prospecting activities will have negative environmental impacts, including, but not limited to the impacts that have been included in Section 13 of this report. However, due to the nature of prospecting, the impacts will be of short duration and limited locality.

The impacts will be investigated in detail during the impact assessment phase of the project. Where possible, measures to mitigate the impacts of the project will be identified and will be finalised during the impact assessment phase of the project. The mitigation measures will include designs and management practices that will be embarked on, to prevent and/or minimise the identified impacts on the social, cultural and environmental aspects. For each potential significant impact identified, mitigation measures will be specified. High level mitigation measures have been included in Section 13 of this report. These mitigation measures will be described in more detail in the EMPr that Itereleng Mo Africa (Pty) Ltd will be required to comply with throughout the prospecting period.

The EMPr will also include environmental monitoring programme that will allow that Itereleng Mo Africa (Pty) Ltd to keep track of the impacts of the project on the environment and where required, to take remedial action.

7.3 Socio-economic benefits

The proposed project will also result in job creation for local communities and a short-term boost for local businesses during the construction phase of the project. The prospecting itself will be undertaken by special sub-contractors and it is not anticipated that employment

7.4 No-go option

The option of not approving the activities will result in a significant loss of valuable information regarding the mineral status (in terms of diamond reserves), present on the identified properties. In addition, should economical reserves be present, and the applicant does not have the opportunity to prospect the opportunity to utilize these reserves for future phases will be lost.

8 Period for which the Environmental Authorisation is required

The EA/WML will be required for a period of 3 years.

9 Details of all Alternatives Considered

The identification and investigation of alternatives is a key aspect during the S&EIA process. All reasonable and feasible alternatives must be identified and assessed during the scoping phase to determine the most suitable alternatives to consider and assess during the impact assessment phase. There are however some significant constraints that have to be considered when identifying alternatives for a project of this scope. Such constraints include social, financial and environmental issues, which will be discussed in the evaluation of the alternatives. The preferred option is to be highlighted and presented to the authorities.

Alternatives can typically be identified according to:

- Location alternatives;
- Process alternatives;
- Technological alternatives; and
- Activity alternatives (including the No-go option).

For any alternative to be considered feasible, such an alternative must meet the need and purpose of the development proposal without presenting significantly high associated impacts. The alternatives are described, and the advantages and disadvantages are presented. It is further indicated which alternatives are considered feasible from a technical as well as environmental perspective.

Incremental alternatives typically arise during the impact assessment process and are usually included as a means of addressing identified impacts. These alternatives are closely linked to the identification of mitigation measures and are not specifically identified as distinct alternatives. This section provides information on the development footprint alternatives, the properties considered, as well as the type of activity, activity layout, technological and operational aspects of the activity.

9.1 The property on which or location where it is proposed to undertake the activity

The location of the proposed project components is constrained to the location with potential for the diamond mineral resources. The prospecting area shown by Figure 9-1 is underlain by rocks of the Transvaal Supergroup. The area in the proposed prospecting area is mostly covered by dolomites of the Reivilo Formation. Some of these dolomites are with stromatolitic limestone with shale interbeds. Proposed application area is also covered by aeolian sand deposits and calcrete. There are also diamondiferous river-terrace gravels in some places throughout the area of interest.

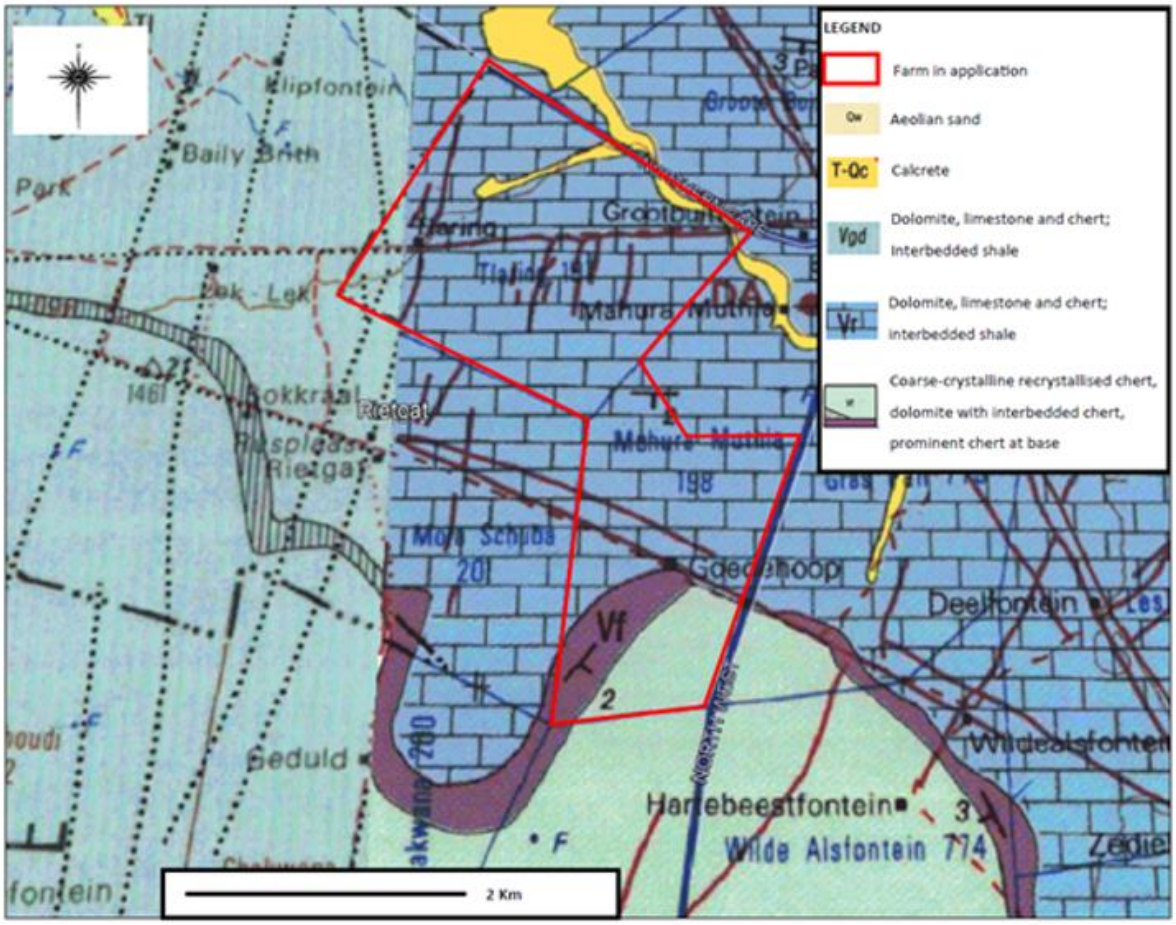

Figure 9-1: Geology of the application area and its surrounding

As such, no property alternatives were considered for the location of the prospecting area.

9.2 Type of Activity

An alternative to the type of activity would be farming. According to the GLM IDP, there are opportunities to be developed in the mining sector, which would be supported through the prospecting project. It is expected that due to the low rainfall and high temperatures in the area (high evaporation rates), the agriculture potential of the area is limited.

The land use alternatives will be investigated in more detail in the impact assessment phase of the process.

9.3 Design or Layout of the Activity

Since no complicated surface infrastructure will be required for this project no design and layout alternatives for the proposed project were determined. Due to the nature of the proposed prospecting activities, future land use alternatives will not be compromised.

The applicant will revise the layout of the project should there be fatal flaws identified. This will be assessed in detail during the impact assessment phase of the project.

9.4 The Technology to be used in the Activity

In terms of the proposed technologies, these have been chosen based on long term proven success in prospecting. The prospecting activities proposed in the Prospecting Works Programme are dependent on the preceding phase (desktop studies), therefore no alternatives have been indicated.

The location of the intrusive drilling activities will be determined during Phase 1 of the Prospective Works Programme. All infrastructure will be temporary and/or mobile.

9.5 The Operation Aspects of the Activity

No permanent services in terms of water supply, electricity, and or sewage facilities will be required. Temporary access roads will however be constructed in areas where there are no existing access routes. The activities will commence with Phase 1 and undertaken as described in Section 5.

9.6 The Option of Not Implementing the activity

The option of not approving the activities will result in a significant loss of valuable information regarding the mineral status in terms of diamond reserves, present on the identified properties. In addition, should economical reserves be present, and the applicant does not have the opportunity to prospect, the opportunity to utilize these reserves for future phases will be lost.

The environmental, social and economic impacts will be assessed in detail during the impact assessment phase to identify and address all negative impacts, where possible.

10 Public Participation Process

Stakeholder engagement is a key element of the environmental decision-making process, and stakeholder engagement forms part of the scoping phase as well as the impact assessment phase. The process is primarily aimed at affording I&AP's the opportunity to gain an understanding of the proposed project. In addition, the purpose of consultation with the landowners, key stakeholders, and I&AP's is to provide them with the necessary information about the proposed project so that they can make informed decisions as to whether the project will affect them and provide the EIA team with local knowledge of the area and raise concerns relating to the biophysical, socio-economic and cultural impacts that may arise.

The stakeholder engagement process will follow the Public Participation Process Plan that was submitted to the DMR.

The stakeholder engagement process will be conducted in terms of NEMA, which provides clear guidelines for stakeholder engagement during an EIA as summarised in Table 10-1.

Table 10-1: NEMA Stakeholder Guidelines

NEMA Section	Applicability to Stakeholder Engagement
Chapter 1	Outlines the principles of environmental management, several pertaining to public consultation (e.g., Chapter 1, subsections (2), (3), (4) (f), (g), (h), (k), (q) and (r).
Chapter 6,	Regulations 39 – 44 of the amended EIA Regulations GNR) 326, promulgated on 8 December 2014, specify the minimum requirements for stakeholder engagement in an EIA process conducted under the NEMA.
Section 24J of the NEMA	In 2017, the Minister of Environmental Affairs published, Section 24J of the NEMA in terms of**,** Public Participation Guidelines which guide the Public Participation Process in order to give effect to Section (2)(4)(f), (o) and 24 (1A) (C) of the NEMA.

The application process will commence with a scoping phase which will inform the impact assessment phase. This scoping phase will provide Interested and Affected Parties (I&AP's) an opportunity to provide the EAP with issues and concerns with respect to the proposed project in order to inform the technical studies so that they can evaluate these concerns during the EIA phase of the project.

The draft Scoping and EIA Reports will be made available for public review prior to submission to the DMR for authorisation. All the comments received will be captured and addressed where feasible in the Scoping and EIA Reports.

Figure 10-1 provides a diagram of an Integrated Stakeholder Engagement Process for the proposed project.

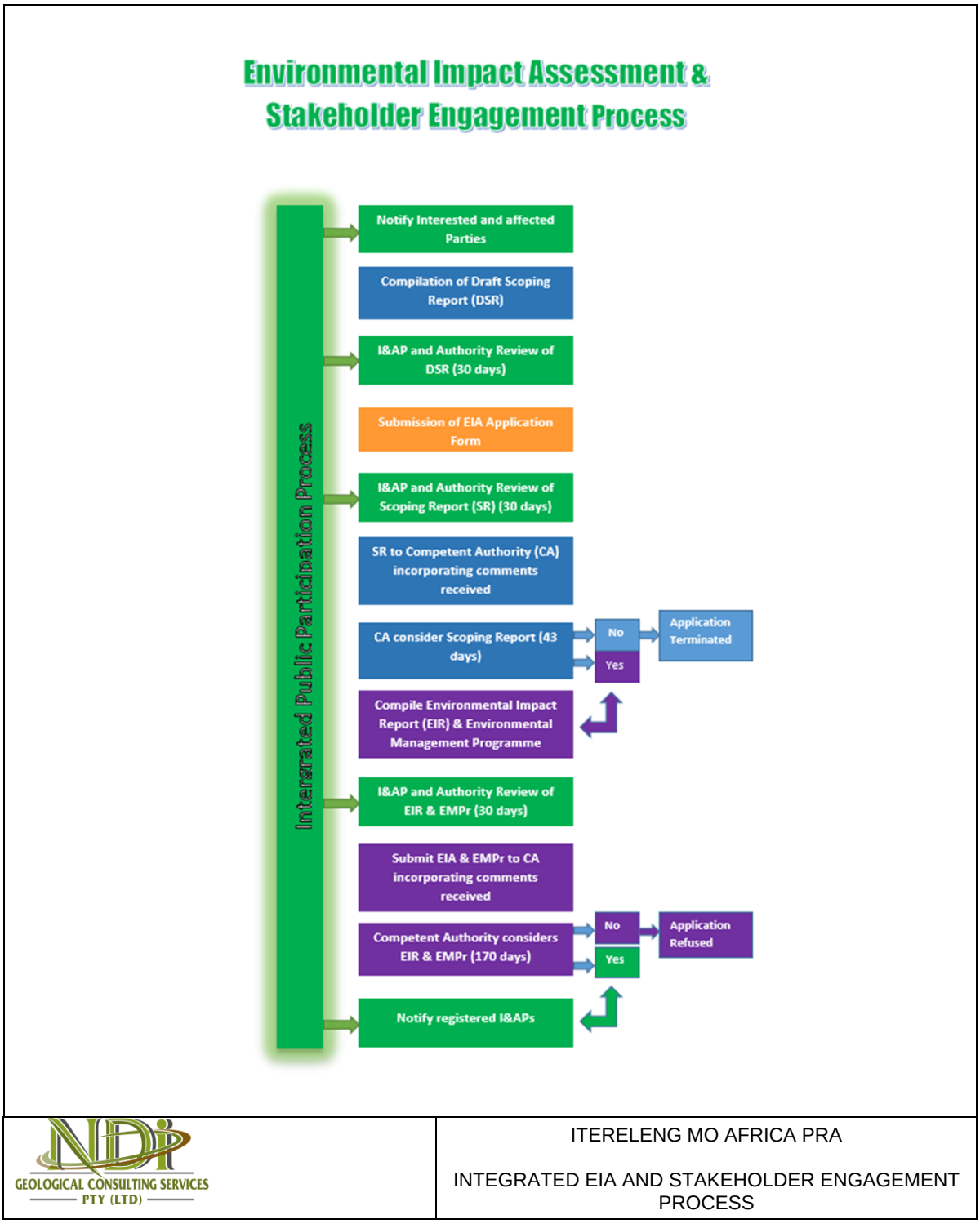

Figure 10-1: Integrated EIA and Stakeholder Engagement Process

All the above-mentioned guidelines have been incorporated into this stakeholder engagement process. The application will be submitted to the DMR for authorisation as the competent authority. Identified commenting authorities on this application include:

- DWS – Regional Office;
- Northern Cape Department of Economic Development, Environment, Conservation and Tourism (DEDECT);
- Department of Rural Development and Land Reform;
- Northern Cape Heritage Resource Agency;

- Department of Corporate Governance, Human Settlement and Traditional Affairs;
- Ga-Segonyana Local Municipality; and
- John Taolo Gaetsewe District Municipality.

All stakeholder engagement process documents are included in Appendix 5.

10.1 Details of the Public Participation Process Followed

10.1.1 Stakeholder Identification Interested and Affected Parties

Interested and Affected Parties (I&APs) were identified using GIS and cadastral information to identify affected and adjacent properties. The affected and adjacent property owners were identified using the surveyor general website, www.deedsweb.gov.za. In addition, registered I&APs were also sourced from responses to the advertisements, site notices and written notification to I&APs associated with the project.

The I&AP's register will be maintained for the duration of the study where the details of stakeholders are captured and automatically updated upon communication to the EAP. The identification, registration, and comments from I&AP's will be an on-going activity.

The details of affected property are provided in Table 10-2.

Table 10-2: List of Affected Properties

Farm	Portions	21 Digit Survey General Code
Tlaring 197	Remainder	C04100000000019700000
	Portion 1	C04100000000019700001
	Portion 2	C04100000000019700002
Mahura Muthla 198	Portion 1	C04100000000019800001
	Portion 3	C04100000000019800003

Table 10-3 provides a list of the adjacent farms and farm portions.

Table 10-3: List of Adjacent Farms and Farm Portions

Farm	Portions	21 Digit Survey General Code
Lechulachu 119	Remainder	C04100000000011900000
Chester 199	Remainder	C04100000000019900000
Chakwana 200	Remainder	C04100000000020000000
Mora Schuba 201	Remainder	C04100000000020100000
Mooifontein 640 HN	Remainder	T0HN00000000064000000
Groote Buitfontein 772 HN	Remainder	T0HN00000000077200000
Graspan 773 HN	Remainder	T0HN00000000077300000

Farm	Portions	21 Digit Survey General Code
Welde Alsfontein 774 HN	Remainder	T0HN00000000077400000
Mahura Muthla 198	Remainder	C04100000000019800000
Mahura Muthla 198	Portion 2	C04100000000019800002

A map of the affected and adjacent farm properties is provided in Figure 10-2.

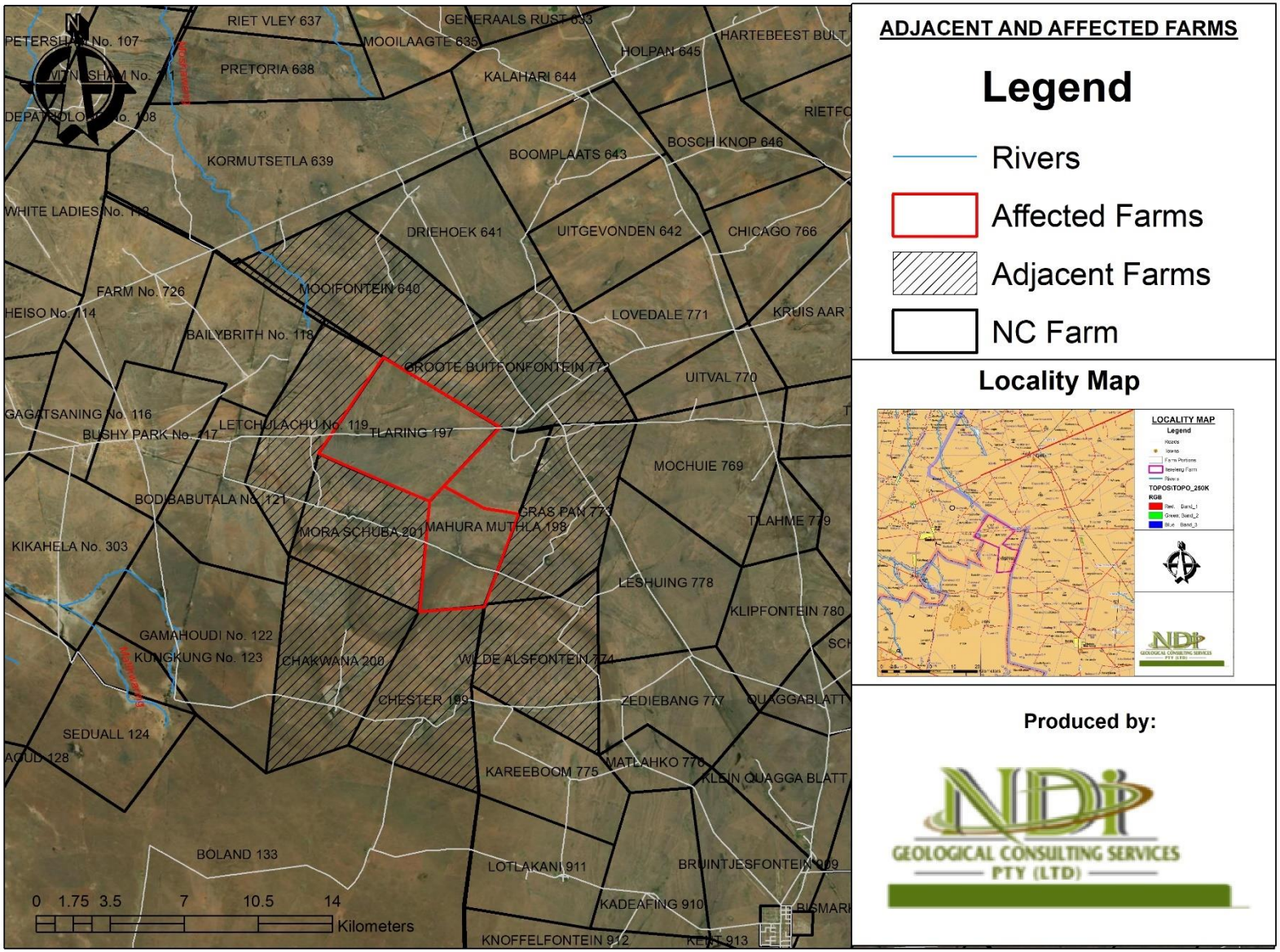

Figure 10-2: Affected and Adjacent Properties

10.1.2 Notification and Registration of the I&APs

Ndi Geological Consulting Services (Pty) Ltd made use of various methods to inform stakeholder of Itereleng Mo Africa (Pty) Ltd.'s intention to undertake the required EA/WML process. Stakeholders were provided with the opportunity to participate and register as I&AP's during the announcement phase of the project.

Distribution of Notification Letters

Notification letters were sent to identified I&AP's, informing them of the proposed project.

Site Notice Placements

Sites notice boards (Size A2: 600 mm X 420 mm) notifying stakeholders and I&APs of the proposed activity were placed at conspicuous places in the project area. These areas of placement were determined according to the quantity of potential I&AP's that may pass by.

Newspaper Advertisements

Newspaper advertisements (English and vernacular) notifying stakeholders about the proposed project and the opportunity to participate in the EIA process were placed in the Kathu Gazette newspaper.

10.1.3 Notification of the Availability of the Draft Scoping Report

The availability of the DSR was announced by means of SMS, letters and emails to registered I&APs. The DSR, announcement letters and comment forms were made available for public viewing and comment in the same public places as for the project announcement phase.

10.1.4 Stakeholder commenting period

The Scoping Report will be made available for a 30-day commenting period from 12 September 2022 to 13 October 2022.

The Scoping Report will also be made available to the competent and commenting authorities during the 30-day stakeholder review and commenting period. Stakeholders are encouraged to submit their written comments to the EIA team through the contact details provided. Stakeholders could also fill in comment forms at one of the public places and/or contact the EAP via telephone, email or fax to submit comments and to discuss any issues of concern.

All comments received thus far have been incorporated into the Scoping Report. All comments raised by stakeholders will be recorded and will be included in the Final Scoping Report. The comments will also be collated into the Comments and Responses Register (CRR) which will form an Appendix to the final Scoping Report.

10.1.5 Public Meeting

Depending on the responses received during the registration period, and where requested by the stakeholders, a public meeting may be held during the Scoping Phase of the project, ensuring that the COVID-19 Regulation requirements are met. This would preferably be undertaken through, where possible, online meetings. In cases where stakeholders do not have internet access, the meetings will be held with no more than 50 stakeholders in attendance. Stakeholders will be informed of the COVID-19 Regulation requirements that will be enforced during the meeting.

The stakeholders will have the opportunity to comment on the report and plan of study and raise issues that may need to be included in the impact assessment phase. All comments received will be incorporated into the final Scoping Report.

10.1.6 Comment and Response Report

A summary of comments received will be included in the CRR, which will form an Appendix to the Final Scoping Report to be submitted to the DMR however comments received to date from pre-application consultations are included in Section 10.1.7.

10.1.7 Summary of Issues Raised by I&APs

A summary of the comments received from the stakeholders and responses provided by the EAP is provided in Table 10-4 Comments received from the stakeholders during the announcement phase have been attached as Appendix 5-6.

Table 10-4: Summary of the Issues Raised by the I&APs

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)**
AFFECTED PARTIES					
Landowner/s	X				
Lawful occupier/s of the land	X				
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	X				

No comments received to date

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)**
Communities	X				
Dept. Land Affairs	X				
Traditional Leaders	X				
Dept. Environmental Affairs	X				
Other Competent Authorities affected	X				
OTHER AFFECTED PARTIES	X				
INTERESTED PARTIES	X				

10.2 Public Participation process going forward

The Public Participation Process will be ongoing throughout all the project phases. The stakeholder engagement proposed for the Impact Assessment Phase is presented below.

10.2.1 Stakeholder engagement during impact Assessment phase

Stakeholders will be informed once the competent authority (DMR) has accepted the Scoping Report and granted permission for the commencement of the impact assessment phase of the process.

Stakeholder engagement during the Impact Assessment will focus on providing information and opportunity for public comment on the findings and recommendations of the impact assessment and management programme/plan. The draft findings will be presented in the Draft EIA / EMPr Report to be reviewed and commented on by the public.

The availability of the Draft EIA and EMPr Report for public comment will be announced in the same newspaper as for project announcement.

Registered I&AP's will be informed through SMSes and letters distributed by email in advance of the report being made available. Stakeholders will be invited to a public meeting where the contents of the Draft EIA/EMPr will be presented and stakeholders will have the opportunity to comment. Stakeholders will be invited to comment on the Draft EMPr Report in any of the following ways:

- By raising comments during meetings where the content of the Draft EIA/EMPr Report will be presented;
- By completing comments forms available with the report at public places, and by submitting additional written comments, by email or fax, or by telephone, to EAP; and
- The draft EIA/EMPr Report will be available for comment for a period of 30 days at public places in the project area as per the announcement and scoping phase and placed on the Ndi Geological Consulting Services (Pty) Ltd website.

Depending on the responses received during the registration period, and where requested by the stakeholders, a public meeting may be held during the impact assessment phase of the project, ensuring that the COVID-19 Regulation requirements are met. Should a meeting be required, where possible online meetings will be held, and where stakeholders do not have internet access, the meetings will be held with no more than 50 stakeholders in attendance. Stakeholders will be informed of the COVID-19 Regulation requirements that will be enforced during the meeting.

Where necessary, comments and issues raised by I&AP's during the commenting period will be consolidated into the Final EIAR and EMPr with the relevant response issued by the EAP. The Final EIAR and EMPr will then be submitted to the DMR for decision making. The comments will also be collated into the CRR that will form an Appendix to the Final EIAR.

10.2.2 Notification of authority decision

Registered stakeholders will be advised in writing (mail, email, fax and sms) of the authority decision on the EIA / EMPr, and details on the procedure to appeal the decision. Notification to registered stakeholders will summarise the authorities' decision and provide information according to legal requirements on how to lodge an appeal should they so wish.

11 Baseline Characterisation

This section provides a general overview of the status quo of the environmental and social context within which the proposed project is located. All of the proposed activities will take place within the affected properties. While most of the descriptions below are focused on the site itself, where necessary the regional context of the environmental features is also explained. More detail on certain aspects of this environment will be included in the EIA once the specialist investigations have been completed and inputs from I&APs have been considered during the public participation process. For each environmental aspect discussed below, proposed environmental issues/impacts have been highlighted qualitatively where applicable. The EIA will explore these issues on a quantitative level.

11.1 Regional Setting

The proposed project is located within the Northern Cape Province, under the jurisdiction of the Ga-Segonyana Local Municipality (GLM) (**Error! Reference source not found.**). The Ga-Segonyana Local Municipality is a Category B municipality situated within the John Taolo Gaetsewe District Municipality (JTGDM) in the Northern Cape Province. It is one of the five municipalities that make up the district. Kuruman, is central to economic activity in the Ga-Segonyana Local Municipal area and pivotal to the greater region's mining industry.

Ga-Segonyana Municipality originated as a cross-boundary municipality that straddled the boundary between the North-West and Northern Cape Provinces. It was established in 2000 through the amalgamation of Kuruman and Mothibistad Municipalities that includes sections of the Bophirima District Municipality. Eighty (80%) percent of the population stays in rural villages. There was an increase in the population of Ga-Segonyana, from 61 967 persons in 1996 to 104 408 persons in 2016 (Figure 11-2).

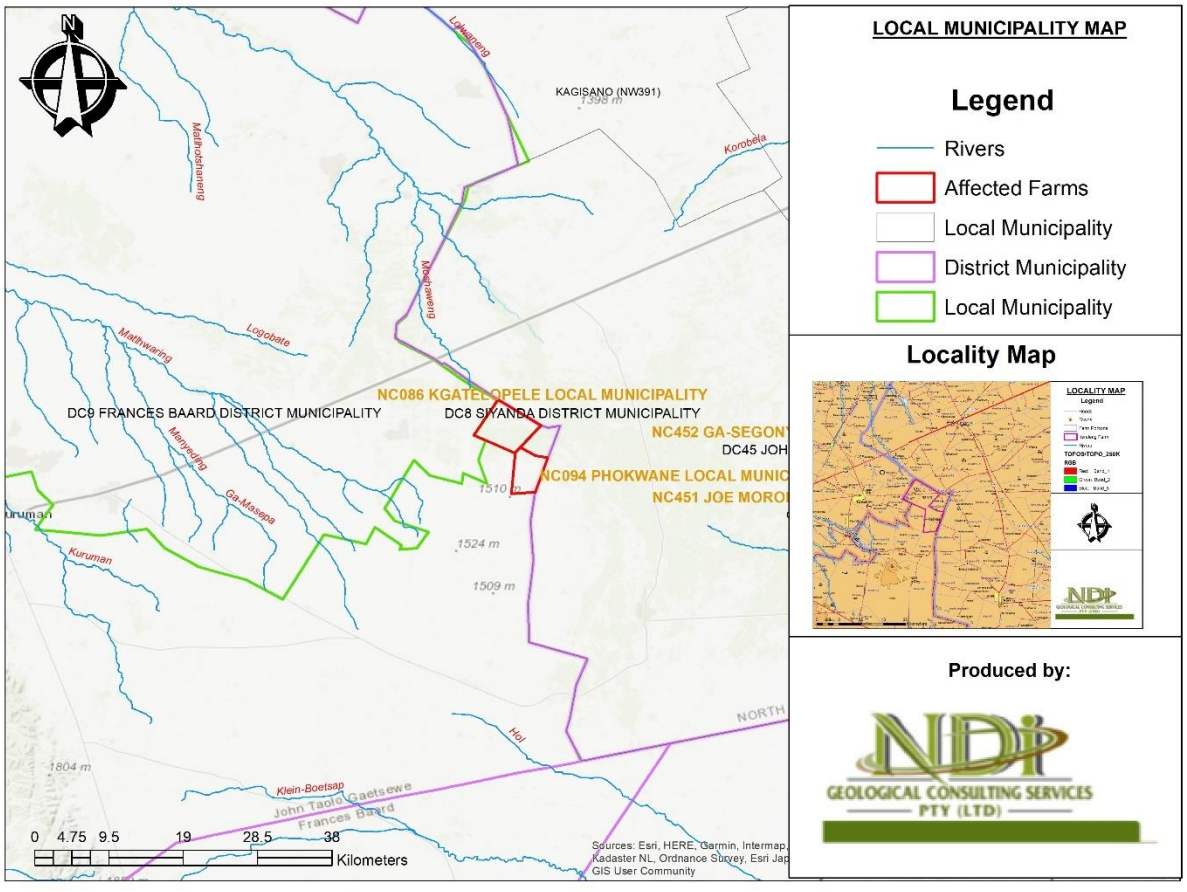

Figure 11-1: Location of the Project Area within the Northern Cape Province

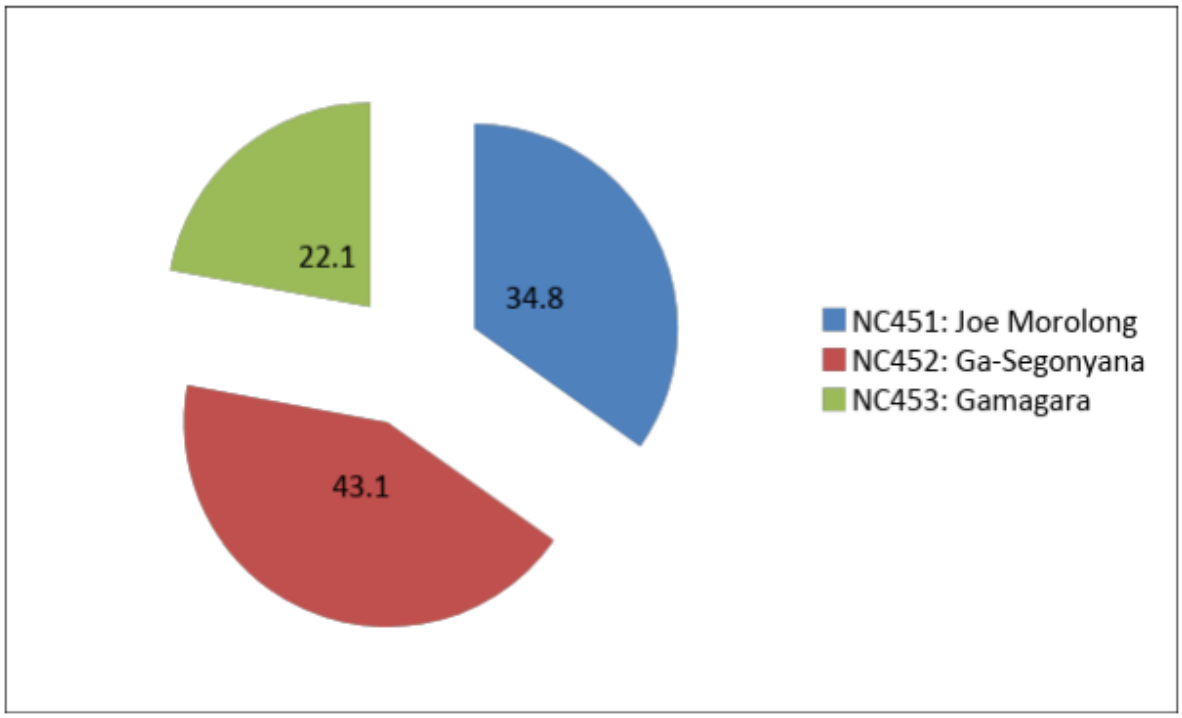

Figure 11-2: Population of the JTGDM by Local Municipality

There is a greater proportion of females compared to males in Ga-Segonyana, with females constituting 52.0% of the total population in the municipality (Figure 11-3).

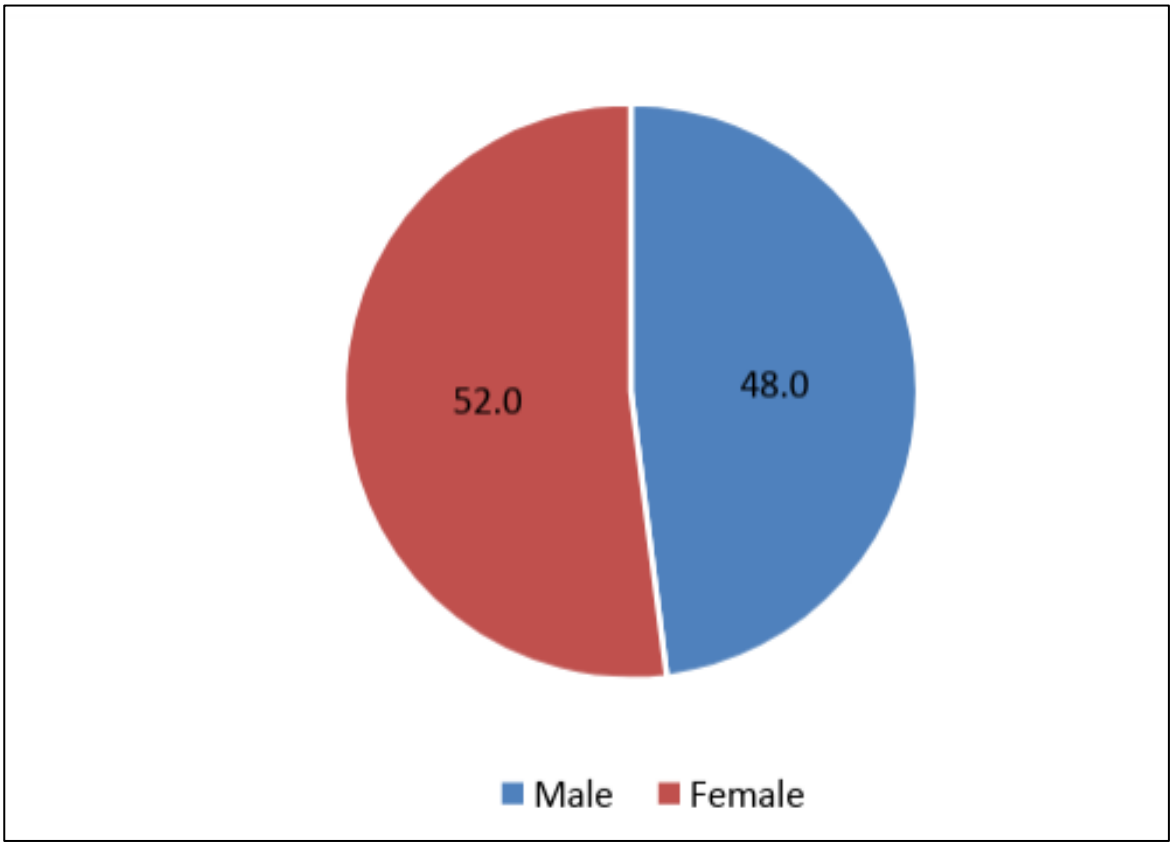

Figure 11-3: Population by gender

The number of people by race for the period 1996 to 2016 shows that there was an increase in the Black African, Coloured, and Indian/Asian population groups from 1996 to 2016, whilst the White

population shows a marginal decrease over the same period. There is a high increase observed for the Black Africans, followed by Coloureds (Figure 11-4).

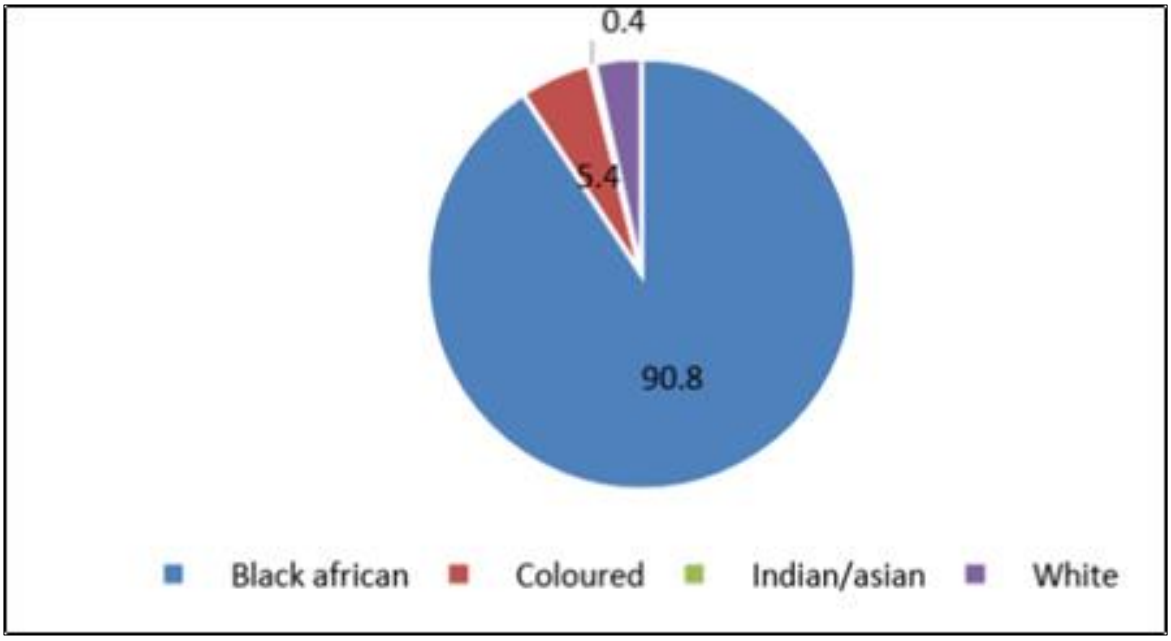

Figure 11-4: Population by race

11.2 Climatic Conditions

11.2.1 Local

In Kuruman, the summers are long, hot, and mostly clear and the winters are short, cold, dry, and clear. The best time to visit Kuruman is from January through May and August through December. In this period, you have a warm temperature and little precipitation. The highest average temperature in Kuruman is 31°C in January and the lowest is 17°C in July.

11.2.2 Rainfall

The study area is within the summer rainfall region of South Africa which commences in October and ends in April. The peak rainfall months are November to April while the lowest rainfall months are July and August as indicated in Figure 11-5.

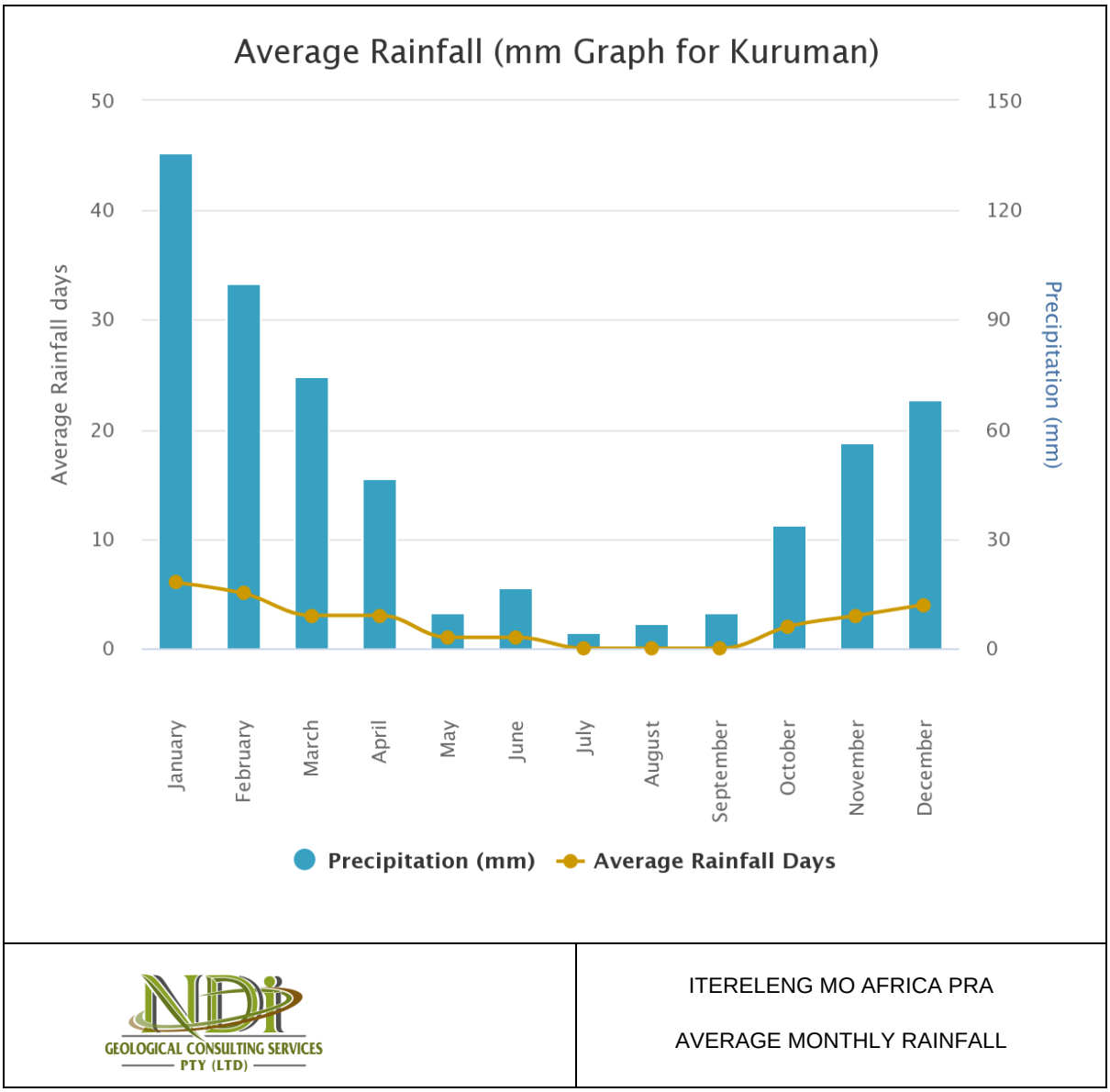

Figure 11-5: Average rainfall

Climate conditions are extreme (i.e., very cold in winter and extremely hot in summer) as shown in Figure 11-6. The highest temperatures are recorded for December at an annual average of 31°C and an annual average low temperature of 6°C in July.

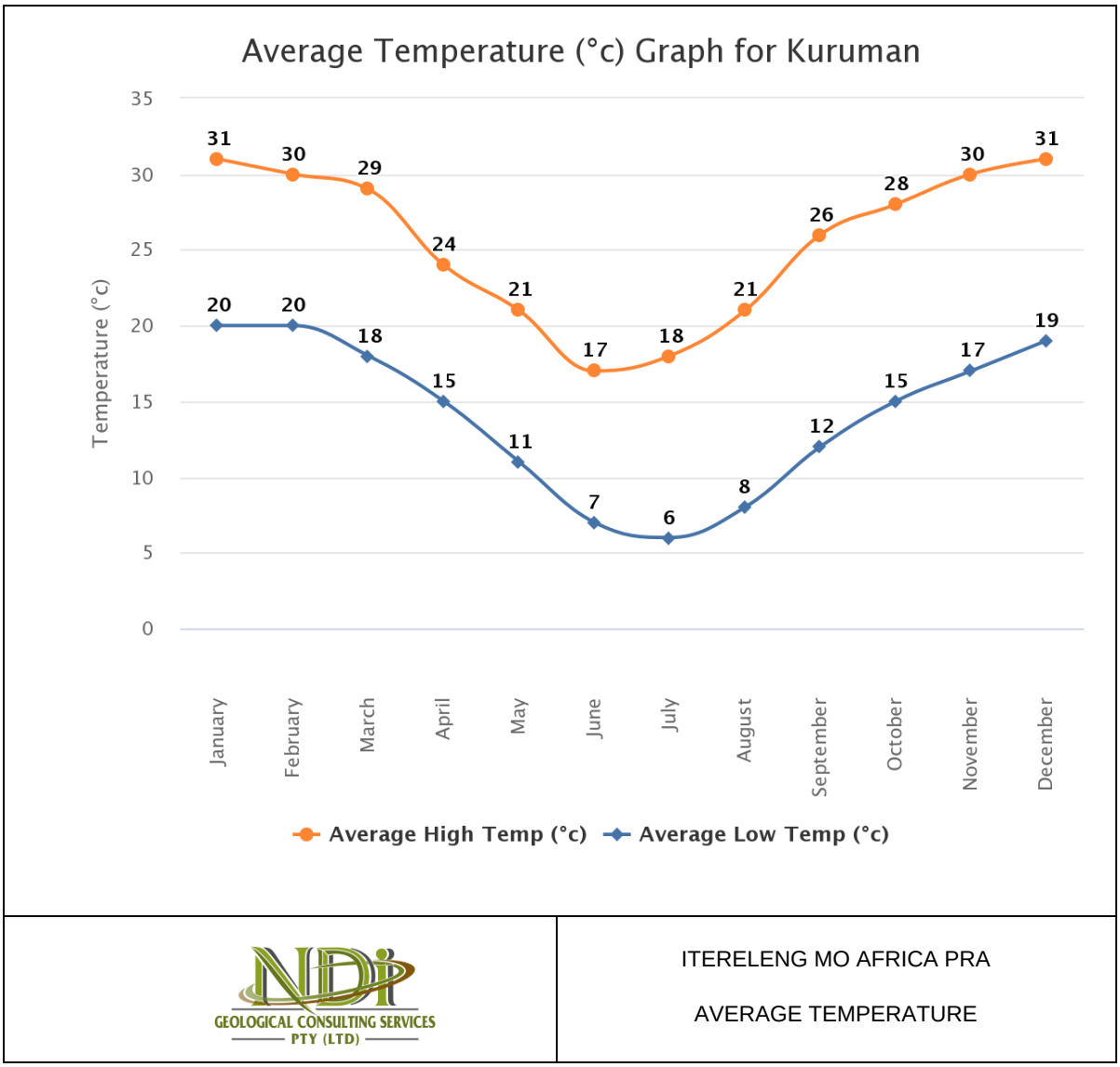

Figure 11-6: Average Temperature

11.3 Topography

The topography in the surroundings of Kuruman contains only modest variations in elevation, with a maximum elevation change of 50 m and an average elevation above sea level of 1.3 m. Within 16 km contains only modest variations in elevation (0.5 m). Within 80 km contains very significant variations in elevation (1.3 m).

The area surrounding Kuruman is covered by shrubs (65%) and artificial surfaces (35%), within 16 km by shrubs (97%), and within 80 km by shrubs (85%).

The topography of the study area is shown in Figure 11-7.

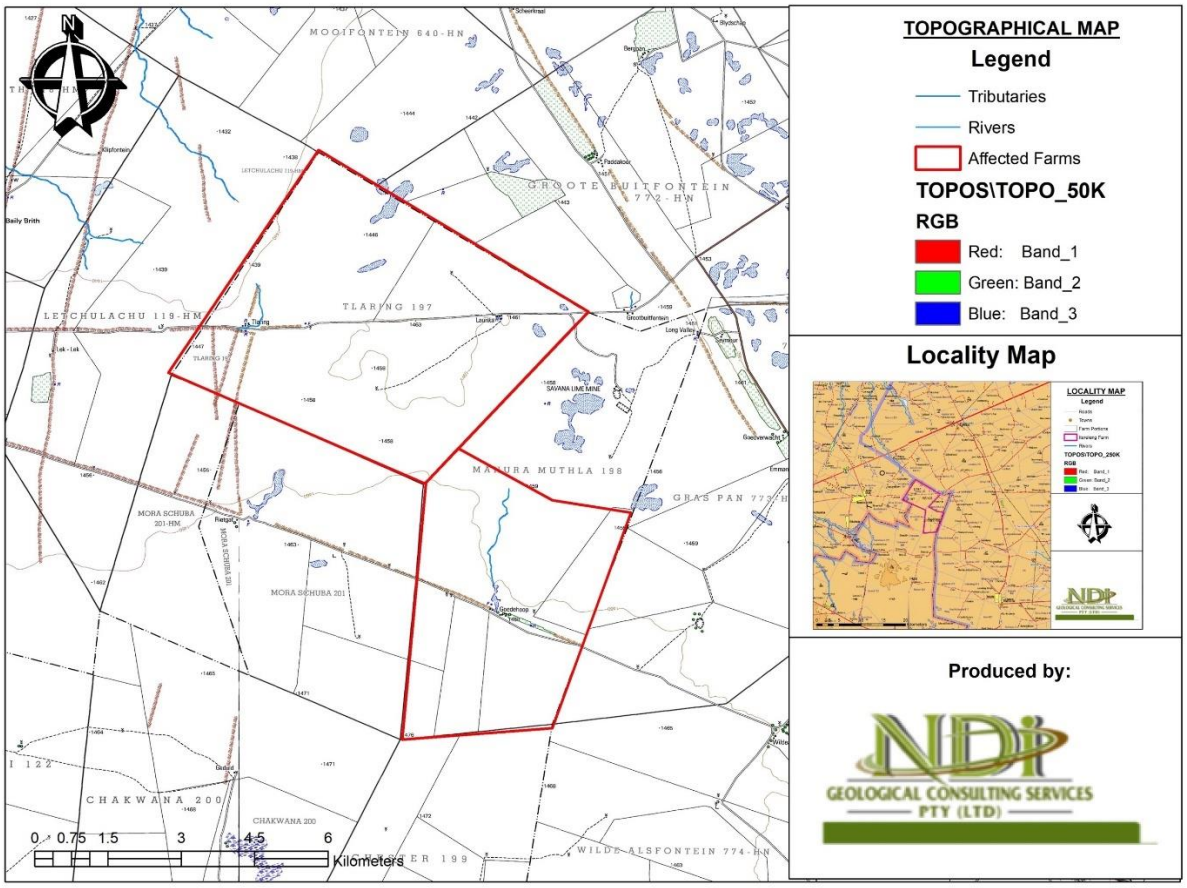

Figure 11-7: Topography

11.4 Geology

The proposed prospecting area is underlain by Vaalian aged rocks of the Reivilo Formation of the Ghaap Group of the Transvaal Supergroup. The Transvaal Supergroup is an end-Archean/earliest-Proterozoic succession developed on the Kaapvaal Craton. The Reivilo Formation is a member of the manganiferous Campbellrand Subgroup which consists mostly of dolomites (Figure 11-8).

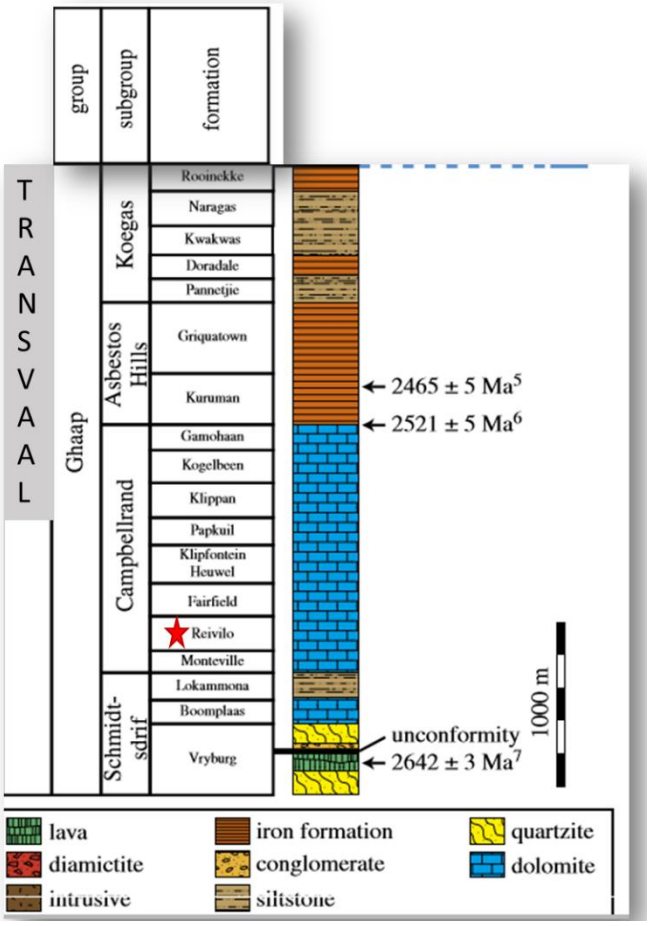

Figure 11-8: The Transvaal Supergroup of the Kaapvaal Craton showing the Reivilo Formation marked with a red star (modified after Takuyo et al; 2018).

The Transvaal Supergroup in the Northern Cape and Northern Cape provinces of South Africa hosts some known large deposits of high-grade hematite ore, from which iron is mined. The Transvaal Group sequence of rocks contain large deposits of Iron, Manganese, Lead, Asbestos, Andalusite, Fluorine, Zinc and Tin ores. The lithologies of the Chuniespoort-Ghaap-Taupone Groups reflect a carbonate-Banded Iron Formation sequence which covered most of the Kaapvaal Craton, in reaction to thermal subsidence above Ventersdorp-aged rift-related fault system (Eriksson, et al; 1995).

The Transvaal Supergroup in the Northern Cape provinces of South Africa hosts some known large deposits of high-grade hematite ore, from which iron is mined. Alluvial diamond mining in the province started in early 19th century. The diamondiferous gravels are distributed in areas overlain by dolomite (Figure 11-9).

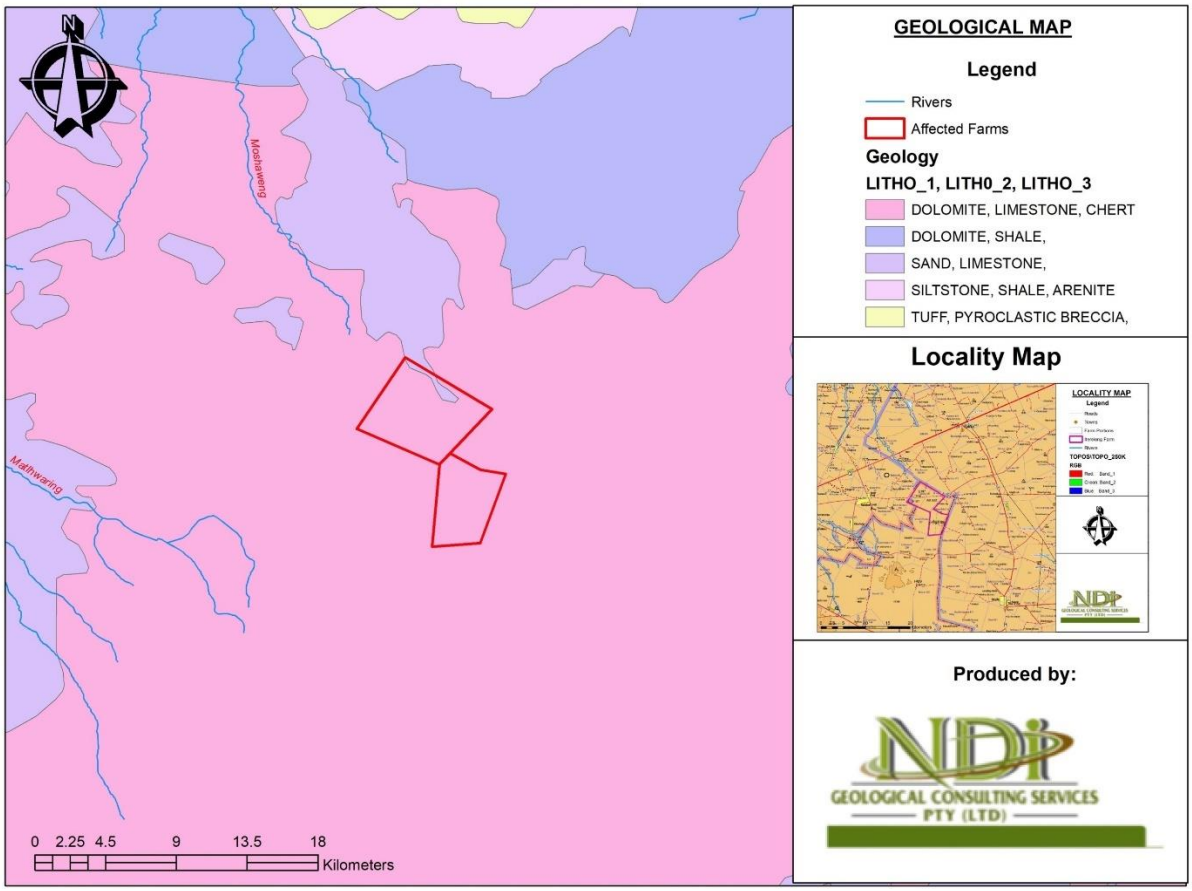

Figure 11-9: Geological map of the proposed prospecting area

11.5 Current Land Use and land capability

The current land use in the municipality is farming of subsistence and survivalist farming. The main activities in this regard include livestock-keeping, poultry rearing and vegetable planting. Large scale commercial farming is also practised in these three local municipalities.

11.6 Biodiversity

11.6.1 Biomes

The proposed prospecting area is located in the Savanna Biome (Figure 11-10). The Savanna Biome is the largest Biome in southern Africa, occupying 46% of its area, and over one-third the area of South Africa. It is well developed over the lowveld and Kalahari region of South Africa. It is characterized by a grassy ground layer and a distinct upper layer of woody plants. Where this upper layer is near the ground the vegetation may be referred to as Shrubveld, where it is dense as Woodland, and the intermediate stages are locally known as Bushveld.

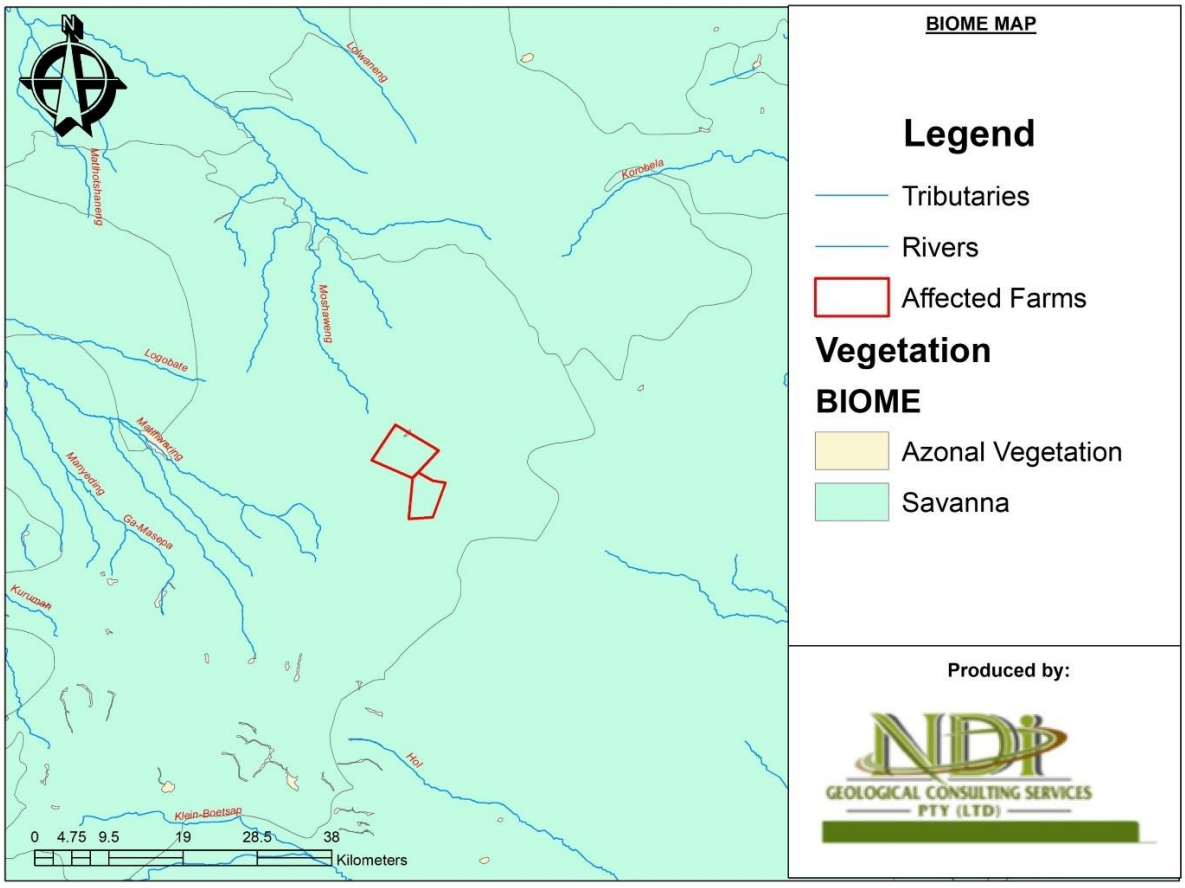

Figure 11-10: Biomes

Most of the savanna vegetation types are used for grazing, mainly by cattle or game. In the southernmost savanna types, goats are the major stock. In some types of crops and subtropical fruit are cultivated. These mainly include the Clay Thorn Bushveld, parts of Mixed Bushveld, and Sweet Lowveld Bushveld.

11.6.2 Bioregions

The proposed prospecting area is located in the Eastern Kalahari Bushveld Bioregion (Figure 11-11). The Eastern Kalahari Bushveld Bioregion is the largest savanna bioregion and is on average at the highest altitude. It is roughly bounded by Mafikeng, Bloemhof, Kimberley, Groblershoop and Van Zylsrus.

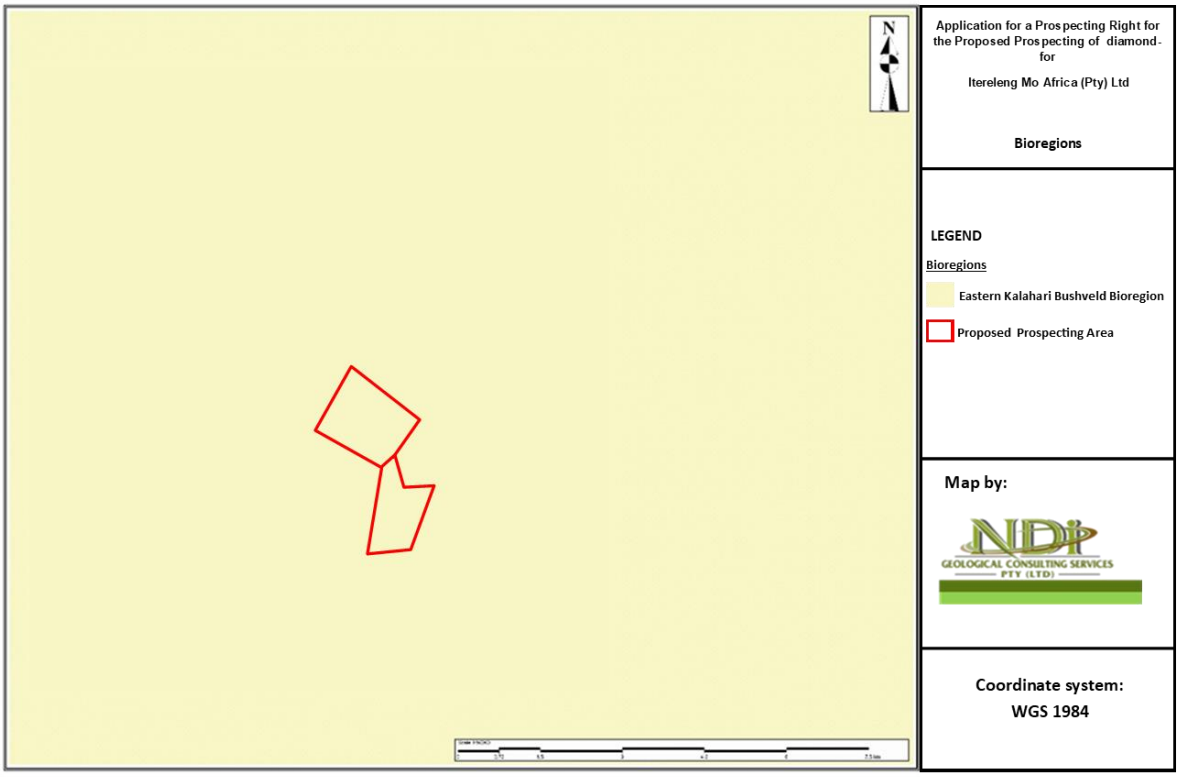

Figure 11-11: Bioregions

11.6.3 Threatened Ecosystems and Natural Vegetation

According to the SANBI database, there are no remaining natural vegetation in the proposed project area.

The prospecting area is located within the Kuruman Vaalbosveld which is considered one of the Least threatened ecosystems (Figure 11-12).

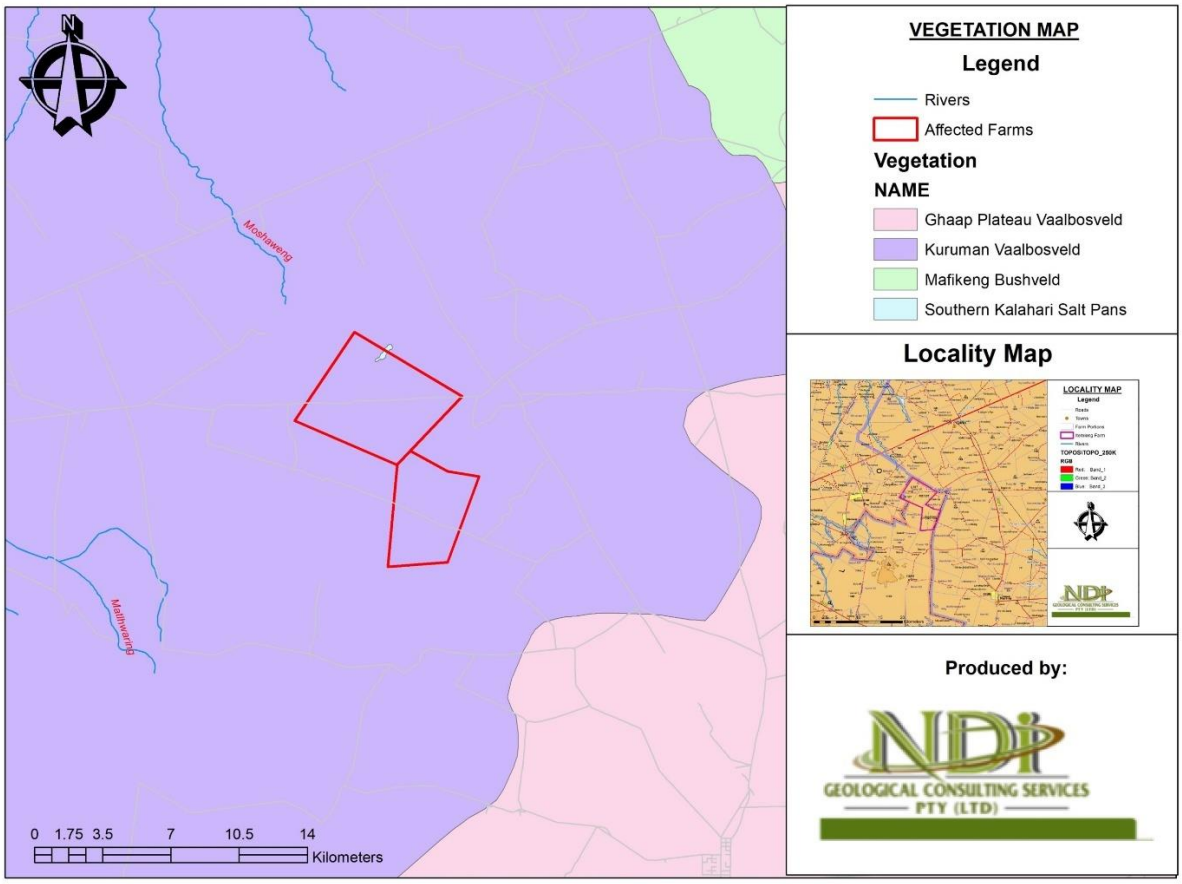

Figure 11-12: Vegetation with Threatened Ecosystems

11.7 Areas of Conservation Importance

11.7.1 Wetlands

The National Freshwater Ecosystems Priority Areas (NFEPA) database indicates that there are depression wetlands located on the affected properties (Figure 11-13).

The NFEPA database indicates:

- Conditions of the wetlands within the subject property according to the NFEPA database are all indicated to be Natural/Good (AB = Percentage Natural Landcover ≥75%);
- The NFEPA database indicates that there are no Ramsar1 wetlands within the study area or within 500 m thereof.

[1] The **Ramsar Convention** (formally, the **Convention on Wetlands of International Importance, especially as Waterfowl Habitat**) is an international treaty for the conservation and sustainable utilization of wetlands, recognizing the fundamental ecological functions of wetlands and their economic, cultural, scientific, and recreational value.

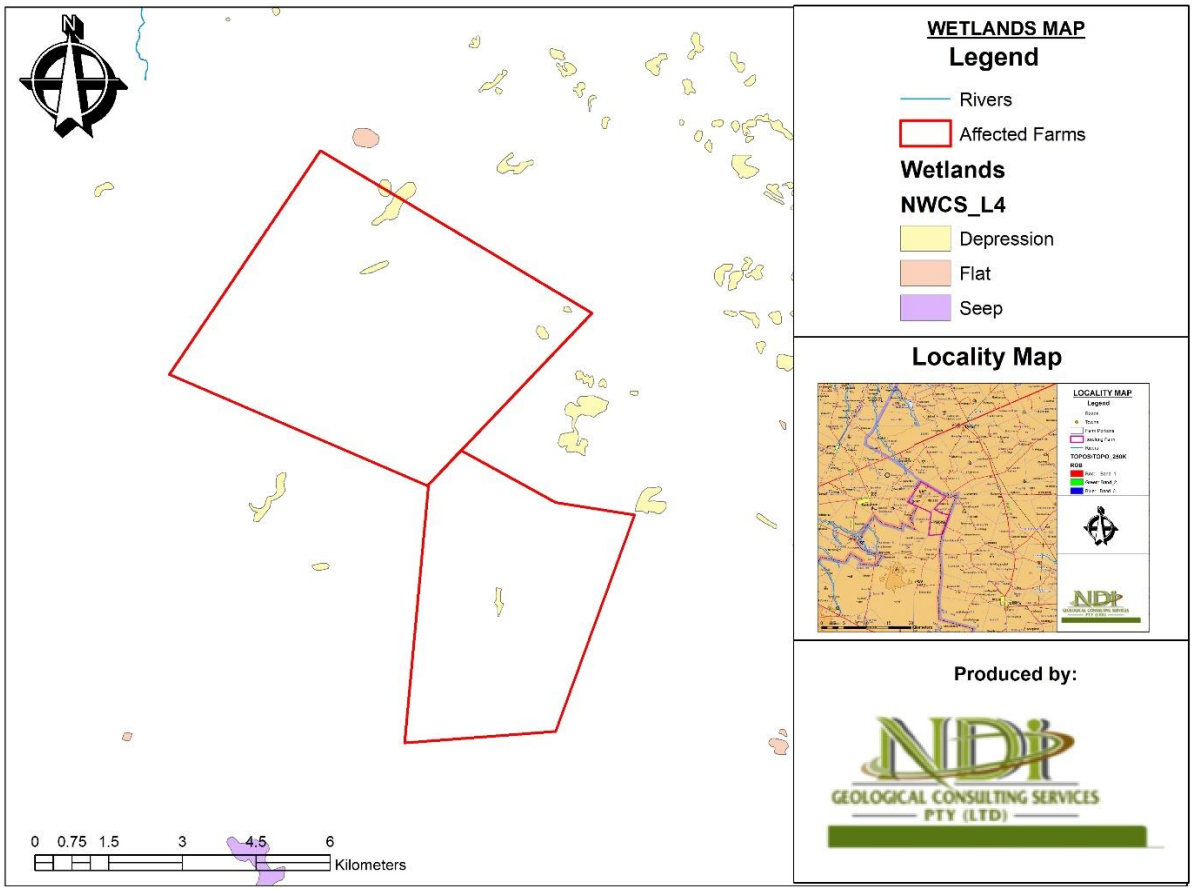

Figure 11-13: NFEPA Wetlands

11.7.2 C-Plan

According to the Northern Cape Provincial Biodiversity Conservation Plan (C Plan), the affected property falls within Ecological Support Areas (ESA) at the most, followed by a small portion falling within the Oher Natural Support Area. ESA are not essential for meeting biodiversity targets but play an important role in supporting the ecological functioning of Critical Biodiversity Areas (CBA) and/or in delivering ecosystem services. The Critical Biodiversity Areas and Ecological Support Areas may be aquatic or terrestrial. The basic function of Critical Biodiversity Areas and Ecological Support Areas map is to guide decision making about the best place to locate development. The map should inform land use planning, environmental assessment and authorisations, and natural resource management by a variety of sectors whose policies and decisions impact biodiversity. Figure 12-14 provides a map showing areas of conservation importance that may be affected by the prospecting activities.

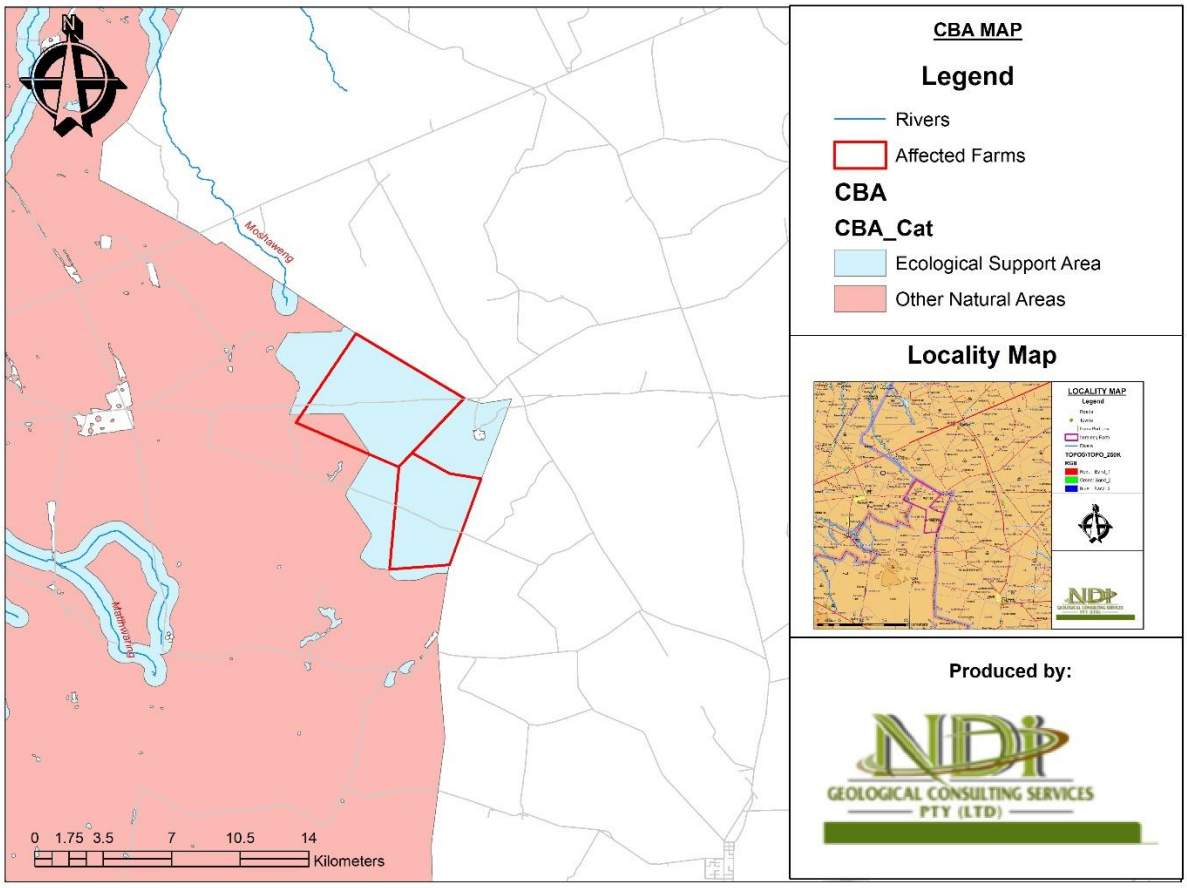

Figure 11-14: Areas of conservation importance

11.7.3 Protected Areas

Apart from the Kathu Forest (2,245 ha) and Tswalu Private Nature Reserve (100,000 ha), no protected areas are present in the JTGDM. Figure 11-15 shows the areas of importance regarding the proposed prospecting area.

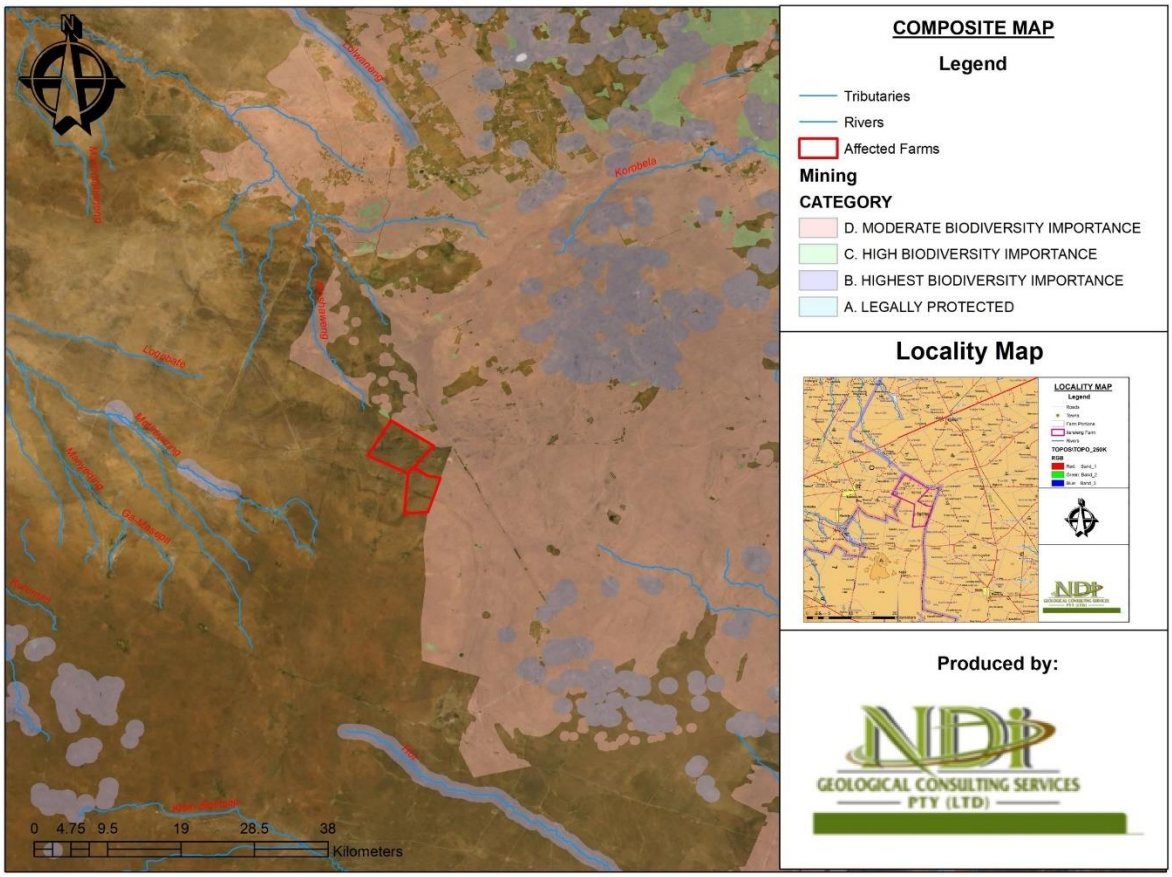

Figure 11-15: Protected areas

11.7.4 Noise

The PRA area is located in a rural area and the typical noise rating in the area is expected to be that for rural districts / suburban districts with little road traffic. According to SANS 10103:2008, the continuous noise rating level is thus likely between 35 dB(A) at night to 45 /50 dB(A) during the day.

11.7.5 Heritage Resources

Heritage resources may be tangible, such as buildings and archaeological artefacts or intangible such as landscapes and living heritage. Their significance is based upon their aesthetic, architectural, historical scientific, social, spiritual, linguistic economic or technological values; their representation of a particular period; their rarity and their sphere of influence.

There are a number of heritage and cultural resources in the Northern Cape Province. However, there are no major heritage resources sites that are associated with the affected properties. It is however expected that there may be graves and burial sites that may be affected by the proposed prospecting activities.

Should there be any heritage sites (graves) within the prospecting area, they will be identified and fenced before any prospecting activities take place. Potential impacts on heritage resources will be assessed in the impact assessment phase of the project and mitigation measures to be implemented in the event that heritage and cultural resources are encountered will eb included in the EMPr.

11.8 Geohydrology

11.8.1 Groundwater Yield

The proposed prospecting area is characterised by low yielding groundwater (0.1ℓ/s to 0.5ℓ/s) except for the bottom or south corner where yield is estimated to be greater than 5ℓ/s (Figure 11-16).

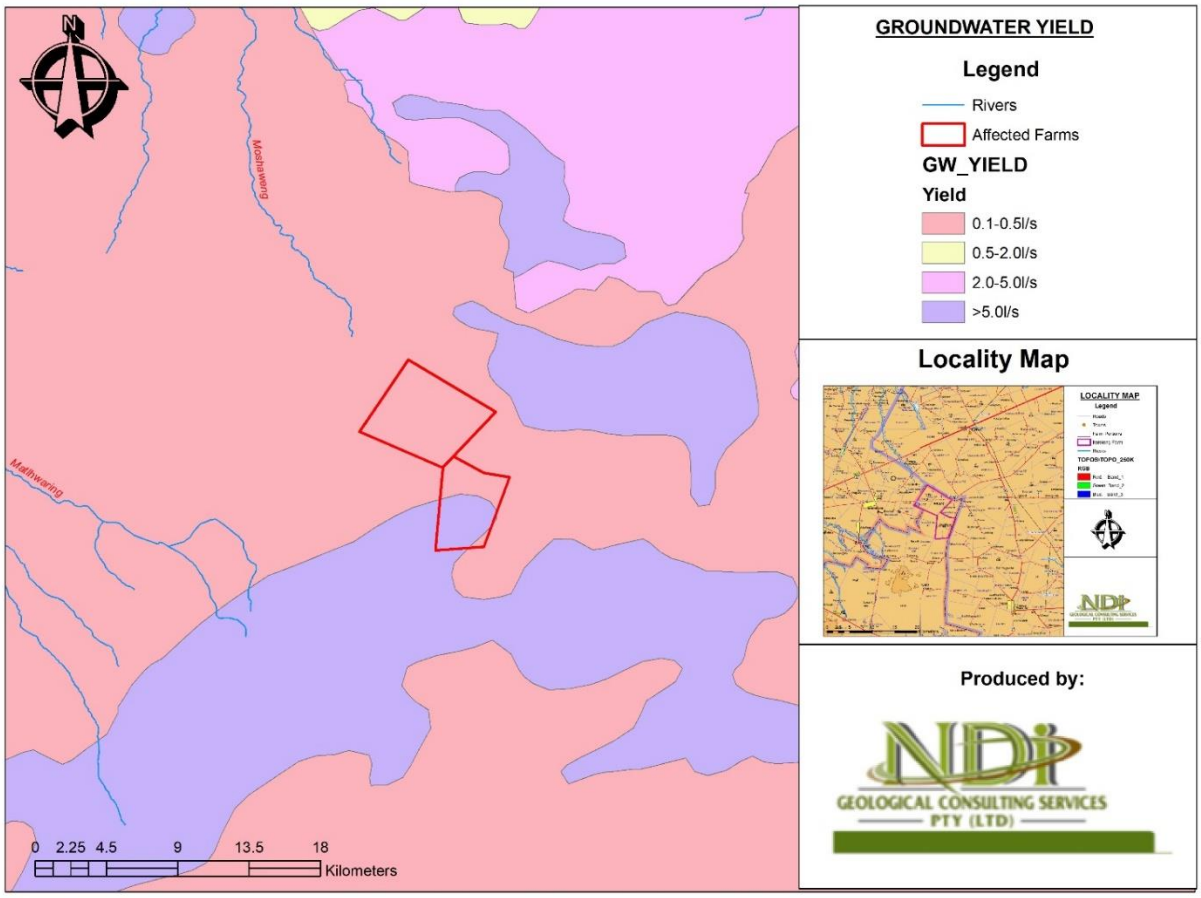

Figure 11-16: Groundwater Yield

11.8.2 Groundwater Recharge

The groundwater recharge transmissivity is considered karstified (Figure 11-17).

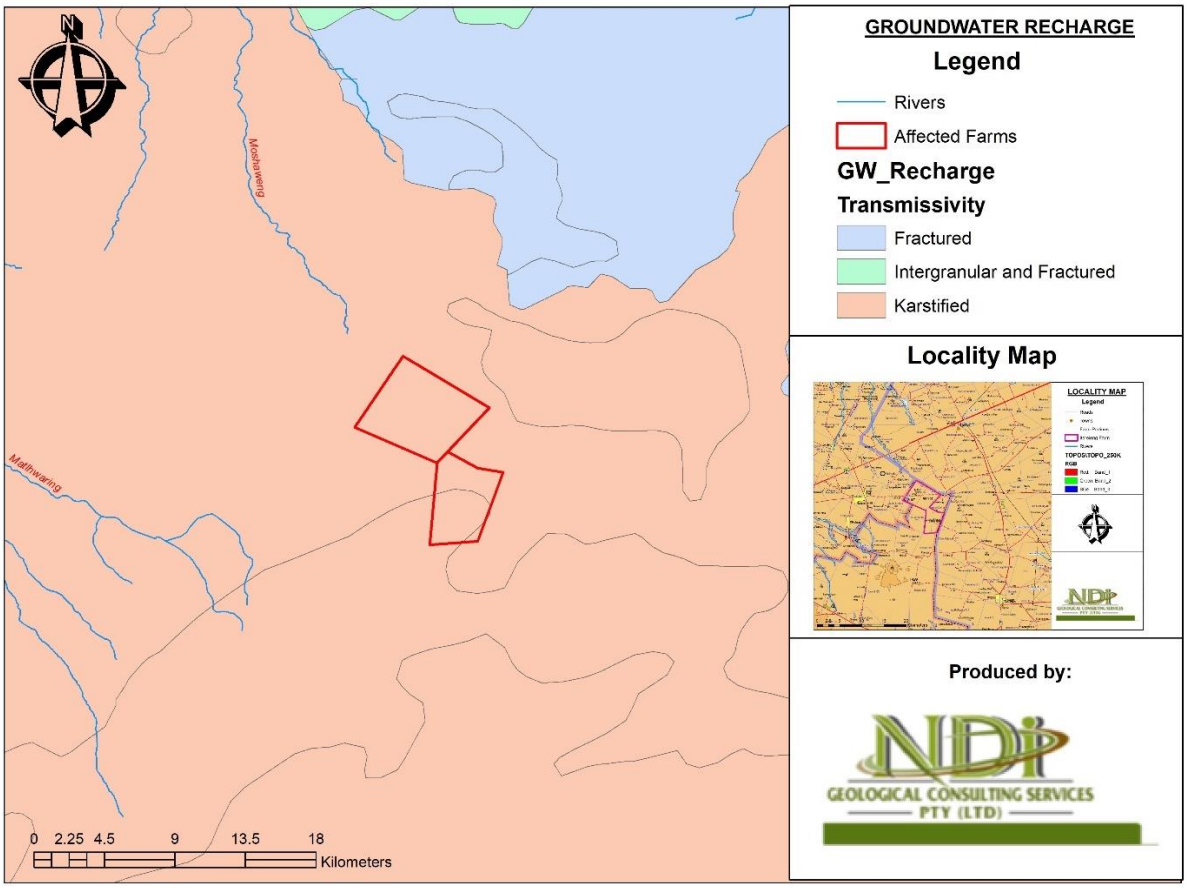

Figure 11-17: Groundwater Recharge

11.8.3 Groundwater Quality

The groundwater in the area is generally of good quality, with almost equal proportions of Electrical Conductivity (EC) levels between 70-300mS/m and as Electrical Conductivity (EC) levels between 0-70mS/m shown in Figure 11-18.

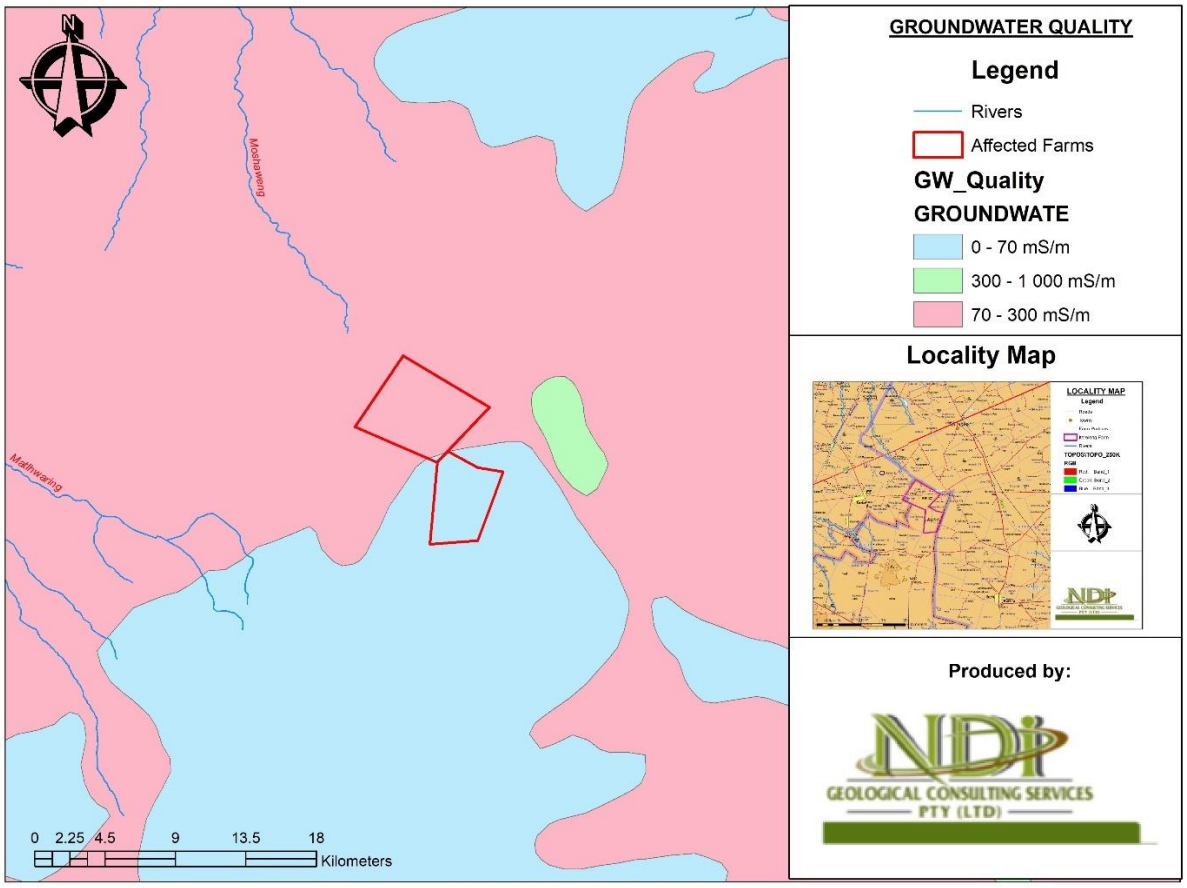

Figure 11-18: Groundwater Quality

11.9 Surface Water

The JTGDM falls in the Vaal Water Management Area with the most important catchment area in the district being the Korannaberg Mountains, from which the majority of the streams in the district spring and from where they drain into the Kuruman River system. However, it is basically an area with very little surface water and no rivers with permanent water flows.

The study area is located within quaternary catchment D41G in the Lower Vaal Water Management Area (WMA) (Figure 11-19).

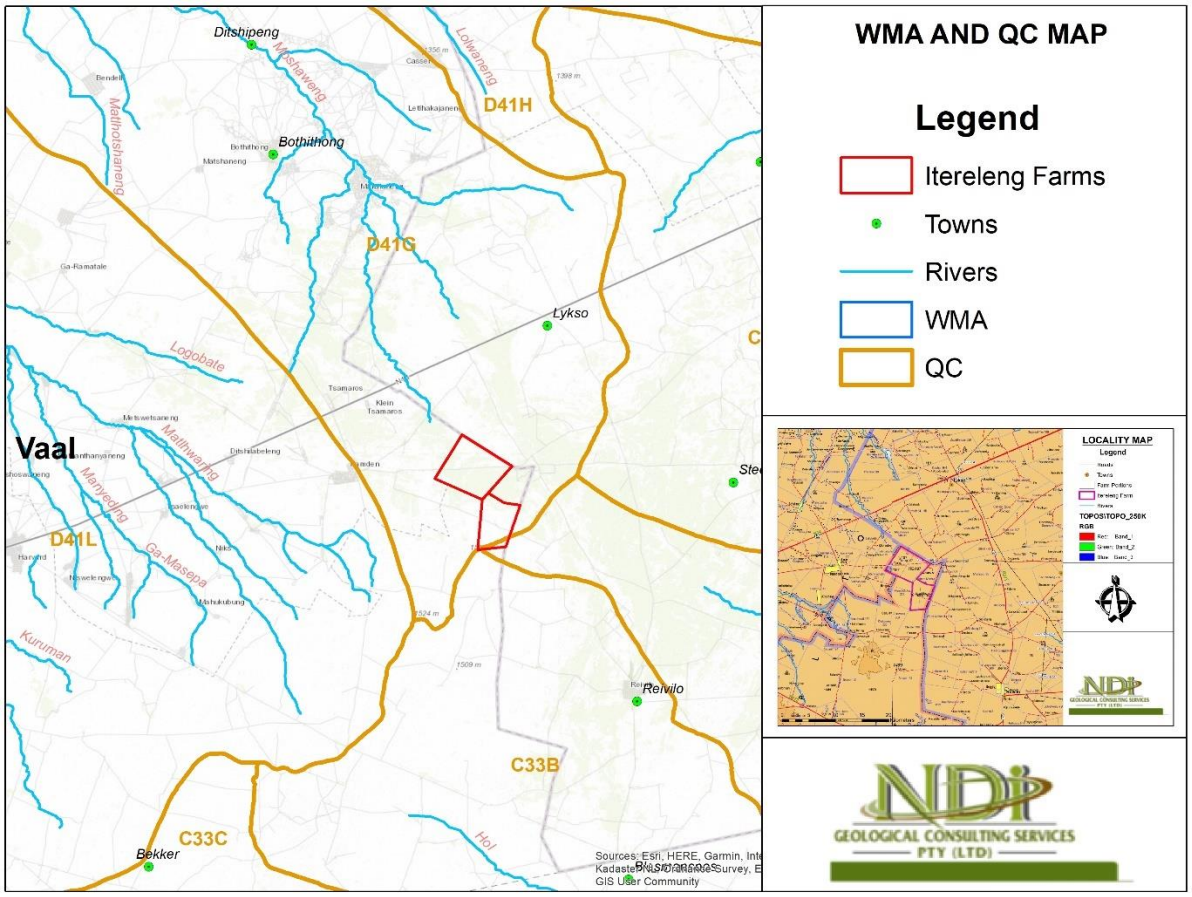

Figure 11-19: Water Management Area and Quaternary Catchment Areas

12 Assumptions and limitations

In accordance with the purpose of scoping, this report does not include detailed investigations on the receiving environment, which will only form part of the impact assessment phase. The project area environment was assessed through site visits, desktop screening, incorporating existing information from previous studies and input received from authorities and I&APs to date. A refinement of all maps will also be undertaken in the impact assessment phase, if necessary.

13 Anticipated Environmental, Social and Cultural Impacts

The scoping phase aims to identify the potential positive and negative biophysical, socio-economic and cultural impacts that the proposed project. Anticipated impacts that have been identified by the project team are summarised in Table 13-1.

All impacts in terms of construction, operation and decommissioning together with their recommended mitigation measures will be and addressed in detail during the EIA/EMPr phase of the project.

Table 13-1: Summary of Potential Environmental Impacts Associated with the Proposed Project

Element of Environment	Potential Impact Descriptions
Socio-Economic	Possible job opportunities.
Hydrogeology	Possible groundwater contamination.
Surface water	Possible surface water contamination.
Air Quality	Possible impact on Air Quality in the area.
Climate Change	Possible contribution to climate change through emission of Green House Gases
Noise	Possible generation of noise during construction and operation.
Visual	Possible visual impacts
Soils/Land Use/Land Capability	Localised loss of soil resource and change in land capability and land use.
Geology	Localised impacts on geology
Biodiversity	Localise disturbance and loss of biodiversity, especially SCC.
Heritage	Unlikely but localised possible impact on heritage and cultural resources (including graves) in the area.
Traffic	Potential safety issues due to the increased traffic.
Cumulative Impacts	Cumulative Impacts

Table 13-2 provide a high-level assessment of the potential impacts and associated mitigation measures which could result from the proposed mine during construction (C), operation (O) and decommissioning/closure (D). These impacts will be further refined and assessed according to the impact assessment methodology in Section 14 during the EIA phase of the study.

Table 13-2: Anticipated impacts for the proposed Itereleng Mo Africa PRA

Aspect	Impact	Mitigation	Phase		
			C	O	D
Social	Influx of job seekers will have a negative social impact on the landowners and land occupiers.	Random and regular alcohol and drug testing shall be conducted on all personnel responsible for operating machinery and driving construction vehicles to ensure the safety of the public; Security and safety should be emphasised; Recruitment will not be undertaken on site; Recruitment practises will favour locals, but farm labourers will not be employed unless agreed to with the farm owners; Liaise with the SAPD and existing forums in order to implement effective crime prevention strategies; and No construction workers shall be allowed to access private properties without the owner's knowledge and consent.	X	X	X
	Unauthorised access to private property outside of the demarcated areas will result in conflict with landowners.		X	X	X
	Increased traffic in the area will increase the likelihood of accidents on the roads, posing a health and safety issue for the landowners and land occupiers.		X	X	X
	The influx of job seekers in the area may result in an increase in petty crimes.		X	X	X
	Ineffective communication channels leading to community unrest.		X	X	X
	Negative impact as a result of the dissection of land by clearing and excavations for construction of infrastructure, constraints to access to cultivated land to farmers, impacting on day-to-day farm activity.		X	X	X
	Negative impact as a result of localised loss of cultivated land, impacting on potential crop yield.		X	X	X
	Possible boost in short term local small business opportunities.	None	X	X	X
Groundwater	Localised spillages of oils from machinery leaching to groundwater contamination.	No washing of vehicles shall be allowed outside demarcated areas. The bays will be clearly demarcated and will not be allowed to contaminate any surface runoff; Sufficient areas shall be provided for the maintenance and washing of vehicles; Refuelling of vehicles will only be allowed in designated areas; All construction equipment shall be parked in a demarcated area Drip trays shall be used when equipment is not used for some time;	X	X	X
	Existing boreholes within the prospecting area may create conduits of flow to the groundwater unless sealed.		X	X	

Aspect	Impact	Mitigation	Phase		
			C	O	D
		On surface bulk storage of hydrocarbons must be situated in a dedicated area which will include a bund or a drain where necessary to contain any spillages during the use, loading and off-loading of the material; Bund areas shall contain 110% of the stored volume; Bund areas must be impermeable; Bund areas must have a facility such as a valve/sump to drain or remove clean stormwater; Contaminated water shall be pumped into a container for removal by an approved service provider; Regular inspections shall be carried out to ensure the integrity of the bundwalls; All preventative servicing of earth moving equipment and construction vehicles shall be undertaken off site; Runoff from this area shall be contained; Spill kits shall be made available, and all personnel shall be trained on how to use the kits and training records shall be made available on request.			
Surface Water	Increase in silt load in runoff due to site clearing, grubbing and the removal of topsoil from the footprint area associated with the drill sites and associated infrastructure.	Ensure that topsoil is properly stored, away from the streams and drainage areas; No construction activities will be undertaken within 100 metres of the nearby steams and 500 meters from wetlands and/or riparian areas without consent from the DWS; Vehicle and personnel movement within watercourses and wetland areas shall be strictly prohibited; Adequate stormwater management must be incorporated into the design of the project in order to prevent contamination of water courses and wetlands from dirty water.	X	X	X
	Potential deterioration in water quality due to the potential accidental spillages of hazardous substances.		X	X	X
	Debris from poor handling of materials and/or waste blocking watercourses, resulting in flow impediment and pollution.		X	X	X
	Contaminated dirty water runoff to surrounding areas resulting in the impact on local surface water quality.		X	X	X
	Increase of surface runoff and potentially contaminated water that needs to be maintained in the areas where site clearing occurred.		X	X	X

Aspect	Impact	Mitigation	Phase		
			C	O	D
Wetlands and Aquatic Ecosystems	Localised changes to the riparian areas as a result of vegetation clearing.	Adequate stormwater management must be incorporated into the design of the project in order to prevent erosion and the associated sedimentation of the aquatic system; No construction activities shall be allowed within 500 m of wetlands and/or riparian zones without consent from the DWS; No vehicles may be allowed to indiscriminately drive through the riparian areas or within the active stream channels; All disturbed areas shall be re-vegetated with indigenous species; All construction materials shall be kept out of the wetlands and riparian areas; and All vehicles shall be regularly inspected for leaks. Re-fuelling must take place outside the project area, on a sealed surface area to prevent ingress of hydrocarbons into topsoil and aquatic ecosystems	X	X	X
	Loss of habitat and wetland ecological structure as a result of site clearance activities and uncontrolled wetland degradation.		X	X	X
	Impact on the wetlands systems as a result of changes to the sociocultural service provisions.		X	X	X
	Increased runoff due to topsoil removal and vegetation clearance leading to possible erosion and sedimentation of wetland and riparian resources.		X	X	X
	Soil compaction and levelling as a result of construction activities and vehicle movement leading to loss of wetland and riparian habitat.		X	X	X
	Impact on the hydrological functioning of the wetland systems.		X	X	X
Heritage Resources	The proposed project has the potential to impact on local graves within the area.	Prior to the site establishment, a heritage impact assessment must be undertaken and mitigation and /or management measure for the protection of such resources must be implemented; No construction activities may be undertaken within 50 m of the heritage and/or cultural sites; If archaeological sites or graves are exposed during construction work, it should immediately be reported to a heritage practitioner so that an investigation and evaluation of the finds can be made.	X		
	The proposed project has the potential to impact on sites of archaeological importance.		X		
Palaeontological Resources	Drilling of exploratory boreholes has potential to impact on palaeontological resources	Should fossils be exposed during construction work, it should immediately be reported to a heritage practitioner so that an investigation and evaluation of the finds can be made.	X	X	
Flora	Loss of localised biodiversity habitats within sensitive areas due to site clearance and establishment of drill sites.	The Contractor shall be on the lookout for SCC and any floral SCC encountered within the development footprint are to be relocated to areas with suitable habitat, outside the disturbance footprint;	X	X	X

Aspect	Impact	Mitigation	Phase		
			C	O	D
	Loss of localised floral species diversity including RDL and medicinal protected species due to site clearance and establishment of drill sites.	Floral species of conservation concern, if encountered within the development footprint, are to be handled with care and the relocation of sensitive plant species to suitable similar habitat is to be overseen by a botanist; The proposed development footprint shall be kept to the minimum; All disturbed areas must be concurrently rehabilitated during construction; Prohibit the collection of any plant material for firewood or medicinal purposes; The existing integrity of flora surrounding the study area shall be upheld and no activities shall be carried out outside the footprint of the construction areas; Edge effect control shall be implemented to avoid further habitat degradation outside of the proposed footprint area; All sensitive open space areas will be demarcated and access into these areas shall be prohibited; Protected floral species occurring within the vicinity of the study area, but outside the disturbance footprint shall be fenced for the duration of the construction activities; Monitoring of relocation success will be conducted during the operational phase; Construction related activities shall be kept strictly within the development footprint; Construction vehicles shall only be allowed on designated roadways to limit the ecological footprint of the project. Alien Invasive Plant Species Management plan to be implemented; Edge effects of activities including erosion and alien/ weed control will be strictly managed in the riparian area; All sites disturbed by construction activities shall be monitored for colonisation by exotic or invasive plants; Exotic or invasive plants shall be controlled as they emerge; An alien vegetation control program must be developed and implemented within all disturbed areas. After removal of alien vegetation, the affected areas must be re-assessed to determine the success of the program and any follow up measures that may be required;	X	X	X
	Potential spreading of alien invasive species as indigenous vegetation is removed, and pioneer alien species are provided with a chance to flourish.		X	X	X

Aspect	Impact	Mitigation	Phase		
			C	O	D
		The eradicated plant material must be disposed of at an approved solid waste disposal site; During post-construction, an alien vegetation removal and monitoring plan must be compiled for those areas which were not effectively rehabilitated; The extent of invasion must be established through investigation to identify priority areas; Priority species shall be identified to control and develop protocols for the removal of all alien species e.g., mechanical removal, herbicidal treatment etc. Mechanical, methods must be favoured for the removal of alien invasive species. Chemical removal shall only be undertaken by a suitably qualified and approved person; and As much vegetation growth as possible must be promoted in order to protect soils. In this regard, special mention is made of the need to use indigenous vegetation species where hydro seeding, rehabilitation planting (where applicable) is to be implemented.			
Fauna	Vegetation clearance may result in loss of faunal habitat ecological structure, species diversity and loss of species of conservation concern.	The proposed development footprint areas shall remain as small as possible and where possible be confined to already disturbed areas; No trapping or hunting of fauna shall be permitted; Edge effects of all construction and operational activities, such as erosion and alien plant species proliferation, which may affect faunal habitat, need to be strictly managed; Should any SCC be encountered within the study area, these species will be relocated to similar habitat within or in the vicinity of the study area with the assistance of a suitably qualified specialist; No informal fires in the vicinity of construction areas shall be permitted; An alien vegetation control plan must be developed and implemented in order to manage alien plant species occurring within the study area, and to prevent further faunal habitat loss.	X	X	
	Habitat fragmentation as a result of construction activities of the access roads leading to loss of floral diversity.		X		
	Loss of faunal diversity and ecological integrity as a result of construction activities, erosion, poaching and faunal specie trapping.		X	X	X
	Movement of vehicles and machinery may result in collision with fauna, resulting in loss of fauna.		X	X	X
Air Quality	Possible increase in dust generation, PM_{10} and $PM_{2.5}$ as a result of bulk earthworks, operation of heavy machinery, and material movement.	Dust suppression measures shall be implemented on dry weather days and periods of high wind velocities;	X	X	X

Aspect	Impact	Mitigation	Phase		
			C	O	D
	Increase in carbon emissions and ambient air pollutants (NO_2 and SO_2) as a result of movement of vehicles and operation of machinery/equipment.	Appropriate dust suppression measures may include spraying with water; Where practical rehabilitation should be undertaken in tandem with the construction activities; A speed limit of 40 km/hr shall apply to limit vehicle entrained dust from the unpaved road; All construction equipment must be scheduled for preventative maintenance to ensure the functioning of the exhaust systems to reduce excessive emissions and limit air pollution; Dust control suppression shall be implemented on dry weather days and periods of high wind velocities; Appropriate dust suppression measures may include limiting the extent of open areas, reducing the frequency of disturbance and spraying with water; Where practical rehabilitation should be undertaken progressively; Materials transported on public roads must be covered; Odours: Putrescible waste must be handled, stored and disposed of before the probability of it generating odours; and Chemical toilets must be emptied / serviced on a regular basis. Proof of this must be provided to the Engineer.	X	X	X
Visual	Scaring of the landscape as a result of the clearance of vegetation.	The number of construction vehicles and machinery to be used shall be kept to a minimum; Movement of vehicles shall be kept to outside busy hours to minimise the visual impacts on the residents; Materials transported on public roads must be covered; and Where possible, rehabilitation of the work areas shall be undertaken in tandem with construction to ensure that areas stripped of vegetation are kept to a minimum.	X	X	
	Visual intrusion as a result of the movement of machinery and the establishment of the required infrastructure.		X	X	X
	Indirect visual impact due to dust generation as a result of the movement of vehicles and materials, to and from the site area.		X	X	X
Noise	The use of vehicles and machinery during they may generate noise in the immediate vicinity.	Adjacent landowners must be advised of any work that will take place outside of normal working hours, that may be disruptive (e.gw. noise) in advance; Surrounding communities must be notified in advance of noisy construction activities; All equipment should be provided with standard mufflers;	X	X	X

Aspect	Impact	Mitigation	Phase		
			C	O	D
		Muffling units on vehicles and equipment must be kept in good working order. Construction staff working in areas where the 8-hour ambient noise levels exceed 85 Dba should wear ear protection equipment; Where possible, operation of several equipment and machinery simultaneously must be avoided; All equipment must be kept in good working order, with immediate attention being paid to defective silencers, slipping fanbelts, worn bearings and other sources of noise; Equipment must be operated within specifications and capacity (e.g., no overloading of machines); Regular maintenance of equipment must be undertaken, particularly with regard to lubrication; Equipment shall be switched off when not in operation; Appropriate directional and intensity settings must be maintained on all hooters and sirens; The Contractor must ensure that the employees conduct themselves in an appropriate manner while on site; and Noise/vibration producing activities shall be limited to daylight hours (Monday to Friday 07H00 to 17H30 and Saturday 07H00 -14H00). No noise/vibration producing activities shall be undertaken on Saturdays on farms unless this has been agreed to by the farmer.			
Soil, Land use and Land Capability	Localised chemical pollution of soils as a result of vehicle hydrocarbon spillages and compaction.	Contaminated soil shall be removed and disposed of to an appropriate licensed landfill site in terms of NEMWA, or can be removed by a service provider that is qualified to clean the soil; The time in which soils are exposed during construction activities should remain as short as possible; Erosion control measures shall be implemented where deemed necessary;	X	X	X
	Localised clearing of vegetation and compaction of the construction footprint will result in the soils being particularly more vulnerable to soil erosion.		X		

Aspect	Impact	Mitigation	Phase		
			C	O	D
	Localised loss of resource and its utilisation potential due to compaction over unprotected ground/soil.	In general, all steep slopes steeper than 1:3 or where the soils are more prone to erosion must be stabilised; If stockpiles are not going to be used immediately the stockpiles shall be rehabilitated to prevent erosion; Runoff from stockpiles shall be detained in order to support growth of vegetation; Runoff from the stockpiles shall be suitably managed to ensure that the runoff volumes and velocities are similar to pre disturbed levels; Vegetation shall be used to promote infiltration of water into the stockpile instead of increasing runoff; A monitoring programme will be implemented if the stockpiles are not used within the first year whereby the vegetation of the stockpiles is monitored in terms of basal cover and species diversity; If it is noticed that the vegetation on the stockpiles is not sustainable, appropriate corrective actions shall be taken to rectify the situation; Stockpiles shall be maintained until the topsoil is required for rehabilitation purposes; Topsoil stockpiles shall be monitored regularly to identify alien vegetation, which shall be removed as soon as possible to prevent further distribution of any alien vegetation.	X	X	X
	Localised loss of soil and land capability due to reduction in nutrient status - de-nitrification and leaching due to stripping and stockpiling footprint areas.		X	X	
Traffic	Increase in traffic volumes as a result of pre-construction activities which may lead to an increase in traffic congestion along the R82 and R723 roads as well as the farm roads around the prospecting area.	Local speed limits and traffic laws shall apply at all times to minimise the occurrences of accidents on public roads; The number of construction vehicles and trips shall be kept to a minimum; and Where possible the transportation of construction materials and rubbish shall be undertaken outside traffic peak hours to minimise inconveniencing residents.	X	X	X
Climate	Emissions of Green House Gases as a result of the use of plant, heavy moving machinery, generators etc.	All the construction vehicles shall undergo maintenance on a regular basis to improve on the combustion engine vehicle efficiency.	X	X	X

Aspect	Impact	Mitigation	Phase		
			C	O	D
Waste Management	Potential water and soil pollution as a result of inappropriate waste management practices.	Separation of waste: All waste shall be separated into general waste and hazardous waste; Hazardous waste shall not be mixed with general waste and in doing so increase the quantities of hazardous waste to be managed; General waste can further be separated into waste that can be recycled and or reused; No littering shall be allowed in and around the site, a sufficient number of bins shall be provided for the disposal of waste; Where necessary dedicate a storage area on site for collection of construction waste. Storage of waste: No stockpiling of debris shall be permitted within 100 m of any water courses and drainage lines, or within 500 m of wetland and riparian areas; General waste will be collected in an adequate number of litter bins located throughout the construction site; Bins must have lids in order to keep rainwater out; Bins shall be emptied regularly to prevent them from overflowing; All work areas shall be kept clean and tidy at all times; All waste management facilities will be maintained in good working order; Waste shall be stored in demarcated areas according to type of waste; Runoff from any area demarcated for waste will be contained, treated and reused; Flammable substances must be kept away from sources of ignition and from oxidizing agents; No construction rubble shall be disposed of to the riparian area; If construction rubble is not removed immediately, it shall be stockpiled outside the 1:100-year floodline and outside the sensitive wetland and riparian areas; Demolition waste and surplus concrete shall be disposed of responsibly; Waste shall not be buried or burned on site; and The maximum retention time for temporary storage of waste generated shall not exceed 30 days, provided the waste does not present a health hazard or risk of odour.	X	X	X

Aspect	Impact	Mitigation	Phase		
			C	O	D
		Disposal of hazardous waste: No dumping shall be allowed in or near the construction site; Hazardous containers shall be disposed of at an appropriate licensed site; Hazardous waste will be removed and managed by an approved service provider; A safe disposal certificate will be provided by the approved service provider as proof of responsible disposal of hazardous waste; and The safe disposal certificate shall be stored and provided on request. Disposal of general waste: No dumping shall take place in or near the construction site; All general waste shall be disposed of to the nearest licensed landfill site; Demolition waste and builders' rubble shall be disposed of to an appropriate licensed landfill site; and The necessary permissions must be obtained to dispose of builders' rubble to the landfill site.			
Drilling and Vibrations	Impact of drilling ground vibration on houses, boreholes and roads, resulting in possible damage to infrastructure	Drill sites shall be located as far from private property as is possible. Affected property owners shall be notified of any drilling activities before commencement of the activities. Should there be damage to private property as a result of drilling activities, property owners shall be appropriately compensated.		X	
	Fly rock impact on houses, boreholes and roads, resulting in possible damage to infrastructure;			X	

14 Methodology to be used in determining the significance of environmental impacts

The following methodology for determining the significance of environmental impacts will be utilised for the EIA/EMPr phase.

The impact assessment methodology has been formalised to comply with Regulation 31(2) (i) of NEMA, which states the following:

> *(2) An environmental impact assessment report must contain all information that is necessary for the competent authority to consider the application and to reach a decision …, and must include –*
> *(I) an assessment of each identified potentially significant impact, including –*
> *(i)* ***cumulative impacts****;*
> *(ii) the* ***nature*** *of the impact;*
> *(iii) the* ***extent*** *and* ***duration*** *of the impact;*
> *(iv) the* ***probability*** *of the impact occurring;*
> *(v) the* ***degree*** *to which the impact can be* ***reversed****;*
> *(vi) the* ***degree*** *to which the impact may* ***cause irreplaceable loss of resources****; and*
> *(vii) the* ***degree*** *to which the impact can be* ***mitigated****.*

All the identified potential impact will be assessed according to the following Impact Assessment Methodology as described below. This methodology has been utilised for the assessment of environmental impacts where the consequence (severity of impact, spatial scope of impact and duration of impact) and likelihood (frequency of activity and frequency of impact) have been considered in parallel to provide an impact rating and hence an interpretation in terms of the level of environmental management required for each impact.

The first stage of any impact assessment is the identification of potential environmental activities[2], aspects[3] and impacts which may occur during the commencement and implementation of a project. This is supported by the identification of receptors[4] and resources[5], which allows for an understanding of the impact pathway and an assessment of the sensitivity to change. Environmental impacts[6] (social and biophysical) are then identified based on the potential interaction between the aspects and the receptors/resources.

The significance of the impact is then assessed by rating each variable numerically according to defined criteria as outlined in Table 9. The purpose of the rating is to develop a clear understanding of

[2]An ***activity*** is a distinct process or task undertaken by an organisation for which a responsibility can be assigned. Activities also include facilities or pieces of infrastructure that are possessed by an organisation.

[3]An ***environmental aspect*** is an 'element of an organisations activities, products and services which can interact with the environment'. The interaction of an aspect with the environment may result in an impact.

[4]***Receptors*** comprise but are not limited to people or man-made structures.

[5]***Resources*** include components of the biophysical environment.

[6]***Environmental impacts*** are the consequences of these aspects on environmental resources or receptors of particular value or sensitivity, for example, disturbance due to noise and health effects due to poorer air quality. Receptors can comprise, but are not limited to, people or human-made systems, such as residents, communities, and social infrastructure, as well as components of the biophysical environment such as aquifers, flora, and palaeontology. In the case where the impact is on human health or well-being, this should be stated. Similarly, where the receptor is not anthropogenic, then it should, where possible, be stipulated what the receptor is.

influences and processes associated with each impact. The severity[7], spatial scope[8] and duration[9] of the impact together comprise the consequence of the impact and when summed can obtain a maximum value of 15. The frequency of the activity10 and the frequency of the impact11 together comprise the likelihood of the impact occurring and can obtain a maximum value of 10. The values for likelihood and consequence of the impact are then read off a significance rating matrix table as shown in Table 14-1. This matrix thus provides a rating on a scale of 1 to 150 (low, medium low, medium high or high) based on the consequence and likelihood of an environmental impact occurring.

Natural and existing mitigation measures, including built-in engineering designs, are included in the pre-mitigation assessment of significance. Measures such as demolishing of infrastructure, and reinstatement and rehabilitation of land, are considered post-mitigation.

Table 14-1: Criteria for Assessing Significance of Impacts

SEVERITY OF IMPACT	RATING
Insignificant / non-harmful	1
Small / potentially harmful	2
Significant / slightly harmful	3
Great / harmful	4
Disastrous / extremely harmful	5

SPATIAL SCOPE OF IMPACT	RATING
Activity specific	1
PRA specific (within the PRA boundary)	2
Local area (within 5 km of the PRA boundary)	3
Regional	4
National	5

DURATION OF IMPACT	RATING
One day to one month	1
One month to one year	2
One year to ten years	3
Life of operation	4
Post closure / permanent	5

CONSEQUENCE

FREQUENCY OF ACTIVITY / DURATION OF ASPECT	RATING
Annually or less / low	1
6 monthly / temporary	2
Monthly / infrequent	3
Weekly / life of operation / regularly / likely	4
Daily / permanent / high	5

FREQUENCY OF IMPACT	RATING
Almost never / almost impossible	1
Very seldom / highly unlikely	2
Infrequent / unlikely / seldom	3
Often / regularly / likely / possible	4
Daily / highly likely / definitely	5

LIKELIHOOD

Consequence

[7]***Severity*** refers to the degree of change to the receptor status in terms of the reversibility of the impact; sensitivity of receptor to stressor; duration of impact (increasing or decreasing with time); controversy potential and precedent setting; threat to environmental and health standards.

[8]***Spatial scope*** refers to the geographical scale of the impact.

[9]***Duration*** refers to the length of time over which the stressor will cause a change in the resource or receptor.

[10]***Frequency of activity*** refers to how often the proposed activity will take place.

[11]***Frequency of impact*** refers to the frequency with which a stressor (aspect) will impact on the receptor.

Likelihood

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	1	140	150

	High	76 to 150	Improve current management
	Medium High	40 to 75	Maintain current management
	Medium Low	26 to 39	
	Low	1 to 25	No management required

SIGNIFICANCE = CONSEQUENCE x LIKELIHOOD

15 The positive and negative impacts that the proposed activity and alternatives

Refer to Section 13 for the positive and negative impacts identified for the proposed project. A detailed assessment of the positive and negative impacts associated with the project will be developed and included in the EIA/ EMPr Report.

16 Possible mitigation measures that could be applied and the level of risk

Refer to Section 13 for the positive and negative impacts identified for the proposed mining project. It is anticipated that the management measures associated with the activities will be adequate to manage the impacts association with the expansion. This will be further assessed during the EIA/EMPr phase. Detailed mitigation and management measures of the positive and negative impacts associated with the project will be developed and included in the EIA/ EMPr Report.

17 The outcome of the site selection matrix

The location of the proposed project components is constrained to the location with potential for the mineral resources (diamond). The prospecting area is underlain by rocks of the Transvaal Supergroup. The area in the proposed prospecting area is mostly covered by dolomites of the Reivilo Formation. Some of these dolomites are with stromatolitic limestone with shale interbeds. Proposed application area is also covered by aeolian sand deposits and calcrete. There are also diamondiferous river-terrace gravels in some places throughout the area of interest.

For this reason, no site selection assessment was undertaken.

The scoping assessment that has been conducted for the project shows that there are no fatal flaws associated with the project location. However, should sensitive environments such as heritage resources, SCC etc be affected by the project layout, the site layout plan will be revised.

18 Motivation where no alternatives were considered

The location of the proposed project components is constrained to the location with potential for the mineral resources (diamond). As such, no property alternatives were viable to be considered for this project.

Since no complicated surface infrastructure will be required for this project no design and layout alternatives for the proposed project were determined.

The applicant will revise the layout of the project should there be fatal flaws identified. This will be assessed in detail during the impact assessment phase of the project.

19 Statement motivation the preferred site

The location of the proposed project components is constrained to the location with potential for the mineral resources (diamond). The prospecting area is underlain by rocks of the Transvaal Supergroup. The area in the proposed prospecting area is mostly covered by dolomites of the Reivilo Formation. Some of these dolomites are with stromatolitic limestone with shale interbeds. Proposed application area is also covered by aeolian sand deposits and calcrete. There are also diamondiferous river-terrace gravels in some places throughout the area of interest.

For this reason, no site selection assessment was undertaken.

The scoping assessment that has been conducted for the project shows that there are no fatal flaws associated with the project location. However, should sensitive environments such as heritage resources, SCC etc be affected by the project layout, the site layout plan will be revised

20 Plan of study for the environmental impact assessment process

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

According to the MPRDA and NEMA regulations, feasible alternatives need to be considered and assessed during the Scoping and Impact Assessment Phase of the project. The alternatives identified must serve to achieve the triple bottom-line of sustainability i.e., they must meet the social, economic and ecological needs of the public. The alternatives must also aim to address the key significant impacts of the proposed project by maximizing benefits and avoiding or minimizing the negative impacts. The primary objective must be to avoid all negative impacts, rather than to minimise them.

The “feasibility” and “reasonability” of and the need for alternatives must be determined by considering, inter alia:

- The general purpose and requirements of the activity;
- Need and desirability;
- Opportunity costs;
- The need to avoid negative impact altogether;
- The need to minimise unavoidable negative impacts;
- The need to maximise benefits, and
- The need for equitable distributional consequence.

Refer to Section 9 for consideration of alternatives.

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

The proposed infrastructure and activities will be located within the property boundaries shown in Section 4.1. The following key infrastructure will form part of the proposed project as the infrastructure footprints (and associated infrastructure footprints) and surrounding areas will need to be assessed during the impact assessment phases of the project:

- Prospecting area;
- Access Roads;
- Power;
- Water Supply;
- Ablution Facilities;
- Fencing;
- Core and Chip Sample Storage and cutting facility;
- Plant Site;
- Slimes Dam;
- Vehicle Parking Area; and
- Temporary Site Office Area.

20.3 Description of aspects to be assessed by specialists

Due to the size and localised nature of prospecting activities, it is not expected that specialist studies will be required. The EAP will make use of existing social and environmental information to assess the identified potential impacts.

In addition, the following will continue during the EIA phase:

- Public participation and consultation;
- Environmental Management Programme;
- Comparative alternatives assessment; and
- Amend site layout designs and Prospecting Works Programme, if required.

The EAP will assess the impact (including cumulative) of each proposed activity/aspect in relation to the construction, operational, closure and decommissioning phases and develop appropriate mitigation measures that can be implemented to reduce or eliminate the potential impacts identified. The EAP will make use of the impact assessment methodology described in Section 14, and will ensure that the specialist studies reports comply with the requirements of Appendix 6 of the NEMA:

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

Refer to Section 14 which provides a description of the methodology to be used in the assessment of environmental impacts.

20.5 The proposed method of assessing duration significance

Refer to Section 14 which provides a description of the methodology to be used in the assessment duration of significance.

20.6 The stages at which the Competent Authority will be consulted

The consultation process to be followed with the DMR as part of the review and decision-making stages include:

- Scoping review and decision-making stage (Draft and Final);
- Environmental impact assessment review and decision-making stage (draft and final); and
- The environmental authorisation decision making and appeal process stage.

20.7 Particulars of the public participation process with regard to the impact assessment process that will be conducted

The Public Participation Process will be ongoing throughout the project phases. The stakeholder engagement proposed for the Impact Assessment Phase is presented below.

20.7.1 Stakeholder engagement during impact Assessment phase

Stakeholders will be informed once the competent authority (DMR) has accepted the Scoping Report and given permission for the commencement of the impact assessment phase of the process.

Stakeholder engagement during the impact assessment phase will focus on providing information and opportunity for public comment on the findings of the specialist studies and the findings and recommendations, impact assessment and management programme. The draft findings will be presented in the Draft EIA / EMPr Report to be commented on by the public.

The availability of the Draft EIA/ EMPr Report for public comment will be announced in the same newspaper as for project announcement.

Registered I&AP's will be informed through notification letters distributed by email in advance of the report being made available. Should it be required, stakeholders will be invited to a public meeting where the contents of the Draft EIA/EMPr will be presented and discussed. Stakeholders will have an opportunity to review and comment on the Draft EIA/EMPr Report in any of the following ways:

- By completing comments forms available with the report at public places, and by submitting additional written comments, by email or fax, or by telephone, to the EAP; and
- The draft EIA/EMPr Report will be available for comment for a period of 30 days at public places in the project area as per the announcement and scoping phase and placed on the Ndi Geological Consulting Services (Pty) Ltd website.

Depending on the responses received during the registration period, and were requested by the stakeholders, a public meeting may be held during the impact assessment phase of the project, ensuring that the COVID-19 Regulation requirements are met. Should a meeting be required, where possible online meetings will be held, and where stakeholders do not have internet access, the meetings will be held with no more than 50 stakeholders in attendance. Stakeholders will be informed of the COVID-19 Regulation requirements that will be enforced during the meeting.

Where necessary, comments and issues raised by I&AP's during the commenting period will be consolidated into the Final EIAR and EMPr with the relevant response issued by the EAP. The Final EIAR and EMPr will then be submitted to the DMR for decision making. The comments will also be collated into the CRR that will form an Appendix to the Final EIAR.

20.7.2 Notification of authority decision

Registered stakeholders will be advised in writing (mail, email, fax and sms) of the authority decision on the EIA / EMPr. The notification will include details on the procedure to appeal the decision relating to each authorisation.

Notification to registered stakeholders will summarise the authorities' decision and provide information according to legal requirements on how to lodge an appeal should they so wish.

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

The following activities will take place as part of the planned environmental authorisation process going forward:

- Develop the Final Scoping Report once comments and feedback have been received from stakeholders and authorities;
- Conduct the Impact Assessment according to the impact assessment methodology as provided in Section 14;
- Develop an EMPr: The EMPr will be compiled to mitigate the impacts identified in the impact assessment;
- Develop specialist recommendations: Findings from the specialist studies will be summarised in the EIA/EMPr Report;
- Provide stakeholder feedback on the assessment phase in accordance with the approach that is proposed in Section 10 of this report;
- Submit the draft EIA/EMPr for stakeholder and authority review: The Final EIA/EMPr will be submitted to the relevant authorities following the incorporation of stakeholder comments; and
- Communicate the decision on the application for the MRA and EA/WML to registered

stakeholders.

20.9 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

Detailed mitigation and management measures of the positive and negative impacts associated with the project will be developed and included in the EIA/ EMPr Report. Section 13 provides a preliminary assessment of potential impacts and mitigation measures that may be implemented to minimise, reverse or manage the identified impacts.

20.10 Other information required by the Competent Authority

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

No specific report was generated for the purposes of the socio-economic conditions. Current land uses inside the prospecting area, farming, may be temporarily impacted through the presence of the fenced areas that drill rigs will operate within. These will, however, be small areas. These areas will be rehabilitated post drilling activities and the areas will once again become available for farming. Other potential socio-economic impacts will include:

- Nuisance noise due to on site activities and drilling;
- Poor access control resulting in impacts on farming activities;
- Influx of jobseekers to site, which may result in an increase in opportunistic crime;
- Uncontrolled access to private property outside of the demarcated boundaries; and
- Visual impact as a result of the vegetation clearance.

Prospecting will be undertaken by specialist sub-contractors, and it is not anticipated that employment opportunities for local and/or regional communities will result from the prospecting activities during the drilling phases.

Management and mitigation measures must be implemented to prevent environmental pollution which may impact on environmental resources utilised by communities, landowners and other stakeholders. Measures to manage the potential impacts on communities, individuals or competing land uses in close proximity include;

<u>Noise due to construction activities and drilling:</u>

- Directly affected and adjacent landowners and land occupiers must be informed of the planned dates of the drilling activities and a grievance lodging mechanism must be made available to the stakeholders.
- Site activities shall be concluded during daytime hours (0700 to 1730), to avoid night-time noise disturbances and night-time collisions with fauna.

<u>Poor access control resulting in impacts on farming activities:</u>

- Access control procedures must be agreed on with the farm owners and all on site personnel shall be trained on these procedures.

<u>Influx of job seekers to the site which may result in increased opportunistic crime:</u>

- Casual labour shall not be recruited at the site. This will eliminate the incentive for people to travel to site seeking employment. Where necessary, a recruitment centre may be established in the major town areas;
- The landowners shall be notified on unauthorised persons encountered on site; and
- Where necessary, the South African Police Service (SAPS) will be notified of unauthorised persons encountered on site.

Visual Impact:

- Wet dust suppression will be undertaken to manage nuisance dust from construction vehicle movements and other construction activities as and when necessary;
- The portable ablution facilities and any other infrastructure will be acquired with a consideration for colour. Natural earth, green and mat black options which blend with the surrounding must be favoured;
- A waste management system will be implemented, and sufficient waste bins will be provided for on site. A fine system must be implements to further prohibit littering and poor housekeeping practices; and
- Vegetation cover shall be used where drill rigs will be located to minimise visual impacts.

These issues will be assessed and discussed in detail during the EIA phase.

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

As outlined in Section 7 of this report, prospecting will be undertaken in phases. The first phase will be a desktop study, which will be followed by ground surveys and soil sampling.

Based on the outcome of the activities, soil sampling and drill sites will be determined. Potential heritage impacts will only occur once the drilling sites have been identified. It is therefore recommended that the HIA be undertaken prior to the commencement of the drilling activities, and that the HIA be conducted over the identified localised drill sites and access routes, as opposed to the entire exploration area.

This recommendation will be submitted to the SAHRA for approval.

20.10.3 Other matters required in terms of Sections 24(4)(a) and (b) of the Act

Section 24(4)(b)(i) of the NEMA (as amended), provides that an investigation must be undertaken of the potential consequences or impacts of the alternatives to the activity on the environment and assessment of the significance of those potential consequences or impacts, including the option of not implementing the activity.

The location of the proposed project is constrained by the location of the mineral resource, and proven reserve. As such, no property alternatives were viable to be considered for this project.

No design or layout alternative was investigated as the proposed mine expansion will tie in with the existing mining activities. The applicant will revise the layout of the prospecting area should there be fatal flaws identified through specialist studies. This be assessed in detail during the impact assessment phase of the project once the specialist assessments and comments from I&APs, stakeholders and the competent authorities have been received.

21 Undertaking regarding correctness of information

I Ndivhudzannyi Mofokeng 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: 2022/09/20

22 Undertaking regarding level of agreement

I, Ndivhudzannyi Mofokeng herewith undertake that the level of agreement with interested and Affected Parties and stakeholders has been correctly recorded and reported herein.

Signature of the EAP

DATE: 2022/09/20

23 Statement of Ndi Geological Consulting Independence

Neither Ndi Geological Consulting Services (Pty) Ltd nor any of the authors of this report have any material present or contingent interest in the outcome of this report, nor do they have any pecuniary or other interest that could be reasonably regarded as being capable of affecting their independence or that of Ndi Geological Consulting Services (Pty) Ltd.

Ndi Geological Consulting Services (Pty) Ltd has no prior association with Itereleng Mo Africa (Pty) Ltd regarding the proposed prospecting activities that are the subject of this report. Ndi Geological Consulting Services (Pty) Ltd has no beneficial interest in the outcome of the technical assessment being capable of affecting its independence.

Ndi Geological Consulting Services (Pty) Ltd.'s fee for completing this report is based on its normal professional daily rates plus reimbursement of incidental expenses. The payment of that professional fee is not contingent upon the outcome of the report.

24 Conclusion

The aim of this Scoping Report is to provide an indication of the identified, positive and negative environmental and socio-economic impacts associated with the proposed project activities. The stakeholder engagement in the Scoping Phase will play an important role in determining possible impacts and allowing the concerns by the public to be adequately addressed in the Impact Assessment Phase of the EIA process.

Once the Scoping Report comment period is concluded, the report will be updated with the additional issues, and submitted to DMR. An EIA/ EMPr Report will be compiled and subjected to a round of public comment. The EIA will then be presented to the authorities for decision-making. On submission of the EIA/ EMPr Report to the DMR, notification will be sent to registered I&APs to inform them of the submission of the documents; and the opportunity to request copies of the Final reports.

No fatal flaws have been identified during the scoping phase of this project. A comprehensive impact assessment will be undertaken and incorporated into the EIA/EMPr Report during the impact assessment phase. The proposed comprehensive stakeholder engagement process in the PoS will ensure that the stakeholders are involved in the process, from the conception of the EA/WML application process to the end. It is anticipated that implementation of the PoS presented in this report will result in an adequate EIA process which will result in the formulation of a sound EMPr to be implemented at the Itereleng Mo Africa prospecting right area.

All data used as source material plus the text, tables, figures, and attachments of this document have been reviewed and prepared in accordance with generally accepted professional environmental practices.

Appendices

Appendix 1: EAP Qualifications

Appendix 2: EAP CVs

Appendix 3: Locality Map

Appendix 4: Listed Activity Map

Appendix 5: Stakeholder Engagement Documentation