Witgatboom Gold and Diamond Project

Scoping Report

Scoping Study Report submitted in support of an application for a Prospecting Right [with Bulk Sampling] for Gold Ore and Diamonds

Prepared for

Verton Graniet Werke (Pty) Ltd

Prepared by

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mineral resources

Department:
Mineral Resources
REPUBLIC OF SOUTH AFRICA

SCOPING REPORT

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

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

NAME OF APPLICANT: Verton Graniet Werke (Pty) Ltd

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FILE REFERENCE NUMBER SAMRAD: NW30/5/1/1/2/13667PR

IMPORTANT NOTICE

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

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

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

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

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

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.

Witgatboom Gold and Diamond Project

Draft Scoping Report

Verton Graniet Werke (Pty) Ltd
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Environmentalist

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Tiyiselani Macebele
Principal Environmentalist

1. SUMMARY OF THE SCOPING REPORT

Introduction

Biomental Services has been appointed by PPS Mining & Consulting the Principal Consulting on behalf of Verton Graniet Werke (Proprietary) Limited (an Applicant), as the independent Environmental Assessment Practitioner (EAP) to handle the Environmental Assessment process in accordance with NEMA, as well as the required Public Participation Process (PPP). Biomental Services is a South African company with the necessary capability, and expertise to in deliver comprehensive environmental solutions, the bias is towards the mining and property development sectors.

Verton Graniet Werke (Pty) Ltd is a South African registered company, registered in accordance with the laws of the Republic of South Africa, the company is the current sponsor and promoter of Witgatboom Gold Ore and Diamond Project. The project is situated 51km north of Stella and 100km west of Mahikeng and 27km south of Piet Plessis, in Ratlou Local Municipality North West Province. Refer to Figure 1-1 for an indication of the regional location of Witgatboom Gold Ore and Diamond Project.

The company intends to undertake exploration programme (through bulk sampling), targeting Gold Ore and Diamond deposits underlying the farm: Witgatboom No.232 IN, Magisterial District of Mafikeng North West Province, the exploration activities will be Non-Invasive as well as Invasive in nature, and this will include:

- Final desktop study
- Field and geological mapping
- Final planning, site mobilisation
- Site clearance and establishment
- Pitting and trenching

These proposed activities require the following environmental authorisations:

- An EIA and EMP in accordance with the Minerals Petroleum Resources Development Act (MPRDA), to be authorised by the Department of Mineral Resources (“DMR”).
- An EIA and EMP as per the National Environmental Management Act, NEMA Act (Act No.107 of 1998), and its associated Regulations GNR 327 Listing 1, 20 to be authorised by the relevant competent authority

Verton Graniet Werke through PSS Mining Consulting (the “Principal Consultant”) has appointed Biomental Services (Proprietary) Limited and its associates as an independent Environmental Assessment Practitioner (EAP), to coordinate and manage the entire environmental assessment process, to compile Public Participation Report, Scoping Report, EIA Report and other relevant documentation for submission to the competent authorities. Given the fact that certain activities are

listed activities, as defined by the National Environmental Management Act (NEMA), it is therefore required that an authorisation be issued before proceeding with those activities.

Project Location

The proposed Witgatboom Gold Ore and Diamond Project, falls within Ratlou Local Municipality part of in North West Province. The property is situated approximately 51km north of Stella and 100kmwest of Mahikeng.

Project Description

Current activities

No activities currently

Proposed activities to be approved

Prospecting activities will be carried out, through bulk sampling to assess the manganese ore and iron ore potential of the target area, and determine the feasibility of mining such a mineral deposit. The prospecting programme entails a number of activities, which include:

- Drilling – this will comprise not more than 8 boreholes of approximately 50m each to test the targets identified through mapping and geophysical and geochemical surveys.
- Bulk sampling- will be taken at identified target areas to ascertain quantity and grade of Gold.
- Full feasibility – should a significant resource be identified, and should metallurgical and mineralogical testing yield encouraging results, a full feasibility study may be carried out.

Alternatives Considered

No Alternatives where considered.

Potential Impacts

The potential impacts of the proposed Witgatboom Gold Ore and Diamond project on the existing environment have been assessed at a Scoping level. This assessment helps identify the mechanisms that have the potential to result in environmental impact and the sensitive receptors that may be affected.

A summary of the potential impacts is given in the table below.

Parameter	Potential Impacts
Topography	The topography of the area may be permanently altered due to excavation of trenches and the open pits.
Land Use	Due to the change in primary use of the land from open land to mining, there could be an impact in the medium term.
Biodiversity	There is likely to be a negative effect on biodiversity.
Wetlands	Wetland functioning may be affected.
Surface	Potential negative impact on surrounding watercourses in terms of quality and quantity.
Ground Water	A potential decrease in borehole quality and quantity
Air Quality	Dust generated from the trenches and open pit may have an impact on the air quality of the surrounding receptors due to prevailing wind and weather conditions.
Noise	Blasting in the open pits may affect ambient noise levels.
Cultural Heritage	There may be graves that have to be relocated due to the proposed mining activities.
Social	As this is a new project, there is the potential for employment, not only during construction but also during operations.

Stakeholder Engagement

As part of the environmental authorisation process, a Stakeholder Engagement Process was undertaken to provide sufficient and accessible information regarding the proposed project to stakeholders in an objective manner. This process involves stakeholder identification, development of a stakeholder database and meeting with landowners, communities and other stakeholders to develop a relationship with key stakeholders and identify key issues.

The communities and other stakeholders such as: land claimants were identified through a process of discussions with the Project team, meetings with stakeholders, networking, previous relationships developed with key stakeholders as well as referencing the stakeholder databases of the previous projects by Biomental Consulting and those conducted for other operations in the area.

Plan of Study for the EIA Phase

A framework for the plan of study for the EIA and EMP process is set out below.

The purpose of the Scoping, EIA and EMPr process is to address the directives contained in the formal letter (“Letter of Acceptance”) from Klerksdorp DMR.

Specialist Studies

During the Impact Assessment Phase, various specialist studies will be undertaken in order to collect baseline information, and to identify potential impacts of the proposed new activities.

The table below outlines the specialist studies to be undertaken.

Study	Comment
Geology	Existing information to be used.
Climate	Existing information to be used.
Topography and Visual Aspect	Existing information to be used.
Soils, land capability and land use	Adequate baseline information is available from previous studies. No additional baseline required.
Flora	The project team will undertake a site visit to update the existing information. This will involve additional field work
Wetland delineation	Re-evaluation of wetlands according to DWA Guideline is to be initiated.
Fauna	The project team will undertake a site visit to update the existing information. This will involve additional field work.
Air Quality	The project team will undertake a site visit to update the existing information. This will involve additional field work
Noise	The project team will undertake a site visit to update the existing information. This will involve additional field work
Heritage	The project team will undertake a site visit to update the existing information. This will involve additional field work
Sensitive Landscapes	The project team will undertake a site visit to update the existing information. This will involve additional field work.
Socio-Economic	Updated socio-economic baseline information was obtained as part of the stakeholder engagement programme. The level of information will be assessed and a decision made on the need for additional baseline material.
Rehabilitation and closure cost assessment	Rehabilitation and closure cost assessment for the currently proposed project activities to support the EIA and subsequent management plans and to form the basis of the Environmental Liabilities assessment required in terms of the Mineral and Petroleum Resources Development Act (Act 28 of 2002).

Impact Assessment

Once the specialist reports are completed, specialist and the environmental assessment practitioners will define and evaluate impacts, and will compile management/mitigation measures to address identified impacts. Integrative report writing will be undertaken for the compilation of various specialist reports into one, integrated assessment and management programme. Impacts will be assessed by the following hierarchy:

- Avoidance;
- Minimisation;
- Mitigation and management; and
- Rehabilitation

Stakeholder Engagement

Stakeholders will be informed once the competent authority DMRE (North West Region) has accepted the Scoping Report, EIA Report and associated EMPr, and has issued the Environmental Authorisation.

Stakeholder engagement during the Impact Assessment Phase will focuses on providing information and opportunity for public comment on the findings of the impact assessment. The draft findings will be captured in the Draft EIA/EMP which will be made available for public comment.

Conclusion

This (Draft) Scoping Report sets out the range of alternatives, key environmental impacts and issues that need to be addressed and further investigated. This report also informs the scope of work for the project and terms of reference for specialists during the EIA/EMP process. The stakeholder engagement process will also assist in informing the stakeholders potentially affected by the Witgatboom Gold Ore and Diamond Project.

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1. INTRODUCTION

1.1. Project Background

Verton Graniet Werke (Pty) Ltd is a South African registered company, registered in accordance with the laws of the Republic of South Africa, the company is the current sponsor and promoter of the proposed Witgatboom Gold and Diamond Project. The project is situated approximately 51km north of Stella and 100km west of Mahikeng, in North West Province. The project is located within Ratlou Local Municipality, in the Magisterial District of Mafikeng. Refer to Figure 1-1 for an indication of the regional location of Witgatboom Gold and Diamond project.

The company intends to undertake exploration programme (through bulk sampling), targeting Gold Ore and Diamond deposits over the farm: Witgatboom No.232 IN, within the Magisterial District of Mafikeng, the exploration activities will be Non-Invasive as well as Invasive in nature, and this will include:

- Final desktop study
- Field and geological mapping
- Final planning, site mobilisation
- Site clearance and establishment
- Pitting and trenching

These proposed activities require the following environmental authorisations:

- An EIA and EMP in accordance with the Minerals Petroleum Resources Development Act (MPRDA), to be authorised by the Department of Mineral Resources ("DMR").
- An EIA and EMP as per the National Environmental Management Act, NEMA Act (Act No.107 of 1998), and its associated Regulations 544, 545 and 546, to be authorised by the relevant competent authority

Verton Graniet Werke (the "Applicant"), through its principal consultant PPS Mining Consultants has appointed Biomental Services (Proprietary) Limited and its associates as an independent Environmental Assessment Practitioner (EAP), to coordinate and manage the entire environmental assessment process, to compile Public Participation Report, Scoping Report, EIA Report and other relevant documentation for submission to the competent authorities. Given the fact that certain activities are listed activities, as defined by the National Environmental Management Act (NEMA), it is therefore required that an authorisation be issued before proceeding with those activities.

1.2. Purpose of this Report

This Draft Scoping Report was compiled, guided by the Minerals Petroleum Resources Development Act, ("MPRDA") and the National Environmental Management Act (NEMA), and sets out the proposed scope of the environmental impact assessment that will be undertaken for the Witgatboom Gold Ore and Diamond Project. There are number of alternatives that will be evaluated during the course of the study, the key environmental impacts and issues that need to be addressed, the specialist studies that will be undertaken, and the qualifications and experience of the study team. Stakeholder Engagement is the basis of the environmental authorisation process, and stakeholder engagement forms part of the Scoping Phase, as well as the Impact Assessment Phase.

2. SCOPING REPORT

2.1. Contact Person and Correspondence Address

2.1.1. The EAP Who Prepared the Report

Biomental Services has been appointed by Verton Graniet Werke (Pty) Ltd, as the independent Environmental Assessment Practitioner (EAP) to handle the Basic Assessment process in accordance with NEMA, as well as the required Public Participation Process (PPP). Biomental Consulting is a South African company with the necessary capability, and expertise to in deliver comprehensive environmental solutions, the bias is towards the mining and property development sectors. The particulars of the EAP undertaking the Environmental Impact Assessment process is supplied in Table 2-1.

Table 2-1 The Particulars of the EAP

Name of The Practitioner:	Tiyiselani Macebele
Tel No:	(053) 004 - 0204
Fax No:	068 321 4288 060 570 2461(WhatsApp)
Email address:	tiyiselani@biomental.co.za

Name of The Practitioner:	Nhlawulo Election Mahori
Tel No:	(053) 004 - 0204
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Name of The Practitioner:	Fortunate Ngubeni
Tel No:	(053) 004 - 0204
Fax No:	083 743 7012
Email address:	fortunate@biomental.co.za

2.1.2. Expertise of the EAP.

2.1.2.1. The qualifications of the EAP

Tiyiselani Macebele

The EAP, Mr. Macebele Tiyiselani has vast experience in environmental management field and have been involved in number of projects in the public and private sector such as renewable energy projects, mining and construction. Tiyiselani has experience in drafting EMPs, application for Basic assessment, permits & licensing, prospecting mining right and mining rights.

Nhlawulo Mahori

Mr Mahori Nhlawulo has completed his professional registration in terms of section 20(3) (b) of the Natural Scientific Professions Act, 2003 (Act 27 of 2003) in the field of practice Environmental Sciences (Registration number 125490).

He is registered in accordance with the prescribed criteria of Regulation 15(1) of the section 24H Registration Authority Regulations (regulation No.849, Gazette No. 40154 of the National Environmental Management Act (NEMA) Act No. 107 of 1998) as amended) EAP (Registration No. 2019/1026)

He obtained his Bachelor of Environmental Sciences in 2016 and Bachelor of Environmental Sciences Honours Degree in 2017 at the University of Venda.

Mr Mahori Nhlawulo is an Environmental Assessment Practitioner and has been involved in the compilation, coordination and management of Basic Assessment Reports, Environmental Impact Assessments, Environmental Management Programmes, Waste Licence Applications, Water Use Licence Applications, Mining Permits Application and Baseline Biodiversity Surveys for numerous clients.

Fortunate Ngubani

Ms Fortunate Ngubane hold a BA Degree in Geography and BA degree in Environmental Management obtained from University of South Africa. Ms Fortunate Ngubane is well experienced in Environmental Management and has been involved in Environmental Impact Assessment in compiling and reviewing reports

2.1.2.2. Summary of the EAP's past experience.

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

3. DESCRIPTION OF THE LOCATION AND PROPERTY

The proposed Project, falls within Ratlou Local Municipality in the Magisterial District of Mafikeng North West Province. The property is situated Approximately 51km north of Stella and 100kmwest of Mahikeng.

Table 3-1 The Details of the Property

Farm Name:	Verton Graniet Werke (Pty) Ltd
Application area (Ha)	3151.2069h
Magisterial district:	Mahikeng
Distance and direction from nearest town	The property is situated approximately 51km north of Stella and 100km west of Mahikeng and 27km south of Piet Plessis.
21 digit Surveyor General Code for each farm portion	**Farm Name**: Witgatboom **Farm No**: 232 **Reg Div**: IN **Portion**: R/E **LPI**: TOIN 00000000023200000

3.1. LOCALITY MAP

(Show nearest town, scale not smaller than 1:250000 attached as **Appendix C)**

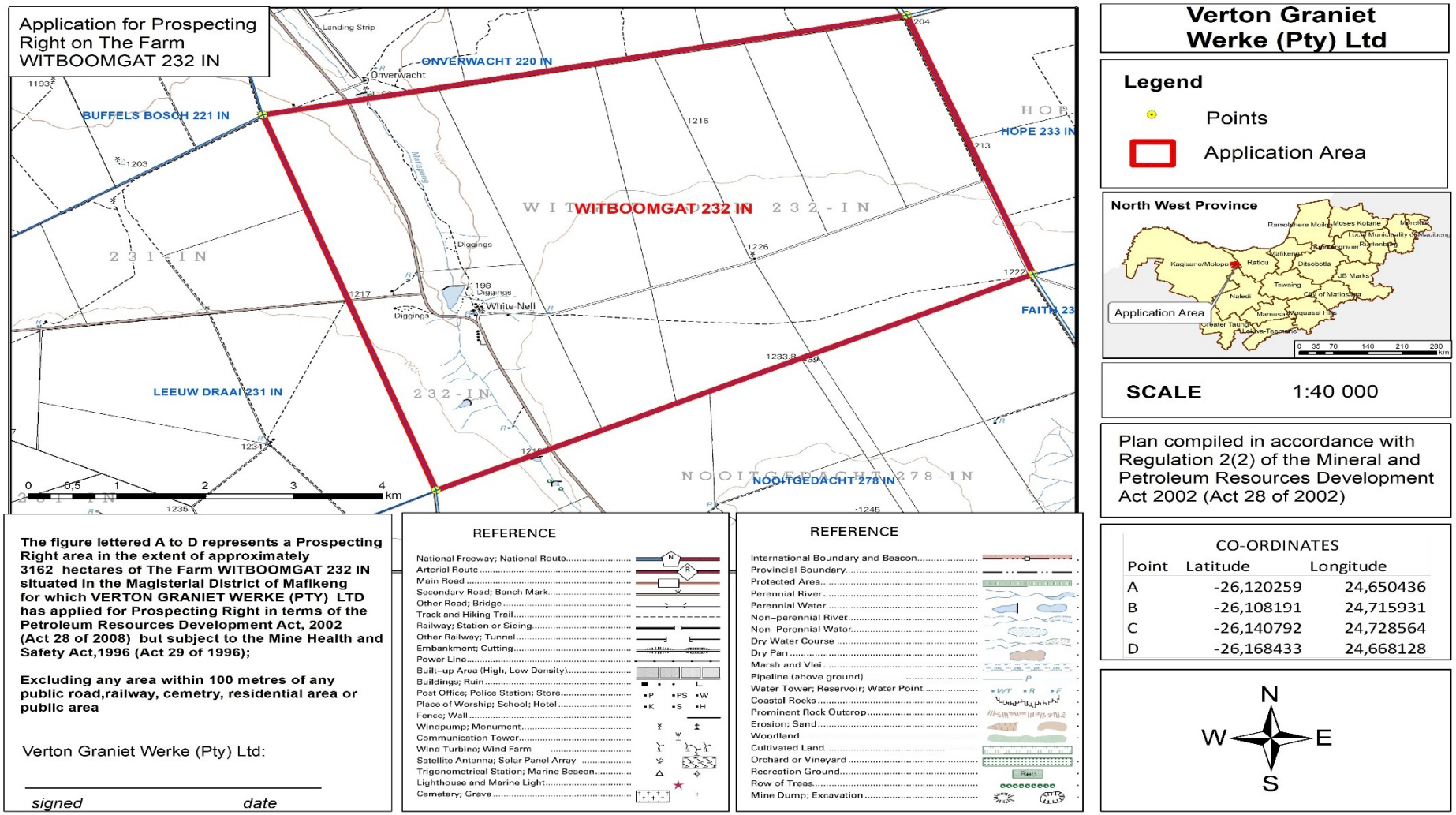


Figure 1-1 Project Locality

4. DESCRIPTION OF THE SCOPE OF THE PROPOSED OVERALL ACTIVITY

4.1. Listed and Specified Activities

Table: 4-1 List of Activities/infrastructure associated with the project

NAME OF ACTIVITY (All activities including activities not listed) (E.g. Excavations, blasting, stockpiles, discard dumps or dams, Loading, hauling and transport, Water supply dams and boreholes, accommodation, offices, ablution, stores, workshops, processing plant, storm water control, berms, roads, pipelines, power lines, conveyors, etc…etc…etc.)	**Aerial extent of the Activity Ha or m²**	**LISTED ACTIVITY Mark with an X where applicable or affected.**	**APPLICABLE LISTING NOTICE (*GNR 544, GNR 545 or GNR 546)/NOT LISTED***
Access Routes	Already existing	N/A	
Bulk Sampling pits	box cut of 25m x 50m 10.5m will be trenched to extract the ore for bulk sample purposes.	YES	Activity 20 of GNR327 Activity 27
Exploration Site Camp (Project Management)	1000m²	N/A	NOT LISTED
Exploration Site Camp (Storage)	100m²	N/A	NOT LISTED
Exploration Site Camp (Personnel)	1000m²	N/A	NOT LISTED
Topsoil storage/stockpile	30m²	N/A	NOT LISTED
Overburden Storage	45m²	N/A	NOT LISTED
Ore Storage	100m²	N/A	NOT LISTED
Waste Rocks Storage	30m²	N/A	NOT LISTED

4.2. Description of the Activities to be Undertaken

Prospecting activities will be carried out, through bulk sampling to assess the Gold and Diamond deposits potential of the target area, and determine the feasibility of mining such a mineral deposit. The prospecting programme entails a number of activities, which include:

- Drilling – this will comprise not more than 8 boreholes of approximately 50m each to test the targets identified through mapping and geophysical and geochemical surveys.

- Bulk sampling- will be taken at identified target areas to ascertain quantity and grade of mineral deposits.

- Full feasibility – should a significant resource be identified, and should metallurgical and mineralogical testing yield encouraging results, a full feasibility study may be carried out.

4.3. Description of Other Site Activities

Access Roads

Access to the site will be required during mapping and drilling activities. There is existing entry point into the farm, these points will be used to gain access into the proposed property and no new entry/exit roads will be created. The internal access roads will be used to provide access to drilling locations; however, no multiple tracks will be created to access a single point. Access roads will be created such that the drilling points are connected rather than having multiple roads from the main access road to the drilling points.

Water Supply

Currently the target property has boreholes that are fully registered with Department of Water & Sanitation (DWS), these will form the main source of water supply. Water will be stored and dispatched to the identified drill sites using water bowsers.

Continuous water supply will be required during drilling, and On-site water storage tanks with a capacity of 15,000 for water supply to the drill, will be installed. Additional water requirements relate to the potable water supply for employees and workers. A temporary 260 litres on-site vertical water storage tank for drinking water and generalise by persons will be provided at the drill site.

Ablution

Ablution facilities at the drill site will involve the installation of drum or tank type portable toilets. The toilets will be emptied twice every week through the services of a registered sewage waste service provider. The ablution facilities will be provided at a ratio of 15: 1, i.e. 15 people per 1 toilet.

Temporary Office Area

A temporary site office shaded area will be erected on site. The office will be established away from the water drainage lines. The office will be established on the south East of the site, close to the site boundary. No on-site electricity generation through the use of generators will be undertaken. There will be no heating and/or cold storage facilities provided at the site. The employees as well as the workers will bring to site their own meals. A shaded eating area will be provided.

Accommodation

Accommodation for staff and workers will be provided on- site and all persons will be accommodated, some will have a choice of being accommodated outside of the property. Workers will be transported to and from the prospecting site on a daily basis, to their respective accommodation facilities. Night security staff will be employed once equipment is stationed onsite. No fires will be allowed on site.

Storage of Dangerous Goods

During drilling activities limited quantities of diesel fuel, oil and lubricants will be stored onsite. The only dangerous good that will be stored in any significant quantity is diesel fuel. A maximum amount of 60 m3 will be stored in above ground diesel storage tanks with elevated bunded walls.

4.4. Equipment and/or Technology to be used

- 1 drill rig mounted on a 10 tonne truck or trailer
- 2 200 Litres water tanker
- 2 X (4X4) Bakkie
- Geological Modelling Software

5. POLICY AND LEGISLATIVE CONTEXT

An overview of the key legislative requirements applicable to the proposed mining operations followed in the Scoping and EIA process is provided below.

Table 5-1: Applicable Policies and legislation Context for the Propose Project

APPLICABLE LEGISLATION AND GUIDELINES USED TO COMPILE THE REPORT (a description of the policy and legislative context within which the development is proposed including an identification of all legislation, policies, plans, guidelines, spatial tools, municipal development planning frameworks and instruments that are applicable to this activity and are to be considered in the assessment process	**REFERENCE WHERE APPLIED**	**HOW DOES THIS DEVELOPMENT COMPLIY WITH AND RESPOND TO THE LEGISLATION AND POLICY CONTEXT?** (E.g. In terms of the National Water Act a Water Use License has/ has not been applied for)
The Constitution of the Republic of South Africa (108 of 1966)	Constitution includes an environmental right (Section 24). Obligation to ensure that the proposed development will not result in pollution and ecological degradation; and Obligation to ensure that the proposed development is ecologically sustainable, while demonstrating economic and social development.	No Authorisation required but links with NEMA.
The Mineral and Petroleum Resources Development Act (Act No 28 of 2002)	Section (16)	Prospecting Right for Gold Ore and Diamond has been applied for
National Environmental Management Act, (Act 107 of 1998); with subsequent amendments. Environmental Impact Assessment Regulations (2014)	The activity triggers a listed activity as set out by the Act as well Activity 20 of GNR327 Activity 27	An Environmental Authorisation has been applied for.

National Environmental Management Act: Biodiversity Act (Act No. 10 of 2004)	The proposed development must conserve endangered ecosystems and protect and promote biodiversity; Must assess the impacts of the proposed development on endangered ecosystems; No protected species may be removed or damaged without a permit; An invasive species monitoring, control and eradication plan for land/activities under their control should be developed, as part of their environmental plans in accordance with section 11 of NEMA.	No Authorisation required. Should any red listed or protected species be found a safe buffer will be placed around these and it will not be disturbed.
National Environmental Management: Air Quality Act (Act 39 of 2004) with subsequent amendments and Regulations.	Moving vehicles and drilling may increase dust – With adequate mitigation measures this will not be significant.	No Authorisation required
National Water Act, (Act 36 of 1998)	Manage the use of water as well as runoff in such a manner that it has limited pollution impacts. Prevent the unauthorised use of water by abstraction and close proximity to drainage lines and waterbodies.	No Authorisation required as water will not be abstracted and no activities will take place within 32m of drainage lines or water courses.
National Heritage Resources Act, (Act 25 of 1999)	No person may alter or demolish any structure or part of a structure, which is	No Authorisation required at this stage. Should this become a requirement, the

	older than 60 years or disturb any archaeological or paleontological site or grave older than 60 years without a permit issued by the relevant provincial heritage resources authority. No person may, without a permit issued by the responsible heritage resources authority destroy, damage, excavate, alter or deface archaeological or historically significant sites.	applicant will obtain the necessary permits prior to commencing with the activities.
Environmental Conservation Act (10 of 2004)	Protected conservation areas	No Authorisation required
National Forest Act (Act 84 of 1998)	If any protected trees in terms of this Act occur on site, the developer will require a licence from DAFF to perform any of the above-listed activities.	If any protected tree is identified during the non-invasive phase a safe buffer will be placed around it and it will not be disturbed.
Occupational Health and Safety Act, (Act 85 of 1993)	To ensure H&S aspects are adhered to on site.	No Authorisation required only implementation.
Ratlou Local Municipality IDP and SDFs	The prospecting area is situated within this Local Municipality and partially within these Local Municipalities.	No Authorisation required.

6. NEED AND DESIRABILITY OF THE PROPOSED ACTIVITIES

The proposed rehabilitation activities aim to achieve a socially and environmental safe and sustainable project area.

Rehabilitation of the area will ultimately result in the following:

- Allow for the re-introduction of indigenous plant species that were lost in the disturbed area, and removal of invasive species which will in turn encourage the return of some animal species when the habitat is suitable;
- The reshaping and re-vegetation of the various areas will improve the aesthetic appearance of this area;
- Decant and treatment via phytoremediation of mine affected water will ensure the water quality is improved prior to discharge to the catchment area; and
- There is a need that the environment is left in a safe manner that is not harmful to the neighbouring community.

6.1. Socio-Economic Consideration

The proposed project aims to discover new Gold and Diamonds, within Ratlou Local Municipality in the North West Province, once the resource has been discovered and mine is opened job opportunities will be created, thus resulting in improvement in the lives of many of its people.
Mining has the potential to positively impact on the establishment of infrastructure such as roads, services, commercial enterprises which will in turn provide increased economic opportunities to the communities in the province. There is a direct link between mining, economic growth and employment. Much of the economic activities in the input industries are attributable to the mining sector. (Multiplier effect). In general, about 72 % of South Africa's energy needs come from mining; and the mining sector pays nearly double its GDP share in corporate tax in South Africa. The Mining industry is also mitigating their major risks of energy and labour security and supply demanded by deep mining by implementing mechanisation and green energy creating new investment opportunities.

7. PERIOD FOR WHICH THE ENVIRONMENTAL AUTHORISATION IS REQUIRED

Environmental Authorisation is required for a period of the Project, approximately 5 years.

8. DESCRIPTION OF THE PROCESS FOLLOWED TO REACH THE PROPOSED PREFERRED SITE

The proposed Witgatboom Gold Ore and Diamond Project, comprises the Remaining Extent (R/E) of the farm: Witgatboom No.232 IN situated within Ratlou Local Municipality in the Magisterial District of Mahikeng North West Province. The target area is located 51km north of Stella and 100km west of Mahikeng and 27km south of Piet Plessis, this area is underlain by the Kraaipan Greenstone belt which host the Kalahari Goldridge deposit.

The Kalahari Goldridge deposit comprises the D zone, A zone, Watertank and Windmill. The D zone forms the largest of these mineralized sites. The A zone consists of two units, the main ore body, Main A zone (MAZ) and a smaller unit A zone west (AZW). The entire ore body stretches along a strike length of approximately 6.5 km N–S and has variable width of 15–45 m. The ore bodies are characterized by a hanging wall comprising meta-pelitic rocks and meta-greywacke. The footwall to the ore bodies comprises mafic schist, which consists of meta-basaltic rocks. In the D zone the ore body is characterized by meta-sedimentary rocks gradational between chlorite schist and chert, interlayered with ferruginous chert and separated by a centrally located massive BIF from the footwall and hanging wall in the D zone. In the A zone, the massive BIF consists of two units that are associated with the MAZ and AZW ore bodies respectively. The target area was selected based on a detailed regional study, using various data sources such as: regional geological maps, geophysical data, historical borehole data and historical reports.

It is proposed that, for at least Five (5) years period after the granting of the prospecting rights, we will be spending a considerable amount of time, trying to better understand the geology around the target areas, as well as building a resource model.

In this instance no alternative technology can be reconsidered, given the fact that it is still very early in the prospecting phase, however the current best available exploration techniques and technology will be considered.

8.1. Details of all alternatives considered.

With reference to the site plan provided as Appendix C2, and the location of the individual activities on site, see details of the alternatives considered with respect to: the property on which or location where it is proposed to undertake the activity; the type of activity to be undertaken; the design or layout of the activity; the technology to be used in the activity; the operational aspects of the activity; and the option of not implementing the activity, details of the alternatives considered with respect to:

a) **Preferred Location Alternative**

The Kalahari Goldridge deposit is hosted in strata bound banded iron formation (BIF) within the Kraaipan greenstone belt. The application area was selected based on a detailed desktop study applying various techniques using regional geological maps, geophysical data, historical borehole data and historical technical reports. The area covered by this application is underlain by the Kalahari Goldridge deposit is

hosted in a strata bound banded iron formation (BIF) within the Kraaipan greenstone belt, known to host gold deposits of the far North West Province, the same deposit as the one found at Harmony's Kalgold. It should also be taken into consideration that unlike other industrial projects, the exploration of specific minerals is a locality bound industry, meaning that exploration will be conducted on an area known to host or have a potential to host the minerals. Therefore, no alternative sites can be considered, the only project components that could be considered for alternative sites are the exploration crew camp sites.

b) **Preferred Activity Type**

The company exists for the sole purpose of creating value for its shareholders, and stakeholder through accumulation of early-stage minerals exploration properties, and development of such properties up to operational level. Central to that strategic focus is the aspect of exploration activity, it is therefore not feasible to consider any other alternative, except exploration. An exploration programme has been designed that includes both the Non-Invasive, and Invasive Methods of exploration, the main reasoning behind such a programme other than financial risk management, it is also to avoid unnecessary negative environmental impacts. The initial non-invasive prospecting may determine that no further prospecting is necessary

c) **Preferred Design and Layout of the Activity**

In this instance preliminary design will refer to the Prospecting Works Programme (PWP), methods of prospecting to be followed, phases and specific prospecting activities. The prospecting activities includes the following: Detailed Desktop Study, Remote Survey & Interpretation [Non-Invasive], Ground Magnetics, Field Mapping, Pitting, Trenching and Drilling [Invasive]. The preliminary layout and design were conceived based on the provision for the proposed drilling locations, the target drilling locations where selected based on a desktop study. The preliminary layout plan is intended to avoid any potential sensitive areas, to utilise already existing farm tracks, such that no new access ways are created, and to further minimise any impacts on existing agricultural activities.

The final locations of the pits, trenches and drilling will only be determined once the geophysical survey activity of the first phase has been completed, the final locations will then be discussed with the lawful occupiers of the land or land owners, with a view of accommodating their concerns.

d) **Preferred Technology of the Activity**

An airborne geological survey will be conducted [Non-Invasive Method], the best technology available was chosen to provide the maximum detail regarding the geophysical characteristics of the target area, geophysical structure and to pick up any anomalies associated with the target minerals. This is done so as to mitigate any financial risk and, and any unnecessary environmental or social impacts.

During the Invasive Methods, the technology used essentially relates to the drilling campaign (Wire-Line drilling) has been selected, to confirm the results of the remote geophysical survey and ground magnetics, and a follow up Pitting and Trenching for bulk sampling purpose.

e) **Preferred Operational Aspects of the Activity**

The preferred operational aspects of the activity are largely [Invasive and Non-Invasive] in nature, and these includes: Site Mobilisation, Exploration Camp Set-up, Arrangement of Logistics, Sourcing of Services and Products and others. It is an intention of the project promoter, that local people be employed during the prospecting and drilling campaign, so as to have a positive impact on the socio-economy of the area.

f) **'NO-GO' Alternative**

The no-go option assumes that the site remains as it is – i.e. no prospecting activities will take place. The proposed project area is geographically sparse, and largely consists of farms on sandy plains. The affected farmland itself does not seem to be included in any conservation corridor as outlined by available spatial tools and as indicated by consultations with landowners and I&APs. A detailed description of this area has been included in section 10 Baseline Environment, below. Agriculture is the largest economic sector of the municipality. The majority of affected farm portions are artisanal orientated with sheep, and goats. It is assumed that the majority of the farmers in the project affected area have held their farms for many generations, and would therefore presumably have a strong cultural attachment and sense of place, especially since such farms are normally inherited and/or subdivided as part of such inheritance. The no-option would thus mean that these activities carry on as per normal. Should the no-go option become the preferred option, it may have several negative impacts of high significance including the loss of potential employment associated with the prospecting activity as well as any future mining activities, the loss of potential mineral resources which could be sold or refined, and also an overall negative effect on the South African economy, as the mining industry contributes a significant portion of the GDP and forex.

9. DETAILS OF THE PUBLIC PARTICIPATION PROCESS FOLLOWED

9.1. I & AP Identification Procedure.

Biomental Services will utilise extensively documentation from Ratlou Local Municipality, documentation such as Property Evaluation Roll. This will assist a great deal in identifying land Owners and Interested & Affected parties; these are parties who will subsequently be consulted via the means already explained above, more so the email, posted letters and telephones.

- **Public Space Notices.**

Notices will be placed on various public spaces in and around the local area and adjacent community and farms properties.

- **Meetings.**

Scheduled meeting are to be convened with all different categories of stakeholders, state organs, I&APs, landowners and general public

9.2. Summary of Issues Raised by I&AP's

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

Table 9- 1 Summary of Issues Raised by Interested and Affected Parties

Interested and Affected Parties		Date Comments Received	Issues raised or Comment Received	EAPs response to issues as mandated by the applicant
AFFECTED PARTIES				
DIRECTLY AFFECTED PARTIES				
Landowner/s				
Lawful occupier/s of the land				
INDIRECTLY AFFECTED PARTIES				
Landowners on adjacent properties				
Lawful occupiers on adjacent properties				
LOCAL GOVERNMENT AUTHORITY				
PROVINCIAL GOVERNMENT AUTHORITY				
COMMUNITIES				
OTHER COMPETENT AUTHORITIES AFFECTED				
OTHER AFFECTED PARTIES				
INTERESTED PARTIES				

NB ALL IDENTIFIED STAKEHOLDES, COMMENT & SUBMISION AND EAP RESPONSES WILL BE ENCORPRATED IN THE FINAL SCOPING REPORT

10. THE ENVIRONMENTAL ATTRIBUTES ASSOCIATED WITH THE SITES

10.1. Baseline Environment

A summary of the baseline environment in the proposed project area is provided in the sections below.

10.1.1. Climate.

The information pertaining to the climate of the area (meteorological data), was sourced from the South African Weather Service (SAWS), Local Weather Station, further information was obtained from climate monitoring data sources published by the Department of Water Affairs (DWA), SANBI BGIS and World Online.

10.1.2. Rainfall and Temperature

The site normally receives about 529 mm of rain per year, with most rainfall occurring mainly during mid-summer. The site receives the lowest rainfall (0mm) in June and the highest (106mm) in January. The average midday temperatures range from 21°C in June to 30.8°C in January. The region is the coldest during July when the mercury drops to 2.9°C on average during the night

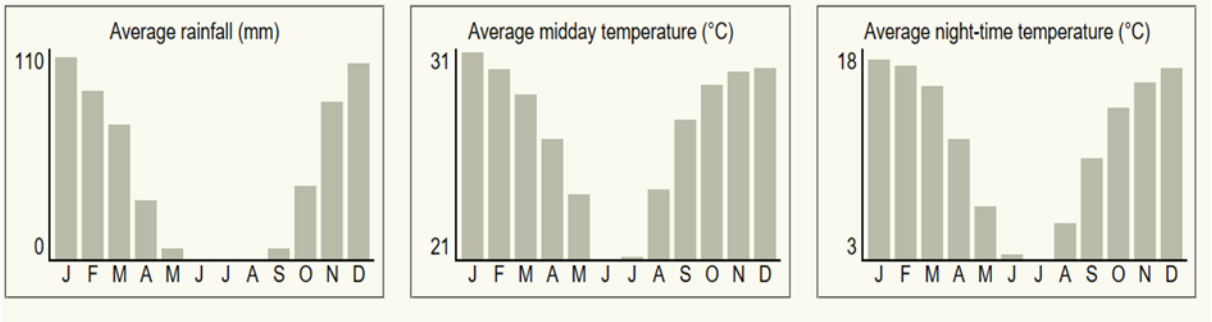


Figure 10.1.2: illustrations of weather patterns

10.1.3. Geology.

The project is situated on the Kalahari Goldridge, Kalahari Goldridge deposit is hosted in strata bound banded iron formation (BIF) within the Kraaipan greenstone belt. It comprises the D zone, A zone, Watertank and Windmill. The D zone forms the largest of these mineralized sites. The A zone consists of two units, the main ore body, Main A zone (MAZ) and a smaller unit A zone west (AZW). The entire ore body stretches along a strike length of approximately 6.5 km N–S and has variable width of 15–45 m. The ore bodies are characterized by a hanging wall comprising meta-pelitic rocks and meta-greywacke. The footwall to the ore bodies comprises mafic schist, which consists of meta-basaltic rocks. In the D zone the ore body is characterized by meta-sedimentary rocks gradational between chlorite schist and chert, interlayered with ferruginous chert and separated by a centrally located massive BIF from the footwall and hanging wall in the D zone. In the A zone, the massive BIF consists of two units that are associated with the MAZ and AZW ore bodies respectively. The BIFs in this zone are separated

by zone ore bodies is, however, not clearly defined due to the thick overburden of calcrete and Kalahari sand in the region.

Three types of vein systems (Groups I, II and III) can be distinguished in the deposits based on their mineralogy and structural orientation (e.g., Hammond & Moore 2006; Hammond et al. 2007). Groups I and III are unrelated to mineralization. Group II veins constitute the dominant vein sets associated with gold mineralization. These veins dip approximately 20 to 40W at an average strike of about 174. Quartz, siderite and ankerite constitute the main gangue mineralogy of these veins with minimal amounts of pyrite, pyrrhotite and other silicates such as stilpnomelane and chlorite. Two mineralizing episodes are associated with the Group II veining event; an initial episode (Group IIA) is characterized by ladder-vein sets, with average thicknesses ranging up to 2 cm and lengths up to 5 cm and preferentially developed in centimetre-scale Fe-rich mesobands in the BIF. The second mineralizing episode (Group IIB) consists of massive quartz–carbonate veins with thicknesses ranging up to 20 cm (Fig. Laterally, these veins stretch in excess of 20 m and locally cross-cut the entire ore body and extending into the footwall and hanging wall in places.

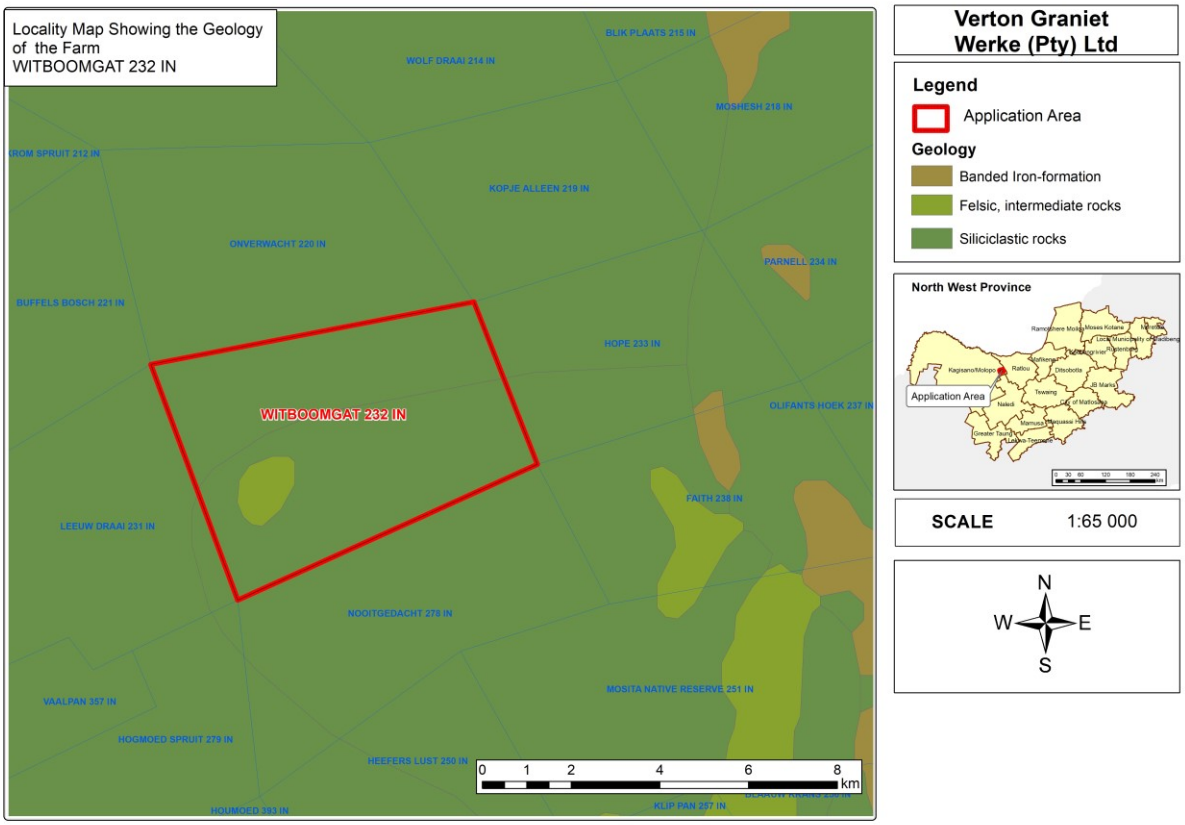


Figure 10.1.3 Geological Map

10.1.4. Water Resource

The proposed site is located in North West Province which is known as the platinum province for the wealth of the metal it contains underground. Rainfall on average for the western region is less than 300 mm per annum, the central region receiving around 550 mm per annum, while the eastern and south-eastern region receives over 600 mm per annum.

Several rivers, pans and inland lakes creates the impression that sufficient surface water sources should be available for the North West Province. It is, however, not the case. The water sources from this province are non-perennial and decreases from east to west. The three major catchments are the Limpopo, Vaal and Crocodile. The Vaal River forms the southern border of the North West and Molopo the part of the northern border. On the, other hand, the Harts, Schoonspruit and Mooi rivers run through a large part of the province and are tributaries of the Vaal river. Water quality for these surface water sources is variable and impacts include mining, agriculture, surface run-off, non-compliant waste water treatment facilities and sanitation back-logs.

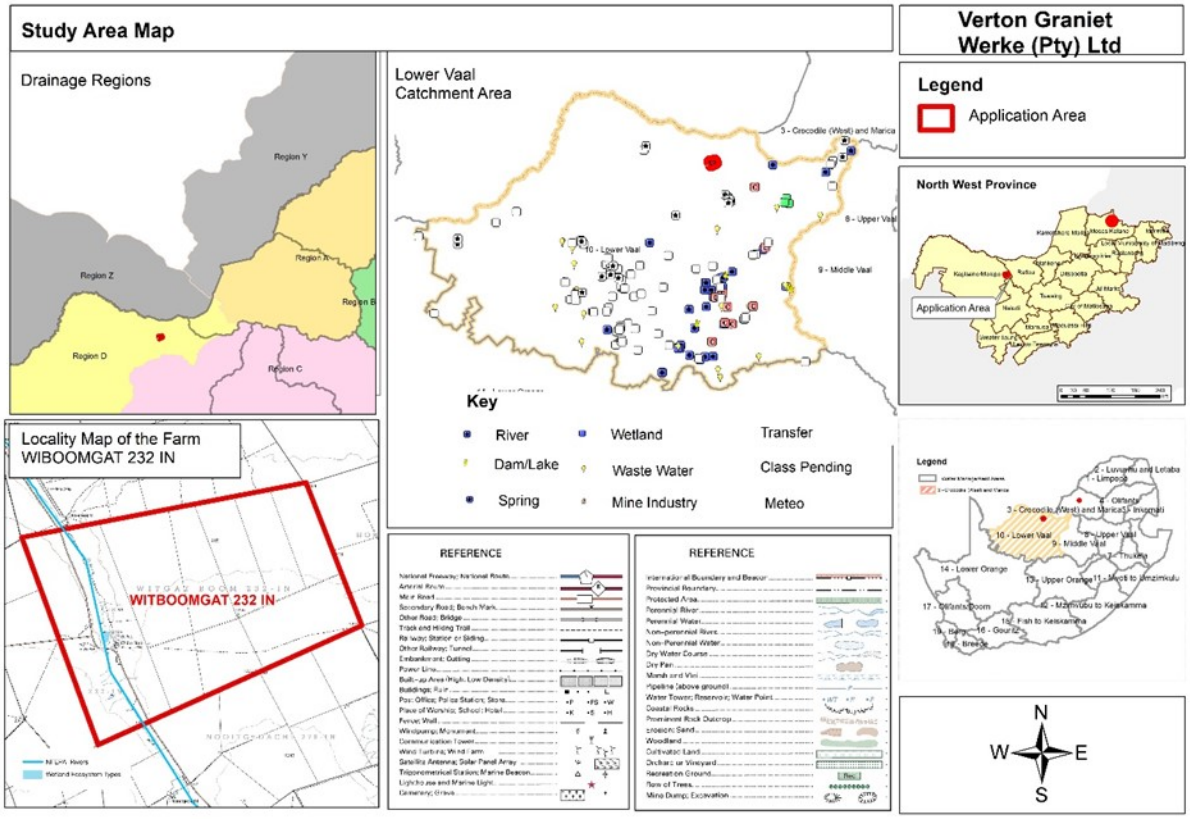


Figure 10.1.4: Hydrological setting

10.1.5 Biodiversity

The site is located within the savannah biome which is an intermediary of the forest and grassland biome. Savannah biome is also characterized by very dry and very wet season. Thesite is highly sensitive as it is located within the critical biodiversity area of the North West Province with less than 10% of the site modified by crop farming

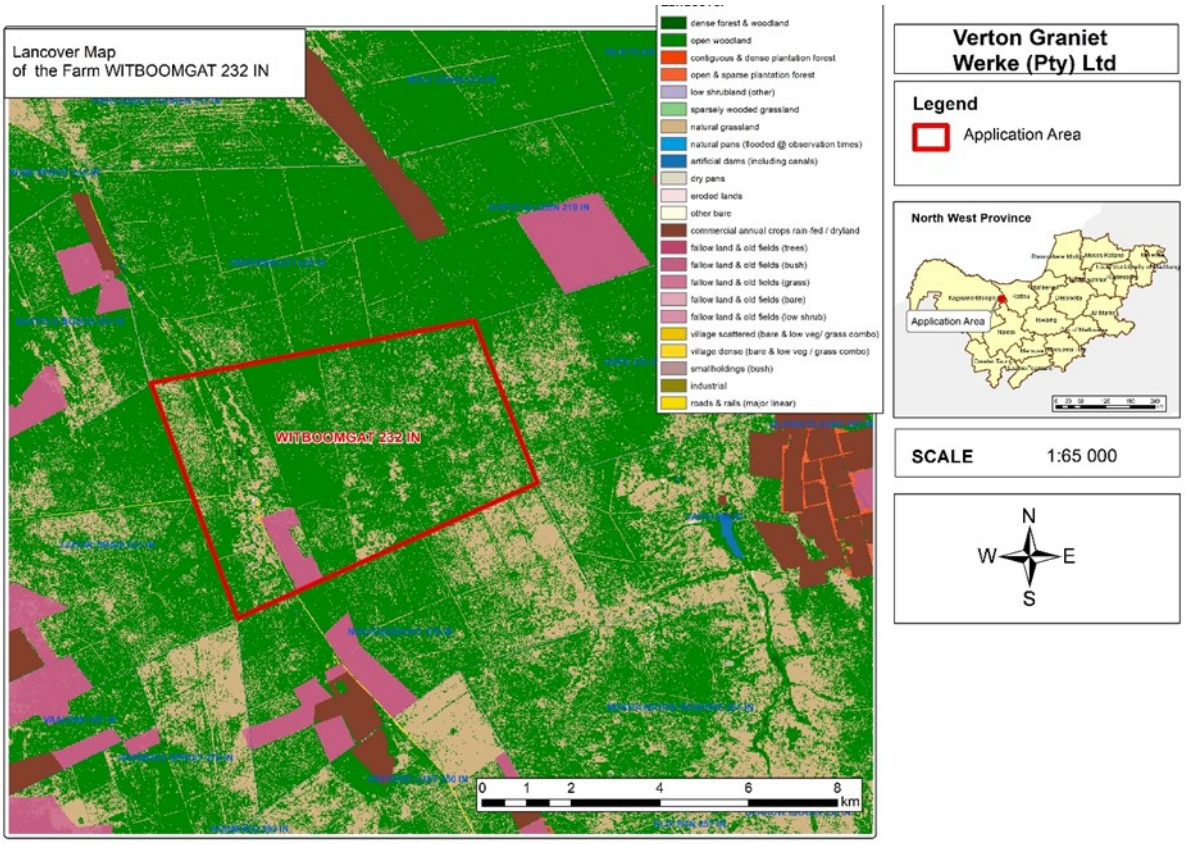


Figure 10.1.5 Biodiversity Map

10.1.6 Socio-Economic

10.1.6.1 Overview

Ratlou Local Municipality is a Category B municipality situated in the Ngaka Modiri Molema District Municipality in the North West Province. The municipality is predominantly rural in nature and is constituted by about 26 villages and commercial farms. The size of municipal area is 14, 618 km2, with a population density of 24.37 per square kilometre and is divided into 14 wards.

According to the IHS Markit Regional explorer version 1160, there are about 110 000 people residing in Ratlou Local Municipality.

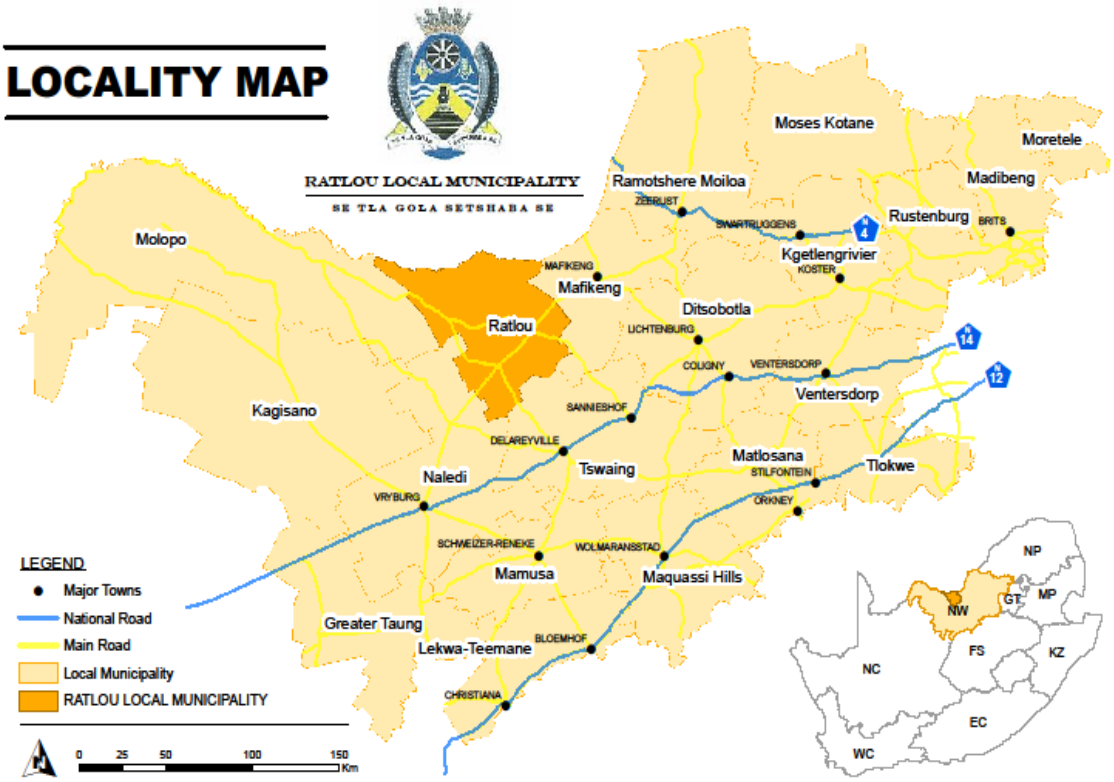


Figure 10.6.1 Ratlou locality Map

10.1.6.1 Demographics

This section will provide the statistical data relating to the Ratlou Local Municipality's population based on factors such as age, race, sex, and economic status, level of education, income level and employment, among others.

Total Population

With 110 000 people, the Ratlou Local Municipality housed 0.2% of South Africa's total population in 2016. Between 2006 and 2016 the population growth averaged 0.22% per annum which is significantly lower than the growth rate of South Africa as a whole (1.54%). Compared to Ngaka Modiri Molema' s average annual growth rate (0.92%), the growth rate in Ratlou's population at 0.22% was significantly lower than that of the district municipality

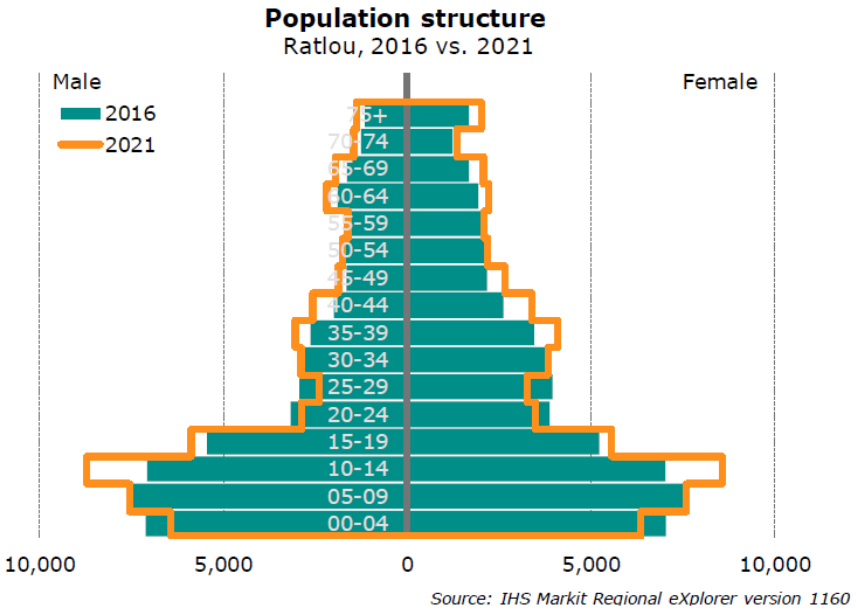


Figure 10.1.6 Population Demographic

The population pyramid reflects a projected change in the structure of the population from 2016 and 2021. The differences can be explained as follows:

- In 2016, there is a significantly larger share of young working age people between 20 and 34 (18.8%), compared to what is estimated in 2021 (16.2%). This age category of young working age population will decrease over time.
- The fertility rate in 2021 is estimated to be significantly higher compared to that experienced in 2016.
- The share of children between the ages of 0 to 14 years is projected to be slightly smaller (39.2%) in 2021 when compared to 2016 (39.8%).

In 2016, the female population for the 20 to 34 years' age group amounts to 10.6% of the total female population while the male population group for the same age amounts to 8.2% of the total male population. In 2021, the male working age population at 7.0% does not exceed that of the female population working age population at 9.2%, although both are at a lower level compared to 2016.

10.1.7 Heritage and Culture

There aren't any heritage and cultural places of significance within the target area, except for few farm graves.

10.2 Environmental and Current Land Use Map.

(Show all environmental, and current land use features)

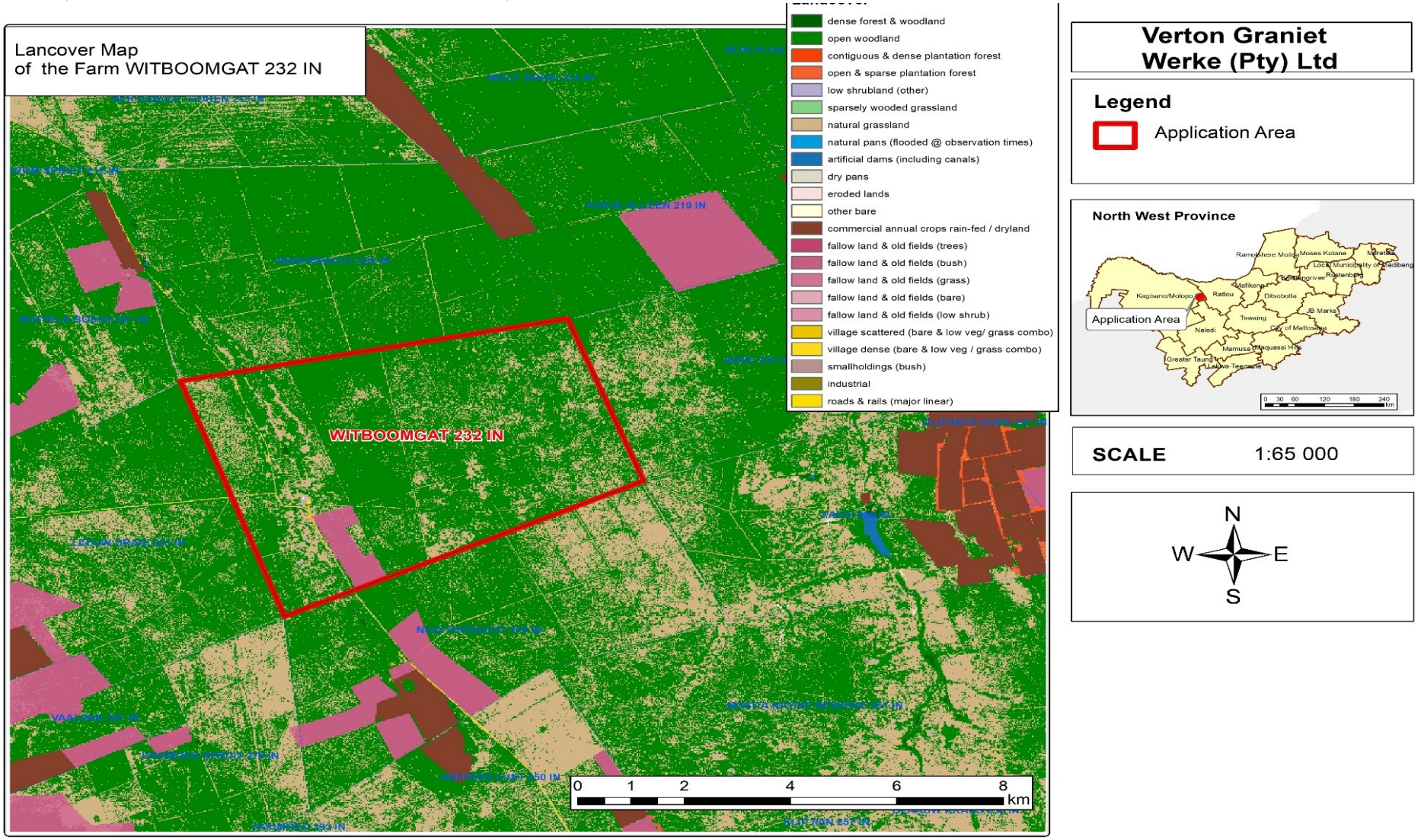


Figure 10-2 Environmental and Current Land Use Map

11 POTENTIAL IMPACTS IDENTIFIED

11.1. Overview

The exploration or prospecting activities to be undertaken at Witgatboom Gold Ore and Diamond Project Area may result in environmental risks which, should they occur, will impact on the environment. Both environmental risks and environmental impacts, have been identified as part of a plan to deliver rehabilitation, maintenance and aftercare activities.

According to the definition, an environmental risk is an uncertain event, which may result in a negative environmental impact. In terms of the proposed plan, risks in comparison to impacts, have not been rated according to the nature, significance, extent, duration and probability of them occurring but have been assessed qualitatively. Mitigation measures have been proposed to prevent, and manage the identified risks that may occur from environmental impact. All impacts associated with the Project have been quantitatively assessed according to the nature, significance, extent, duration and probability of them occurring.

According to the proposed plan, no construction or operation activities will take place, and therefore have not been considered as part of the assessment, only rehabilitation will be assessed. The potential risks associated with the project have been identified as part of the specialist investigations undertaken.

The risks associated with the project include the NEMA EIA Regulations Listed Activities which include all rehabilitation activities to take place at the Project.

11.1. Potential Impacts per Activities

Table 11-1 Known Impacts per Activity

Phase	Function	Activities	Potential Impacts
Phase: 1 Office Base	Literature Review and Detailed Desktop Studies Final Planning Geochemical and Geophysical Survey	• Review of available technical literature, interpretation and final report writing. • Final Planning • Airborne Geophysical Survey, and Ground Magnetic Survey	▪ No Impacts ▪ Limited noise impacts resulting from site airborne survey, affecting the community around the area
Phase: 2 Onsite Preparation	Site Preparation and Planning	Preparation of site, Pit and Trench location identification	▪ Limited noise impacts resulting from site airborne survey, affecting the community around the area
Phase: 3 Site Establishment	Site Establishment	No Construction or site establishment activity will be done	▪ Limited disturbance of on-site flora and fauna. ▪ Vehicle traffic noise and the sudden movement of people will cause some noise.
	Operation	Target access	▪ Limited disturbance of on-site flora ▪ Vehicle traffic noise and the sudden movement of people might cause noise
			▪
	Decommissioning	No Decommissioning activity yet	▪ No anticipated impacts
Phase: 3 and 4 Bulk Sampling Programme (overlapping)	Operation	Actual pitting and trenching excavations to extract bulk sampling material The following below listed activities will form part of the daily activities during bulk sampling phase: I. Pit demarcation, topsoil removal, overburden removal and removal of ore were necessary ii. Re-fuelling iii. Breakdown maintenance and normal rig maintenance. iv. Sample handling and logging	▪ Vegetation Clearance: there will be a vegetation clearance on an area of about 10,000m² for each pit planned. ▪ Water Resource pollution: water will be required for the operation that will put a demand on portable water. Another factor is that ground water resource must be monitored for quality and level. (Due to exploration activities). ▪ Dust Emissions from pit excavation activity and general prospecting, and site activities ▪ Visual impact affecting the area.

		v. management of drill fluids	▪ Extraction of soil for geochemical sampling will result in some disturbance ▪ Potential water pollution resulting from fuel spills. ▪ Soil pollution resulting from fuel spills. ▪ Ground compaction due to constant movement of heavy vehicles, machinery and people. ▪ Noise generated by heavy vehicles, equipment & machinery and drilling crew.
	Decommission	Removal of temporary structures such as, perimeter [Safety Barricades] fences and the following: I. Removal of Temporary shelters, core log storage facility, site offices, portable ablution facilities, fuel storage tanks, water storage tanks ii. Capping of borehole. iii. ground ripping iv. Seeding, relaying of the stockpiled soil and re-vegetation.	▪ Water Resource pollution: water will be required for rehabilitation that will put a demand on portable water. Another factor is that ground water resource must be monitored for quality and level. (Due to exploration activities). ▪ Dust Emissions from backfilling and rehabilitation activity, and other site activities. ▪ Potential water pollution resulting from fuel spills. ▪ Soil pollution resulting from fuel spills. ▪ Ground compaction due to constant movement of heavy vehicles, machinery and people. ▪ Noise generated by heavy vehicles, equipment & machinery and drilling crew.
Phase: 5 Wire-Line Drilling (very limited)	Construction	No Construction of access way will be necessary, as the target area already has a number of access ways, from previous operations If need be only a minor access way can be constructed, of not more than 1000m², in total. It is envisaged that construction of such access way [less than 400m²], will involve the following activities:	▪ Disturbance of on-site flora. ▪ Ground compaction due to constant movement of heavy vehicles, machinery and people. ▪ Noise generated by heavy vehicles, equipment & machinery and drilling crew.

		I. Vegetation Clearing ii. Topsoil Removal iii. Ground Compaction due to the weight of the drill rig iv. Erection of temporary shelters or site offices, storage facilities, ablution facilities, erection of perimeter fence and other necessary support infrastructure	▪ Disturbance of on-site flora ▪ Soil Disturbance and topsoil stockpiling might result in soil erosion. ▪ Generation of dust from site clearing, soil stripping and construction activities
	Operation	Actual Drilling and extraction of the core sample: The following below listed activities will form part of the daily activities during drilling phase: I. RC Drilling ii. Re-fuelling iii. Breakdown maintenance and normal rig maintenance. iv. Chip Sample handling and logging v. management of drill fluids	▪ Vegetation Clearance: a very small amount of vegetation will be cleared during site mobilisation, and drilling activity. ▪ Water Resource pollution: water will be required for drilling that will put a demand on portable water. Another factor is that ground water resource must be monitored for quality and level. (Due to exploration activities). ▪ Dust Emissions from drilling activity and general prospecting, and site activities. ▪ Visual impact affecting the area.
	Decommissioning	Removal of temporary structures such as, perimeter [Safety Barricades] fences and the following: I. Removal of Temporary shelters, core log storage facility, site offices, portable ablution facilities, fuel storage tanks, water storage tanks ii. Capping of borehole. iii. ground ripping iv. Seeding, relaying of the stockpiled soil and re-vegetation.	▪ Potential water pollution resulting from fuel spills. ▪ Soil pollution resulting from fuel spills
Phase:6 Financial Feasibility	Geological Modelling and Report writing	No disturbance emanating from this activity	

11.2. Methodology Used in Determining the Significance of Environmental Impacts

11.2.1. Assessment of the Significance of the Potential Impacts

The evaluation of impacts is conducted in terms of the criteria detailed in Table 11-2 to Table 11-6. The various environmental impacts and benefits of this project are discussed in terms of impact status, extent, duration, probability, and intensity. Impact significant is regarded as the sum of the impact extent, duration, probability and intensity and a numerical rating system will be applied to evaluate impact significance; therefore, an impact magnitude and significance rating is applied to rate each identified impact in terms of its overall magnitude and significance Table 11-7.

In order to adequately assess and evaluate the impacts and benefits associated with the project it was necessary to develop a methodology that would scientifically achieve this and to reduce the subjectivity involved in making such evaluations. To enable informed decision-making, it is necessary to assess all legal requirements and clearly defined criteria in order to accurately determine the significance of the predicted impact or benefit on the surrounding natural and social environment.

11.2.2. Impact Status

The nature or status of the impact is determined by the conditions of the environment prior to construction and operation. A discussion on the nature of the impact will include a description of what causes the effect, what will be affected and how it will be affected. The nature of the impact can be described as negative, positive or neutral.

Table: 11-2. Status of Impact

RATING	DESCRIPTION	QUANTITATIVE RATING
Positive	A Benefit to the receiving environment	**P**
Neutral	No cost or Benefit to the receiving environment	**—**
Negative	A Cost to the receiving environment	**N**

11.2.3. Impact Extent

The extent of an impact is considered as to whether impacts are either limited in extent of if it affects a wide area or group of people. Impact extent can be site specific (within the boundaries of the development area), local, regional or national and/or international.

Table: 11-3. Extent of Impact

RATING	DESCRIPTION	QUANTITATIVE RATING
Low	Site Specific, Occurs within the farm boundary.	**1**
Medium	Local; Extends beyond the site boundary; Affects the immediate surrounding environment (i.e. 2. up to 5km from the Project Site boundary)	**2**
High	Regional; Extends far beyond the site boundary; Widespread effects (i.e. 5km and more from the Project Site Boundary).	**3**
Very High	National and/or International; Extends far beyond the Site Boundary; Widespread Effect.	**4**

11.2.4. Impact Duration

The duration of the impact refers to the time scale of the impact or benefit.

Table: 11.4. Duration of Impact

RATING	DESCRIPTION	QUANTITATIVE RATING
Low	Short term; Quickly reversible; Less than the project lifespan; 0- 5 years	**1**
Medium	Medium term; Reversible over time; Approximate lifespan of the Project; 5 – 17 years.	**2**
High	Long term; Permanent; Extends beyond the decommissioning phase; >17 years.	**3**

11.2.5. Impact Probability

The probability of the impact describes the likelihood of the impact actually occurring.

Table: 11-5. Probability of Impact

RATING	DESCRIPTION	QUANTITATIVE RATING
Improbable	Possibility of the impact materialising is negligible; Chance of occurrence <10%	**1**
Probable	Possibility that the impact will materialise is likely; Chance of occurrence 10- 49.9%	**2**
Highly Probable	It is expected that the impact will occur; Chance of occurrence 50- 90%.	**3**
Definite	Impact will occur regardless of any prevention measures; Chance of occurrence >90%	**4**
Definite and Cumulative	Impact will occur regardless of any prevention measures; Chance of occurrence >90% and is likely to result in cumulative impacts	**5**

11.2.6. Impact Intensity

The intensity of the impact is determined to quantify the magnitude of the impacts and benefits associated with the proposed project.

Table: 11-6. Intensity of Impact

RATING	DESCRIPTION	QUANTITATIVE RATING
Maximum Benefit	Where natural, cultural and/or social functions or processes are positively affected resulting in the maximum possible and permanent benefit	**+5**
Significant Benefit	Where natural, cultural and/or social functions or processes are altered to the extent that it will result in temporary but significant benefit.	**+4**
Beneficial	Where the affected environment is altered nut natural, cultural and/ or social functions or processes continue, albeit in a modified, beneficial way.	**+3**
Minor Benefit	Where the impact affects the environment in such a way that natural, cultural and/or social functions or processes are only marginally benefited.	**+2**

Negligible Benefit	Where the impact affects the environment in such a way that natural, cultural and/ or social functions or processes are negligibly benefited.	**+1**
Neutral	Where the impact affects the environment in such a way that natural, cultural and/or social functions or processes are not affected.	**0**
Negligible	Where the impact affects the environment in such a way that natural, cultural and/or social functions or processes are only negligibly affected.	**-1**
Minor	Where the impact affects the environment in such a way that natural, cultural and/ or social functions or processes are only marginally affected.	**-2**
Average	Where the affected environment is altered nut natural, cultural and/ or social functions or processes continue, albeit in a modified way.	**-3**
Severe	Where natural, cultural and/or social functions or processes are altered to the extent that it will temporarily cease.	**-4**
Very Severe	Where natural, cultural and/ or social functions or processes are altered to the extent that it will permanently cease.	**-5**

11.2.7. Impact Significance

The impact magnitude and significance rating is utilised to rate each identified impact in terms of its overall magnitude and significance.

Table: 11-7. Impact Magnitude and Significance Rating

IMPACT	RATING	DESCRIPTION	QUANTITATIVE RATING
POSITIVE	**High**	Of the highest positive order possible within the bounds of impacts that could occur.	**+12- 16**
	Medium	Impact is real, but not substantial in relation to other impacts that might take effect within the bounds of those that could occur. Other means of achieving this benefit are approximately equal in time, cost and effort	**+6 - 11**
	Low	Impacts is of a low order and therefore likely to have a limited effect. Alternatively means of achieving this benefit are likely to be easier, cheaper, more effective and less time-consuming.	**+1 – 5**

NO IMPACT	**No Impact**	Zero Impact	**0**
NEGATIVE	**Low**	Impact is of a low order and therefore likely to have little real effect. In the case of adverse impacts, mitigation is either easily achieved or little will be required, or both. Social, cultural, and economic activities of communities can continue unchanged.	**-1- 5**
	Medium	Impact is real, but not substantial in relation to other impacts that might take effect within the bounds of those that could occur. In the case of adverse impacts, mitigation is both feasible and fairly possible. Social cultural and economic activities of communities are changed but can be continued (albeit in a different form). Modification of the project design or alternative action may be required.	**-6 - 11**
	High	Of the highest order possible within the bounds of impacts that could occur. In the case of adverse impacts, there is no possible mitigation that could offset the impact, or mitigation is difficult, expensive, time-consuming or a combination of these. Social, cultural and economic activities of communities are disrupted to such an extent that these come to a halt.	**-12- 16**

The impacts for each individual phase of the project, namely the construction, operational and decommissioning / closure phases are rated in terms of its significance. The table details the identified / expected impacts of a proposed activity during each project phase both before and after the proposed mitigations measures.

A description of the terms used in the table is detailed below:

Aspect: Refers to the physical, biophysical or socio-economic environmental components as investigated.

General Impact: Refers to the broad-spectrum or category of the expected impact being pollution, degradation, loss; etc.

Specific Impact: Refers to the actual activity that will cause the expected impact.

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

Positive Impacts

The project will provide resolute and sound surface water management streams onsite that will be continued even after the project has ceased. The buffers will be created around all surface water courses, ponds and dams

The prospecting activities will confirm the presence or absence of the ore reserves, and thereafter the area can be properly zoned, in the absence of ore reserves, an informed decision on land zoning can then be taken. For instance, human settlement zoning will be probable as no future relocations will be required to make way for mining, and if zonedfor agriculture, extensive agricultural developments and investment can then be implemented.

The prospecting results either positive or negative will curb the illegal mining activities, ifpositive results are yielded the applicant will ensure that the sight is safely secured and access into the site is controlled. The negative results would also discourage illegal miners who would gamble on the existence of ore reserve. The existence of proven knowledge on the geological substrata would push illegal miners off site.

While no significant short term positive socio-economic impacts are associated with the prospecting activities, in the event that a viable reserve is confirmed, there would be high degree of positive impacts such as employment of large number of local residents, socio- economic balance of the local community and on the National and Provincial scale mining contribute highly to the Gross Domestic Product (GDP).

Negative Impacts

Possibilities of ground water disturbances exists, as drilling may be carried out on aquifers and as a result water table may be lowered and the water quality compromised. Ground water detection techniques will be implemented before drilling is undertaken to ascertain the presence/absence of aquifers.
The proposed project will definitely generate wastes, the wastes will be contained on site, hazardous will be separated from general wastes and each will be disposed of at a permissible registered waste facility.
Safety risks – the surface excavations create safety risks to both local community and livestock within the farm.

11.4. THE POSSIBLE MITIGATION MEASURES THAT COULD BE APPLIED AND THE LEVEL OF RISK.

Table: 11-8. Proposed Mitigation Measures to Minimise Environmental Risk

Phase		Activities	Potential Impacts	Proposed Mitigation
Phase One: Detailed Desktop Study, Final Planning, Geochemical and Geophysical Survey and Mapping.	**Construction**	N/A	N/A	1. No Mitigation
	Operation	N/A	N/A	2. No Mitigation
	Decommission	N/A	N/A	3. No Mitigation
Phase Two: Site Preparation and Identification of Pits and Trenches Location.	**Construction**	N/A	N/A	4. No Mitigation
	Operation	N/A	N/A	5. No Mitigation
	Decommission	N/A	N/A	6. No Mitigation
Bulk Sampling				
Phase Three: Site Establishment	**Construction, Operation and Decommission**	Site establishment	**Generation of Noise**	1. Operating hours will be restricted to normal working hours of between 07h30 to 17h00, this with a view to avoid night time noise disturbances. 2. Service equipment, machineries, trucks and other vehicles regularly to minimise noise. 3. provide ear plugs to the employees and ensure they wear them for the protection of their ears. ----------
			Generation of Dust	4. Suppress dust by spraying water on dust roads and onsite were possible - Regulate speed to be 40 km/h on site to reduce dust emission. 5. Provide dust mask to employees working on site ----------

			Vegetation Clearance. **Animal Life Disturbance.** **Impact on Geology**	6. The crew and technical personnel shall avoid as practical as possible significant vegetation such as trees and large shrubs in the event that driving through the veld is required to access the marked sampling target. 7. Place infrastructures in places that are already disturbed or degraded to avoid removal of vegetation and increasing the footprint of the activity. 8. Bring in and use the mobile equipment that will just need the positioning and not the construction. equipment such as the toilet and the guard house. 9. Where vegetation removal cannot be avoided, rehabilitate as soon as possible by revegetating. 10. Work during daytime to minimise the disruption of animal life. --- 11. Fence -off the pits to prevent animals from falling into the pits. 12. Do not disturb nests, breeding sites or young ones. Do not attempt to kill or capture snakes unless directly threatening the safety of employees. 13. Employees and contractors should be made aware of the presence of, and rules regarding, flora and fauna through suitable induction training and on-site signage. --- 14. Limit operations to area designated to prospecting plan within the approved prospecting rights area. --- 15. Provide workers with safety clothing. 16. Comply with Health and Safety measures, standards and regulations. 17. Carry out Health and Safety audits frequently to ensure all Health and Safety measures, standards and regulations and complied with - Any hazardous zones on site should be monitored.

			Safety Hazards to exploration crew, onsite personnel and the neighbouring communities including farm owners. **Altering land use and land capability.** **Topsoil Stockpile** **Dust from Topsoil Stockpile.** **Impact on the Topography** **Visual Impact** **Nuisance and visual pollution.**	---------- 18. Limit operations to area designated to prospecting plan within the approved prospecting rights area. 19. The crew and technical personnel shall avoid as practical as possible significant vegetation such as trees and large shrubs in the event that driving through the veld is required to access the marked sampling target 20. Ensure that area is rehabilitated upon completion of activities, and that the soil is fertilised back to its suitable farming value. ---------- 21. Avoid erosion by stockpiling topsoil properly and keep stockpile damp to reduce erosion and dust emission ---------- 22. Spray stockpile to keep damp and prevent the emission of dust. ---------- 23. Remove topsoil and backfill into pits as soon as operations cease. ---------- 24. Ensure stockpiles are not higher than 1.5m tall. 25. Littering should be prohibited and all waste generated from the site should be cleared. 26. A 'no waste dumping' sign should also be placed next to the stream to raise caution of littering around it. 27. Provide rubbish bins and ensure that all waste is properly disposed of in the bins. 28. Empty and dispose of waste weekly at the nearest landfill site. ---------- 29. Place oil dip trays beneath trucks and machinery in use of oil to contain any oil spills. 30. Fuel storage tanks shall have a secondary spillage containment structure with a capacity of 120% of the total tank capacity.

			Soil Contamination.	31. Lubricants and Oils shall be stored within secondary containment structures 32. Vehicle maintenance will definitely be undertaken off-site, however emergency repairs shall be carried out on-site, in such an event drip trays and UPVC Sheets shall be used to prevent spills and leaks onto the soil. 33. Unused machinery must be completely drained of oil and other lubricants to ensure that leaks do not develop. 34. The standing instruction is that vehicle inspections shall be carried out at the beginning of the shift, and the end of the shift, to ensure that leaks are identified early and corrective measures implemented. 35. Sufficient number of waste disposal units will be provided. 36. Waste management and handling will be undertaken, in order to separate waste according to its type.
Phase Four: **Bulk Sampling Programme (Pitting and Trenching)**	Operation and Decommission		**Generation of Noise** **Generation of Dust** **Vegetation Clearance.**	1. Operating hours will be restricted to normal working hours of between 07h30 to 17h00, this with a view to avoid night time noise disturbances. 2. Service equipment, machineries, trucks and other vehicles regularly to minimise noise. 3. provide ear plugs to the employees and ensure they wear them for the protection of their ears. ---------- 4. Suppress dust by spraying water on dust roads and onsite were possible - Regulate speed to be 40 km/h on site to reduce dust emission. 5. Provide dust mask to employees working on site ---------- 6. The crew and technical personnel shall avoid as practical as possible significant vegetation such as trees and large shrubs in the event that driving

				through the veld is required to access the marked sampling target. 7. Place infrastructures in places that are already disturbed or degraded to avoid removal of vegetation and increasing the footprint of the activity. 8. Bring in and use the mobile equipment that will just need the positioning and not the construction. equipment such as the toilet and the guard house. 9. Where vegetation removal cannot be avoided, rehabilitate as soon as possible by revegetating. 10. Work during daytime to minimise the disruption of animal life. ----------
			Animal Life Disturbance. **Impact on Geology** **Safety Hazards to exploration crew, onsite personnel and the**	11. Fence -off the pits to prevent animals from falling into the pits. 12. Do not disturb nests, breeding sites or young ones. Do not attempt to kill or capture snakes unless directly threatening the safety of employees. 13. Employees and contractors should be made aware of the presence of, and rules regarding, flora and fauna through suitable induction training and on-site signage. ---------- 14. Limit operations to area designated to prospecting plan within the approved prospecting rights area. ---------- 15. Provide workers with safety clothing. 16. Comply with Health and Safety measures, standards and regulations. 17. Carry out Health and Safety audits frequently to ensure all Health and Safety measures, standards and regulations and complied with - Any hazardous zones on site should be monitored. ---------- 18. Limit operations to area designated to prospecting plan within the approved prospecting rights area.

			neighbouring communities including farm owners. **Altering land use and land capability.** **Topsoil Stockpile** **Dust from Topsoil Stockpile.** **Impact on the Topography** **Visual Impact** **Nuisance and visual pollution.**	19. The crew and technical personnel shall avoid as practical as possible significant vegetation such as trees and large shrubs in the event that driving through the veld is required to access the marked sampling target 20. Ensure that area is rehabilitated upon completion of activities, and that the soil is fertilised back to its suitable farming value. --- 21. Avoid erosion by stockpiling topsoil properly and keep stockpile damp to reduce erosion and dust emission --- 22. Spray stockpile to keep damp and prevent the emission of dust. --- 23. Remove topsoil and backfill into pits as soon as operations cease. --- 24. Ensure stockpiles are not higher than 1.5m tall. 25. Littering should be prohibited and all waste generated from the site should be cleared. 26. A 'no waste dumping' sign should also be placed next to the stream to raise caution of littering around it. 27. Provide rubbish bins and ensure that all waste is properly disposed of in the bins. 28. Empty and dispose of waste weekly at the nearest landfill site. --- 29. Place oil dip trays beneath trucks and machinery in use of oil to contain any oil spills. 30. Fuel storage tanks shall have a secondary spillage containment structure with a capacity of 120% of the total tank capacity. 31. Lubricants and Oils shall be stored within secondary containment structures 32. Vehicle maintenance will definitely be undertaken off-site, however emergency repairs shall be

			Soil Contamination.	carried out on-site, in such an event drip trays and UPVC Sheets shall be used to prevent spills and leaks onto the soil. 33. Unused machinery must be completely drained of oil and other lubricants to ensure that leaks do not develop. 34. The standing instruction is that vehicle inspections shall be carried out at the beginning of the shift, and the end of the shift, to ensure that leaks are identified early and corrective measures implemented. 35. Sufficient number of waste disposal units will be provided. 36. Waste management and handling will be undertaken, in order to separate waste according to its type.
Phase Five: Financial Feasibility Study			N/A	N/A
Phase Six: Application for Mining License			N/A	N/A

12. THE OUTCOME OF THE SITE SELECTION MATRIX. FINAL SITE LAYOUT PLAN

12.1. MOTIVATION WHERE NO ALTERNATIVE SITES WERE CONSIDERED.

12.1.1. Site Location and Layout Alternatives

The layout of the proposed project has been informed by, a detailed desktop study, site visits and consultation with interested and affected parties. The ultimate goal is to ensure that, the project owner avoid as much as possible the removal species of special concern.

12.1.2. Design, Technology & Operational Alternatives

The prospecting/exploration operating plan, for the proposed project has been informed by market demand, strategic objectives of the company, its shareholders and an assessment of the technical aspect of the proposed site.
Preliminary financial feasibility and technical soundness of the project has been conducted, to an extent that a decision was taken to secure the mineral rights over the properties. The prospecting programme has been designed to manage financial risks, and to enable the project promoter to be able to stop at any time if the project proves to be risky, the programme will be implemented in phases, each phase has a specific set of activities that have clear objectives, these activities vary in nature, from Invasive to Non-Invasive. The main aspect of the programme is the bulk sampling activities that includes testing of the extracted material and confirmation drilling, it is proposed that drilling be conducted using Wire-Line Drilling.

Various prospecting activities are listed below:

- **Field Mapping:** This method includes the identification of exposed geological structures, anomalies' and outcrops, this will be done through interpretation of aerial photos, and satellite images, the task will further be carried out by walking through the farms or target areas.

- **Geophysical Survey:** Ground Geophysical surveys will be conducted over selected target areas within the proposed project areas or locations. Preferably on a 200m-by-200m grid pattern using a Gravimeter. Ground gravity surveys are used to outline the hosting lithology, on the properties.

- **Geochemical Surveys:** Geochemical Surveys will be used in this region to determine the position of the ore body; this entails the soil sampling on a line spacing of 200m, in line with the grid pattern of 200m by 200m used for Geophysical Survey.

- **Pitting and Trenching:** The prospecting pitting programme will consist of approximately four (04) pits, the final location of those pits shall be determined by further ground work. The Pits will be developed in an area of very shallow overburden (of between 1m to 2 m deep), the pits

will be developed to 100m by 100m at depth of 6m including provision for overburden. It is assumed that an average overburden depth of 1m to 2m will be encountered, then each pit will require the handling of some 80 000m3 overburden and topsoil.

- **Wire-Line Drilling:** Percussion drilling will be conducted in phases, over anomalous target areas and also around historical Borehole collars which were sourced from Council for Geosciences, or any area of artisanal mining activities. The team will be using reconnaissance lines or grid of 200m or 400m by 400m, holes will be approximately greater than 40m deep, this level will also depend on ground conditions and position of collars. The core will be extracted to determine the exact lithology of the target area, secondly to determine Mineralisation, mineral quality and later resource estimates.

12.2. STATEMENT MOTIVATING THE PREFERRED SITE.

As have already indicated above in (12.2) above, there aren't any alternative site locations available for the proposed project. In terms of the site layout (temporary site infrastructure), the parameters taken into account to select the site included the following:

- Topography
- Access Routes
- Flora, Fauna and the Vegetation.
- Streams and rivers.
- Wetlands.
- Homesteads.
- Farming Activities.
- Technical Aspect of the project.

13. PLAN OF STUDY FOR THE ENVIRONMENTAL IMPACT ASSESSMENT PROCESS

13.1. DESCRIPTION OF ALTERNATIVES TO BE CONSIDERED INCLUDING THE OPTION OF NOT GOING AHEAD WITH THE ACTIVITY.

PREFERRED ALTERNATIVE

- **Drilling and Pitting Locations**

Drilling and pitting locations have been selected on the basis of the underlying targeted orebody and its position. The intention is to establish the depth, strike and continuity of the orebody. Over and above the geological structure, the mineral continue will be tested, for grade and so on. At all times the sites will be at a reasonable distance away from any sensitive area to ensure that no damage, diversion or disturbance is inflicted on the sensitive environment, e.g. wetland and river stream. It is perhaps worth mentioning that, the full Impact assessment will give proper recommendation.

- **Exploration Campsit**e

The exploration campsite is strategically located, so that it is easily accessible to the pitting and trenching locations. The exploration camp site has to be located near the trenching sites; however, it has to be ensured that the campsite is not placed at an area with potentially a large reserve of minerals. All the infrastructure proposed for this project are mobile temporary structures, this with a view to ensure minimal environmental impact.

13.2. DESCRIPTION OF THE ASPECTS TO BE ASSESSED AS PART OF THE ENVIRONMENTAL IMPACT ASSESSMENT PROCESS

The authorization process to be followed has been designed to meet the requirements of the MPRDA (Act 28 of 2002) and NEMA (Act 107 of 1998; amended 2014). The authorization process will include:

- Scoping Phase:
- Stakeholder Notification;
- Authority Consultation;
- Registering of all Issues and Concerns raised;
- Compilation of a Stakeholder Database/or Register;
- Identification of Potentially Significant Impacts;
- Identification of Potentially Sensitive Environmental Aspects;
- Identification of Required Specialist Studies;
- Compilation of a Scoping Report (this document), including:
- Plan of Study for EIA/EMP Amendment.
- Issues Report; and

- Stakeholder Review of Documentation;
- Submission and approval of Scoping Report by relevant authorities.
- Impact Assessment Phase:
- Undertake necessary specialist studies;
- Assessment of environmental impacts;
- Compilation of management plans;
- Compilation of an EMP Report;
- Stakeholder document review and comment;
- Submission of final report for decision-making.

The contents of the final EMP Report, will include a description of the proposed project, a list of identified environmental aspects that will potentially be impacted upon by the exploration project, an Impact Assessment for these aspects, and an Environmental Management Programme for the mitigation and management of the identified impacts.

Specialist Studies

In order to assess the environmental, social and cultural impacts of the proposed Witgatboom Gold Ore and Diamond Project, a number of specialist studies will also be commissioned. The findings of these studies will be incorporated into the Environmental Impact Assessment Report (EIR). The specialist studies consider the proposed structure and activities of the operations, as well as the associated risks to the receiving physical and socio-cultural environment.

The following aspects of the biophysical environment will be considered in the baseline studies:

- Air Quality
- Noise Pollution
- Flora and Fauna
- Land Use
- Social Impact
- Surface Water and Groundwater;
- Heritage and Archaeology;
- Traffic;
- Visual Aspects.

13.3. DESCRIPTION OF ASPECTS TO BE ASSESSED BY SPECIALISTS

- **Air Quality Impact Assessment**

Identification of existing sources of emissions in the region and the characterisation of existing ambient pollution concentrations is fundamental to the assessment of cumulative air impacts. A change in

ambient air quality can result in a range of impacts, which in turn, may cause a disturbance to nearby receptors.

- **Hydrogeological Assessment**

Identification of catchment area, water sources impacting the project area as well as the potential impact of the mining activity on water quality. A water use license will be applied for later when the project moves to full-scale mining operation, but it is not necessary in the prospecting phase.

- **Ecological Assessment**

Identification of flora and fauna and possible invasive species as the area is previously mined.

- **Social Impact Assessment**

The assessment of the possible socio- economic impact of the project area on the local and regional locality both negative and positive impacts are to be outlined.

- **Visual Impact Assessment**

Project-related activities have the potential to alter the landscape character of the site and surrounding area through the establishment of both temporary and permanent infrastructures. As a baseline, this section provides an understanding of the pre-mining visual character of the project area against which to measure potential change as a result of project infrastructure and activities.

- **Noise & Air Quality Impact**

Some of the noise generating activities associated with the project may cause an increase in ambient noise levels in and around the site. This may cause a disturbance to nearby receptors. As a baseline, this section provides a brief description of pre-mining conditions in the area from which to measure changes as a result of project-related noise.

- **Traffic Impact**

An increase in traffic on the existing roads and possible risks associated with the increased activities as well as the quality of the roads.

- **Heritage Impact assessment**

Identification and Protection of Heritage and historical and land marks.

Table 13-1 Summary of Specialist Studies Objectives

No	Specialist Studies	Objectives of the Study
1	Surface Water Baseline and Impact Assessment	❖ Determining which quaternary sub-catchment the site falls into using the "Surface Water Resources of South Africa – 1990" Vol 3 (Midgley, Pitman & Middleton, 1995) (WR90); ❖ Assessing the rainfall stations in the area and selecting one based on distance from site, reliability and length of record; ❖ Determining the Mean Annual Run-off (MAR) using the Soil Conservation Service Curve Number (SCS-CN) Model; ❖ Delineating the site into areas with different runoff characteristics in order to determine the volume of run-off that could be expected for the area; ❖ Determination of the 1:50 and 1:100 year flood lines.
2	Baseline and Impact Assessment	❖ Review of mining project information; ❖ Review of available Hydrocensus; ❖ Groundwater conceptual model; ❖ Topographical analysis and surface drainage patterns; ❖ Groundwater levels and contour mapping; ❖ Steady State Groundwater Flow Model; ❖ Groundwater quality data analysis; ❖ Groundwater balance; ❖ Geohydrological Report Compilation.
3	Archaeological Assessment	**Desktop Study:** ❖ Consult heritage databases; ❖ Undertaking of brief study (prehistory); ❖ Analysing previous work undertaken in the project area; **Fieldwork:** ❖ Foot Survey of the project area; ❖ Vehicle survey of the project area; ❖ GPS logging ❖ Mapping; ❖ Photographing; ❖ Description of the heritage resources, grave sites, and cultural landscapes
4	Ecological Assessment	❖ Description of the habitat integrity; ❖ Identification of the presence or likelihood of occurrence of Red Data floral and faunal species; ❖ Identification of "no-go" areas and ecologically valuable habitats on a sensitivity map.
5	Air Quality Study and Noise Air Quality Monitoring Baseline Study and Impact Assessment	❖ Assess the expected impacts during construction and operation and identify emission reduction opportunities and cost effective emission abatement strategies ❖ Identification of potential routine sources of emission; ❖ Quantifying potential routine sources of emission;

		❖ Location of dust fallout buckets; ❖ Evaluation of potential for human health and environmental impacts
6	Social Impact Assessment	❖ To identify relevant social aspects and predict the anticipated future social developments and/or changes in the receiving human environment; ❖ Provide a baseline study describing the socio-economic factors of the affected population; ❖ Assess negative and positive impacts associated with the project; ❖ Identify feasible mitigation measures and benefits related with the project.
7	Traffic Impact Assessment	❖ Collection of traffic information to determine the status quo; ❖ Determination of the trip generation due to the mine establishment; ❖ Assessing the impacts of the trip generated by the mine; ❖ Public transport provision for mine employees.

13.4. PROPOSED METHOD OF ASSESSING THE ENVIRONMENTAL ASPECTS INCLUDING THE PROPOSED METHOD OF ASSESSING ALTERNATIVES

The environmental aspects will be assessed through:

- Carrying out a desktop study to obtain existing information (literature review) on the natural environment socio -economic status of the site and its surroundings;
- Conducting a site assessment to verify information obtained during the desktop study and further assess the above-mentioned aspects.
- Conducting a biodiversity specialist study.

13.5. THE PROPOSED METHOD OF ASSESSING DURATION SIGNIFICANCE

Please refer to Section 11.3: Methodology used in determining the significance of environmental impacts**.**

13.6. THE STAGES AT WHICH THE COMPETENT AUTHORITY WILL BE CONSULTED

Initial communication with the competent authority has been made through the application for environmental authorisation for this proposed project.

Further consultation will be made when the draft scoping report is finalised so as to obtain comments. The competent authority will also be consulted further during the EIA phase, and the release of the Scoping Report, IEA Report and associated EMPr.

13.7. PARTICULARS OF THE PUBLIC PARTICIPATION PROCESS WITH REGARD TO THE IMPACT ASSESSMENT PROCESS THAT WILL BE CONDUCTED

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

The overriding principle, when it comes to public consultation and engagement, is to ensure that the views of the interested and affected parties are taken into consideration when preparing a final EIA & EMP.

The objective is to ensure the assessment is robust, transparent and has considered the full range of issues or perceptions, and to an appropriate level of detail. Public participation process is an ongoing activity, and will continue throughout the Environmental Impact Assessment process to ensure that legislative requirements and Project standards are met, that public concerns are addressed in the assessment and that sources of existing information and expertise are identified.

The public participation process is designed to provide sufficient and accessible information to I&APs in an objective manner to assist them to:

During the Scoping Phase

- Raise issues of concern and suggestions for enhanced benefits;
- Verify that their issues have been recorded;
- Assist in identifying reasonable alternatives; and
- Contribute relevant local information and traditional knowledge to the environmental assessment.

During the Impact Assessment Phase

- Contribute relevant information and local and traditional knowledge to the environmental assessment;
- Verify that their issues have been considered in the environmental studies; and
- Comment on the findings of the environmental assessments.

The identified Interested and Affected Parties during the scoping phase will be made aware of the availability of the EIA report via:

- A notification letter
- Emails and SMS
- Press advertisements
- Site Notices
- Public and Stakeholder Meetings

- The EIA will be made available for review to all IAPs for 30days. All registered IAPs will be notified by email, fax, SMS, or post of the report's availability.

Hard copies of the draft report will be placed at:

- Public Libraries, Municipal Offices and other accessible places.

13.7.2. Details of the engagement process to be followed.

The following activities or tasks will make up the engagement process:

- The land owners will be notified and invited to comment on the draft EIA/EMP documents.
- If found necessary, a public meeting will be held to detail the project and receive any further comments from individuals of the surrounding communities draft reports will be emailed to registered interested and affected parties.

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

The information provided below will be made available to Interested and Affected Parties.

- **Details of the proposed project**
  - project description,
  - project location,
  - impacts from project activities,
  - closure objectives

- **Contact details at which commentary can be made**
  - Availability of draft reports and commentary dates and duration
  - Accessibility to draft reports for reviewing and commentary
  - Record of decision for the application.

13.8. DESCRIPTION OF THE TASKS THAT WILL BE UNDERTAKEN DURING THE ENVIRONMENTAL IMPACT ASSESSMENT PROCESS

The following tasks will be undertaken during EIA process.

- Site assessment.

A visit to the proposed site will be undertaken in order to assess the receiving (physical) environment in detail and identify further impacts that the proposed project may have on the environment.

- Report compilation and submission.

Once the site assessment has been carried out, the identified impacts will be assessed (for significance) and rated. The findings will be collated in the Draft Environmental Impact Report. A Draft Environmental Management Plan will also be compiled, within which a plan for mitigating and managing the identified impacts will be detailed. The plan will also detail the frequency of monitoring the impacts and management measures suggested.

- Public participation.

Contact will be made with all Registered Interested and Affected Parties and organs of State, informing them of the availability of the Draft Environmental Impact Report and Environmental Management Plan for commenting.
Upon request, these draft reports will be provided to Registered Interested and Affected Parties through mail.

All Interested and Affected Parties and the general public will be allowed a period of 30days to comment on the draft reports, after which, all commentary raised by Interested and Affected Parties will be incorporated in the Final EIA report (together with all responses to the commentary).
The final Reports will be submitted to the competent authority, in anticipation for a record of decision on the authorisation application. The public will be notified of the record of decision by the competent authority.

13.9. 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.

Table 13-2 Mitigation Measures

ACTIVITY (Whether listed or not listed). **(E.g. Excavations, blasting, stockpiles, discard dumps or dams, Loading, hauling and transport, Water supply dams and boreholes, accommodation, offices, ablution, stores, workshops, processing plant, storm water control, berms, roads, pipelines, power lines, conveyors, etc…etc…etc.).**	**POTENTIAL IMPACT** **(E.g. dust, noise, drainage surface disturbance, fly rock, surface water contamination, groundwater contamination, and air pollution etc….etc.…)**	**ASPECTS AFFECTED**	**PHASE** In which impact is anticipated **(e.g. Construction, commissioning, operational Decommissioning, closure, post-closure)**	**MITIGATION TYPE** **(modify, remedy, control, or stop) through** **(E.g. noise control measures, storm-water control, dust control, rehabilitation, design measures, blasting controls, avoidance, relocation, alternative activity etc. Etc.)** **E.g.** • **Modify through alternative method.** • **Control through noise control** • **Control through management and monitoring** • **Remedy through rehabilitation...**	**STANDARD TO BE ACHIEVED** **(Impact avoided, noise levels, dust levels, rehabilitation standards, end use objectives) etc.**
Vegetation clearing	▪ Air and Noise Pollution-as a result of vehicles and machinery movement. ▪ Impact on Flora and Fauna-due to vegetation clearance, for site mobilisation and camp set-up.	• Land Owners, Lawful occupiers of the land. • Land cover	Pre-Exploration and Prospecting.	• Control through management and monitoring. • Remedy thorough rehabilitation. Refer to mitigation measures in Section (11.1) of Part A, Tables 11.1 as well as mitigation measures in Appendix D and Part B of this report.	• Dust levels and Noise levels will be kept to a minimum acceptable levels. • The foot print will be kept of a minimum acceptable level, and the project owner shall ensure that rehabilitation standards are achieved. • The impact avoided as practicable as possible, where

	▪ Drainage surface disturbance				it cannot be avoided, rehabilitation standards and objectives shall be achieved.
Pitting, Trenching and Drilling	▪ Air and Noise Pollution- as a result of vehicles and machinery movement. ▪ Impact on Flora and Fauna-due to vegetation clearance, for site mobilisation and camp set-up. ▪ Drainage surface disturbance	• Land Owners, or Lawful occupiers of the land. • Land Cover.	Exploration/or Prospecting Operation Phase.	• Control through management and monitoring. • Remedy thorough rehabilitation. Refer to mitigation measures in Section (11.1) of Part A, Tables 11.1 as well as mitigation measures in Appendix D and Part B of this report.	• Dust levels and Noise levels will be kept to a minimum acceptable levels. • The foot print will be kept of a minimum acceptable level, and the project owner shall ensure that rehabilitation standards are achieved. • The impact avoided as practicable as possible, where it cannot be avoided, rehabilitation standards and objectives shall be achieved.
Backfilling of trenches, pits, sealing of Boreholes and site rehabilitation.	▪ Air and Noise Pollution- as a result of vehicles and machinery movement. ▪ Impact on Flora and Fauna-due to vegetation clearance, for site mobilisation and camp set-up.	• Land owners, or lawful occupiers of the land. • Land cover • The environment.	Closure Phase.	• Control through management and monitoring. • Remedy thorough rehabilitation. Refer to mitigation measures in Section (11.1) of Part A, Tables 11.1 as well as mitigation measures in Appendix D and Part B of this report.	• Dust levels and Noise levels will be kept to a minimum acceptable levels. • The foot print will be kept of a minimum acceptable level, and the project owner shall ensure that rehabilitation standards are achieved.

	▪ Drainage surface disturbance				• The impact avoided as practicable as possible, where it cannot be avoided, rehabilitation standards and objectives shall be achieved

14. OTHER INFORMATION REQUIRED BY THE COMPETENT AUTHORITY

14.1. IMPACT ON THE SOCIO-ECONOMIC CONDITIONS OF ANY DIRECTLY AFFECTED PERSON.

This aspect will be assessed during EIA.

14.2. IMPACT ON ANY NATIONAL ESTATE REFERRED TO IN SECTION 3(2) OF THE NATIONAL HERITAGE RESOURCES ACT.

No heritage resources have been identified thus far. The impact on any national estate referred to in section 3(2) of the National Heritage Resources Act will however be investigated during the EIA process.

14.3. OTHER MATTERS REQUIRED IN TERMS OF SECTIONS 24(4) (A) AND (B) OF THE ACT.

N/A

15. UNDERTAKING REGARDING CORRECTNESS OF INFORMATION

I, Election Nhlawulo Mahori 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:08/03/2023

15.1. UNDERTAKING REGARDING LEVEL OF AGREEMENT

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

Signature of the EAP

DATE:08/03/2023

Appendix A

Environmental Screening Report

Appendix B

Details and Experience of EAP

Appendix B1

Tiyiselani Macebele

Appendix C2

Nhlawulo Mahori

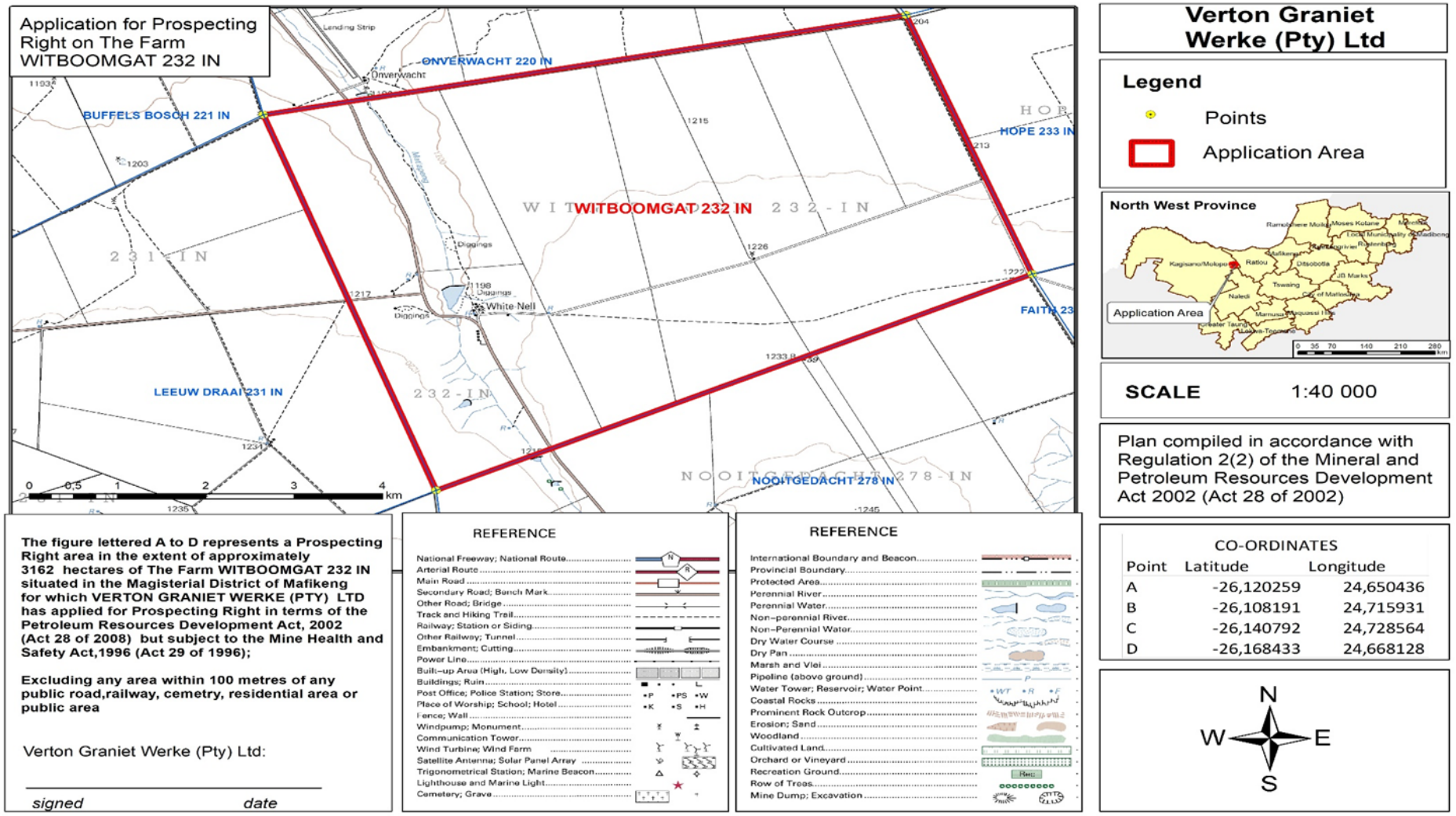
Appendix B3

Fortunate Ngubeni

Appendix C

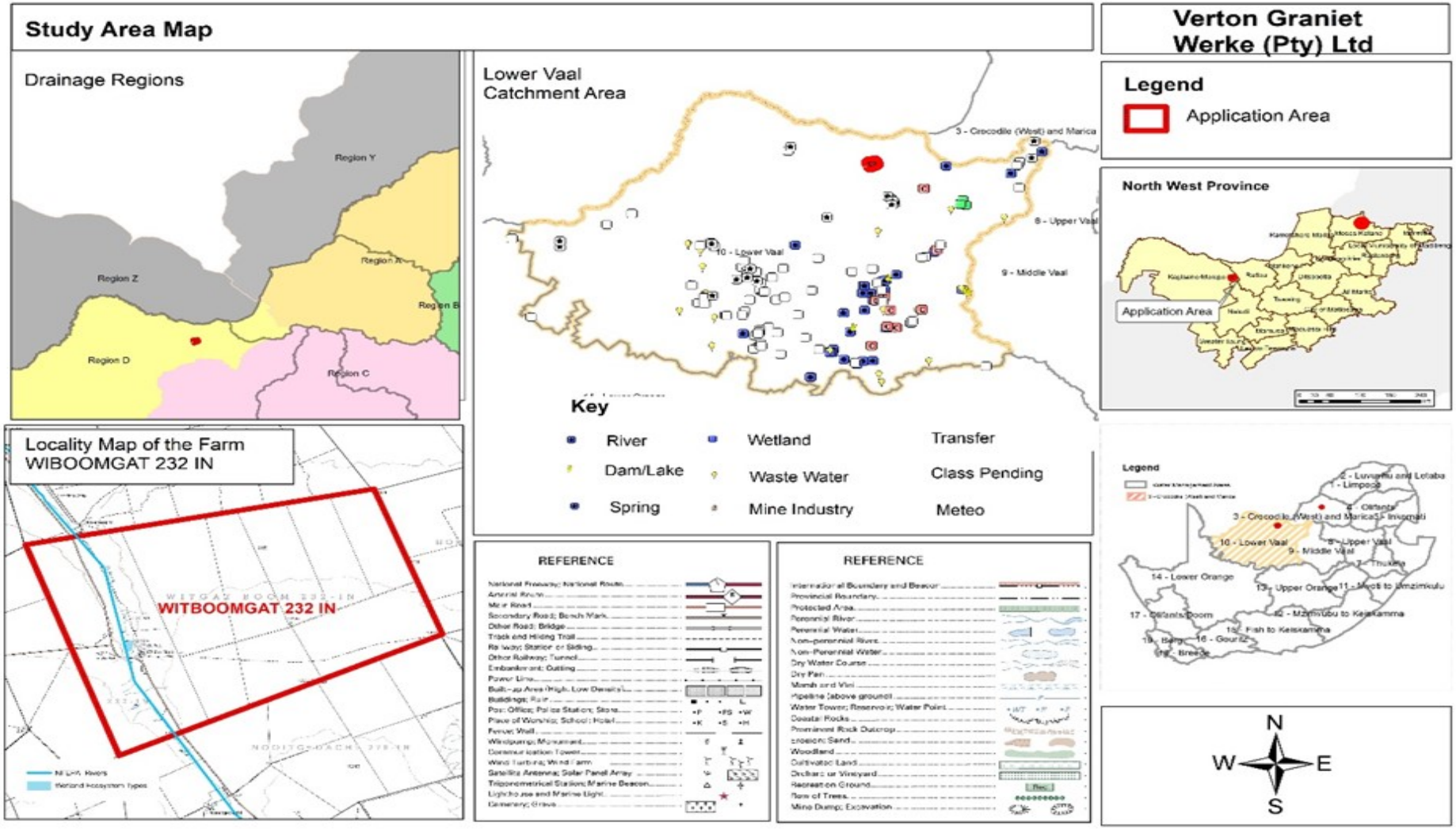
Maps and Plans

Appendix C1: Project Locality

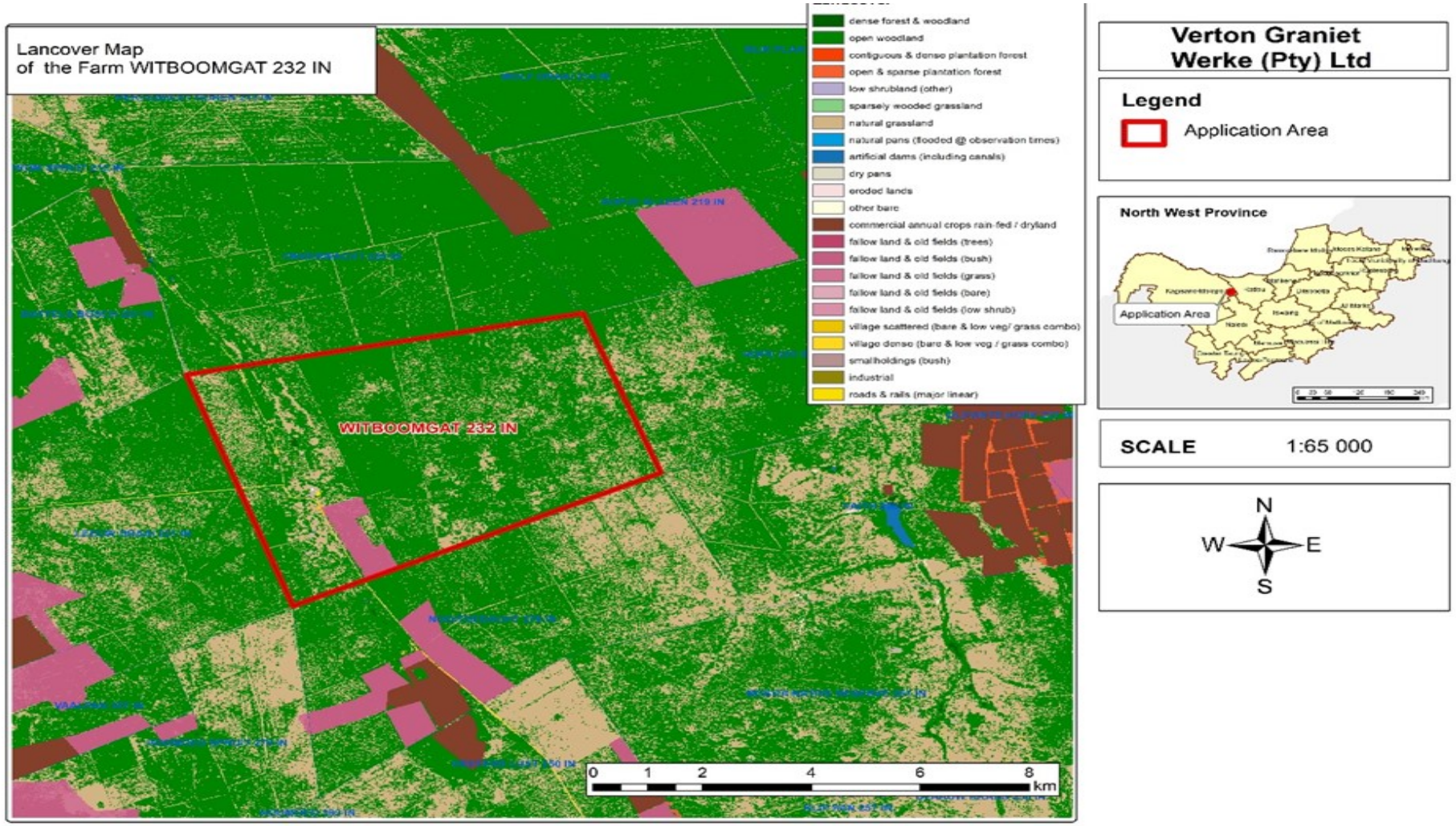


Appendix C2: Geological Map

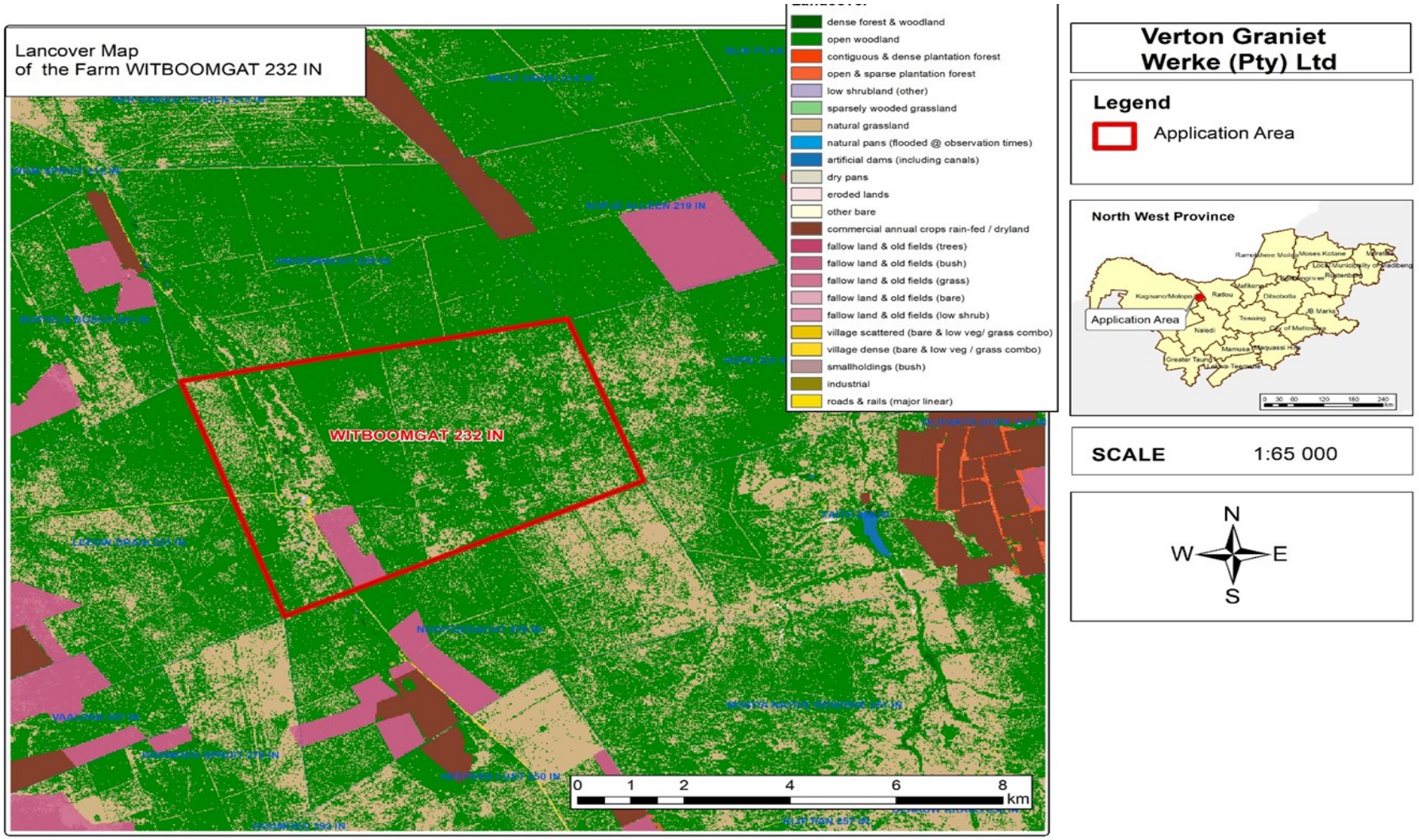
Appendix C3: Hydrological Setting



Appendix C4: Biodiversity Map



Appendix C5: Environmental and Current Land Use Map



Appendix D

DMRE ACCEPTANCE LETTER

mineral resources
& energy
Department:
Minerals Resources and Energy
REPUBLIC OF SOUTH AFRICA

Directorate: Mineral Regulation North West Region
Private Bag A1, Klerksdorp, 2570 Cnr Margaretha Prinsloo & Voortrekker Streets
Vaal University of Technology Building, Klerksdorp, 2571

Enquiries: Mr. Christopher Tshisevhe **Tel:** (018) 487 4300 **Fax:** (018) 487 4350
E-Mail: chris.tshisevhe@dmre.gov.za **Ref: NW 30/5/1/1/3/2/1/ (13667) EM**

16 January 2023

Attention : Lufuno Mutshathama
PPS Mining and Consulting
(Verton Graniet Werke (Pty) Ltd)
P.O. Box 195
Schoemansville
HARTBEESPOORT
0216

Cell: 079 243 0956
Per-Email: pieter@ppsminingconsulting.co.za CC trudievermaak@yahoo.com

ACKNOWLEDGEMENT RECEIPT OF AN APPLICATION FOR ENVIRONMENTAL AUTHORISATION AS REQUIRED IN TERMS OF REGULATION 3(6) OF THE ENVIRONMENTAL IMPACT ASSESSMENT REGULATIONS, 2014 SUBMITTED IN TERMS OF SECTION 24 OF THE NATIONAL ENVIRONMENTAL MANAGEMENT ACT, 1998 (ACT NO. 107 OF 1998) AS AMENDED AND REGULATION 16 OF THE ENVIRONMENTAL IMPACT ASSESSMENT REGULATIONS, 2014 (HEREINAFTER REFERRED TO AS THE "NEMA: EIR REGUALTIONS, 2014") READ TOGETHER WITH SECTION 16 OF THE MINERAL AND PETROLEUM RESOURCES DEVELOPMENT ACT, 2002 (ACT NO.28 OF 2002) AS AMENDED BY SECTION 12 OF THE MINERAL AND PETROLEUM RESOURCES DEVELOPMENT ACT, 2008 (ACT NO.49 OF 2008) AS AMENDED.

1. We confirm having received your application for an Environmental Authorisation (hereinafter referred to as EA) on 21 December 2022.

2. In order for this office to efficiently consider and evaluate your application form you are hereby requested to address and submit the following:

   a) A proof of payment of the prescribed application fee as prescribed in terms of regulation 16 (b) (ii) of the NEMA: EIA Regulations, 2014.

   b) An undertaking under oath or affirmation that all the information submitted or to be submitted for this application is true and correct as prescribed in terms of regulation 16 (b) (iv) of the NEMA: EIA Regulations, 2014.

   c) A report generated by the national web based environmental **screening tool** as as prescribed in terms of regulation 16 (1) (b) (v) of the NEMA: EIA Regulations, 2014.

   d) Provide correct 21 digit Surveyor General code of each cadastral land parcel as required in term of regulation 16 (1) (b) (vi) (aa) of the NEMA: EIA Regulations, 2014.

   e) A plan which locates the proposed activity or activities applied for at an appropriate scale as prescribed in terms of regulation 16 (1) (b) (vii) of the NEMA: EIA Regulations, 2014.

   f) A locality map at scale not smaller than 1:250000 which indicates the location of proposed activity as prescribed on item 4 of your application form. The requested plan and map should be on A3 paper size, must have legend, north point and printed in colour. Please note that Google Earth picture(s) are not maps hance cannot be accepted.

   g) Submit proof of your registration with EAPASA as it is required in terms of 24H of the National Environmental Management Act, 1998 (Act No.107 of 1998) and as indicated on page 2 item 3 of your application form.

   h) Provide correct list of all relevant listed activities to be authorised as required on item 5 of your application from. The activities to be authorised must be specified or copied as they are on the EIA Regulations, 2014 as amended (**refer to amendment published on 11 June 2021**).

3. The information requested on paragraph number 2 above must be addressed and submitted to this office **within 30 days from the date of signing of this letter.**

4. Kindly also note that Regulation 21(1) of the NEMA: EIA Regulations 2014, states that if S&EIR must be applied to an application the applicant must, **within 44 days of receipt of the application** by the competent authority, submit to the competent authority- *a scoping report which has been subjected to a public participation process of at least 30 days which reflect the incorporation of comments received, including any comments of the competent authority.* You are also reminded that a Scoping Report must contain the information set out in **Appendix 2** as prescribed on Regulation 21(1) of the NEMA: EIA Regulations, 2014 published on the 07th April 2017.

5. **Kindly note that your timeframes for the submission of the scoping report (44 days) shall be considered applicable in case your prospecting right application lodged in terms section 12 of the Mineral and Petroleum Resources Development Act, 2008 (Act No.49 of 2008) is accepted i.e. from the date which the Regional Manager signed the acceptance letter. Further note that if your prospecting right application is rejected, your application for environmental authorisation will be refused considering that it has been triggered by the prospecting right application which would have been rejected.**

6. In case your prospecting right application is accepted you will be required to consult with every organ of state that administers a law relating to a matter affecting the environment relevant to this application (Scoping Report) as required in terms of Regulation 7 (2) of the EIA Regulations, 2014. The organs of state which must be consulted includes but are not limited to the Department of Mineral Resources & Energy, Local and District Municipalities, National Department of Agriculture, Forestry and Fisheries, Department of Rural, Environmental and Agricultural Development, Department of Water and Sanitation and South African Heritage Resources Agency and/or North West: Provincial Heritage Resources Agency. Any public participation process must be conducted for a period of at least 30 days as per Chapter 2, Regulation 3 (8) of the EIA Regulations, 2014.

7. In case the land in question is owned by the community you are required to consult with such community and submit a resolution to this office.

8. Kindly also note the acknowledgement of your application does not grant you the right to commence with prospecting operations. Section 49A (1)(a) of the National Environmental Management Act, 1998 (Act No. 107 of 1998) states that "A person is guilty of an offence if that person commences with an activity in contravention of section 24F (1) of the above-mentioned Act.

9. Your application has been assigned to **Mr. Christopher Tshisevhe** who could be reach at the following contact details: Tel: (018) 487 4300/4311.

Yours faithfully

.....

REGIONAL MANAGER: MINERAL REGULATION

NORTH WEST REGION

DATE..13/01/2023

ALL THE CORRESPONDENCE SHOULD BE ADDRESSED TO THE ATTENTION OF THE REGIONAL MANAGER: DEPARTMENT OF MINERAL RESOURCES & ENERGY: NORTH WEST REGION.

-END-