2018

BASIC ASSESSMENT REPORT & ENVIRONMENTAL MANAGEMENT PROGRAMME REPORT

PROSPECTING RIGHT APPLICATION ON PORTIONS 1, 2 & RE OF THE FARM BUCHANSVALE 61 IQ, PORTIONS 1 AND RE OF THE FARM SOMERVILLE 62 IQ, PORTIONS 1-7, 9,11-15,17-30 & RE OF THE FARM KLERKSKRAAL 65 IQ, PORTION RE OF THE FARM EILEEN'S HOME 67 IQ, PORTIONS 10,11,13,19 & RE OF THE FARM BOVENSTE OOG VAN MOOIRIVIER 68 IQ & PORTION RE OF THE FARM BOVENSTE OOG VAN MOOIRIVIER 271 IQ, SITUATED UNDER THE MAGISTERIAL DISTRICT OF VENTERSDORP, NORTH WEST PROVINCE.

Prepared for: Alkemu Precision (Pty) Ltd

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DMR Ref: NW 30/5/1/1/2/12466 PR

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mineral resources

Department:
Mineral Resources
REPUBLIC OF SOUTH AFRICA

BASIC ASSESSMENT REPORT and ENVIRONMENTAL MANAGEMENT PROGRAMME REPORT

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).

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FILE REFERENCE NUMBER SAMRAD: DMR Ref: NW 30/5/1/1/2/12466 PR

IMPORTANT NOTICE

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

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

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

It is therefore an instruction that the prescribed reports required in respect of applications for an environmental authorisation for listed activities triggered by an application for a right or a 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 BASIC ASSESSMENT PROCESS

The objective of the basic assessment process is to, through a consultative process–

a) determine the policy and legislative context within which the proposed activity is located and how the activity complies with and responds to the policy and legislative context;

b) identify the alternatives considered, including the activity, location, and technology alternatives;

c) describe the need and desirability of the proposed alternatives,

d) through the undertaking of an impact and risk assessment process inclusive of cumulative impacts which focused on determining the geographical, physical, biological, social, economic, heritage, and cultural sensitivity of the sites and locations within sites and the risk of impact of the proposed activity and technology alternatives on these aspects to determine:

e) the nature, significance, consequence, extent, duration, and probability of the impacts occurring to; and

f) the degree to which these impacts—

- can be reversed;
- may cause irreplaceable loss of resources; and
- can be managed, avoided or mitigated;

g) through a ranking of the site sensitivities and possible impacts the activity and technology alternatives will impose on the sites and location identified through the life of the activity to

- identify and motivate a preferred site, activity and technology alternative;
- identify suitable measures to manage, avoid or mitigate identified impacts; and identify residual risks that need to be managed and monitored.

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PART A

SCOPE OF ASSESSMENT AND BASIC ASSESSMENT REPORT

1 Contact person and correspondence address

a) Details of the EAP

Name of the Practitioner	: Singo Consulting (Pty) Ltd
	Miss Boipelo Motlhatlhedi
Tell	: +27 13 692 0041
Cell	: +27 83 473 8300
Fax	: +27 86 5144 103
E-mail address	: boipelo@singoconsulting.co.za

b) Expertise of the EAP

Please refer to Annexure B for the EAP's qualifications and Curriculum Vitae.

2 Location of the overall activity

The following table presents the location and associated cadastral details associated with the area in question.

Table 1: Location of the prospecting area

Application Area (ha)	16727.35064
Magisterial District	Ventersdorp
Distance and direction from nearest town	Located approximately 31.72 km North West of Ventersdorp, 51.58 km North of Potchefstroom and 56.40 km South of Rustenburg

Table 2: Property details

Farm Name & Number	Farm Portion	SG Code (s)
Somerville 62 IQ	RE & 01	
Buchansvale 61 IQ	RE, 01 & 02	
Klerkskraal 65 IQ	1-7, 9, 11-15, 17-30 & RE	
Eileen's Home 67 IQ	RE	
Bovenste Oog Van Mooirivier	10, 11, 13, 19 & RE	

Locality Map (Show nearest town, scale not smaller than 1:250,000)

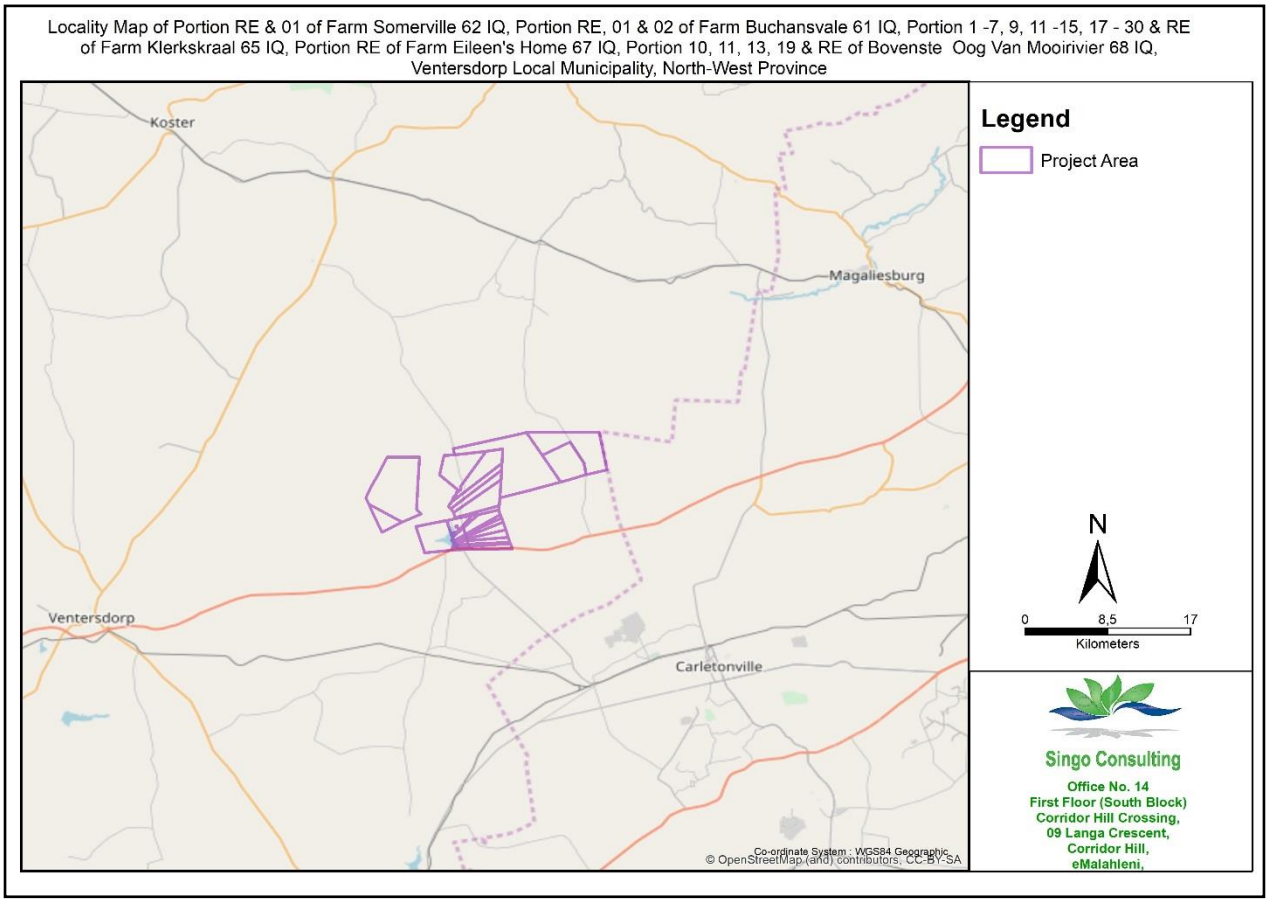


Figure 1: Locality of proposed site project

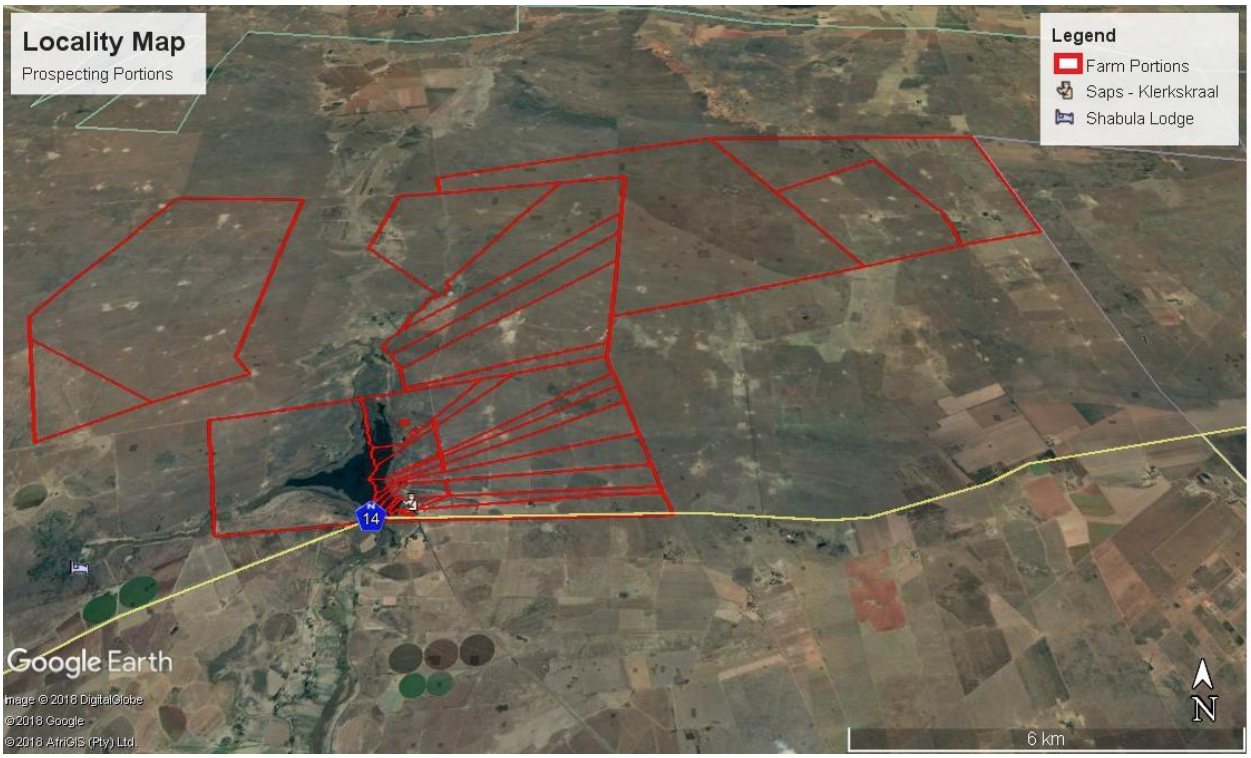


Figure 2: Google Earth image of proposed area

Ventersdorp is located in the fertile Vaal River Valley. Four roads lead to Ventersdorp. It is approximately 110 km from the Witwatersrand or Pretoria on the Tarlton-Ventersdorp road; and 50 km from Potchefstroom, 70 km from Klerksdorp and 90 km from Lichtenburg. Ventersdorp, today, is at the centre of a large agricultural area. The enormous silos, with a two million bag capacity, stands as proof of farming success.

2.1 Description of the scope of the proposed overall activity

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

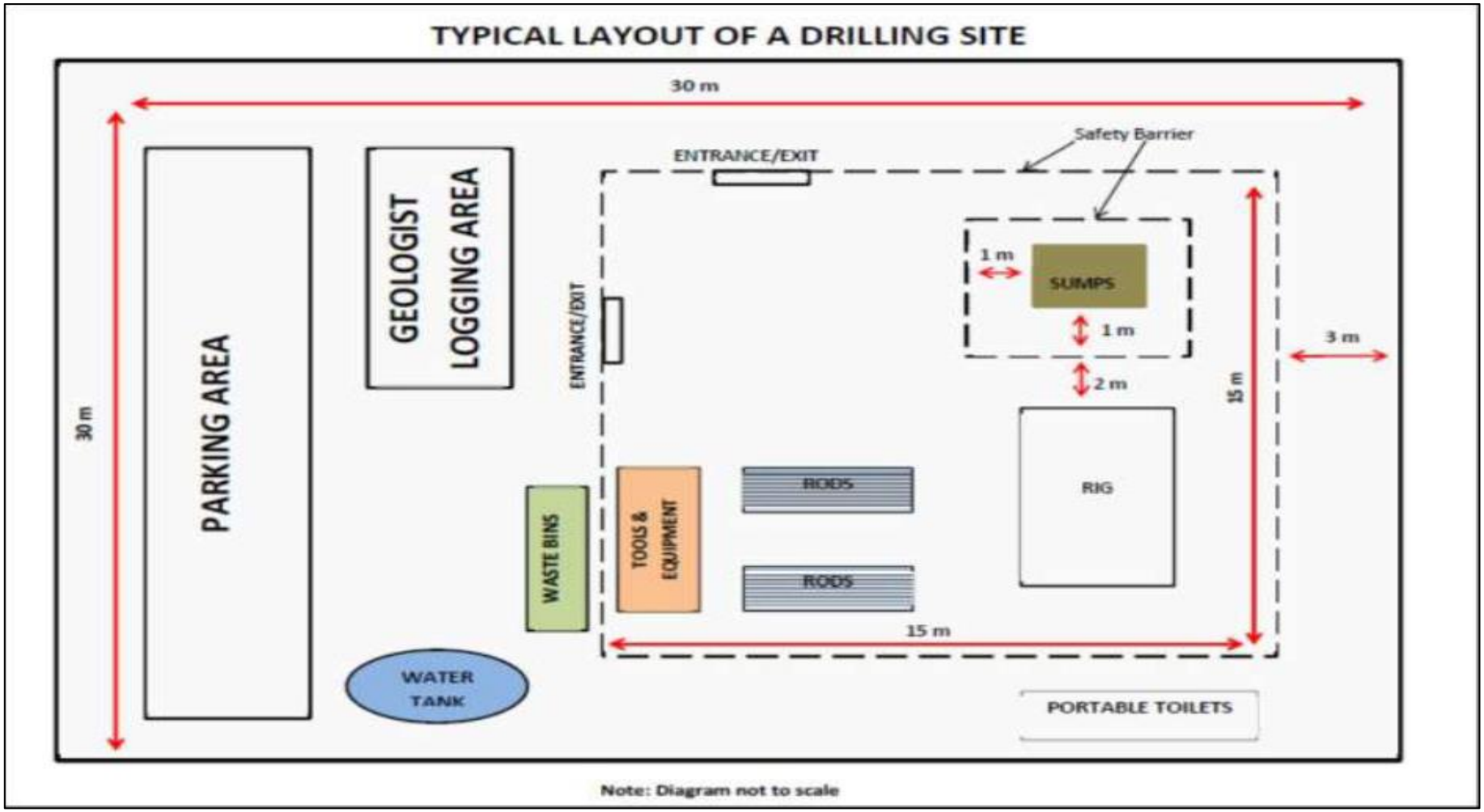


Figure 3: Typical drilling activity layout

The area's detailed geology and the potential of Manganese, Diamond, Gold & Iron Ore is well-known. As such, exploration work will commence from a very advanced level. The Prospecting Work Programme (PWP) was designed in phases, each phase conditional on the success of the previous phase. These phases include:

2.1.1 Phase 1: Data acquisition and a desktop study

A desktop study of all available data for the area was undertaken to accumulate as much regional and historical data around the area as possible. This include published geological reports, infrastructure mapping, satellite imagery and existing geophysical information. Many sources have been used to consolidate this report.

2.1.2 Phase 2: Drilling

Targets that have been prioritised through detailed desktop studies will be tested by initial diamond or percussion drilling. Should the initial evaluation of the deposit indicate a sufficient size and grade, bulk sampling may be required. In this event, the PWP has already covered this activity and current Environmental Authorisation Process does not include bulk sampling. Should bulk sampling required then an amendment of the EA Authorisation will be applied. The activities associated with the PWP will be scheduled over a period of five years, as detailed in the following table.

Table 3: Prospecting timeframes and activities

Phase	Activity	Skills	Timeframe	Outcome	Outcome timeframe
1	Acquire historical geological/ exploration data over area applied for and surrounds	Geologist	6 months	• Compile data • Refine exploration strategy	6 months
2	Drilling (10 boreholes)	Geologist	6 months	Drilling to test for gold, diamond, manganese & iron ore.	6 months
3	Drilling (10 boreholes based on phase 1 drilling results)	Geologist	30 months	• Assess what further work is warranted. • Amend PWP	24 months
4	Analytic stage EIA and Mining Right Application (MRA)	Geologist, Environmentalist	30 months	• Feasibility studies • Resource statements	24 months

As is clear from the information provided in Table 3, each of the phases is dependent on the results of the preceding phase. The location and extent of drill sites and possible diamond drilling cannot be determined at this stage and, as such, mapping of the prospecting activities could not be undertaken. In the subsequent sections (Part B) more details are provided in terms of each of the prospecting activities.

The applicant must submit a plan indicating the location of drilling activities, once these areas have been finalised, to at least all landowners, as well as the DMR and the Department of Water and Sanitation (DWS).

2.2 Listed and specified activities

Section 16 of the Mineral and Petroleum Resources Development Act (MPRDA), 2002 (Act No.28 of 2002) requires, upon request by the Minister, that an Environmental Management Plan (EMP) be submitted and that the applicant must notify and consult with Interested and Affected Parties (I&APs). Section 24 of the National Environmental Management Act (NEMA) requires that activities, which may impact the environment, be authorised by a relevant authority before commencing with the activities. Such activities are listed under Regulations Listing Notice 1 Government Notice (GN) 983, Listing Notice 2 GN 984 and Listing Notice GN 985 (dated 4 December 2014) of the NEMA. The proposed prospecting activity triggers the following:

NEMA Government Notice 983: Listing Notice 1

Activity 20: "Any activity including the operation of that activity which requires a prospecting right in terms of section 16 of the Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002), including associated infrastructure, structures and earthworks, directly related to prospecting of a mineral resource…"

Activity 27: "The clearance of an area of 1 hectares or more, but less than 20 hectares of indigenous vegetation…"

Please refer to Table 4 for the details in terms of the listed activities.

Table 4: Prospecting timeframes and activities

NAME OF ACTIVITY **(E.g. For prospecting -** drill site, site camp, ablution facility, accommodation, equipment storage, sample storage, site office, access route **etc. E.g. for mining**, excavations, blasting, stockpiles, discard dumps or dams, Loading, hauling and transport, Water supply dams and boreholes, accommodation, offices, ablution, stores, workshops, plant, storm water control, berms, roads, pipelines, power lines, conveyors, etc.)	**Aerial extent of the Activity Ha or m²**	**LISTED ACTIVITY** (Mark with an **X** where applicable or affected).	**APPLICABLE LISTING NOTICE** ***(GNR 983, GNR 984 or GNR 985)***	**WASTE MANAGEMENT AUTHORISATION** (Indicate whether an authorisation is required in terms of the Waste Management Act). **(Mark with an X)**

Prospecting Area Establishment of ten (10) drilling sites. The drilling method to be coring. The demarcated working area per site is 900 m2 (900 m2 per drilling site based on a 30m x 30m grid) The total area to be disturbed per site is 900m2 (900 m2 X 10 boreholes = 9000 m^2 or 0.9 Ha for all ten sites) Therefore 0.9 ha of 16727.3506ha will be affected in the process of drilling	0.9 ha / 16727.3506ha	**X**	GNR 327 Listing Notice 1, Activity 20.	Not required
Vegetation clearing	0.9 ha		Not Listed	
Site camp	600 m^2		Not Listed	
Drilling	0.42 ha		Not Listed	
Equipment storage	50 m^2		Not Listed	
Site offices	40 m^2		Not Listed	
Ablution facilities	30 m^2		Not Listed	
Sample storage	40 m^2		Not Listed	

2.3 Description of the activities to be undertaken

Describe methodology or technology to be employed, including the type of commodity to be prospected/mined and for a linear activity, a description of the route of the activity.

The following section presents a detailed description of all the activities associated with the proposed Prospecting Application. Due to the nature of the PWP and the fact that the specific prospecting activities depend on the preceding phase, assumptions are presented where required. These assumptions are based on similar projects undertaken by the applicant and therefore be regarded as indicative of what will be undertaken.

2.3.1 Access roads

Site access will be required during hole pegging and drilling activities (Phase 2 and 3). Access requirements can only be determined after Phase 1 has been concluded. A number of existing roads and tracks already traverse the proposed prospecting site and, where practicable, these roads will be used. During pegging activities, vehicles will access the site through the veld. Establishing a track to gain repeated access to a borehole site will not be required. Once drill sites have been identified, temporary access roads may be established for repeated access to the drill site if the identified drill site cannot be accessed via existing roads and tracks. The proposed area has multiple of access roads that can be used.

2.3.2 Water supply

The prospecting activity will involve drilling of boreholes and air flush drilling is preferred by the applicant. This signifies that no water resource will be used for the purpose of drilling purpose

however, water requirements relates to the potable water supply for employees and workers. A temporary 260 L on-site vertical water storage tank (for drinking water and general use by persons) will be provided at the drill site.

Figure 4: Example of water storage tank

2.3.3 Ablution

On-site ablution facilities will include the installation of drum/tank-type portable toilets. This will be done because the prospecting activity is temporal for limited duration hence portable toilets is preferred.

Figure 5: portable toilets that will be adopted

2.3.4 Temporary office area

A temporary site office shaded area will be erected at the drill sites. No on-site electricity will be generated by generators. Meals will be provided to staff and workers as no heating and/or cold storage facilities will be available. A shaded eating area will be provided.

Figure 6: Temporary site office to be used

2.3.5 Accommodation

No accommodation for staff and workers will be provided on-site; all persons will be accommodated in nearby villages. Workers will be transported to and from the prospecting site on a daily basis. Night security staff will be employed once equipment has been established on site.

2.3.6 Blasting

There will be drilling, no trenching and no blasting will take place.

2.3.7 Storage of dangerous goods

During the drilling activities, limited quantities of diesel fuel, oil and lubricants will be stored on site. The only dangerous goods that will be stored in any significant quantity is diesel fuel. A maximum amount of 60 m^3 will be stored in above-ground diesel storage tanks.

2.3.8 Detailed prospecting activities

2.3.8.1 Phase 1: Data acquisition and a desktop study

A desktop study of all available data for the area will be undertaken to accumulate as much regional and historical data as possible. This includes published geological reports, infrastructure mapping, satellite imagery and existing geophysical information.

2.3.8.2 Phase 2: Drilling

Targets generated during the desktop study will be investigated on the ground and tested by initial diamond or percussion drilling. A drilling programme will be undertaken in order to delineate and

give a preliminary assessment of the Manganese, Diamond, Gold & Iron Ore potential of the identified deposit. Should delineation and initial evaluation of the deposit indicate a sufficient size and grade to warrant further evaluation, an appropriate bulk sampling programme will be undertaken in order to establish grade and confirm its viability for mining.

Figure 7: Drilling setting and equipment

2.4 Policy and legislative context

Applicable legislation and guidelines used to compile the report	Reference where applied	Development's compliance with and response to the policy and legislative context
Specific Environmental Management Acts (SEMAs)		
National legislation		
National Environmental Management Act (NEMA), 1998	This Basic Assessment Report and Environmental Management Plan	An Application for Environmental Authorization was submitted to the North West DMR and the application was acknowledged.
National Water Act (NWA), 1998	Groundwater abstraction as part of drilling activities	As per Government Notices Regulation 399, the applicant may abstract 75m^3 of groundwater per ha per annum from the C33B Quaternary Catchment. This use will be generally authorized. The proposed drilling method won't hamper with National Water Act (NWA), 1998.
Mineral and Petroleum Resources Development Act (MPRDA), 2002	Application for prospecting as per Section 16	The applicant submitted a Prospecting Right Application to the DMR.
Municipal plans		
Commission on Restitution of Land Rights	Land claims	One of the key issues identified by the Commission on Restitution of Land Rights is the need to facilitate the land claims process. The request for a Land Claim Letter was e-mailed to Keabetswe Mothupi on the 19th of November 2018. Feedback was then received on the 07th of December 2018, see Appendix C.
Strategic Development Framework (SDF)	Alternatives	As per the Ventersdorp's plan, various strategies and policies must be adopted to ensure effective spatial development. As per Section 5.1 of the SDF, the municipality must provide alternative means of support to the rural population to decrease dependence on the environment and subsistence agriculture. As such, the following policies have been adopted: Maximize economic benefit from mining industrial, business, agricultural and tourism development within the area. Promote a climate for economic development. Improve public and investor confidence in the region through crime reduction and infrastructure development. The municipality was consulted so that the prospecting activity won't hamper with municipality`s development plans. Mr Fanie Zoko who is under the Engineering Department in JB Marks Local Municipality was consulted on 16 November 2018.
CARA (Conservation of Agricultural Resources Act, 1983 (Act No. 43 of 1983)	Alternatives	The conservation of soil, water resources and vegetation is promoted. Management plans to eradicate weeds and invader plants must be established to benefit the integrity of indigenous life. The prospecting activity

		ensure that disturbance to the environment is minimal and rehabilitation of the disturbed land is done.

2.5 Need and desirability of the proposed activities

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

Prospecting activities do not offer many tangible benefits as it is the initial phase of mining. Prospecting precedes mining; however, it is during the prospecting phase that findings are established on whether the available reserves can be mined at an economic gain. It is understood that the mining plays a pivotal role in South African economy and boast a large labour force; hence a greater significance is placed on prospecting for realization of mining benefits.

Although prospecting activities are not labour intensive, few people will be hired to assist with general activities. The services required can also be sourced locally depending on their availability thus growing the economy of Ventersdorp. With the existence of different mines located near the prospecting area collaboratively with the geological information, the area has the potential of the gold, diamond, manganese and iron ore resources. Alkemu Precision (Pty) Ltd intends to start mining after the prospecting right application has been granted.

2.6 Motivation for the overall preferred site, activities and technology alternative

2.6.1 Preferred site

As previously mentioned, Alkemu Precision (Pty) Ltd applied for prospecting right over the area in question. Based on the outcomes of the competitor study, the likelihood of encountering further gold, diamond, manganese & iron ore reserves was identified. The site is therefore considered the preferred site; alternative sites were not considered.

The site falls under the Rustenburg Layered Suite of the Bushveld Complex which contains mainly mafic rocks and is divided into a number of different zones. The marginal zone is found around the edge of the intrusion, while from the base of the complex up is the Lower Zone, the Critical Zone, the Main Zone and lastly the Upper Zone.

2.6.2 Technological and site activity alternatives

Due to the nature of the proposed prospecting activities, future land use alternatives will not be compromised. Once a viable reserve has been confirmed, a comprehensive social and environmental impact assessment (EIA) will be required (in accordance with legislation), which will determine alternative land to mining. The technologies proposed have been chosen based on the long-term success of the company's prospecting history. The prospecting activities proposed in the PWP depends on the preceding phase, therefore no alternatives are indicated, but rather

a phased approach of trusted prospecting techniques. The location of intrusive drilling activities will be determined during Phase 1 of the PWP. All infrastructure will be temporary and/or mobile.

2.7 Description of process followed to reach proposed preferred alternatives within the site

This section is about the determination of the specific site layout and the location of infrastructure and activities on site, having considered the issues raised by interested and affected parties (I&Aps) and the consideration of alternatives to the proposed site layout.

All drill sites were located after careful investigation of environmental sensitiveness of the project area hence all drill sites are located out of environmental critical areas. All environmental sensitive areas within the prospecting site will regarded as no-go areas and this will maintain the status quo of the area.

2.8 Details of the development footprint alternatives considered

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

- Property on which or location where it is proposed to undertake the activity
- Type of activity to be undertaken
- Design or layout of the activity
- Technology to be used in the activity
- Operational aspects of the activity
- Option of not implementing the activity

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

Alkemu Precision (Pty) Ltd applied for gold, diamond, manganese and iron ore resource prospecting on: portions1, 2 & RE of the Farm Buchansvale 61 IQ, portions 1 and RE of the Farm Somerville 62 IQ, portions 1-7, 9,11-15,17-30 & RE of the Farm Klerkskraal 65 IQ, portion RE of the Farm Eileen's Home 67 IQ, portions 10,11,13,19 & RE of the Farm Bovenste Oog van Mooirivier 68 IQ & portion RE of the Farm Bovenste Oog van Mooirivier 271 IQ, situated under the Magisterial District of Ventersdorp, North West province based on the existing knowledge of the geology of the area and knowledge of nature of occurrences of gold, diamond, manganese and iron ore deposits in the area.

The site has been identified based on the knowledge of the above-mentioned deposits and such, no site alternatives have been considered for the proposed activities. However, the following buffers will be applied to the final site selection:

- No drill site will be positioned within 50m of a structure (i.e. for wetland-within 500m radius, 100m away from a stream/river).
- Existing access roads will be utilized to access the drill sites.

2.8.2 The type of activity to be undertaken

The technologies proposed have been chosen based on the long-term success of the company's prospecting history. The prospecting activities proposed in the PWP depends on the preceding phase, therefore no alternatives are indicated, but rather a phased approach of trusted prospecting techniques.

2.8.3 The design or layout of the activity

The preferred site layout is considered to ensure that break areas and ablution facilities are located away from the drilling activities to minimize the noise impacts. Site establishment are done with closure in mind to ensure that only the required size is disturbed. Due to the location of the proposed drilling (nearby towns will be used for accommodation), no camp site will be required. The drilling contractor may arrange accommodation within the farm with the farm owner.

2.8.4 The technology to be used in the activity

The method and techniques employed for the investigation of potential targets and deposits are suitable for the proposed prospecting activities. They have been selected based on their minimal invasiveness which is envisaged to have minimal impact on the receiving environment.

2.8.5 The operational aspects of the activity

Due to the nature of the prospecting activities, no permanent water supply, electricity, or sewerage facilities are required. The activities will commence with a desktop study, which will comprise a literature search. This approach will ensure that the client clearly delineates areas suitable for further investigation and prevent unnecessary surface disturbance.

Based on the outcomes of the desktop study, drilling and sampling of the above mentioned minerals will be undertaken for target areas only. Drilling and sampling is a low-impact exploration method in terms of environmental disturbance. After the preliminary exploration work, the anomalies identified will be ranked for exploratory drilling. Site activities as they relate to exploratory drilling, will comprise the establishment of the drill pad (drill pad clearing and compaction), drilling operations (drill maintenance, refuelling, core extraction and core storage) and rehabilitation activities (drill pad ripping and re-vegetation). No feasible alternative to the proposed exploratory drill methods currently exists. Impacts associated with the drilling operations will be managed through the implementation of a management plan, developed as part of the application for authorisation.

2.8.6 The option of not implementing the activity

Drilling is required to investigate the potential and feasibility of the resources as well as being used to generate a DMR compliant mineral resource statement. There is no potential for any future investment in a mine without the confirmation of the mineral resources which can only be obtained from drilling activities. Should the prospecting right be refused, effectively a potential gold, diamond, manganese and iron ore resource development will be sterilized. The socio-economic benefit and most notably the future employment potential of mine development will also be lost if the prospecting activities are not implemented to determine the feasibility of the above-mentioned deposit that occurs within the area.

2.9 Details of the public participation process followed

Describe the process undertaken to consult I&APs, including public meetings and one-on-one consultation. The affected parties must be specifically consulted regardless of whether or not they attended public meetings. Information to be provided to affected parties must include sufficient detail of the intended operation to enable them to assess what impact the activities will have on them or on the use of their land.

2.9.1 Identification of I&APs

The Basic Assessment Report was submitted for comment to the competent authority, commenting authorities, non-governmental organizations (NGOs), landowners, surrounding property owners and other identified stakeholders for review (see Table 5 for a list of identified stakeholders). Comments received were recorded and are reflected in this Final Basic Assessment Report.

(Please refer to Appendix C for the detailed public participation process and the Consultation Report). The following public participation has been conducted for the proposed project to date:

- Identification of stakeholders, including occupiers of the property, owners and occupiers of land adjacent to the site, municipal officials and relevant State Departments as part of the Public Participation Process. All respondents are placed on the project database. The database was used throughout the process to inform the stakeholders of the project.

2.9.2 Methodology of notification

To canvass the issues and concerns of the broader public and to ensure that all IAPs are afforded the opportunity to comment on the application, the proposed project was announced as follows:

- Erection of site notices, (size A3) advertising the proposed development and displaying the contact details of the EAP was prepared and displayed on-site and other public places. The site notices serve the purpose of informing potential I&APs of the project and therefore afford them the opportunity to comment.
- Distribution of the notification letter with a registration and comment sheet, and the locality map to state departments and other potential stakeholders through emails.

- An advert was placed in the *Potchefstroom Herald newspaper on the 25th of October 2018* to notify the public about the Basic Assessment process, invite members of the public to register as I&APs on the project's database and notify the public of the availability of the Draft Basic Assessment Report.

2.9.3 Land claims

An email of consultation for land claims was sent to Keabetswe Mothupi on the 19th of November 2018 and there are no land claims on all the proposed properties (project areas).

2.9.4 Traditional authorities

No traditional authority was identified.

2.9.5 Municipalities

The project is located in the Magisterial District of Ventersdorp, under JB Marks Local Municipality, North West province. The Municipality representative (Mr Fanie Zoko was informed via phone, e-mail and presentation about the project was also done at the municipality office, and BID was also provided.

2.9.6 Landowners and notification methodology

The landowners involved are all private farmers. Singo Consulting (Pty) Ltd obtained the details for each landowner from the Title Deed search. Through the newspaper ad, all the landowners were able to contact us and consultation emails were sent to them to inform them about the proposed project. Meeting (face to face) was held with landowners. BIDs were also sent where applicable. Adverts were placed in the Potchefstroom Herald Newspaper on 25 October 2018 (see Figure below)

Figure 8: Proof of Newspaper Ad (in red rectangle).

- A copy of the Draft Basic Assessment Report will be available for public review for a 30-day review period from the 21 November 2018 to 21 December 2018.
- All comments received during the review period of the draft Basic Assessment as well as responses provided have been captured and recorded within the Comments and Response Report in Appendix C.
- Once DMR has decided on Environmental Authorization, all registered I&APs will be notified of the outcome of the application.

The following have been identified as I&APs:

Table 5: Identified stakeholders

Names of I&APs	Organization	Position
Mr Jacob Luesaffron	Bovenste Oog Van Mooirivier 68 IQ	Landowner
Mr Henri Fouche	Bovenste Oog Van Mooirivier 271 IQ	Landowner
Alet Vorster	PSN Incorporated Attorneys and Conveyancers (Klerskraal 65 IQ)	Landowner
Mr Isaac Grond	Portions 10 and 11 of the Farm Bovenste Oog Van Mooirivier 68 IQ	Landowner
Mr Matiti Ntumeleng	Portions 1 and RE of the Farm Somerville 62 IQ	Landowner
Mr Dewald Kruger	Portions 29 of the Farm Klerkskraal 65 IQ	Landowner
Mr Albano Montsho	Ventersdorp (JB Marks) Local Municipality.	
Mr Janie Moss	Ventersdorp (JB Marks) Local Municipality.	
Kedibone	Ventersdorp (JB Marks) Local Municipality.	
Mr Fanie Zoko	Ventersdorp (JB Marks) Local Municipality.	Head Engineer
Mildred Olefile	North West Provincial Government	
Cadace Enoch	Department of Water and Sanitation	Chief Directorate: Mine Water Management.
Meiki Matlala	Department of Rural Development and Land Reform	
Keabetswe Mothupi	Department of Rural Development and Land Reform	Administrative Officer

2.10 Summary of issues raised by I&APs

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

Table 6: Issues raised by stakeholders

I&APs List the names of persons consulted in this column. Mark with an X where those who must be consulted were in fact consulted.		Date comments received	Issues raised	EAPs response to issues as mandated by the applicant	Section and paragraph reference In this report where issues and/or responses were incorporated
Affected parties					
Landowner/s					
Mr Isaac Grond **076 457 6858** **Portions 10 and 11 of the Farm Bovenste Oog Van Mooirivier 68 IQ**	**X**	18/02/2019	I have no problem with PR application, as farmers will can always assist with water for prospecting and mining provided WUL is approved. We have a lot of ground water and including fountains Avoid water contamination, when you start mining make sure you put a recycling plant and clean all mine water.	Noted, Drilling will be an air flush drilling which does not use water. PR is not mining but search, once we applied for mining, then WUL will be applied.	See Appendix D for full consultation/comment forms
Mr Matiti Ntumeleng **072 964 3200** **Portions 1 and RE of the Farm Somerville 62 IQ**	**X**	18/02/2019	Many people have come and go without knowing what is happening; can we get the results and reports of your drilling. You can drill anytime; just inform us about geologists and number of	Same as we did now, consultant and specialists will be introduced to you before doing the work. All concerns are noted.	See Appendix D for full consultation/minutes

			vehicles coming. We have cattle, goats, horses and sheep, we do not want them to be stolen.		
Mr Dewald Kruger **018 765 1039** **Klerkskraal.sc@saps.gov.za** **SAPS** **Portions 29 of the Farm Klerkskraal 65 IQ**	**X**	18/02/2019	Keep us updated in the progress of the project	Noted	See Appendix D for full consultation/comment forms
Mr Jacob Luesaffron **Bovenste Oog Van Mooirivier 68 IQ** **Portion 13,19 & RE** **Tel**: **074 886 6754** **Email**: **jacobluesaffron@gmail.com**	**X**	06/11/2018 18/02/2019	A consultation email together with relevant documents was sent to the landowner and no response has been received yet. Mr Dewald Kruger; 018 765 1039; Klerkskraal.sc@saps.gov.za informed us that Mr Jacob Luesaffron is selling his farm and, he is no longer in the country. His gates are always locked, even the SAPS has got a problem of accessing the land. You will have a problem when you want to drill there. Last time we saw him was 2017 when he shot and kill 6 cattle from the neighboring farm and the case was opened here, we are still struggling to trace him since he is out of the country.	We checked again of his gates. All gates were locked, no movement on the farm	See Appendix D for full consultation.
Mr Henri Fouche **Bovenste Oog Van Mooirivier 271 IQ** **Tel: 082 857 4198** **Email: henri@kiepersolpoultry.co.za**	**X**	16/11/2018	An email was received from Mr Fouche and it is as follows: Good day Can you please advise how to register as an effected party regarding the development of mining activities in the Bovenste Oog of	Mr Fouche was contacted telephonically, to confirm if he wants to be registered as a landowner or just as an I&AP. He said he is the landowner of the farm	See Appendix D for consultation.

			Mooirivier. We strongly object against mining in the area. The effect on natural water resources would be catastrophic as water is a scarce resource. We do not know of anywhere in the world where mining did not affect natural resources. Where will we be able to view documentation regarding this mining activities. A consultation email was sent to the landowner and his response was as follows: Good day Find attached registration and objection. Please keep us up to date with any info concerning this application. Regards	Bovenste Oog Van Mooirivier 271 IQ. Noted. Noted	
Alet Vorster **PSN Incorporated Attorneys and Conveyancers** **Klerskraal 65 IQ** **Portions 1-7, 9,11-15,17-30 & RE of the Farm** **Tel: 016 932 9101** **Email: avorster@psn.co.za**	**X**	19/11/2018	An email was received from the PSN Incorporated Attorneys and Conveyancers on behalf of Kruger Trust and Dalenberg Landgoed (Pty) Ltd collectively as their clients. The email is as follows: SEE DOCUMENTS ATTACHED Kind regards (Two comment forms/documents attached).	Good Day, Kindly note that your clients have been registered as Interested and Affect Party, and this is to acknowledge the receipt of your emails/letters thereof. I am preparing response concerning the issues that you have raised and I will send it as soon as I have completed. Kind Regards,	See Appendix D for full consultation.
Municipality					
Mr Albano Montsho **Ventersdorp (JB Marks) Local Municipality** **Tel: 018 264 8575**	**X**	06/11/2018	Mr Montsho was called on behalf of the municipality, to notify him about the project. He gave us his email	Noted	See Appendix D for full consultation

Email Address: albanosm@jbmarks.gov.za			address together with Mr Moss email address and a consultation email was sent to him and no response was received.		
		08/11/2018	Mr Montsho was contacted again regarding his response about the project and he said he will forward the email to relevant people.	Noted	
Mr Janie Moss **Ventersdorp (JB Marks) Local Municipality** **Tel: 083 448 0768**	**X**	06/11/2018	A consultation email was sent to Mr Moss on behalf of the municipality and no response was received.	No response.	
Kedibone **Ventersdorp (JB Marks) Local Municipality** **Tel: 078 264 8529**	**X**	12/11/2018	The municipality was contacted again and we were referred to Kedibone, to arrange the meeting with the municipality committee. The meeting was arranged and it was on Wednesday, the 14th of November 2018 at 10 am.	Invitation to the meeting was accepted.	
Ventersdorp (JB Marks) Local Municipality **Tel: 018 264 8500/8575**	**X**	14/11/2018	A meeting was held at the Ventersdorp Municipality as agreed. The attendees were Mrs Kedibone, Mr Zoko (Head of Engineering Services), Miss Motlhatlhedi (Project EAP) and Mr Rakhadani (Project Manager). In the meeting, few issues were raised and the main issue was the Klerkskraal	Issues raised by the municipality were noted.	

Mr Fanie Zoko **Ventersdorp (JB Marks) Local Municipality** **Tel: 018 264 8531/0794779445** **Email: faniez@jbmarks.gov.za**	**X**		Dam being within the proposed areas. Mr Zoko said the dam is the important and main source of water for their area and for Potchefstroom, therefore mining can never take place. And he also informed us that most of the proposed areas are owned by the Department of Agriculture. We also asked the municipality to book a hall for us so that we can have a Public Participation Meeting and we were referred to the Councilor, Mrs Motladile.	Issues were noted. Noted.	
Mrs Motladile **Ventersdorp (JB Marks) Local Municipality** **Tel: 073 918 2044**	**X**	14/11/2018	Mrs Motladile was contacted and she agreed to book a hall to us, but she said she needs to confirm things with another ward Councilor.	Noted	
Organs of State (Responsible for infrastructure that may be affected. Roads Department, DWS, Eskom, etc.)					
Mildred Olefile **North West Provincial Government** **Email: molefile@nwpg.gov.za**	**X**	26/10/2018	A consultation email was sent to Olefile, followed by a telephone call, and no comments/response was received to date.	No response	See Appendix D for full consultation.
Cadace Enoch **Department of Water and Sanitation** **Tel: 012 336 7193** **Email: EnochC@dws.gov.za**	**X**	06/11/20118	A consultation email was sent to Ms Enoch on behalf of the Department of Water and Sanitation and the response is as follows: Good Day Boipelo,	Noted	See Appendix D for full consultation.

			Please find the application attached to register as an interested and affected party.		
Communities					
Ventersdorp Community and Klerkskraal Community	**X**	14/11/2018	A community meeting for both Ventersdorp and Klerkskraal could not be held due to the ward councilor not being able to give us the date and venue. The ward councilor stated (telephonically) that it is difficult to have these communities in one place as they are far from each other and the community of Klerkskraal is very small, however she said she will get back to us.	No response has been received from the ward councilor to date. The meeting was then cancelled and the newspaper editor who advertised the meeting was called and told about this matter.	See Appendix D for full consultation.
Department of Land Affairs					
Meiki Matlala **Department of Rural Development and Land Reform** **Tel: 018 389 9659** **Email: meiki.matlala@drdlr.gov.za**	**X**	26/10/2018	No comments/response received to date.	No response	See Appendix D for full consultation.
Calvary Molebiemang **Department of Rural Development and Land Reform** **Tel: 082 827 6247** **Email: calvary.molebiemang@drdlr.gov.za**	**X**	26/10/2018	No comments/response received to date.	No response	
Lengane Bogatsu **Department of Rural Development and**	**X**	19/11/2018	No comments/response received to date.	No response	

Land Reform **Email: lengane.bogatsu@drdlr.gov.za** **Keabetswe Mothupi** **Department of Rural Development and Land Reform** **Tel: 018 388 7220** **Email: keabetswe.mothupi@drdlr.gov.za** **Agnes Montwedi** **Department of Rural Development and Land Reform** **Email: Agnes.Montwedi@drdlr.gov.za**	**X** **X**	20/11/2018 19/11/2018	A consultation email was sent to Keabetswe on behalf of the Department of Rural Development and Land Reform and the response is as follows: Good morning. Kindly find the attached. Kind regards. No comments/response received to date.	Good Morning Keabetswe, Thank you for the response. I will wait for the document. Kind Regards,	
Traditional leaders					
No traditional leaders			Private land not owned by traditional leaders.	No action required by applicant.	See Appendix D for full consultation.
Department of Environmental Affairs					
None received to date					
Other Interesred & Affected parties					
Hennie Stander **Potchefstroom Herald Newspaper** **Tel: 018 293 0750** **Email: HStander@media24.com**	**X**	26/10/2018	An email was received from Mr Stander and is as follows: Good day Miss Motlhatlhedi, I am the editor of the Potchefstroom Herald newspaper also circulating in the Ventersdorp/Klerkskraal area with readers having an interest on what is	Good day Hennie, Kindly note that Miss Motlhatlhedi is on leave until Monday the 05th of November 2018. To ensure that you get instant response all correspondence must be directed to me until her leave lapses. Thanks a lot for the email and for raising concerns regarding the proposed	See Appendix D for full consultation.

			happening in the area mentioned in the attached notice advertised by your firm in our newspaper. Please also take into consideration that the area is part of and/or in the region of the Bovenste Oog which is part of the Mooi River catchment area, a water system managed by the Department of Water Affairs from where Potchefstroom get their household water supply as well as extensive irrigation networks to farmers stretching from the Klerkskraal Dam area to an area far south of Potchefstroom. According to us it is in public interest that we as newspaper give our readers more background on what the application entails and the possible effect it can have in the area. Can you please forward us the draft EMPR report mentioned in the notice. Can you please also supply us with any more information so that we as newspaper can give our readers an informed report on what the planned prospecting entails. We would for example want to know whether any mining company are	project. Chapter 6, regulation 40(2)(3) of EIA Regulations (GNR 326, 7 April 2017) requires that the Public Participation Process (PPP) provides access to all information that may have potential to influence decision regarding the applications, it further outlines that the potential Interested and Affected Parties (I&APs) be provided with an opportunity to comment on project reports and plans. It also requires that the project be advertised in a local newspaper as a means of notifying the public. Furthermore, after the PPP, a consultation report will be compiled which contains amongst others a database of I&APs. Hence we would like to know if we should register you or Potchefstroom Herald newspaper as an I&AP for this project? Thank you for making us aware that the Mooi River Catchment is the major source of water in the region and it is managed by the Department of Water and Sanitation. Kindly note that as per the advertisement (also see attached BID), the proposed project relates to Prospecting instead of Mining. In the actual Prospecting activities no water is required, water will be required for drinking purposes only by personnel on site. It is essential to note that almost all Government Departments are being consulted about this	

			already involved. Best regards Hennie	proposed project including Department of Water and Sanitation as they are key stakeholders in mineral development projects. We will appreciate it if you refer your readers to us as we have technical expertise to address their concerns besides that we have been appointed to do so by the applicant. The DBAR will be forwarded to you once it is available on the dates outlined on the advert in your possession. Attached for perusal is the project's Background Information Document (BID) containing baseline information about the proposed project, Department of Mineral Resources acknowledgement letter, and project map showing affected properties. Looking forward to your correspondence	
		01/11/2018	Good day Stanley, Thanks for your reply. We will register as an Interested Party. We are the only community paper circulating in the area and can play a major role in giving information. When I spoke to Boipelo yesterday she said the date of the Public Day in Ventersdorp (8 November) might change to a later date? Can you give us feedback on that please? We plan to do story on our website based on the advertisement as well as in next week's paper. Do you want		

			to use the opportunity to send us a press release to give a little more information about the application? Perhaps based on the information you send me? Do you mind if we publish the map you send me to show readers where the farms are? If the Public Day are still going to be on 8 November it is urgent that we publish our article over the weekend so that especially our readers in Ventersdorp will know about it because not everybody read all the advertisements. We will appreciate it then if we can have your statement on Friday 2 October (tomorrow) by 12:00. If however the date of the Public Day are going to change, please let us know what the new date is so that we can publish accordingly. It is also fair that we inform you that we did spoke to at least two farmers in the concerned area. They are very worried about the water situation if mining eventually are the outcome of positive prospecting. We also spoke to the Federation for Sustainable Environment which will also register as an interested party as far as we know. Best regards Hennie		
		05/11/2018	Dear Stanley, In connection with our telephone conversation last week.	Good day Hennie, True, it has been re-scheduled to next week Boipelo will send you the date probably tomorrow	

			Do you perhaps have a new date for the Public Day planned for Ventersdorp. You said it will no longer be on 8 November. Best regards Hennie	Kind regards,	
		07/11/2018	Good morning Stanley and Boipelo, Hope you are still good? Please remember to send me the new date for the public day in Ventersdorp next week. Our next edition will probably too late because we only appear once a week. We are going to print today and I need the information on the latest at 12:00. Best regards Hennie	Good Morning Hennie Kindly note that the date for public day has been moved to Tuesday, the 13th of November 2018 at Elizabeth Sentrum mall. Regards,	
			Hi Boipelo, From what time will it be?	Hi Hennie From 11 O'clock in the morning.	
		08/11/2018	Hi Boipelo, In connection with our telephone conversation this morning. You can perhaps phone Mr Jannie Moss. He is a resident in Ventersdorp	Hi Hennie, I will do that. Thank you for your assistance, much appreciated. Kind Regards,	

			and is or was a councillor in the Town Council as well. Perhaps he will know about a suitable place for a venue. Regards Hennie Sorry – here is his telephone number – 083 448 0768	Noted.	
Andre Grove **Andre Shows** **Tel: 083 230 2025** **Email: andre.shows@gmail.com**	**X**	29/10/2018	To Whom it may concern. We were made aware of the add placed in the Potchefstroom Herald regarding mining in certain geological sensitive area's. As a caving club (Potch Pot Holers) PPH we would like to register as a interested party specifically due to the nature of sensitive cave systems in the area. I would appreciate it if you could add us to your list of interested parties, as it is imperative that we be kept informed of any development in the area. Sincerely	Good Morning Andre Kindly note that you have been registered as an interested and affected party. We are in the process of compiling a Draft Basic Assessment Report (DBAR) which will also include the assessment of the sensitive areas. As part of the EIA process, the attached Background Information Document (BID) has been developed to: • Share information about the proposed Projects; • Present the Prospecting Right Application process according to South African legislation; and • Provide more details about the Public Participation Process (PPP) which will be followed. If you have any additional comments or concerns, kindly fill in the comment form which is on the last page of the BID.	

				Kind Regards,	
Marlize Fritz **Agri NW** **Tel: 018 632 3612** **Email: marlize@agrinw.co.za**	**X**	07/11/2018	A call was received from Agri NW, asking to comment on the project. Therefore a consultation email was sent to them and the response is as follows: For attention: Boipelo Motlhatlhedi. (Attached comment form).		See Appendix D for full consultation.
Roger Ellis **Renowned South African Speleologist**	**X**	21/11/2018	An email was received from Mr Ellis as an I&AP and is as follows: Dear Sirs, As per your request we herewith submit comment regarding the proposed mining concession for Alkemu Precision (Pty) Ltd., NW 30/5/1/1/2/12466 PR as requested in your EIA NW 30/5/1/1/2/12466 PR Please acknowledge receipt by return email. Thank you. We look forward to hearing from you in due course. Yours faithfully, (Two documents and two images attached).		

2.10.1 Concluding remarks on stakeholder consultation

The main issue that was raised by stakeholders and I&Aps is that farmers community get their water supply from the Klerkstraal Dam and farm owners nearby use the water for irrigation, therefore they can't allow prospecting activities to take place near the fountain. Only two landowners raised issues and disapproved this application, other landowners approved the project. The proof of advertisements and notifications were available at the time of the compilation of the report.

2.11 The environmental attributes associated with the alternatives

(The environmental attributed described must include socio-economic, social, heritage, cultural, geographical, physical and biological aspects)

Alkemu Precision (Pty) Ltd applied for Prospecting Right over the area of interest in the close vicinity of the mines. Based on the outcomes of that study, the possibility of encountering further Gold, Diamond, Manganese and Iron Ore reserves was identified on the properties and is subject to this Prospecting Right Application.

The company applied for prospecting on the properties as discussed in this report to determine the presence of Gold, Diamond, Manganese and Iron Ore, whether they are feasible and justify further studies towards a Mining Right. No alternatives are available that will have an impact on a different setting than the environment discussion provided in the following.

3 Baseline environment

3.1 Type of environment affected by the proposed activity

Current geographical, physical, biological, socio- economic, and cultural character.

3.1.1 Topography

Topographically, the North West Province is indicated to have one of the most uniform terrains of all the provinces within South Africa. The topography of the eastern region is more variable than that of the southern and western regions.

The topographical map of the proposed area is depicted as Figure 9 and the topography of the area is generally flat, consisting of grasslands with few trees and shrubs providing ideal game spotting conditions.

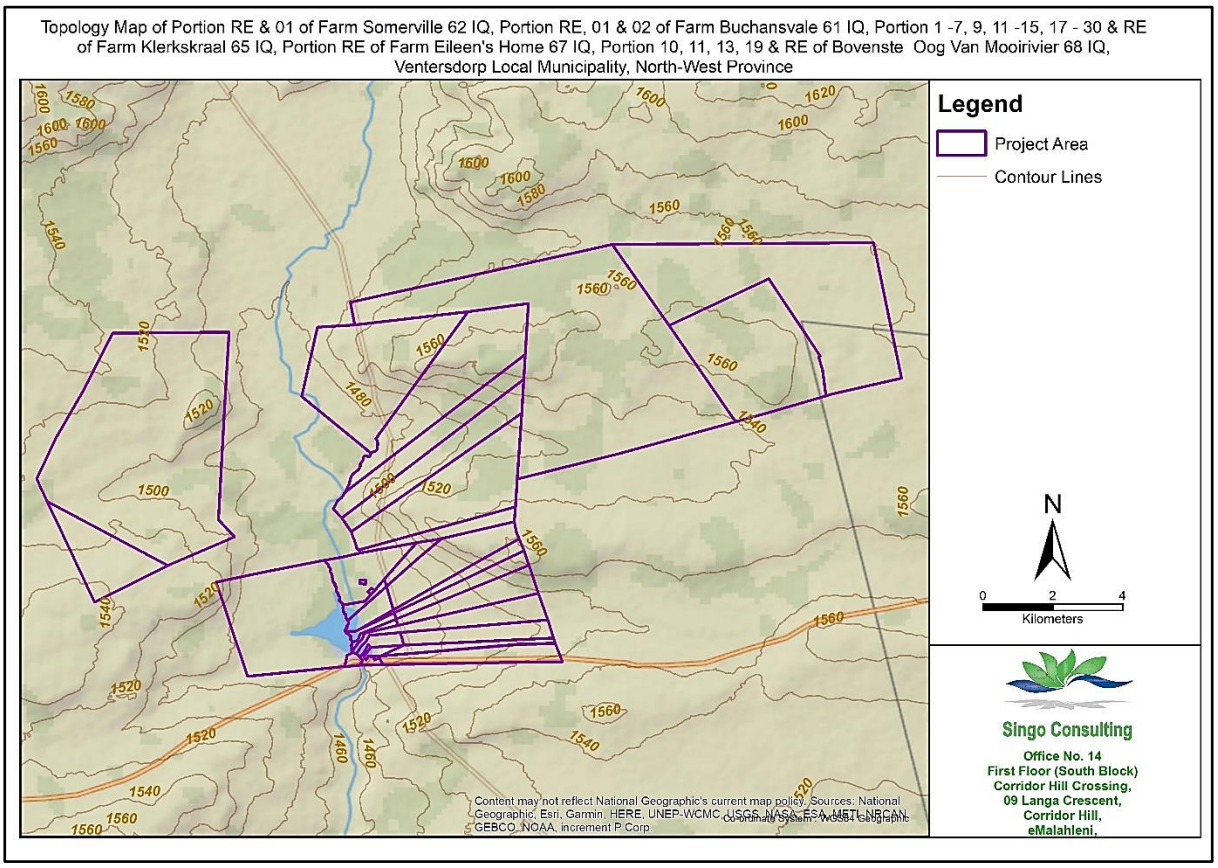


Figure 9: Topographical map of the proposed project sites.

3.1.2 Climate

Climate is basically the statistics of weather conditions over long periods of time. It entails patterns of; temperature, humidity, wind, precipitation, atmospheric particle count in a region over long periods of time. The study area displays warm summers and cold winters typical of the North West climate.

The region is characteristic of quintessential Africa and forms part of the southern Kalahari Desert. The summer months (from August to March) bring brief but refreshing afternoon thundershowers. The area has an above average rainfall of 300 to 700 mm annually. Summer temperatures range between 22 and 34°C and winter brings with it dry, sunny days and chilly nights.

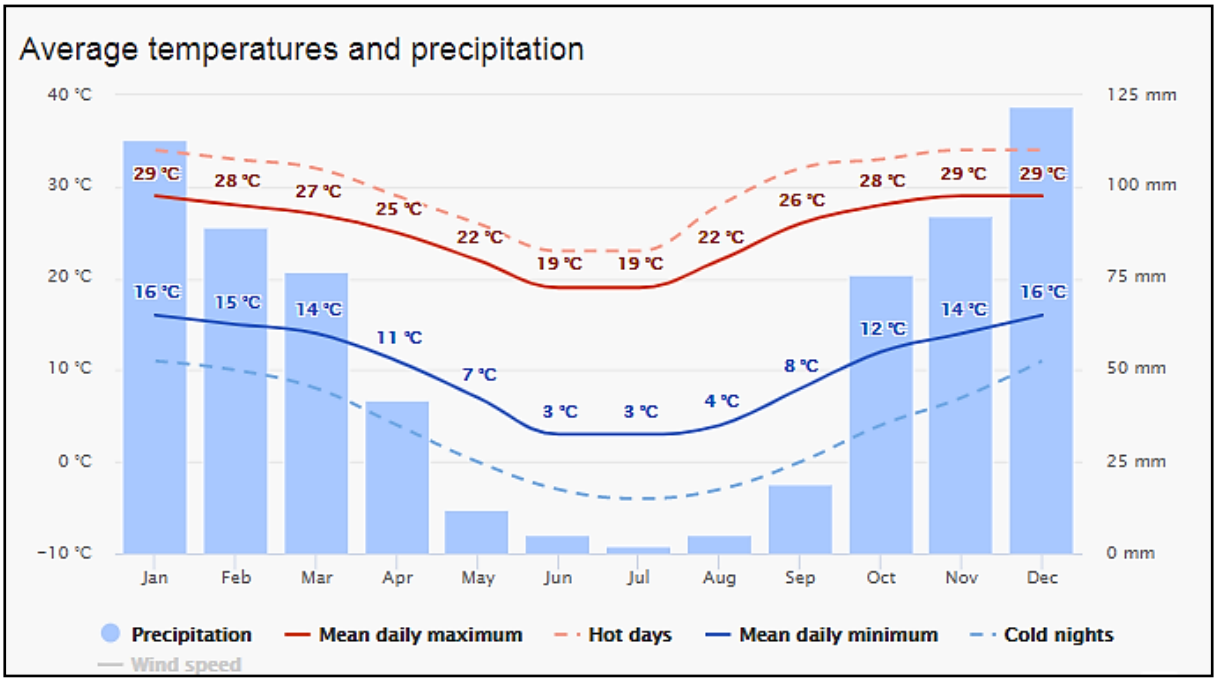


Figure 10: Average temperatures and precipitation of the project area.

The "mean daily maximum" (sold red line) shows the maximum temperature of an average day for every month for Ventersdorp. Likewise, "mean daily mininmum" (solid blue lie) shows the average minimum temperature. Hot days and cold night (dashed red and blue lines) show the average of the hottest day and coldest night of each month of the last 30 years.

3.1.3 Geology

The site falls under the Western limb of the Bushveld complex. The Eastern and Western Limbs are nearly identical in appearance, the major difference being that the Western Limb is underlain mostly by quartzite and the Eastern Limb by shale. The mineralisation is associated with the Critical Zone rock. The Merensky Reef and UG Reef host the platinum group mineralisation, whereas the lower group and middle group chromite seams are generally developed for ferrochrome production. The main zone rocks are also sourced as dimension stone. The granite rocks are host to fluorite deposits.

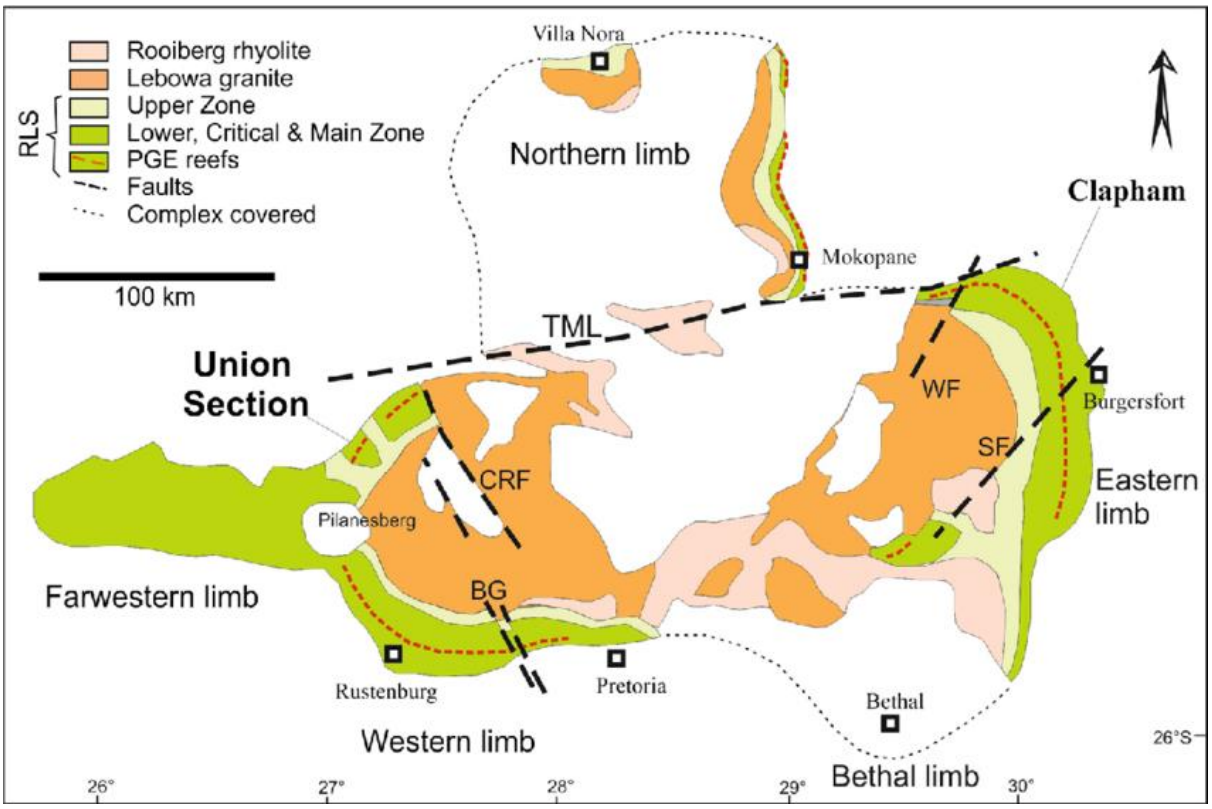


Figure 11: Geological Map of the Bushveld Complex, together with the Limbs.

The Bushveld complex was formed during a magnificent event. A series of surges led to the emplacement of magma on the surface as a result of alternating stress and pressure conditions in the earth's crust. Lava was forced into the interior of the southern African subcontinent, with the lava flow continuously fed from a central volcanic pipe. The lava crystallized and gave rise to different layers, which have been classified as the Bushveld Complex.

The Bushveld Complex Geology

The Bushveld Complex, found in the northern part of South Africa, is the world's largest layered intrusion. The complex plays host to over half of the worlds platinum, chromium, vanadium and refractory minerals. The complex is early Proterozoic in age and consists of three large suites of intrusive rocks, occupying a total surface area of approximately 65,000km2, and is known for its enormous concentrations of magmatic ores, a variety of pegmatitic and hydrothermal deposits, as well as industrial mineral deposits formed by the metamorphism of the floor rocks of the Complex (Caincross and Dixon, 1995).

The four lithological units of the Bushveld Complex are:

- Rustenburg Layered Suite
- Rashoop Granophyre Suite
- Lebowa Granite Suite, and

- Rooiberg Group

The fourth suite, the Rooiberg Group of acid and basic volcanic rocks, was previously allocated to the Transvaal Supergroup (SACS,1980), but is now accepted to be an intergral part of the Bushveld Complex (Schweitzer *et al.,* 1995a, b).

- **Rustenburg Layered Suite**

The Rustenburg Layered Suite contains mainly mafic rocks and is divided into a number of different zones. The marginal zone is found around the edge of the intrusion, while from the base of the complex up is the Lower Zone, the Critical Zone, the Main Zone and lastly the Upper Zone.

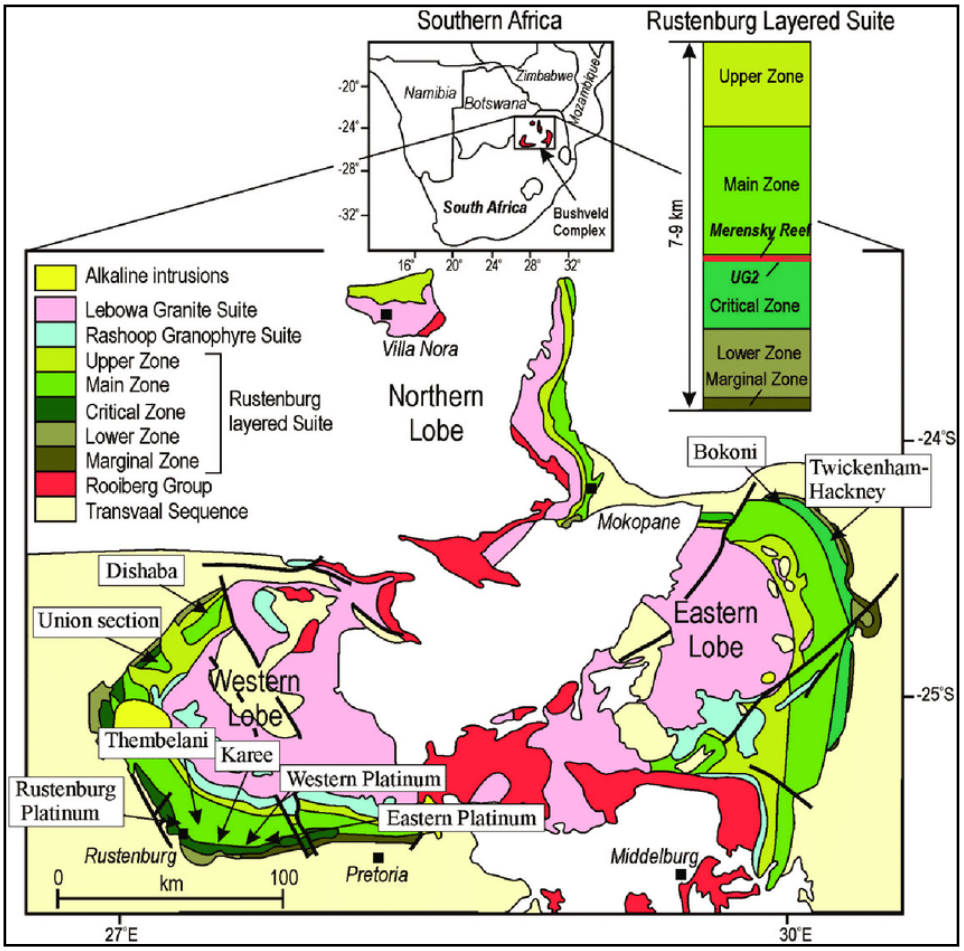


Figure 12: The Rustenburg Layered Suite.

- **Rashoop Granophyre Suite**

The Rashoop Granophyre Suite of the Bushveld Complex is subdivided by Walraven (1987a) into three different types.

- Stavoren Granophyre

This granophyre is present throughout the Bushveld Complex and predates the basic rocks and granites of the Complex (Walraven, 1985). It is magmatic in origin and cogenetic with Rooiberg Group volcanics. It consists of medium to fine-grained rocks composed of K-feldspar, plagioclase and quartz together with hornblende, minor biotite and accessory iron oxide and zircon. It is characterised by micrographic intergrowths of quartz and feldspar. It includes sedimentary xenoliths where roof rocks are sedimentary, and spherulitic zones where they consist of Rooiberg Group volcanics (Hall, 1932, Walraven, 1985). The Stavoren Granophyre is well developed on the northern end of the Stavoren Fragment just off the northern boundary of the present study area.

- Diepkloof Granophyre

This is texturally similar to the Stavoren Granophyre and restricted to the eastern part of the Bushveld Complex underlying volcanic rocks of Rooiberg Group (Walraven, 1985). It is cogenetic with granodioritic rocks present in similar geologic settings elsewhere in the Bushveld Complex and is presumed to have formed by the melting of volcanic roof rocks as a result of intrusion of basic rocks of the complex. It has the same age as the basic rocks (Walraven, 1985).

- Zwartbank Pseudogranophyre

It is restricted to parts of the Bushveld Complex underlying the sedimentary rocks of Pretoria Group. It differs texturally from Stavoren and Diepkloof Granophyre and consists of intergrown quartz and feldspar indicative of replacement (Walraven, 1985). It is believed to have been formed by severe recrystallisation of sedimentary roof rocks as a result of intrusion of basic rocks of the Bushveld (De Waat, 1972, Walraven, 1985).

- **Lebowa Granite Suite**

It is restricted to parts of the Bushveld Complex underlying the sedimentary rocks of Pretoria Group. It differs texturally from Stavoren and Diepkloof Granophyre and consists of intergrown quartz and feldspar indicative of replacement (Walraven, 1985). It is believed to have been formed by severe recrystallisation of sedimentary roof rocks as a result of intrusion of basic rocks of the Bushveld (De Waat, 1972, Walraven, 1985).

The Nebo Granite forms a regional sill like intrusive of A-type granite (Kleeman and Twist. 1989; MacCaskie, 1983; McCarthy and Hasty, 1976; Hill *et al.,* 1996), It has an estimated thickness of some 2.5km (McCaskie, 1983). De Waal (1963), Snyman (1958) and Marlow (1976) described the main phase of this granite as *red* to grey in colour, coarse grained.

Granular K-feldspar perthite, quartz and plagioclase are the major constituents, whereas hornblende, biotite and muscovite are minor constituents. Accessory minerals include opaque minerals, zircon, rutile and fluorite. Local granophyric and aplitic varieties are developed.

- **Rooiberg Group**

These intercratonic volcanic rocks largely confined to the roof of the Bushveld Complex consist of nine magma types varying in composition from basalt to rhyolite (Hatton and Schweitzer, 1995). Basalts and andesites intercalated with dacites and rhyolites are found towards the base; rhyolite is the chief magma composition in the upper succession. According to Hatton and Schweitzer (1995), crustally contaminated plume magma synchronously intruded beneath the Rooiberg Group to produce the mafic rocks of the Rustenberg Layered Suite.

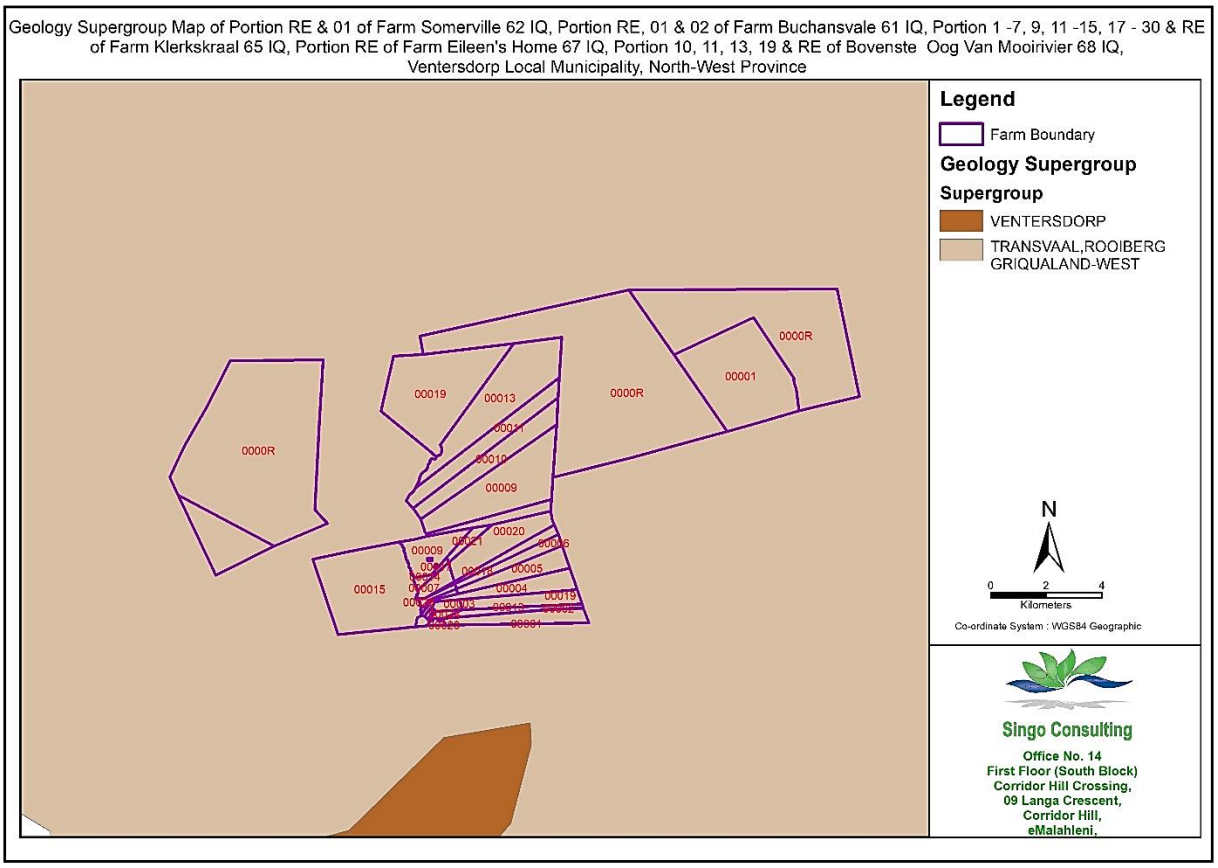


Figure 13: Geological Map of the proposed site.

Bushveld Complex Platinum Group element (PGE) mineralization

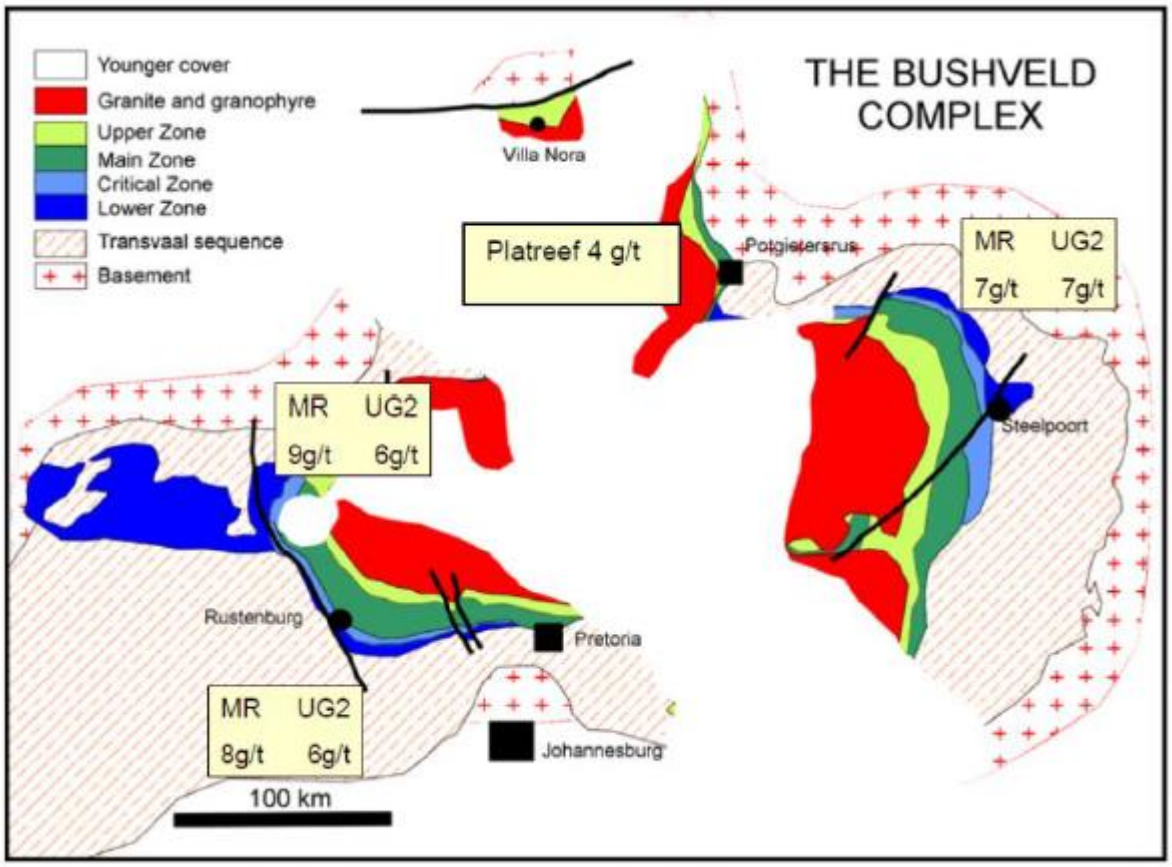


Figure 14: Simplified map of the Bushveld Complex showing generalized PGE grades for the Merensky Reef, UG2 chromitite layer and Platreef.

- **Merensky Rief**

Although the Merensky Reef is generally regarded as a uniform reef type, large variations occur in reef thickness, reef composition, as well as the position of the mineralisation. The rock-forming minerals of the Merensky Reef comprise approximately equal amounts of dark iron-magnesium silicate minerals and lighter calcium-aluminium-sodium silicate minerals (called a feldspathic pyroxenite) under- and overlain by thin (5 to 15 mm) often discontinuous layers of chrornite concentrations.

The total thickness of this package is generally less than 30 cm. This zone, commonly known as the Merensky pegmatoid, contains the base metal sulfide grains and associated platinum group minerals.

The Merensky Reef has been traced for 300 km around the entire outcrop of the eastern and western limbs of the Bushveld Complex, and to depths of 5 km. The rock-forming silicate minerals of the Merensky Reef consist predominantly of orthopyroxene (~60 per cent), plagioclase feldspar (~ 20 per cent), pyroxene (~15 per cent), phlogopite *(~5* per cent), and occasional olivine.

Secondary minerals such as talc, serpentine, chlorite and magnetite have widespread occurrence. The base metal sulfides consist of pyrrhotite (~40 per cent), pentlandite (~30 per cent), chalcopyrite (~15 per cent), and trace amounts of millerite (NiS), troilite (FeS), pyrite (FeSJ, and cubanite (Cu2FeS4) T. he major platinum group minerals are cooperite (PtS), braggite [(Pt,Pd)NiS], sperrylite (PtAs2) and PGE alloys, although in some areas minerals such as laurite (RuS2) can be abundant.

- **The UG-2 Reef**

The UG-2 Reef is a platiniferous chromititc layer which, depending on the geographic location within the Complex, is developed some 20 to 400 metres below the better known Merensky Reef. The chromitite itself is usually 1 m thick but can vary from ~0.4 to up to 2.5 m. Thin chromitite seams (generally less than 20 cm in thickness) may be present in both the footwall and, more commonly, in the hanging wall rocks.

The UG-2 consists predominantly of chromite (60 to 90 per cent by volume) with lesser silicate minerals *(5* to 30 per cent pyroxene, and 1 to 10 percent plagioclase (2)). Other minerals, present in minor concentrations, can include the silicates: phlogopite and biotite, the oxides: ilmenite, rutile and magnetite, and base metal sulfides. Secondary minerals include quartz, serpentine and talc, see Table I. The Cr203, content of the UG-2 Reef varies from 30 to 35 per cent (the pure chromite mineral has an average Cr203 content of 44 per cent (12)).

Total PGE values vary from locality to locality, but on average range between 4 and *7* g ton^{-1}. Figure 15 summaries the contribution of the individual PGE. The base metal distribution follows a similar trend to that of the PGE, with most of the values occurring in the bottom and top part of the reef. The base metal content of a typical UG-2 Reef is approximately 200 to 300 ppm nickel occurring as nickel sulfide and less than 200 ppm copper occurring as copper iron sulfide.

	Pt	Pd	Ru	Rh	Ir	Os	Pt:Pd
Western Bushveld	52	24	14	8	< 2	< 1	2.2
Eastern Bushveld	41	37	11	7	3	1	1.1

Figure 15: UG-2 Distribution of PGE in the Bushveld, percentage, and the Platinum: Palladium Ratio

The platinum group minerals present in the UG-2 Reef are highly variable, but generally the UG-2 is characterized by the presence of abundant PGE sulfides, comprising predominantly laurite (RuOsIr sulfide), cooperite (PtS), braggite (Pt, Pd, NiS), and an unnamed PtRhCuS. The platinum group minerals only reach an average size of approximately 12 µm, with particles larger than 30 µm being extremely rare. Most of the platinum group minerals occur in

association with the base metal sulfides and silicates. It is only the mineral laurite which exhibits a preferred association with the chromite grains.

Both the grain size and associations are extremely important as these affect the metallurgical behaviour during subsequent processing. The major base metal sulfides constitute chalcopyrite, pentlandite and pyrrhotite. The base metal sulfides occur almost entirely within the interstitial silicate and are only very rarely enclosed within the chromite particles. The grain size of the base metal sulfides rarely exceeds 30 µm.

- **The Platreef**

In the northern limb of the Bushveld Complex, the Lower and the Critical Zones of the Bushveld are poorly developed. Where the Bushveld rocks are in contact with the floor rocks (that is the Archaean granite and sediments of the Transvaal Sequence), a unique type of mineralisation has developed, see Figure 16. This reef, known as the Platreef (13, 14) consists of a complex assemblage of pyroxenites, serpentinites and calc-silicates.

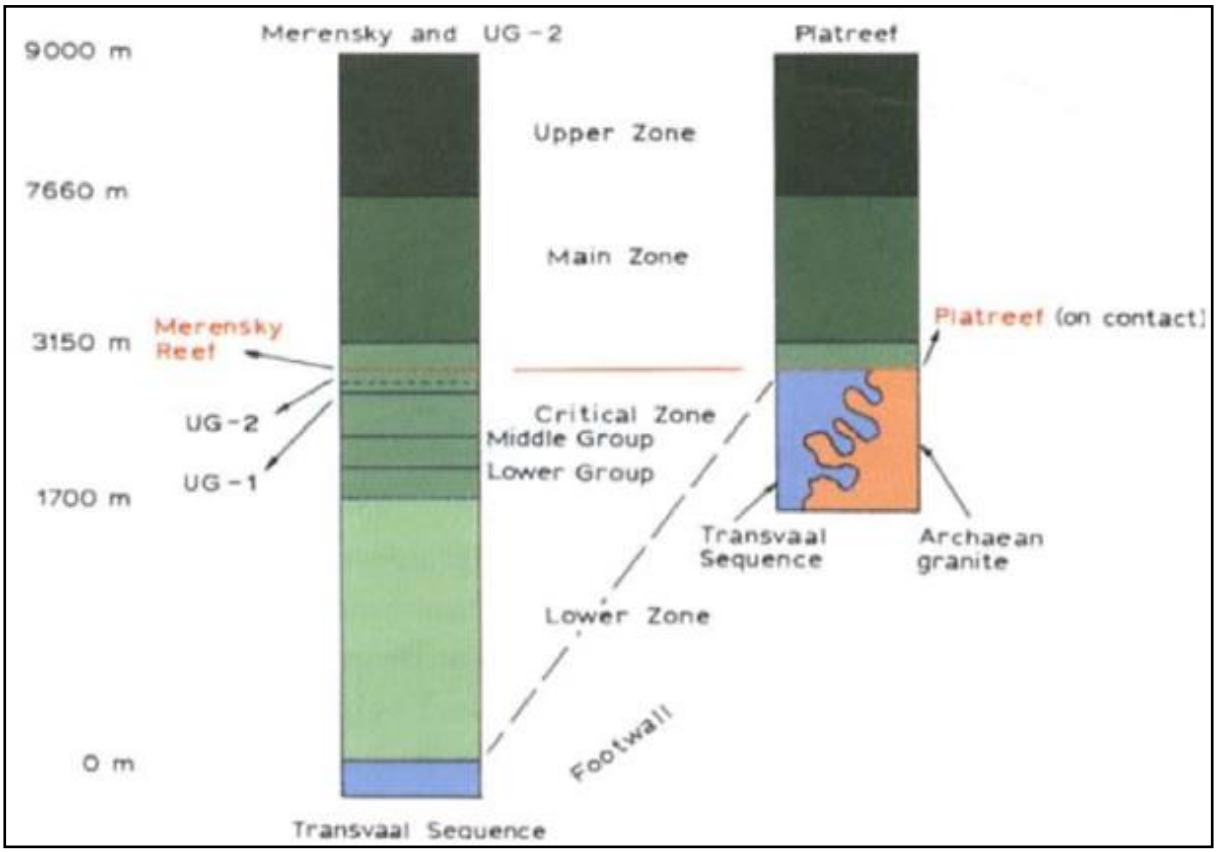


Figure 16: Stratigraphic column showing the position of the UG-2 Reef relative to the Merensky Reef: The Platreef is interpreted as a Merensky equivalent (modified afrer Vermaak (2)).

The different nature of these rocks, compared to normal Merensky Reef, is the result of the hot Bushveld magma reacting with the lime-rich floor rocks. An exchange of heat and material

between the magma and the floor rocks resulted in the formation of abundant lime-rich minerals (calc-silicates) as well as the serpentinisation of the overlying pyroxenites.

Base metal mineralisation and PGE concentrations are found to be highly irregular, both in value as well as in distribution. The mineralisation in places reaches a thickness of up to 40 metres. Although the major platinum group minerals consist of PGE tellurides, platinum arsenides and platinum sulfides, there appears to be a link between the rock type and the type of PG-minerals: serpentinites are characterised by a relative enrichment in sperrylite (PtAsJ, whereas the upper pyroxenites are generally characterised by more abundant PGE sulfides and alloy. PGE alloys generally dominate mineralisation closer to the floor rocks.

Common base metal sulfides include pyrrhotite, pentlandite, chalcopyrite and pyrite, and although PG-minerals frequently occur, enclosed in or on grain boundaries of these base metal sulfides, a high association of PG-minerals with silicate minerals is found in some areas.

3.1.4 Soils

The dominant soil-forming processes have been rock weathering, the formation of orthic topsoil horizons and, commonly, clay alleviation, giving rise typically to lithucutanic horizons. Soil forms that are typical of these processes are Glenrosa and Mispah. Any other soil form can however also be found in these land types. Oakleaf soil forms, deep or shallow, developed by rock weathering also occur in upland sites.

The steep slopes, middle plateau and Puttersvlei (upper plateau) areas of Karoo NP, excluding the northern most corner, fall into the Ib land type. Surface rock with underlying soil or rock covers sixty to eighty percent of these areas. The parent material of the slopes consists of mudstone, siltstone and sandstone with some dolerite intrusions, and typically Mispah or Glenrosa soil forms. Dolerite covers most of the middle plateau, with an influence of mudstone, siltstone and sandstone closer to the upper slopes.

Fertile soils occur on this flat plateau with little erosion save where the deep red soils gradually erode from a natural basin. Dolerite rocks cover most of the Puttersvlei section of land type Ib, with the underlying sandstone appearing in terraces, descending in a northerly direction. The northernmost corner of the upper plateau occurs in land type Db. Prismacutanic and/or pedocutanic diagnostic horizons characteristically dominate this land type. Non-red B horizon, duplex soils cover more than half the land area.

According to the Council of Geosciences, Alluvial mining in the area started in the early 19th century. Renewed interest in the mining of alluvial diamonds was generated by the El Niño related drought of 1974 when many farmers turned to diamond mining. Much larger volumes

of gravel could be moved and greater depths of gravel were reached owing to modern earth moving and sorting equipment.

Figure 17: Soil on site as observed, EAP-Boipelo and EAP assistant, Kenneth

Diamondiferous gravels in the North West Province are distributed predominantly in three major areas, namely the area underlain by dolomite from the east of Ventersdorp towards Lichtenburg and Bakerville and beyond (VLB), the Lichtenburg–Delareyville–Bloemhof–Klerksdorp–Lichtenburg area (LDBKL), which is mostly underlain by Ventersdorp Supergroup basalt and the area associated with the Vaal River terraces and gravels. Diamondiferous gravels are concentrated along straight and meandering runs, sinkholes and dolines in the VLB area. In the LDBKL area, the diamonds are present in ancient and current river channels, terraces or banks and as elluvial and colluvial deposits. Along the Vaal River, the diamonds

occur along the gravels of the current river and along the older gravels present along ancient terraces.

3.1.5 Fauna and Flora

The vegetation surveys were undertaken within vegetation polygons identified by a combination of Mucina and Rutherford vegetation mapping (2006), photograph interpretation and mapping by the Terrestrial Biodiversity Assessment Plan (BGIS, 2013).

Vegetation surveys were conducted to:

• Assess the presence of an endangered ecological community under the IUCN Red list;

• Determine whether vegetation patches meet the endemic vegetation definition as defined under the NEMBA;

• Record rare and threatened flora species

The aim of the faunal investigation is to present a description of the faunal attributes of the study area, the Red Listed faunal status of the area as well as inherent faunal sensitivities of identified habitat units. Results of this investigation will ultimately be incorporated into the ecological overview of the study area.

Animal or faunal assessments were done visually and bird species were verified from the Sasol Birds of Southern Africa (Sinclair et al., 2002). For mammals; tracks, spoors and faecal remnants were used as signs of their possible occurrence on the site. Occurrence of reptiles was assessed through field observation and comparison to the SARCA list of observed species for the study area.

Figure 18: Fauna and Flora on site as observed with the applicant from left, farmer second left, EAP-Boipelo and EAP assistant, Kenneth

The study area is situated within the Carletonville Dolomite Grassland. Carletonville Dolomite grassland is considered Vulnerable but is not listed as a threatened ecosystem (Driver et al.2005; Mucina et al. 2006). It is characterized by the presence of the species such as Aristida congesta, Brachiaria serrata, Cynodon dactylon, Digitaria tricholaenoides, Diheteropogon amplectens, Eragrostis chloromelas, Eragrostis racemosa, Heteropogon contortus, Loudetia simplex, Schizachyrium sanguineum, Setaria sphacelata, Themeda triandra, and a wide variety of herbaceous forbs and other grasses.

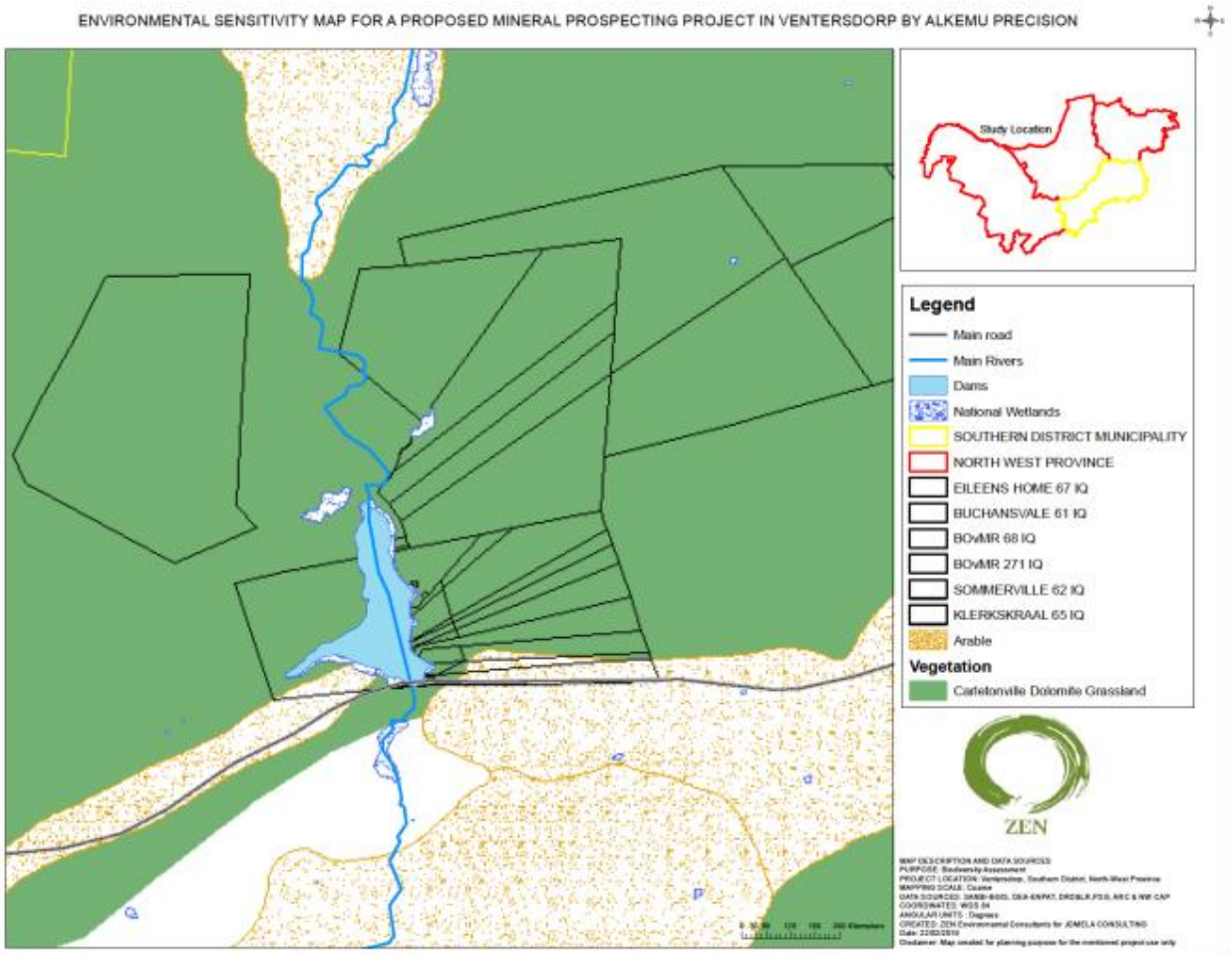


Figure 19: Environmental Sensitivity Map for the proposed project.

3.1.6 Water resources

Hydrogeologically, the study area can be subdivided into 3 potential aquifer types, viz. basement aquifers consisting of the Kraaipan, Ventersdorp volcanics and Archaean intrusive rocks. Faulted and weathered volcanic rocks also fall under this category of aquifer types. The inter-granular aquifers correspond to the Platberg and Kalahari Group sediments consisting of sandstone and alluvial gravel. The Malmani Subgroup of the Transvaal basin forms a karst aquifer located in the southern part and the northern tip of the study area. It consists of limestone, dolomite and calcareous sedimentary rocks that largely cover south of Vryburg. The Tertiary-to-Quaternary Kalahari Group predominantly consists of sandstone, calcareous-grit and conglomerates. They form intergranular aquifers which are located in the northern and north eastern parts of the study area.

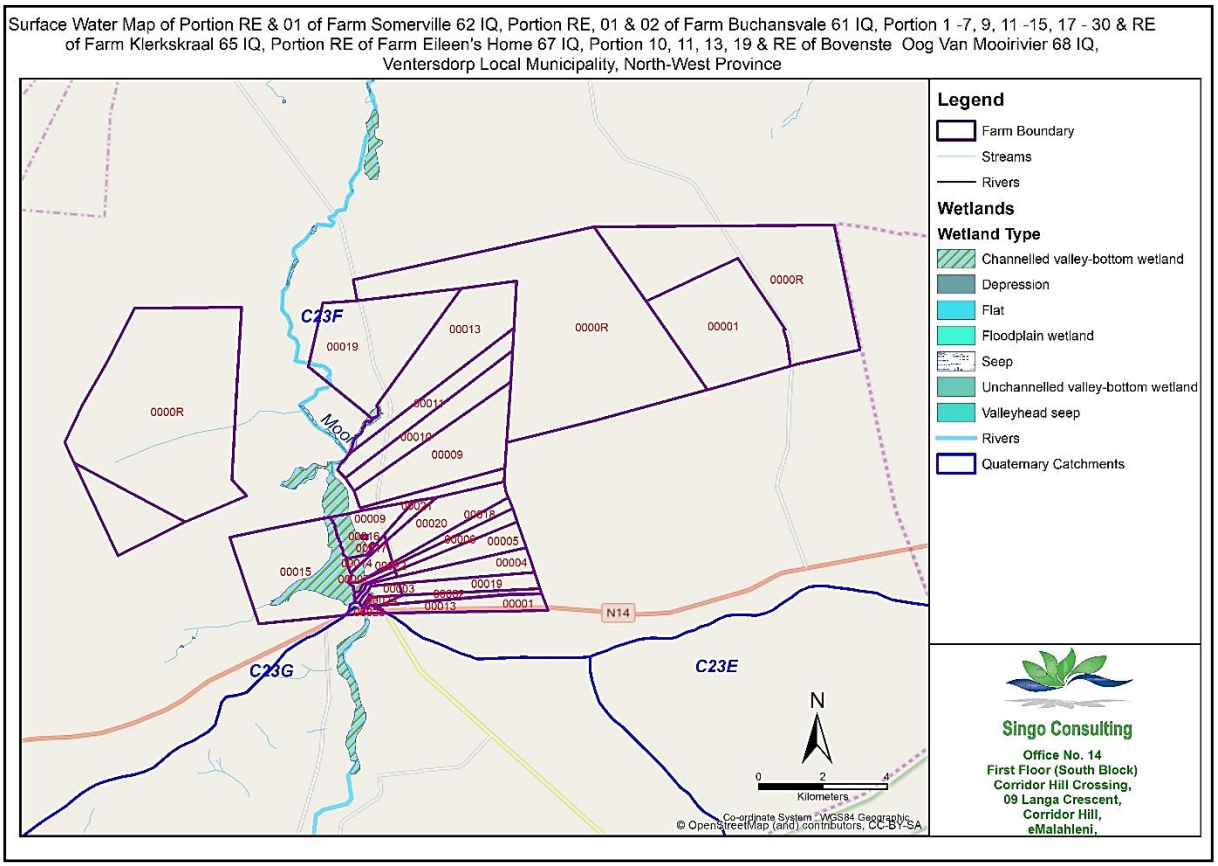


Figure 20: Surface water map for the project areas.

3.1.6.1 Surface water

A surface water assessment was conducted on 18th February 2019 by Anthony Singo (Hydrologist) from Singo Consulting (Pty) Ltd. The main purpose for the assessment was to identify wetlands, streams and fountains within the prospecting areas. All these areas will remain undisturbed to prevent any negative impacts that be posed to these areas as a result of drilling activities. After site assessment buffer zones that must not be any drilling within the area were mapped using Qgis 2.14.9, within the buffer zones the will be no any drilling activities this will prevent any contamination and damaging the natural state of wetland, streams, and dams within the prospecting areas.

The proposed site falls within the Upper Vaal Management Area (WMA), Quaternary Catchment C23F. The Upper Vaal Water Management Area (Upper Vaal WMA) includes the Vaal, Klip, Wilge, Liebenbergsvlei and Mooi Rivers and extends to the confluence of the Mooi and Vaal Rivers. It covers a catchment area of 55 565 km2. This WMA includes the very important dams Vaal Dam, Grootdraai Dam and Sterkfontein Dam. The southern half of the WMA extends over the Free State, the north-east mainly falls within Mpumalanga and the northern and western parts in Gauteng and North West provinces respectively.

The Upper Vaal is the uppermost WMA in the Vaal River catchment and one of five WMAs in the Orange River Basin. It is surrounded by the Crocodile (West) and Marico, Olifants, Inkomati, Usutu to Mhlathuze, Thukela, Upper Orange and Middle Vaal WMAs and adjoins Lesotho in the southern extreme

Detailed surface water walk about was conducted by the Hydrologist from Singo Consulting and Biodevesity Specialist from Jomela Consulting. It was note that, as shown by the farmer Mr Isaac Ground, in the farm Bovester Ooog, the fresh water fountain is located and the source of Mooi river. See figure below.

It is to be noted that Klerkraal Mooi Dam form part of the application area. All these areas will be buffered and ensure that drilling occur 600 m away from the water bodies.

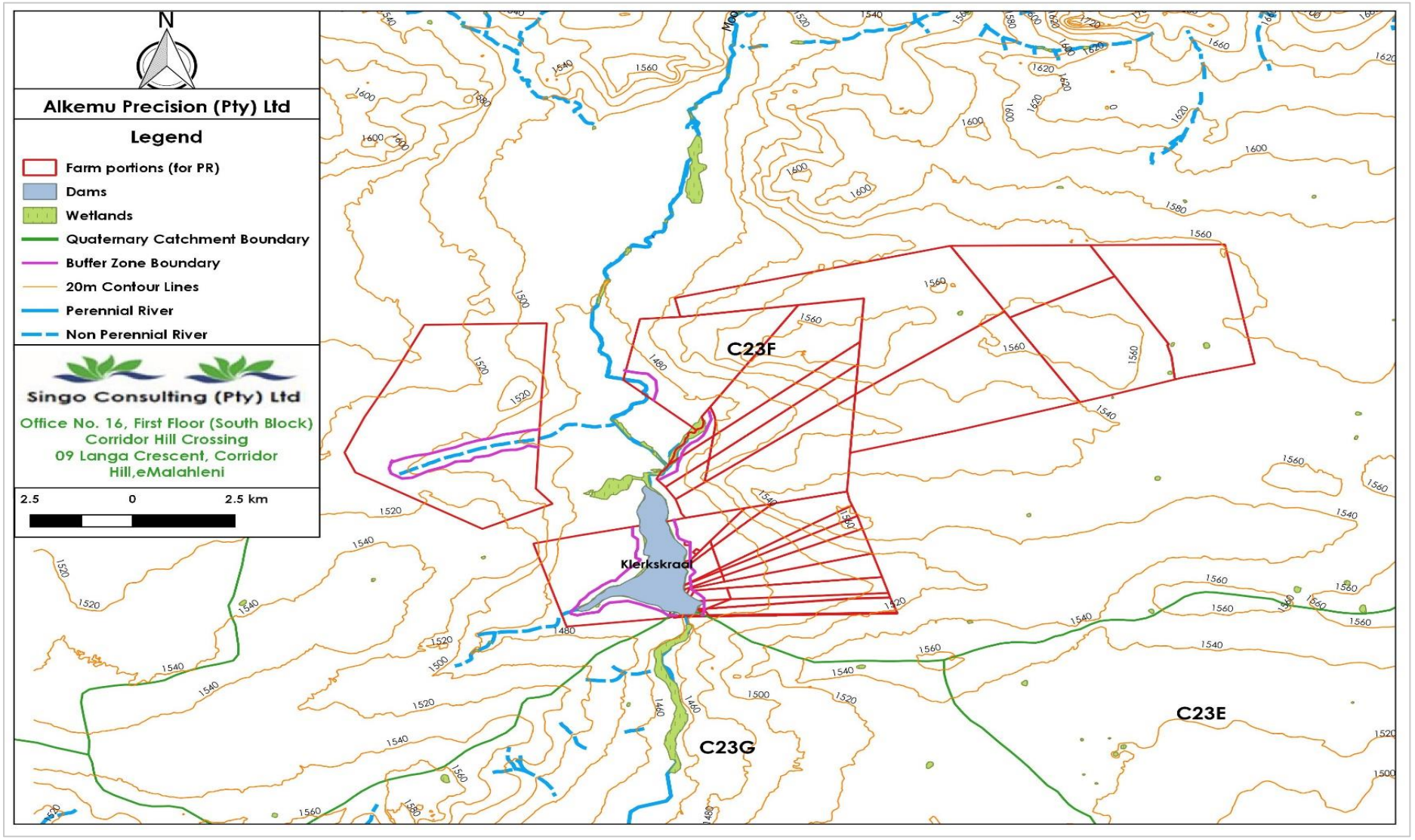


Figure 21: Wetlands, streams and buffer zones

Figure 22: Surface water for the project areas, photo taken by Hydrologist Mr Anthony Singo.

3.1.7 Critical Biodiversity Area

3.1.8 CONSERVATION ASSESSMENT PLAN FOR THE STUDY SITES

Based on the Biodiversity conservation plan (2013) the study sites fall within the following Conservation Areas categories:

- Other Natural Areas: - These areas are natural and intact but are not required to meet targets or identified as CBA or ESA areas. However, no management objectives, land management recommendations or land-use guidelines are prescribed. These areas are nevertheless subject to all applicable town and regional planning guidelines and policy. Where possible existing "Not Natural areas" should be favoured for development before "Other natural areas". These areas may later be required either due to the identification of previously unknown important biodiversity features, or alternatively where the loss of CBA has resulted in the need to identify alternative sites; and
- No Natural Area Remaining: - Areas with no significant direct biodiversity value. Not Natural or degraded natural areas that are not required as ESA.

3.1.9 FAUNAL HABITAT ASSESSMENT

One of the farm portions of the proposed project sites offer Special Habitat Location to the faunal species occurring within the area.

3.1.10 FLORA HABITAT ASSESSMENT

With exception to Klerkskraal farm which has a river and wetland areas that support floral species of conservation importance, no other site was identified as an area for flora importance.

The specialist report conducted by Dr.P.J du Preez states the following: According to the North-West Province's Biodiversity Sector Plan (2015) small parts (natural veld) of the project site is situated in Critical Biodiversity Areas (CBA1 & 2) and Ecological Support Areas (ESA1 & 2). The rest of the site has been ploughed to produce maize. A few patches of natural savanna is still present on the property. Camel Thorns (Vachellia erioloba) occur in the patches.

According to SANBI's POSA species list a number of protected and Red Data species occur in the quarter degree squares. These species were listed in terms of the National Threatened species list, the National Forest Act (Act 84 of 1998) and the North-West Nature Conservation Ordinance (Act 12 of 1983). During the site assessment individuals of the protected Camel Thorn tree (*Vachellia erioloba*) were found on the property.

The Department of Rural, Environmental and Agriculture Development (READ) defines Critical Biodiversity Areas and Ecological Support Areas as follows:

Critical Biodiversity Areas (CBAs) are terrestrial and aquatic areas of the landscape that need to be maintained in a natural or near-natural state in order to ensure the continued existence and functioning of species and ecosystems and the delivery of ecosystem services. In other words, if these areas are not maintained in a natural or near-natural state then biodiversity targets cannot be met. Maintaining an area in a natural state can include a variety of biodiversity compatible land uses and resource uses.

Ecological Support Areas (ESAs) are terrestrial and aquatic areas that are not essential for meeting biodiversity representation targets (thresholds), but which nevertheless play an important role in supporting the ecological functioning of critical biodiversity areas and/or in delivering ecosystem services that support socio-economic development, such as water provision, flood mitigation or carbon sequestration. The degree or extent of restriction on land use and resource use in these areas may be lower than that recommended for CBAs.

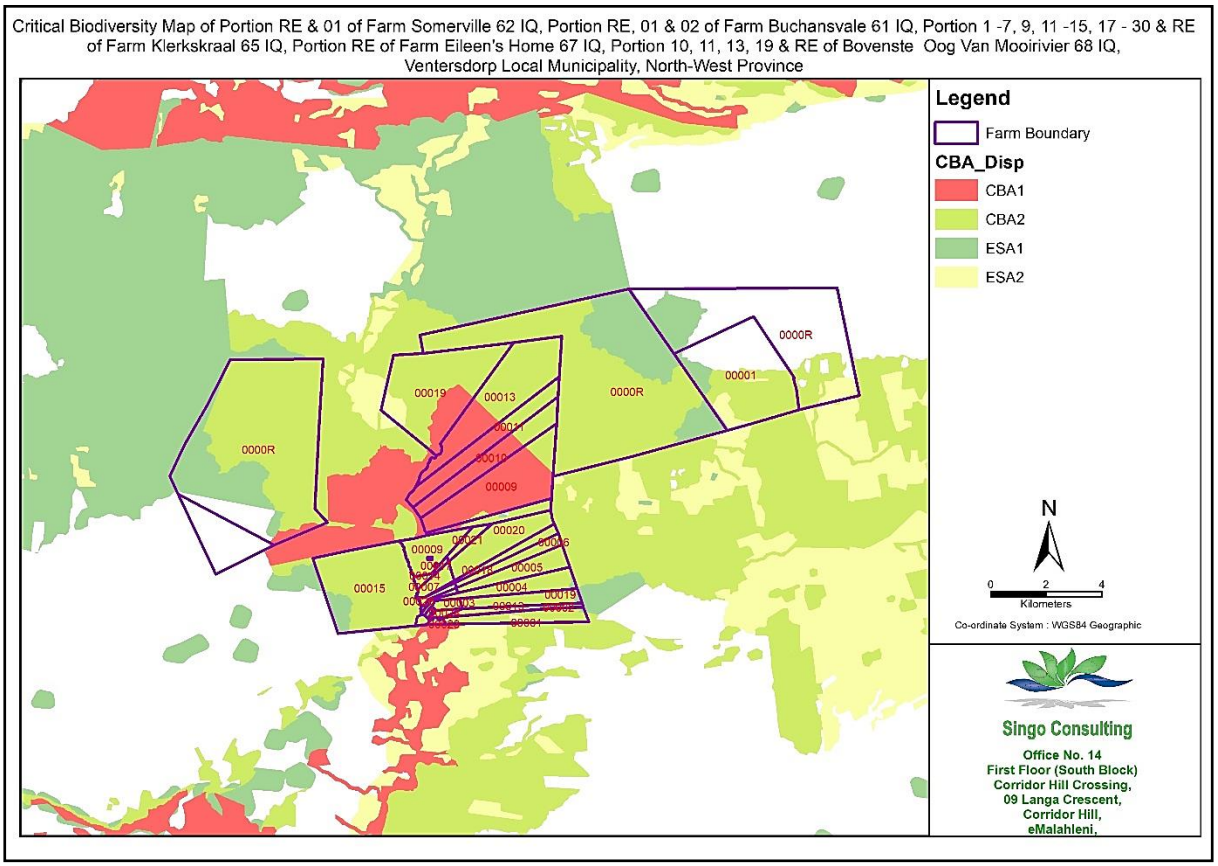


Figure 23: Critical Biodiversity Map for the proposed areas.

The impact on natural habitat types can never be completely ameliorated if development proceeds but can be minimized. Where natural habitat types are to be transformed, especially the woodland areas, consideration should be given to the quality of the habitat based on the presence of micro-habitats and areas of high quality must be conserved.

Endangered plant and animal species should be identified and relocated to safe habitats.

Protected vegetation within the vicinity should be identified, demarcated and marked. The content of the tags should include the protection status, common name of the tree, and a warning not to cut, disturb or damage the tree. Therefore, plants or trees should not be removed, damaged or destroyed further without authorization by the relevant authorities or person(s).

All unattended trenches should be demarcated and fenced off to minimise the potential injury to humans and animals.

A programme to manage alien invasive species should be developed and implemented. The monitoring programme should be part of the operational EMP.

Intentional killing of invertebrates and herpetofauna should be avoided by means of awareness programmes presented to the labour force. The labour force should be made aware of the conservation issues pertaining to the taxa occurring on the study site.

All activities must be limited to daylight hours.

Activities and associated vehicles and machinery should take cognizance of the weather conditions, the prevailing wind direction and vehicles and machinery should adhere to speed limits and be restricted to established haul road network. Schedule of spraying water (with a suitable dust suppression agent) with a dump truck on dust prone portions of the working area should be implemented.

All medicinal species (from affected vegetation units) must be removed with the necessary permits and established in a nursery. After construction, the species must be re-planted during the rehabilitation phase. A management plan (to be compiled by the ECO) should be implemented to ensure proper establishment of ex situ individuals and should include a monitoring programme for at least two years after re-establishment (to ensure successful translocation).

Rehabilitation should consist of indigenous species only, and preferably of species native to the study site and immediate surroundings. The species selected should strive to represent habitat types typical of the ecological landscape prior to construction. Rehabilitation should strive to increase spatial habitat heterogeneity. A monitoring programme should be implemented to evaluate the success of rehabilitation and to take necessary action if required.

3.1.11 Heritage resources

Heritage resources such as Stone Age sites, rock paintings and engravings; stone tools; small, inconspicuous stone walled sites from the Late Iron Age farming communities; formal and informal graveyards, etc may occur in the study area.

No heritage sites or artefacts were discovered within or near the prospecting area during site assessment. However, should any heritage resources of significance be exposed during the construction or rather operational phase of the project, the South African Heritage Resources Agency (SAHRA) should be notified immediately, all development activities should be stopped, and an archaeologist accredited with the Association for Southern African Professional Archaeologist (ASAPA) should be notified to determine appropriate mitigation measures for the discovered finds. This may include obtaining the necessary authorisation (permits) from SAHRA to conduct the required mitigation measures.

3.1.11.1 Socio-economic environment

Ventersdorp is a town of 4,200 in Dr Kenneth Kaunda District Municipality, North West Province. It is the seat of Ventersdorp Local Municipality. Ventersdorp Local Municipality was disestablished and merged with Tlokwe City Council Local Municipality to establish JB Marks Local Municipalit on 03 August 2016.

JB Marks Local Municipality is a Category B Municipality situated within the Dr Kenneth Kaunda District in the North West Province. It is the largest municipality of three in the district, making up almost half its geographical area.

The N12 route that connects Johannesburg and Cape Town via the city of Kimberley runs through the municipality. The main railway route from Gauteng to the Northern and Western Cape also runs through one of the municipality's main cities, Potchefstroom. The City is 145km south-east of OR Tambo International Airport but has its own airfield, which can accommodate bigger aircraft and was formerly a military air base.

Gold mining is the dominant economic activity in the district, with Potchefstroom and Ventersdorp being the only exceptions. While Ventersdorp to the north-west of Potchefstroom focuses on agricultural activity, Potchefstroom's economic activity is driven by services and manufacturing.

Population size and growth

According to the Ventersdorp Local Municipality IDP (2015/16), with reference to Statistics SA the population in Ventersdorp is fairly low with approximately 57 702 people and a growth rate of 2.7 % per annum. The majority of the above population estimates fall within the working age group, which is (15 to 64 years).

Economy

Most of the economy with the area is driven by the agricultural sector, which contributes about 49 % of the total economy within the municipality. The remaining 51% falls within 20 % manufacturing and community services contributing 14 %. The unemployment rate as per the census 2011 for the municipality is sitting at 27%. One of the sectors within the municipality with potential to grow has been identified as the tourism industry and this is mainly influenced by the historical background of the municipality.

Health

The Venterdorp Local Municipality IDP 2015/16 indicates that there is 1 hospital and 5 clinics within the municipality, which further results in a demand for facilities to ensure that the local communities have access to adequate health facilities.

3.2 Description of the current land uses

The determination of the existing site-specific and surrounding land use provides input into the process of impact identification and the establishment of closure objectives. Site-specific land use has been confirmed as agricultural activities and prospecting activities may present a disturbance to the crops within the fenced property. Rehabilitation objectives to restore the site to pre-prospecting state must consider safety matters and an effective re-vegetation effort to reverse the impacts as far as is practicable.

Due to the level terrain, water-related soil erosion is not a major factor. Game lodge business is prominent in the area.

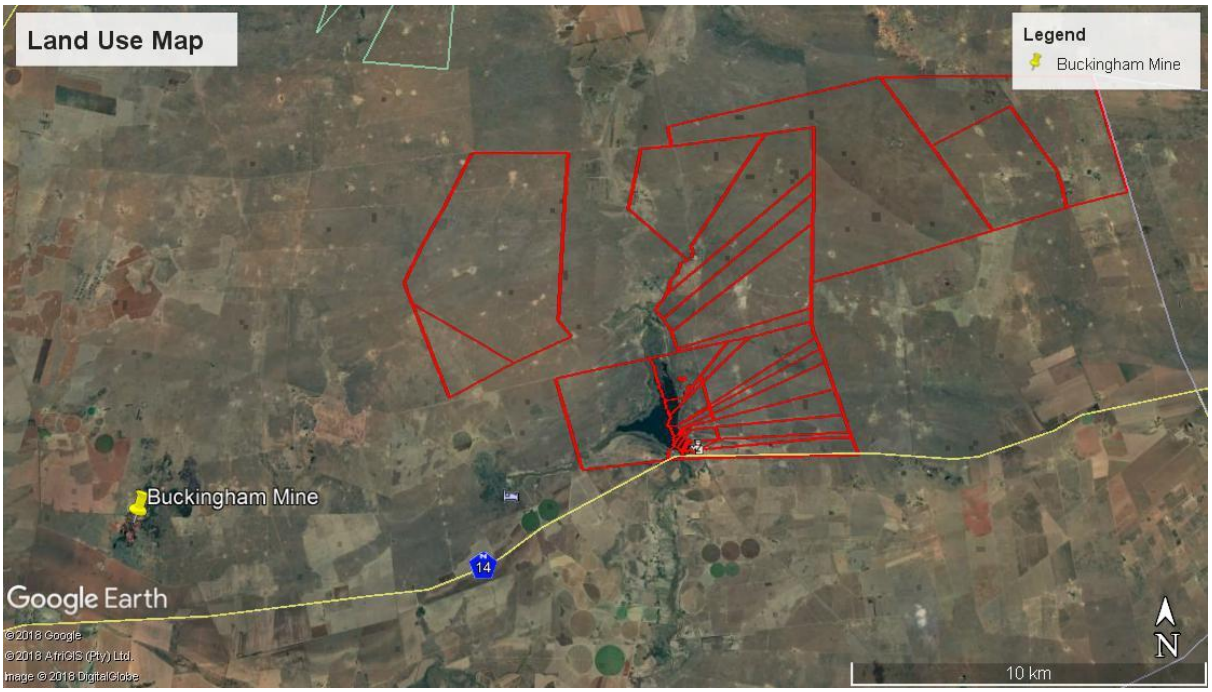
3.3 Description of environmental features and infrastructure on the site

A number of water courses have been identified within the boundaries of the proposed prospecting site. These should be avoided and, where avoidance is not possible, impacts must be appropriately managed and remedied. Based on the outcomes of the initial prospecting phases (non-site disturbing activities), the location of any on-site drilling will be determined (site disturbing activities) and the impacts on the identified water courses will subsequently be determined. The Basic Assessment and Environmental Management Plan must be amended to include direct and indirect impacts on any water courses in the event that any prospecting activities are undertaken within such areas or within 500 m of any water course.

3.4 Environmental and current land use map

(Show all environmental, and current land use features)

Please refer to topography and water resources and vegetation types, indicating the environmental and land use features associated with the proposed prospecting area.



Most of the area is currently used for agricultural activities e.g. crop farming, and in some parts of the area is mining activities.

3.5 Impacts and risks identified, including nature, significance, consequence, extent, duration and probability of the impacts, and the degree to which these impacts can be reversed

Provide a list of the potential impacts identified of the activities described in the initial site layout that will be undertaken, as informed by both the typical known impacts of such activities, and as informed by the consultations with affected parties together with the significance, probability, and duration of the impacts. Please indicate the extent to which they can be reversed, the extent to which they may cause irreplaceable loss of resources, and can be avoided, managed or mitigated.

The following table illustrates the potential impacts associated with each activity.

Table 7: Potential impacts per activity and listed activities

Phase		Activities	Potential impacts	Reversible	Irreplaceable damage	Can impact be avoided
Phase 1: Data acquisition and desktop study						
Data acquisition	N/A	Data collection and assessment (desktop only)	1. None identified.	N/A	N/A	N/A
Desktop study	N/A	Data assessment	2. None identified.	N/A	N/A	N/A
Phase 2: Drilling						
	Construction	Site access	3. Destruction and / or disturbance of on-site fauna and flora.	Partial	No	Yes
			4. Soil compaction resulting from repeated use of access roads to drill sites.	Yes	No	No
			5. Vehicle traffic noise impact affecting cattle and / or wildlife.	Yes	No	No
			6. Poor access control resulting in impacts on cattle movement, breeding and grazing practices.	Yes	No	Yes
			7. Potential destruction of heritage resources.	No	Yes	Yes
		Site establishment activities including: • Vegetation clearing of drill pad area	8. Destruction and / or disturbance of on-site fauna and flora.	Partial	No	Yes
			9. Soil disturbance and compaction and topsoil stockpiling resulting in soil erosion.	Yes	Partial	No
			10. Dust emission resulting from site	Yes	No	Yes

Phase		Activities	Potential impacts	Reversible	Irreplaceable damage	Can impact be avoided
		• Topsoil stripping and stockpiling • Drill pad compaction • Excavation and lining of drill water sump • Erection of temporary site office shaded area, potable ablution faculties and water storage tanks and core bay • Erection of fuel storage tank • Erection of safety barrier • Waste generation and management	clearing, soil stripping and construction activities (including vehicle entrained dust).			
			11. Visual impact affecting visual character and "sense of place".	Yes	No	Partial
			12. Influx of persons (job seekers) to site as a result of increased activity resulting in increased incidents of theft and opportunistic crime.	Yes	No	Partial
			13. Potential destruction of heritage resources.	No	Yes	Yes
	Operation	Exploration drilling and core sample collection and storage including: • Scout and delineation • drilling	14. Water and soil pollution resulting from disposal of drill fluids.	Yes	Partial	Yes
			15. Continued soil erosion from topsoil stockpile and compaction from drill pad platform.	Yes	No	Yes
			16. Potential water and soil pollution resulting from hydrocarbon spills and	Yes	Partial	Yes

Phase		Activities	Potential impacts	Reversible	Irreplaceable damage	Can impact be avoided
		• Drill maintenance and re-fuelling • Core sample collection and storage • Drill fluid collection, storage and evaporation • Waste generation and management	drill maintenance activities.			
			17. Dust emissions from drilling and general site activities (including vehicle entrained dust).	Yes	No	Yes
			18. Visual Impact affecting visual character and "sense of place".	Yes	No	Partial
			19. Vehicle traffic and drill noise impact affecting wildlife game farm animals.	Yes	No	Partial
			20. Poor access control resulting in impacts on cattle movement, breeding and grazing practices.	No	No	Yes
			21. Influx of persons (job seekers) to site as a result of increased activity resulting in increased incidents of theft and opportunistic crime.	Yes	No	Partial
			22. Impact on the pans and associated ecosystems in the area.	No	Yes	Yes
	Decommissioning	Removal of temporary infrastructure, including office shaded area, potable ablution faculties, water storage tanks and core bay. Borehole capping Drill pad rehabilitation, including:	23. Dust emissions from decommissioning activities (including vehicle entrained dust).	Yes	No	Yes
			24. Poor access control resulting in impacts on cattle movement, breeding and grazing practices.	No	No	Yes
			25. Potential water and soil pollution resulting from hydrocarbon spills.	Yes	Partial	Yes

Phase		Activities	Potential impacts	Reversible	Irreplaceable damage	Can impact be avoided
		• Ripping of drill pad and access road • Re-spreading of stockpiled topsoil • Re-vegetation	26. Soil erosion resulting from the re-spreading of topsoil before vegetation is reestablished.	Yes	No	Yes

3.6 Methodology used in determining and ranking the nature, significance, consequences, extent, duration and probability of potential environmental impacts and risks

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

3.6.1 Criteria of assigning significance to potential impacts

Impact evaluation is conducted in terms of the criteria detailed in Table 09 to Table 13. The various environmental impacts and benefits of this project are discussed in terms of impact status, extent, duration, probability, and intensity. Impact significance is regarded as the sum of the impact extent, duration, probability and intensity and a numerical rating system has been applied to evaluate impact significance. As such, an impact magnitude and significance rating is applied to rate each identified impact in terms of its overall magnitude and significance.

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 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.

3.6.2 Impact status

The nature or status of the impact is determined by the environmental conditions 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 8: 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

3.6.3 Impact extent

The extent of an impact is determined by assessing its effect on a wide area or group of people. It can be site-specific (within the boundaries of the development area), local, regional or national and/or international.

Table 9: Extent of impact

Rating	Description	Quantitative rating
Low	Site-specific: Occurs within the site boundary.	1
Medium	Local: Extends beyond the site boundary. Affects the immediate surrounding environment (i.e. up to 5 km from the project site boundary).	2
High	Regional: Extends far beyond the site boundary, widespread effect (i.e. 5 km and more from the project site boundary).	3
Very high	National and/or international, extends far beyond the site boundary, widespread effect.	4

3.6.4 Impact duration

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

Table 10: Impact duration

Rating	Description	Quantitative rating
Low	Short term: Quickly reversible, less than 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

3.6.5 Impact probability

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

Table 11: Impact probability

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 in cumulative impacts	5

3.6.6 Impact intensity

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

Table 12: Impact intensity

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 but 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 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 but 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

3.6.7 Impact significance

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

Table 13: 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. Alternative 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

3.7 Positive and negative impacts of the proposed activity (initial site layout) and alternatives on the environment and community that may be affected

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

Now there is no alternative layout. Should we receive comments that warrant changing site layout, Alkemu Precision (Pty) Ltd will implement changes to ensure that no one is negatively affected.

The invasive activities that entail the drilling of at least five exploration holes will have a minimal environmental and social impact as the drill site will be confined to an area of approximately 0.45 Ha (4 500m2) of the 16727.3506 hectares (Ha) sized property. This needs to be viewed in the context of the entire prospecting license area under application which covers, and it needs to be kept in mind that of the identified impacts will occur for a limited time and the extent of the impacts will be localized. All the identified impacts can be suitably mitigated with the residual impact ratings being of low significance. After drilling activities have been completed and the drill pads rehabilitated to predrilling status, the impacts will cease to exist.

3.7.1 Potential impact on heritage resources

Fieldwork in assistance with the landowners has indicated that no graves; this was to support the desktop investigations. Even if there were some graves unnoticed, there is no potential for the presence of stone kraals are also likely based on the past studies in the surrounding areas. It is anticipated that these features might not have heritage and/or archaeological value.

Potential heritage impact will only occur once drill sites have been identified and on-site activities commences. As such, it is recommended that the Heritage Impact Assessment only be undertaken prior to these planned activities. The Heritage Impact Assessment will be conducted over identified localised drill sites to identify any cultural, heritage and or archaeological features which it may impact. The fact that the prospecting activities will be undertaken in a phased approach will allow the prospecting team to demarcate areas of cultural and/or heritage significance (such as graves and stone kraals). With the early identification of these, the impact on them will be avoided.

3.7.2 Potential impacts on communities, individuals or competing land uses in close proximity

The following impacts are regarded as community impacts:

- Potential water and soil pollution resulting from chemical spills and soil erosion
- Noise due to the undertaking drilling machines

- Poor access control resulting in impacts on cattle movement, breeding and grazing practices
- Influx of persons (job seekers) to site as a result of increased activity and the possible resultant increase in opportunistic crime
- Visual Impact

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

3.7.3 Water quality and availability

There is one major dam (Klerkskraal Dam) and a river (Mooirivier) within the proposed sites. Possible pollution sources include stockpiled soil and all areas cleared of vegetation. The eroded soil particles may be carried by storm water to these rivers and the dam which will result in an increase in the Total Suspended Solids (TSS) and Total Dissolved Solids (TDS) of the water courses. The storage of dangerous goods, temporary ablution facilities and discharge of drill fluids may also lead to surface water pollution if not managed appropriately.

Limited quantities of dangerous goods (fuel, oil and lubricants) will be stored on site. The transportation, handling and storage of such materials may result in spills and further water quality impacts in the event of spills when carried by storm water to the water courses. This impact is considered a cumulative impact due to the potential contribution to water quality deterioration of the river systems if not managed appropriately.

3.7.4 Influx of persons resulting in increased crime rates

The potential impacts of an increase in crime rates associated with an influx of unemployed persons travelling to mine sites seeking employment, may occur.

3.7.5 Visual impact

The general characteristics of the site and the surrounding area are regarded to be that of "wilderness" and prospecting activities may result in localised visual impacts.

3.7.6 Positive impacts (Advantages)

While no significant short-term positive impacts are associated with the prospecting activities, in the event that a viable Gold, Manganese, Diamond or Iron Ore reserve is confirmed, and pending the outcome of a detailed social and environmental impact assessment process, positive socio-economic benefits must be investigated and optimised.

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

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

The following section provides a summary of the key management measures associated with the impacts identified in the previous section. The detailed rating and management plan is presented in Section J.

3.8.1 Measures to manage the potential impact on heritage resources

The fact that the prospecting activities will be undertaken in a phased approach will provide the opportunity to the prospecting team to demarcate areas of cultural and/or heritage significance (such as graves and stone kraals). With the early identification of these, negative impacts will be avoided. A Heritage Impact Assessment will be undertaken on each identified area where drilling activities are planned.

Prior to the establishment of new access roads, a Heritage Impact Assessment must be undertaken and mitigation and/or management measures for the protection of such resources must be implemented. Should any unknown heritage sites be identified during the drilling activities, all activities will cease immediately and the SAHRA will be contacted and an appropriate Heritage Impact Assessment will be undertaken on the site identified.

3.8.2 Measures to manage impacts on communities, individuals or competing land uses in close proximity

- Pollution prevention
    - Mitigation and management measures must be implemented to prevent environmental pollution which may impact environmental resources utilised by communities, landowners and other stakeholders. These mitigation and management measures are discussed in the following section.
- Noise due to drilling and prospecting activities
    - Directly affected, adjacent landowners and game farms in proximity to the site will be informed of the planned drilling and a grievance mechanism will be made available.
    - Site activities will be conducted during daytime hours 07h00–17h00 to avoid night time noise disturbances and collisions with fauna.
- Poor access control resulting in impacts on cattle movement, breeding and grazing practices

- Access control procedures must be agreed on with farm owners and all staff trained on these procedures.

- Influx of persons (job seekers) to site as a result of increased activity and the possible resultant increase in opportunistic crime
  - Casual labour will not be recruited at the site, to eliminate the incentive for persons travelling to site seeking employment.
  - The landowners (all private and state land owners) will be notified of unauthorised persons encountered on site.
  - If deemed necessary, the South African Police Service will be informed of unauthorised persons encountered on site.

- Visual impact
  - Based on visual observation, wet dust suppression will be undertaken to manage dust emissions from vehicle movement and other construction activities when needed. Depending on the need and quantity of water used for wet suppression, a suitable, low environmental impact chemical suppression alternative must be considered to conserve water resources.
  - The portable ablution facilities, vertical water tanks and any other infrastructure should be acquired with a consideration for colour. Natural earth, green and matte black options, which will blend in with the surrounding area, must be favoured.
  - A waste management system will be implemented and sufficient waste bins will be provided on-site. A fine system will be implemented to further prohibit littering and poor housekeeping practices.
  - Prospecting will be undertaken by specialist sub-contractors and it is not anticipated that employment opportunities for local and/or regional communities will result from the prospecting activities.

3.8.3 Measures to manage the potential impact on water quality and availability

Potential water and soil pollution impacts resulting from hydrocarbon spills and soil erosion will be mitigated and managed as follows:

- Existing tracks and roads must be used as far as possible to minimise the potential for soil erosion. Where access to drill sites must be established, and if required, raised blade clearing will be undertaken with a view to maintain vegetation cover to limit soil erosion potential.

- Soil disturbances are to be limited as far as is practicable to minimise the potential for soil erosion.

- When establishing the drill pad, topsoil including the remaining vegetation, will be stripped and stockpiled up-slope of the pad. The stockpile will be shaped to divert stormwater around the drill pad to minimise soil erosion of the pad. Stockpiled topsoil will be used during rehabilitation efforts.
- Where practicable topsoil will be stripped to a depth of 10 cm.
- Topsoil will be stockpiled to a maximum height of 1.5m with a side slope of not more than 1:3.
- Mechanical erosion control methods will be implemented if required. This may include the use of geotextiles to stabilise slopes.
- To reduce the potential for water pollution during the drilling activities, a sump will be constructed with sufficient capacity to receive drill fluids and allow for evaporation.
- The sump will be constructed to divert storm water away from and/or around the sump to avoid clean storm water inflow.
- Oils and lubricant will be stored in secondary containment structures.
- Where possible, vehicle maintenance will be undertaken off-site.
- In the event that vehicle maintenance is undertaken on-site (i.e. such as breakdown maintenance), drip trays and/or UPVC sheets will be used to prevent spills and leaks onto the soil.
- A waste management system will be implemented and sufficient waste bins will be provided for onsite. A fines system will be implemented to further prohibit littering and poor housekeeping practices.
- Waste separation will be undertaken at source and separate receptacles will be provided (i.e. general waste, recyclables and hazardous waste).
- Receptacles will be closed (i.e. fitted with a lockable lid) to eliminate the possibility of access by animals overnight.
- Waste will be removed and disposed of at an appropriately licensed landfill (facility disposal licenses will be verified) and recyclables will be taken to a licensed recycling facility.
- Drill holes must be temporarily plugged immediately after drilling is completed and remain plugged until they are permanently plugged below ground to eliminate the risk posed to fauna by open drill holes.
- Drill holes must be permanently capped as soon as possible.

3.9 Motivation where no alternative sites were considered

The proposed prospecting area is targeted as, historically, several gold occurrences are known in the area, and number of these have been exploited for gold in the past. The site is therefore regarded as the preferred site and alternative sites are not considered.

3.10 Statement motivating the alternative development location in the overall site

Provide a statement motivating the final site layout that is proposed.

As is clear from the information provided, each of the phases is dependent on the results of the preceding phase. The location and extent of possible drilling will be determined based on information derived from the desktop study. Drill sites will be selected to avoid known heritage features and water courses where practicable.

3.11 Full description of the process undertaken to identify, assess and rank the impacts and risks the activity will impose on the preferred site (in respect of the final site layout plan) through the life of the activity

Including (i) a description of all environmental issues and risks that where identified during the environmental impact assessment process and (ii) an assessment of the significance of each issue and risk and an indication of the extent to which the issue and risk could be avoided or addressed by the adoption of mitigation measures.

In order to identify the potential impacts associated with the proposed prospecting activities, the following steps were undertaken:

The stakeholder consultation process is currently being conducted in an interactive manner, providing landowners and identified stakeholders with the opportunity to provide input into the project. This is a key focus, as the local residents can provide site-specific information, which may not be available in desktop research material. Stakeholders are requested (as part of the BID) to provide their views on the project and any potential concerns they may have. All comments and concerns will be captured and included in the impact assessment.

A detailed desktop investigation was undertaken to determine the environmental setting in which the project is located. Based on the desktop investigations, various resources were used to determine the significance and sensitivity of the various environmental considerations. The desktop investigation involved the use of:

- South African National Biodiversity Institute (SANBI) Biodiversity Geographic Database LUDS system
- GIS base maps
- DWA information documents like the ISP and Groundwater Vulnerability Reports

- Municipal Integrated Development Plan
- Municipal Strategic Development Framework

3.12 Assessment of each identified potentially significant impact and risk

This section of the report must consider all the known typical impacts of each of the activities (including those that could or should have been identified by knowledgeable persons) and not only those that were raised by registered interested and affected parties.

Table 14: Impact assessment and management type

NAME OF ACTIVITY E.g. for prospecting - drill site, site camp, ablution facility, accommodation, equipment storage, sample storage, site office and access route.	**POTENTIAL IMPACT** Including the potential impacts for cumulative impacts, e.g. dust, noise, drainage, surface disturbance, fly rock and surface water contamination.	**ASPECTS AFFECTED**	**PHASE** In which impact is anticipated, e.g. construction, commissioning, operational decommissioning, closure, post-closure.	**Significance if not mitigated**	**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 and alternative activity.	**Significance if mitigated**
Phase 1: Data acquisition and desktop study						
Data collection and assessment (desktop only)	1. None identified.	N/A	Planning	N/A	1. No mitigation proposed	N/A
Data Assessment	2. None identified.	N/A	Planning	N/A	2. No mitigation proposed	N/A
Phase 2: Data acquisition and desktop study						
Site access	3. Destruction and/or disturbance of onsite fauna and flora.	Loss of fauna and flora	Construction phase	10	3. Map indicating the location of each of the drilling sites must be submitted to the relevant landowners, as well as to the DMR and DWS. Upon agreement of the location of the activities can the applicant proceed. 4. Use existing track and roads in all instances as far as is practicable.	6

NAME OF ACTIVITY E.g. for prospecting - drill site, site camp, ablution facility, accommodation, equipment storage, sample storage, site office and access route.	**POTENTIAL IMPACT** Including the potential impacts for cumulative impacts, e.g. dust, noise, drainage, surface disturbance, fly rock and surface water contamination.	**ASPECTS AFFECTED**	**PHASE** In which impact is anticipated, e.g. construction, commissioning, operational decommissioning, closure, post-closure.	**Significance if not mitigated**	**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 and alternative activity.	**Significance if mitigated**
					5. Where track clearing is necessary, raised blade clearing will be conducted to minimize disturbance and aid rehabilitation efforts and significant vegetation such as trees and large shrubs will be avoided. 6. Site activities will be conducted during daytime hours 07h00 – 17h00 to avoid night time noise disturbances and night time collisions with fauna. 7. Vehicle speed will be reduced, particularly in highly vegetated areas is one way to avoid deaths by vehicle impacts.	
	4. Soil compaction resulting from repeated use of access roads to drill sites.	Loss of soil resources	Construction phase	8	8. Where track clearing is necessary, raised blade clearing be conducted to minimize disturbance and aid rehabilitation efforts. 9. As part of rehabilitation, all compacted roads and drill pads will be ripped and re-vegetated.	5
	5. Vehicle traffic noise impact affecting cattle and / or wildlife.	Loss of fauna	Construction phase	6	10. Site activities will be conducted during daytime hours 07h00 – 17h30 to avoid night time noise disturbances.	4

NAME OF ACTIVITY E.g. for prospecting - drill site, site camp, ablution facility, accommodation, equipment storage, sample storage, site office and access route.	**POTENTIAL IMPACT** Including the potential impacts for cumulative impacts, e.g. dust, noise, drainage, surface disturbance, fly rock and surface water contamination.	**ASPECTS AFFECTED**	**PHASE** In which impact is anticipated, e.g. construction, commissioning, operational decommissioning, closure, post-closure.	**Significance if not mitigated**	**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 and alternative activity.	**Significance if mitigated**
	6. Poor access control resulting in impacts on cattle movement, breeding and grazing practices.	Loss of fauna	Construction phase	10	11. Access control procedures must be agreed on with farm owners and staff trained.	8
	7. Potential destruction of heritage resources.	Loss of Cultural and/or Heritage Significance	Construction phase	12. Prior to the establishment of new access roads, a heritage impact assessment must be undertaken and mitigation and / or management measure for the protection of such resources must be implemented		
Site establishment activities including: • Vegetation clearing of drill pad area • Topsoil stripping and stockpiling • Drill pad compaction • Excavation and lining of drill water sump • Erection of temporary site office shaded area, potable ablution	8. Destruction and / or disturbance of onsite fauna and flora.	Loss of Fauna and Flora	Construction phase	10	13. The removal of vegetation within the drill pad area will be minimized. 14. If practicable, raised blade clearing be conducted for the entire drill pad to minimize disturbance and aid rehabilitation efforts. 15. The design of the drill fluid sump must incorporate effective fauna egress to avoid entrapment. 16. A fire emergency procedure will be developed to contain and minimize the destruction of flora and faunal habitat which may result from fire.	7

NAME OF ACTIVITY E.g. for prospecting - drill site, site camp, ablution facility, accommodation, equipment storage, sample storage, site office and access route.	**POTENTIAL IMPACT** Including the potential impacts for cumulative impacts, e.g. dust, noise, drainage, surface disturbance, fly rock and surface water contamination.	**ASPECTS AFFECTED**	**PHASE** In which impact is anticipated, e.g. construction, commissioning, operational decommissioning, closure, post-closure.	**Significance if not mitigated**	**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 and alternative activity.	**Significance if mitigated**
faculties and water storage tanks and core bay • Erection of fuel storage tank • Erection of safety barrier • Waste generation and management	9. Soil disturbance and topsoil stockpiling resulting in soil compaction and erosion.	Loss of soil resources	Construction phase	11	17. Topsoil including the remaining vegetation, will be stripped and stockpiled up-slope of the pad. The stockpile will be shaped to divert storm water around the drill pad to minimize soil erosion of the pad. 18. Where practicable topsoil will be stripped to a depth of 10cm. 19. Vegetation removed through lower blade clearing will be mixed with topsoil to increase organic content and to preserve the seed bank in order to aid rehabilitation efforts. 20. Topsoil will be stockpiles to a maximum height of 1.5m with a side slope of not more than 1:3. 21. Mechanical erosion control methods will be implemented if required. This may include the use of geotextiles to stabilize slopes.	7
	10. Dust emission resulting from site clearing, soil stripping and construction activities (including vehicle	Dust emissions	Construction phase	10	22. Based on visual observation, wet dust suppression will be undertaken to manage dust emissions from vehicle movement and other construction activities as and when needed.	6

NAME OF ACTIVITY E.g. for prospecting - drill site, site camp, ablution facility, accommodation, equipment storage, sample storage, site office and access route.	**POTENTIAL IMPACT** Including the potential impacts for cumulative impacts, e.g. dust, noise, drainage, surface disturbance, fly rock and surface water contamination.	**ASPECTS AFFECTED**	**PHASE** In which impact is anticipated, e.g. construction, commissioning, operational decommissioning, closure, post-closure.	**Significance if not mitigated**	**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 and alternative activity.	**Significance if mitigated**
	entrained dust).				23. Depending on the need and quantity of water used for wet suppression, a suitable, low environmental impact chemical suppression alternative must be considered in order to conserve water resources.	
	11. Visual Impact affecting visual character and "sense of place".	Loss in aesthetics	Construction phase	6	24. The shaded office area, portable ablution facilities, vertical water tanks and any other infrastructure should be acquired with a consideration for color. Natural earth, green and mat black options which will blend in with the surrounding area must be favored.	5
	12. Influx of persons (job seekers) to site as a result of increased activity resulting in increased incidents of theft and opportunistic crime.	Increase in petty crimes	Construction phase	8	25. Casual labour will not be recruited at the site to eliminate the incentive for persons travelling to site seeking employment. 26. The landowner (all private and state land owners) will be notified of unauthorized persons encountered on site. 27. If deemed necessary, the South African Police Service will be informed	7

NAME OF ACTIVITY E.g. for prospecting - drill site, site camp, ablution facility, accommodation, equipment storage, sample storage, site office and access route.	**POTENTIAL IMPACT** Including the potential impacts for cumulative impacts, e.g. dust, noise, drainage, surface disturbance, fly rock and surface water contamination.	**ASPECTS AFFECTED**	**PHASE** In which impact is anticipated, e.g. construction, commissioning, operational decommissioning, closure, post-closure.	**Significance if not mitigated**	**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 and alternative activity.	**Significance if mitigated**
					of unauthorized persons encountered on site.	
	13. Potential destruction of heritage resources.	Loss of Cultural and/or Heritage Significance	Construction phase	28. Prior to the site establishment, a heritage impact assessment must be undertaken and mitigation and / or management measure for the protection of such resources must be implemented		
Exploration drilling and core sample collection and storage including: • Scout and delineation drilling • Drill maintenance and re-fueling • Core sample collection and storage • Drill fluid collection, storage and evaporation • Waste generation and management	14. Water and soil pollution resulting from disposal of drill fluids.	Loss of water resources, loss of soil resources	Operational phase	12	29. A sump will be constructed with a sufficient capacity to receive drill fluids and allow for evaporation. 30. The sump will be constructed to divert stormwater away and / or around the sump to avoid clean stormwater inflow.	5
	15. Continued soil erosion from topsoil stockpile and soil compaction from drill pad platform.	Loss of soil resources	Operational phase	11	31. In the event that raise blade clearing is not undertaken, and the drill pad is cleared, topsoil will be stockpiles to a maximum height of 1.5m with a side slope of not more than 1:3. 32. The topsoil stockpile will be shaped to divert storm water around the drill pad to minimize soil erosion of the pad. 33. Management efforts through the	7

NAME OF ACTIVITY E.g. for prospecting - drill site, site camp, ablution facility, accommodation, equipment storage, sample storage, site office and access route.	**POTENTIAL IMPACT** Including the potential impacts for cumulative impacts, e.g. dust, noise, drainage, surface disturbance, fly rock and surface water contamination.	**ASPECTS AFFECTED**	**PHASE** In which impact is anticipated, e.g. construction, commissioning, operational decommissioning, closure, post-closure.	**Significance if not mitigated**	**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 and alternative activity.	**Significance if mitigated**
					use of mechanical erosion control methods will be implemented if required. This may include the use of geotextiles.	
	16. Potential water and soil pollution resulting from hydrocarbon spills and drill maintenance activities.	Loss of water resources, loss of soil resources	Operational phase	12	34. Fuel storage tanks will have a secondary containment structure with a capacity of 110% of the total tank capacity. 35. Oils and lubricant will be stored within secondary containment structures. 36. Where practicable, vehicle maintenance will be undertaken off-site. 37. In the event that vehicle maintenance is undertaken on-site (i.e. such as breakdown maintenance), drip trays and / or UPVC sheets will be used to prevent spills and leaks onto the soil. 38. Unused machinery must be completely drained of oil and other hydrocarbons to ensure that leaks do not develop. 39. Regular inspections of all vehicles must be carried out to ensure that all	5

NAME OF ACTIVITY E.g. for prospecting - drill site, site camp, ablution facility, accommodation, equipment storage, sample storage, site office and access route.	**POTENTIAL IMPACT** Including the potential impacts for cumulative impacts, e.g. dust, noise, drainage, surface disturbance, fly rock and surface water contamination.	**ASPECTS AFFECTED**	**PHASE** In which impact is anticipated, e.g. construction, commissioning, operational decommissioning, closure, post-closure.	**Significance if not mitigated**	**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 and alternative activity.	**Significance if mitigated**
					leaks are identified early and rectified. 40. A sufficient number of waste receptacles will be provided. 41. Waste separation will be undertaken at source and separate receptacles will be provided (i.e. general waste, recyclables and hazardous waste). 42. Receptacles will be closed (i.e. fitted with a lockable lid) to eliminate the possibility of access by animals overnight. 43. Wastes will be removed and disposed of at an appropriately licensed landfill (facility disposal licenses will be verified) and recyclables will be taken to a licensed recycling facility.	
	17. Dust emissions from drilling and general site activities (including vehicle entrained dust)	Increase in dust emissions	Operational phase	10	44. Based on visual observation wet dust suppression will be undertaken as and when required to manage dust emissions from vehicle movement. 45. Depending on the need and quantity of water used for wet suppression, chemical suppression	6

NAME OF ACTIVITY E.g. for prospecting - drill site, site camp, ablution facility, accommodation, equipment storage, sample storage, site office and access route.	**POTENTIAL IMPACT** Including the potential impacts for cumulative impacts, e.g. dust, noise, drainage, surface disturbance, fly rock and surface water contamination.	**ASPECTS AFFECTED**	**PHASE** In which impact is anticipated, e.g. construction, commissioning, operational decommissioning, closure, post-closure.	**Significance if not mitigated**	**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 and alternative activity.	**Significance if mitigated**
					alternatives must be considered in order to conserve water resources.	
	18. Visual Impact affecting visual character and "sense of place"	Loss in aesthetic value	Operational phase	6	46. Visual impact of structures will be mitigated through measures as included in Item 35. 47. Visual dust dispersion will be mitigated through measures as included in Item 33.	5
	19. Vehicle traffic and drill noise impact affecting wildlife game farm animals.	Loss of fauna	Operational phase	6	48. Site activities will be conducted during daytime hours 07h00 – 17h30 to avoid night time noise disturbances.	4
	20. Poor access control resulting in impacts on cattle movement, breeding and grazing practices.	Loss of cattle	Operational phase	10	49. Access control procedures must be agreed on with farm owners.	8
	21. Influx of persons (job seekers) to site as a result of increased activity resulting in increased incidents of theft and opportunistic crime.	Increase in petty crimes	Operational phase	8	50. Casual labour will not be recruited at the site to eliminate the incentive for persons travelling to site seeking employment. 51. The landowner (the Department of Rural Development and Land Reform) will be notified of unauthorised persons	7

NAME OF ACTIVITY E.g. for prospecting - drill site, site camp, ablution facility, accommodation, equipment storage, sample storage, site office and access route.	**POTENTIAL IMPACT** Including the potential impacts for cumulative impacts, e.g. dust, noise, drainage, surface disturbance, fly rock and surface water contamination.	**ASPECTS AFFECTED**	**PHASE** In which impact is anticipated, e.g. construction, commissioning, operational decommissioning, closure, post-closure.	**Significance if not mitigated**	**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 and alternative activity.	**Significance if mitigated**
					encountered on site. 52. If deemed necessary, the South African Police Service will be informed of unauthorized persons encountered on site.	
	22. Impact on the pans and associated ecosystems in the area.	Loss of sensitive environments, loss of fauna, loss of flora,	Operational phase	12	53. The prospecting areas must be clearly demarcated. 54. No prospecting activities may be undertaken within the pan areas. 55. All site plans must indicate the presence of pans.	5
Removal of temporary infrastructure including: • Removal of temporary site office shaded area, potable ablution faculties, water storage tanks and core bay • Borehole capping • Drill pad rehabilitation including: • Ripping of drill pad and access road	23. Destruction and/or disturbance of onsite fauna.	Loss of sensitive environments, loss of fauna, loss of flora	Decommissioning	10	56. Drill holes must be temporarily plugged immediately after drilling is completed and remain plugged until they are permanently plugged below ground to eliminate the risk posed to fauna by open drill holes. 57. Drill holes must be permanently capped as soon as is practicable	7
	24. Dust emissions from decommissioning activities (including vehicle entrained dust).	Increase in dust emissions	Decommissioning	9	58. Based on visual observation wet dust suppression will be undertaken to manage dust emissions from vehicle movement. 59. Depending on the need and	6

NAME OF ACTIVITY E.g. for prospecting - drill site, site camp, ablution facility, accommodation, equipment storage, sample storage, site office and access route.	**POTENTIAL IMPACT** Including the potential impacts for cumulative impacts, e.g. dust, noise, drainage, surface disturbance, fly rock and surface water contamination.	**ASPECTS AFFECTED**	**PHASE** In which impact is anticipated, e.g. construction, commissioning, operational decommissioning, closure, post-closure.	**Significance if not mitigated**	**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 and alternative activity.	**Significance if mitigated**
• Re-spreading of stockpiled topsoil • Re-vegetation					quantity of water used for wet suppression, chemical suppression alternatives must be considered in order to conserve water resources.	
	25. Poor access control resulting in impacts on cattle movement, breeding and grazing practices.	Loss of cattle	Decommissioning	10	60. Access control procedures must be agreed on with farm owners and all staff trained.	8
	26. Potential water and soil pollution resulting from hydrocarbon spills	Loss of water resources, loss of soil resources	Decommissioning	12	61. All fuel storage tanks will be emptied prior to removal. 62. Drill holes must be permanently capped as soon as is practicable to eliminate the risk of groundwater contamination. 63. Wastes will be removed and disposed of at an appropriately licensed landfill (facility disposal licenses will be verified) and recyclables will be taken to a licensed recycling facility.	7
	27. Soil erosion resulting from the re-spreading of topsoil before vegetation	Loss of soil resources	Decommissioning	11	64. Mechanical erosion control methods will be implemented if required. This may include the use of	7

NAME OF ACTIVITY E.g. for prospecting - drill site, site camp, ablution facility, accommodation, equipment storage, sample storage, site office and access route.	**POTENTIAL IMPACT** Including the potential impacts for cumulative impacts, e.g. dust, noise, drainage, surface disturbance, fly rock and surface water contamination.	**ASPECTS AFFECTED**	**PHASE** In which impact is anticipated, e.g. construction, commissioning, operational decommissioning, closure, post-closure.	**Significance if not mitigated**	**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 and alternative activity.	**Significance if mitigated**
	is re-established.				geotextiles. 65. Re-vegetation will be conducted through hand seeding exposed areas using indigenous grass species as determined by a suitably qualified ecologist. 66. Re-vegetation efforts will be monitored every second month for a period of six months after initial seeding. 67. An effective vegetation cover of 45% must be achieved. Re-seeding will be undertaken if this cover has not been achieved after six months.	

The supporting impact assessment conducted by the EAP must be attached as an appendix, marked Appendix F.

3.13 Summary of specialist reports

This summary must be completed if any specialist reports informed the impact assessment and final site layout process and must be in the following tabular form.

List of studies undertaken	**Recommendations of specialist reports**	**Specialist recommendations that have been included in the EIA report** (mark with an X where applicable)	**Reference to applicable section of report where specialist recommendations have been included**
Biodiversity Study	The impact on natural habitat types can never be completely ameliorated if development proceeds but can be minimized. Where natural habitat types are to be transformed, especially the woodland areas, consideration should be given to the quality of the habitat based on the presence of micro-habitats and areas of high quality must be conserved. Endangered plant and animal species should be identified and relocated to safe habitats. Protected vegetation within the vicinity should be identified, demarcated and marked. The content of the tags should include the protection status, common name of the tree, and a warning not to cut, disturb or damage the tree. Therefore, plants or trees should not be removed, damaged or destroyed further without authorization by the relevant authorities or person(s). All unattended trenches should be demarcated and fenced off to minimise the potential injury to humans and animals. A programme to manage alien invasive species should be developed and implemented. The	X	Founa and Flora Section

	monitoring programme should be part of the operational EMP. Intentional killing of invertebrates and herpetofauna should be avoided by means of awareness programmes presented to the labour force. The labour force should be made aware of the conservation issues pertaining to the taxa occurring on the study site. All activities must be limited to daylight hours. Activities and associated vehicles and machinery should take cognizance of the weather conditions, the prevailing wind direction and vehicles and machinery should adhere to speed limits and be restricted to established haul road network. Schedule of spraying water (with a suitable dust suppression agent) with a dump truck on dust prone portions of the working area should be implemented. All medicinal species (from affected vegetation units) must be removed with the necessary permits and established in a nursery. After construction, the species must be re-planted during the rehabilitation phase. A management plan (to be compiled by the ECO) should be implemented to ensure proper establishment of ex situ individuals and should include a monitoring programme for at least two years after re-establishment (to ensure successful translocation). Rehabilitation should consist of indigenous species only, and preferably of species native to		

	the study site and immediate surroundings. The species selected should strive to represent habitat types typical of the ecological landscape prior to construction. Rehabilitation should strive to increase spatial habitat heterogeneity. A monitoring programme should be implemented to evaluate the success of rehabilitation and to take necessary action if required.		

Attach copies of Specialist Reports as appendices (Y).

4 Environmental impact statement

4.1 Summary of the key findings of the environmental impact assessment

The proposed prospecting site is classified as non-arable land with a moderate to low grazing capacity with cattle and game farming being the predominant land use in the area. No land claims have been lodged against all the farm portions for which prospecting rights have been applied for, and an enquiry was submitted to the North West Department of Rural Development and Land Reform.

The protection of water quality and availability has been identified as key aspects of importance within the municipality and the general region. A high dependency on ground water resources has been identified and this will be confirmed during stakeholder consultation. According to the DWA's, Aquifer Vulnerability of South Africa Report, the area in which the project is located is considered to be associated with aquifers with the most vulnerability ratings.

There is one major dam river and a river, located within the boundaries of the proposed prospecting area. The identified water courses (including rivers, streams and pans) may be regarded as unique habitats which support regional ecological functioning.

The conservation status of the area is least threatened and only about 1% of the vegetation type has already been transformed. Graves were not identified within the prospecting area.

4.2 Final site map

Provide a map at an appropriate scale which superimposes the proposed overall activity and its associated structures and infrastructure on the environmental sensitivities of the preferred site indicating any areas that should be avoided, including buffers. Attach as Appendix H.

Please refer to Annexure H for the composite map.

4.3 Summary of positive and negative impacts and risks of proposed activity and identified alternatives

- Increased ambient noise levels resulting from drilling and increased traffic movement during all prospecting phases as well as drilling activities.
- Potential water and soil pollution impacts resulting from chemical (oil, diesel, hydraulic and drilling fluid) spills and soil erosion which may impact environmental resources utilised by landowners.
- Potential water and soil pollution impacts resulting from chemical (oil, diesel, hydraulic and drilling fluid) spills and soil erosion which may impact on ecosystem functioning.

- Increased vehicle activity within the area resulting in the possible destruction and disturbance of fauna and flora.
- Poor access control to farms which may impact on cattle movement, breeding and grazing practices.
- Influx of persons (job seekers) to site as a result of increased activity and the possible resultant increase in opportunistic crime.
- Potential visual impacts caused by drilling activities.
- Prospecting will be undertaken by specialist sub-contractors and it is not anticipated that employment opportunities for local and/or regional communities will result from the prospecting activities.

4.4 Proposed impact management objectives and impact management outcomes for inclusion in the EMPr

Based on the assessment and where applicable the recommendations from specialist reports, the recording of proposed impact management objectives, and the impact management outcomes for the development for inclusion in the EMPr as well as for inclusion as conditions of authorisation

The objectives of the EMPr will be to:

- Provide sufficient information to strategically plan the prospecting activities and avoid unnecessary social and environmental impacts.
- Provide sufficient information and guidance to plan prospecting activities in a manner that would reduce impacts (social and environmental) as far as possible.
- Ensure an approach that will provide the necessary confidence in terms of environmental compliance.
- Provide a management plan that is effective and practical for implementation.

Through the implementation of the proposed mitigation measures, it is anticipated that the identified social and environmental Impacts can be managed and mitigated effectively. Through the implementation of the mitigation and management measures, it is expected that:

- Noise impacts can be managed through consultation and the restriction of operating hours
- Soil and water pollution can be effectively managed through containment
- Ecological impact can be managed through the implementation of pollution prevention measures, minimising land clearing, restricting working hours (faunal disturbance) and rehabilitation
- Access control to farms can be managed through developing and ensuring compliance to appropriate access control procedures

- Risks associated with crime can be mitigated by avoiding recruitment activities on site, as well as monitoring and reporting.
- Visual impact can be minimised by giving consideration to drill site infrastructure placement and materials used.

4.5 Aspects for inclusion as conditions of authorisation

Any aspects which must be made conditions of the environmental authorisation.

The following conditions should be included into the Authorisation:

- A map detailing the drilling locations should be submitted to the relevant landowners and the DWS and DMR prior to the commencement of these activities
- No activities may be undertaken in the pans
- No activities, with the exception of the driving to fetch, may take place within 100m from any river

4.6 Description of any assumptions, uncertainties and knowledge gaps

Which relate to the assessment and mitigation measures proposed.

The following assumptions, uncertainties and gaps are applicable to this project. Due to significant time constraints allowed for the impact assessment, and at the time of compiling the draft Basic Assessment Report and EMP:

- The stakeholder consultation is not yet complete
- Not all landowners were consulted with in person
- Details from the DWS regarding Water Use Licensing requirements is not yet available
- Feedback from the SAHRA is not yet available
- Details regarding the presence and status of land claims are not available
- No Heritage Impact Assessment was undertaken
- No detailed site layout is available due to the nature of the prospecting activities. The study is therefore undertaken as a holistic assessment of the overall site.

4.7 Reasoned opinion as to whether the proposed activity should/should not be authorised

- It is the opinion of the EAP that the activity may be authorised
- The proposed prospecting area is targeted as, historically, Manganese, Diamond, Gold & Iron Ore occurrences are known in the area, and a number of these have been exploited for these minerals in the past.

- The site is therefore considered the preferred site and alternative sites are not considered.
- The option of not approving the activities will result in a significant loss to valuable information regarding the mineral status present on these properties. In addition, should economical reserves be present and the applicant does not have the opportunity to prospect, the opportunity to utilise these reserves for future phases will be lost.

4.8 Conditions that must be included in the authorisation

The following conditions should be included into the authorisation:

- A map detailing the drilling locations should be submitted to the relevant landowners and the DWS and DMR prior to the commencement of these activities
- No activities may be undertaken in the pans
- A Heritage Impact Assessment must be undertaken where roads will be cleared and where drilling sites will be established, prior to the commencement of these activities
- No activities, with the exception of the driving to fetch water, may take place within 100m from any river

4.9 Period for which the environmental authorisation is required

The Prospecting Right has been applied for a period of five years. The Environmental Authorisation should therefore allow for the five years of prospecting and one year for decommissioning and rehabilitation.

4.10 Undertaking

Confirm that the undertaking required to meet the requirements of this section is provided at the end of the EMPr and is applicable to both the Basic assessment report and the Environmental Management Programme report.

An undertaken by the EAP and the client is provided for in Section 2 of the EMP.

4.11 Financial provision

State the amount that is required to both manage and rehabilitate the environment in respect of rehabilitation.

A financial provision of approximately, R141 665 which includes rehabilitation activities has been made by Alkemu Precision (Pty) Ltd. A breakdown of these costs is presented in the table below. The applicant undertakes to provide financial provision through funding from the personal account. Please refer to Appendix E (Financial Capability Letter) for more details on the financial provision for the proposed activity.

CALCULATION OF THE QUANTUM

CALCULATION OF THE QUANTUM

NW 30/5/1/1/2/12466 PR

Applicant: Alkemu Precision (Pty) Ltd Ref No.:
Evaluator: Kenneth Singo Date: Feb-19

No.	Description	Unit	A Quantity	B Master Rate	C Multiplication factor	D Weighting factor 1	E=A*B*C*D Amount (Rands)
1	Dismantling of processing plant and related structures (including overland conveyors and powerlines)	m3	0	14,45	1	1	0
2 (A)	Demolition of steel buildings and structures	m2	0	202,63	1	1	0
2(B)	Demolition of reinforced concrete buildings and struct	m2	0	298,61	1	1	0
3	Rehabilitation of access roads	m2	0	36,26	1	1	0
4 (A)	Demolition and rehabilitation of electrified railway lines	m	0	351,93	1	1	0
4 (A)	Demolition and rehabilitation of non-electrified railway lines	m	0	191,96	1	1	0
5	Demolition of housing and/or administration facilities	m2	0	405,26	1	1	0
6	Opencast rehabilitation including final voids and ramps	ha	0	206254,16	1	1	0
7	Sealing of shafts adits and inclines	m3	0	108,78	1	1	0
8 (A)	Rehabilitation of overburden and spoils	ha	0	141626,44	1	1	0
8 (B)	Rehabilitation of processing waste deposits and evaporation ponds (non-polluting potential)	ha	0	176393,17	1	1	0
8 (C)	Rehabilitation of processing waste deposits and evaporation ponds (polluting potential)	ha	0	512329,37	1	1	0
9	Rehabilitation of subsided areas	ha	0	118590,81	1	1	0
10	General surface rehabilitation	ha	0,9	112192,03	1	1	100972,827
11	River diversions	ha	0	112192,03	1	1	0
12	Fencing	m	0	127,98	1	1	0
13	Water management	ha	0	42658,57	1	1	0
14	2 to 3 years of maintenance and aftercare	ha	0	14930,5	1	1	0
15 (A)	Specialist study	Sum	0	0	1	1	0
15 (B)	Specialist study	Sum	0	0	1	1	0
					Sub Total 1		100972,827

1	Preliminary and General	12116,73924	weighting factor 2	1	12116,73924
2	Contingencies	10097,2827			10097,2827
			Subtotal 2		123186,85
SIGN	Ndinannyi Kenneth Singo				
DATE	2019/02/12		VAT (15%)		18478,03
			Grand Total		141665

4.12 Explain how the aforesaid amount was derived

The following section details the methodologies adopted to calculate the quantities, associated rehabilitation (clean closure) rates and eventually the final (clean) closure cost estimate

The drilling contractor will be responsible for rehabilitating the drill pad once the drilling activities have been completed at each exploration hole. The responsible exploration geologist will confirm the quality of rehabilitation conducted by drilling contractor and sign it off. The financial guarantee was calculated using the DMR official financial quantum calculator. This information has been provided in the Prospecting Work Programme that was submitted to the DMR. Please refer to Appendix E for more details on the financial provision for the proposed activity.

4.12.1 Method of assessment

Singo Consulting (Pty) Ltd used the *Guideline Document for the Evaluation of Financial Provisions* published by the mining industry. Table 15 presents the step-by-step details on how the financial

provision was derived. For the purpose of determining the quantum for closures, it is assumed that the infrastructure will have no salvage value.

Table 15: DMR Financial Provision Methodology

Step	Description	DMR applicable table	Outcomes
1	Determine primary mineral and saleable mineral by-products	Table B.12	Mineral: Gold, Diamond, Manganese & Iron Ore
2	Determine Risk Class	Table B.12	Primary Risk Class: C (Small operation, no waste, no processing). Risk Class C is considered a low risk with a low probability of occurrence of the impact with a negligible consequence.
3	Determine the Area Sensitivity	Table B.4	Medium to High Sensitivity. The area is largely being disturbed by cattle farming, however the natural state is still present in good condition. The river systems in this area, although non-perennial is a tributary of the Harts River, which feeds the Vaal River. The landowners are in close proximity to the proposed prospecting activities, although the area is not densely inhabited, and no well-established communities are present. The land in question is used for cattle farming and therefore the local communities (in this case the farmers) drive the bulk of their income directly from the area. The area can be considered sensitive to further development past the prospecting application, should the prospecting activities prove that the area is economically viable for the purposes of a mining right application, which will compromise the existing economic activity.
4.1	Determine the level of information	N/A	Limited information is available and is based on desktop investigations and stakeholder consultation.
4.2	Determine the closure components	Table B.5	See Table 23 of this report.
4.3	Determine the unit rates for closure components	Table B.6	See Table 23 of this report. The multiplication factor for all components is 1.00.
4.4	Determine and apply the weighting factors	Table B.7 Table B.8	Weighting factor 1 (Nature of the terrain): 1 (generally flat terrain) Weighting factor 2 (Peri-urban, less than 150km from a developed urban area)): 1 .05(Rural/Urban).
4.5	Identify areas of disturbance	N/A	No areas of disturbance are considered in this assessment. The area in which the prospecting activities are planned is considered to be undisturbed.
4.6	Identify closure costs from specialist studies	Table B.9	Due to the fact that the operation in question is only a prospecting operation, no residual impacts should take place. During the Life of Prospecting and ongoing rehabilitation, the self-succession results should be assessed and monitored. If self-succession

Step	Description	DMR applicable table	Outcomes
			does not take place satisfactorily the client may be subjected to additional specialist investigations (ecological and pedology) to determine seeding and re-vegetation requirements.
4.7	Calculate Closure Costs	Table B.10	See the following section.

4.12.2 Quantity estimation

For the purpose of this assessment, Singo Consulting can confirm that the method adopted to obtain and compile the schedule of quantities is sound, correct, and provides detail that is required by the DMR. The information will allow for continued monitoring and updating of quantities and provides the ideal platform to manage and monitor the actual on-site rehabilitation measures and costs incurred.

4.12.3 Determination of rates

The method of determining the applicable rehabilitation rates is based on practical experience and information by third party contractors.

4.12.4 Financial provision

The financial provision required by the holder of the mining right must be determined by one or more of the following methods in order to achieve the total quantum of rehabilitation and remediation of environmental impacts and damage, as well as final closure:

- Approved dedicated trust fund
- Financial guarantee from a South African registered bank or any other approved financial institution
- Cash deposit to be deposited at the office of the Regional Manager
- Any other manner determined by the Minister

The client is required to annually assess the total quantum of environmental liability for the operation and ensure that financial provision is sufficient to cover the current liability (in the event of premature closure), as well as the end of life liability.

As per Government Legislature, the client is required to ensure full financial cover for the current liability at any point in the life of the operation. Pecuniary provision must be made for the shortfall between the existing trust fund balance and the premature closure or current environmental rehabilitation liability if applicable.

4.13 Confirm that this amount can be provided for from operating expenditure.

Confirm that the amount, is anticipated to be an operating cost and is provided for as such in the mining work programme, Financial and Technical Competence Report or PWP as the case may be.

The amount required to finance the prospecting activities amounts to R 1 795 000. Financing will be sourced from the capital expenditure, as planned by the company; this capital will come from the treasury of the company. The company's annual financial statement for 2017/2018 was also submitted to the DMR for confirmation that the company has funding available to implement the proposed project.

The current expenditure provided for in the PWP does not include the calculated financial provision as included in this Basic Assessment, as these values were not available at the time of the submission of the PWP. The provision for closure must be updated in the PWP prior to the decision by the DMR, should this decision be positive.

- **Cost estimate for the proposed prospecting**

ACTIVITY	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5
	Expenditure	Expenditure	Expenditure	Expenditure	Expenditure
PHASE 1 (12 months)					
Diamond drilling (incl rehab costs)	R 400 000				
Analytical cost	R 30 000				
Annual prospecting fees + application fee	R 800				
Other cost, Geohydrology, geochemical etc.	R 27 000				
Owner compensation	R 10 000				
Salary – Geology **					
PHASE 2 (12 months)					
Diamond drilling (incl rehab costs)		R 300 000			
Analytical cost		R 30 000			
Annual prospecting fees		R 800			
Other cost, Geohydrology, geochemical etc.		R 27 000			
Owner compensation		R 10 000			
Salary – Geology **					
PHASE 3 (12 months)					
Diamond drilling (incl rehab costs)			R 300 000		
Analytical cost			R 30 000		
Annual prospecting fees			R 800		
Owner compensation			R 10 000		
Salary – Geology **					
PHASE 4(12 months)					
Diamond drilling (incl rehab costs)				R100 000	
Analytical cost				R 30 000	
Annual prospecting fees				R 800	
Owner compensation				R 10 000	
Salary – Geology **					
PHASE 5(12 months)					
Diamond drilling (incl rehab costs)					R200 000
Analytical cost					R 30 000
Annual prospecting fees					R 800
Owner compensation					R 10 000
Salary – Geology **					R200 000
EIA and EMP for mining right application					R0
Pre-feasibility studies, investment decision					R0
Annual Total	R 467 800	R 367 800	R367 800	R150 800	R440 800
Total Budget	R1 795 000				

- ****R1000/Metre drilling rate; R7500/wash sample and Salaries will be paid as per invoice of geologist. Last two years are planned as retention and are based on the outcomes of the first three years. Estimated borehole depth is 100 M.**

4.14 Specific information required by the competent authority

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

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

Provide the results of Investigation, assessment, and evaluation of the impact of the mining, bulk sampling or alluvial diamond prospecting on any directly affected person including the landowner, lawful

occupier, or, where applicable, potential beneficiaries of any land restitution claim, attach the investigation report as an Appendix.

No specific report was generated for the purposes of the socio-economic conditions. All findings are presented hereafter:

4.14.1.1 Potential impacts on communities, individuals or competing land uses in close proximity

The following impacts are regarded as community impacts:

- Potential water and soil pollution resulting from spills and soil erosion
- Noise due to the undertaking of the drilling
- Poor access control resulting in impacts on cattle movement, breeding and grazing practices
- Influx of persons (job seekers) to site as a result of increased activity and the possible resultant increase in opportunistic crime
- Visual impact
- Prospecting will be undertaken by specialist sub-contractors and it is not anticipated that employment opportunities for local and/or regional communities will result from the prospecting activities

4.14.2 Measures to manage potential impacts on communities, individuals or competing land uses in close proximity

- Pollution prevention
    - Mitigation and management measures must be implemented to prevent environmental pollution which may impact environmental resources utilised by communities, landowners and other stakeholders. These mitigation and management measures are discussed in the following section.
- Noise due to the undertaking of the prospecting activities
    - Directly affected, adjacent landowners and game farms in proximity to the site will be informed of the planned dates of drilling. Mitigation alternatives are limited to timing of the drilling which may affect aspects such as hunting activities on game farms.
    - Farms owners must be consulted and informed of activities which may affect cattle being held in restricted holding pens, to prevent possible injury or damage as a result of animals being startled by the noise.

- Site activities will be conducted during daytime hours (07h00-17h00) to avoid night time noise disturbances and night time collisions with fauna.

- Poor access control resulting in impacts on cattle movement, breeding and grazing practices
  - Access control procedures must be agreed on with farm owners and all staff trained on these procedures.
- Influx of persons (job seekers) to site as a result of increased activity and the possible resultant increase in opportunistic crime
  - Casual labour will not be recruited at the site to eliminate the incentive for persons travelling to site seeking employment
  - The landowner (all private and state land owners) will be notified of unauthorised persons encountered on site
  - If deemed necessary, the South African Police Service will be informed of unauthorised persons encountered on site
- Visual impact
  - Based on visual observation, wet dust suppression will be undertaken to manage dust emissions from vehicle movement and other construction activities as needed. Depending on the need and quantity of water used for wet suppression, a suitable, low environmental impact chemical suppression alternative must be considered to conserve water resources.
  - The portable ablution facilities, vertical water tanks and any other infrastructure should be acquired with a consideration for colour. Natural earth, green and mat black options which will blend in with the surrounding area must be favoured.
  - A waste management system will be implemented and sufficient waste bins will be provided for on-site. A fine system will be implemented to further prohibit littering and poor housekeeping practices.
- Prospecting will be undertaken by specialist sub-contractors and it is not anticipated that employment opportunities for local and/or regional communities will result from the prospecting activities.

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

Provide the results of Investigation, assessment, and evaluation of the impact of the mining, bulk sampling or alluvial diamond prospecting on any national estate referred to in section 3(2) of the National Heritage Resources Act, 1999 (Act No. 25 of 1999) with the exception of the national estate contemplated in section 3(2)(i)(vi) and (vii) of that Act, attach the investigation report as Appendix 2.19.2 and confirm that the applicable mitigation is reflected in 2.5.3; 2.11.6.and 2.12.herein.

Prospecting will be undertaken in phases; the first phase being a desktop assessment, followed drilling. Based on the outcome of these activities, the desktop study and potential drill sites will be determined. Potential heritage impact will only occur once the desktop study has been used to identify sites for drilling.

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

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

Please refer to Appendix G for the motivation of not investigating for reasonable or feasible alternatives.

PART B: ENVIRONMENTAL MANAGEMENT PROGRAMME REPORT

6 Environmental management programme

6.1 Details of the EAP

Confirm that the requirement for the provision of the details and expertise of the EAP are already included in PART A, section 1(a) herein as required.

The requirement for the provision of the details and expertise of the EAP are included in PART A, section 1(a).

6.2 Description of the aspects of the activity

Confirm that the requirement to describe the aspects of the activity that are covered by the draft environmental management programme is already included in PART A, section (1)(h) herein as required.

The requirement to describe the aspects of the activity that are covered by the draft environmental management programme is already included in PART A, section (1)(h).

6.3 Composite map

Provide a map (Attached as an Appendix H) at an appropriate scale which superimposes the proposed activity, its associated structures, and infrastructure on the environmental sensitivities of the preferred site, indicating any areas that any areas that should be avoided, including buffers.

Please refer to Appendix H for the composite map.

6.4 Description of impact management objectives, including management statements

6.4.1 Determination of closure objectives

Ensure that the closure objectives are informed by the type of environment described. Each phase of the prospecting activities depends on the success of the previous. Depending on the outcome of the Phase 1 assessment, a drilling programme will be initiated. The location and extent of drill sites can thus not be determined at this stage.

The rehabilitation plan is developed on the basis that the rehabilitated areas are safe, stable, non-polluting and able to support a self-sustaining ecosystem similar to surrounding natural environment. To ensure that the rehabilitation plan is aligned with the closure objective, a high level risk assessment of the prospecting components has been undertaken to establish the potential risks associated therewith.

The closure objectives include:

- Eliminating any safety risk associated with drill holes and sumps though adequate drill hole capping and backfilling
- Remove and/or rehabilitate all pollution and pollution sources, such as waste materials and spills
- Establishing the rehabilitated area, which is not subject to soil erosion and may result in the loss of soil, degradation of the environment and pollution of surface water resources
- Restore disturbed area and re-vegetate these areas with grass species naturally occurring in the area to restore the ecological function of such areas as far as is practicable

6.4.2 Volumes and rate of water use required for the operation.

No water will be used

6.4.3 Has Water Use License been applied for?

The use of abstracting groundwater will be generally authorised in terms of the NWA. Based on the outcomes of discussions with the DWA, the potential abstraction of water due to drilling activities will be clarified. Should it be deemed necessary, on instruction by the department, to submit a water use license application, this will be undertaken.

Activities	Phase	Size and scale of disturbance	Mitigation measures	Compliance with standards	Time period for implementation
Phase 1: Desktop study					
Data collection and assessment (desktop only)	Planning	Entire property	No mitigation proposed	Identification of the potential mineral resources and prospecting activities to occur within sensitive environments such as the pans and river systems, in this event the necessary consultation must be initiated with the DWS.	N/A
Phase 3: Drilling					
Site access	Construction	Less than 16 000m^2	1. Map indicating the location of each drilling site must be submitted to the relevant landowners, and to the DMR and DWS. Upon agreement of the activity location, the applicant can proceed. 2. Use existing track and roads in all instances as far as possible. 3. Where track clearing is necessary, raised blade clearing will be conducted to minimize disturbance and aid rehabilitation efforts and significant vegetation, like trees and large shrubs. 4. Site activities will be conducted during the day from 07h00–17h00 to avoid night time noise disturbances and collisions with fauna. 5. Vehicle speed will be reduced, particularly in highly vegetated	• The prospecting activities must be undertaken in line with the approved PWP. • The financial provision required for rehabilitation must be guaranteed before the commencement of prospecting activities. • Activities should stay clear of pans and outside of the 32m river buffer in order to avoid the need to apply for a Section 21 (c) and (i) Water Use License.	Concurrently with the completion of prospecting activities in an area.

Activities	Phase	Size and scale of disturbance	Mitigation measures	Compliance with standards	Time period for implementation
			areas to avoid deaths by vehicle impact. 6. Where track clearing is necessary, raised blade clearing must be conducted to minimize disturbance and aid in rehabilitation efforts. 7. As part of rehabilitation, all compacted roads and drill pads will be ripped and revegetated. 8. Site activities will be conducted during the day from 07h00-17h00 to avoid night time noise disturbances. 9. Access control procedures must be agreed on with farm owners and trained staff. 10. Prior to the establishment of new access roads, a Heritage Impact Assessment must be undertaken and mitigation and/ or management measures for the protection of such resources must be implemented		
Site establishment activities including: • Vegetation clearing of drill pad area • Topsoil stripping	Construction	Approximately 4 000m^2	11. The removal of vegetation in the drill pad area will be minimized. 12. If possible, raised blade clearing must be conducted for the entire drill pad to minimize disturbance and aid rehabilitation efforts. 13. The design of the drill fluid sump must incorporate effective fauna	• The prospecting activities must be undertaken in line with the approved Prospecting Works Programme. • The applicant must adhere to the NEMA Section 2 Principle and ensure that a cradle to grave approach is followed in	Concurrently with the completion of prospecting activities in an area.

Activities	Phase	Size and scale of disturbance	Mitigation measures	Compliance with standards	Time period for implementation
and stockpiling • Drill pad compaction • Excavation and • lining of drill water sump • Erection of temporary site office shaded area, potable ablution faculties and water storage tanks and core bay • Erection of fuel storage tank • Erection of safety barrier • Waste generation and management			egress to avoid entrapment. 14. A fire emergency procedure will be developed to contain and minimize the destruction of flora and faunal habitat which may result from fire. 15. If the drill pad is cleared of all vegetation, lower blade clearing will be undertaken prior to topsoil stripping. 16. Topsoil, including the remaining vegetation, will be stripped and stockpiled up-slope of the pad. The stockpile will be shaped to divert stormwater around the drill pad to minimize soil erosion of the pad. 17. Where possible, topsoil will be stripped to a depth of 10cm. 18. Vegetation removed through lower blade clearing will be mixed with topsoil to increase organic content and to preserve the seed bank in order to aid rehabilitation efforts. 19. Topsoil will be stockpiles to a maximum height of 1.5m with a side slope of not more than 1:3. 20. Mechanical erosion control methods will be implemented if required. This may include the use of geotextiles to stabilize slopes. 21. Based on visual observation, wet	terms of waste management and that all activities are undertaken with a precautionary approach. Where impacts may result, a proactive manner should be implemented to ensure that potential negative results are avoided. • The applicant must comply with the conditions of the Environmental Authorization at all times.	

Activities	Phase	Size and scale of disturbance	Mitigation measures	Compliance with standards	Time period for implementation
			dust suppression will be undertaken to manage dust emissions from vehicle movement and other construction activities as needed. 22. Depending on the need and quantity of water used for wet suppression, a suitable, low environmental impact chemical suppression alternative must be considered to conserve water resources. 23. The shaded office area, portable ablution facilities, vertical water tanks and any other infrastructure should be acquired with a consideration for color. Natural earth, green and mat black options which will blend in with the surrounding area must be favored. 24. Casual labor will not be recruited at the site to eliminate the incentive for persons travelling to site seeking employment. 25. The landowner (all private and state land owners) will be notified of unauthorized persons encountered on site. 26. If deemed necessary, the South African Police Service will be informed of unauthorized persons		

Activities	Phase	Size and scale of disturbance	Mitigation measures	Compliance with standards	Time period for implementation
			encountered on site. 27. Prior to site establishment, a Heritage Impact Assessment must be undertaken and mitigation and/or management measures for the protection of such resources must be implemented.		
Exploration drilling and core sample collection and storage including: • Scout and delineation drilling • Drill maintenance and re-fuelling • Core sample collection and storage • Drill fluid collection, storage and evaporation • Waste generation and management	Operational	Included into the Site establishment size of 18 450m^2	28. Regular inspections of all vehicles must be carried out to ensure that leaks are identified early and rectified. 29. A sufficient number of waste receptacles will be provided. 30. Waste separation will be undertaken at source and separate receptacles will be provided (i.e. general waste, recyclables and hazardous waste). 31. Receptacles will be closed (i.e. fitted with a lockable lid) to eliminate the possibility of access by animals overnight. 32. Waste will be removed and disposed of at an appropriately licensed landfill (facility disposal licenses will be verified) and recyclables will be taken to a licensed recycling facility. 33. Based on visual observation, wet dust suppression will be undertaken	• The applicant must adhere to the NEMA Section 2 Principle and ensure that a cradle to grave approach is followed in terms of waste management and that all activities are undertaken with a precautionary approach. Where impacts may result, a proactive manner should be implemented to ensure that potential negative results are avoided. • The applicant must comply with the conditions of the Environmental Authorization at all times.	Concurrently with the completion of prospecting activities in an area.

Activities	Phase	Size and scale of disturbance	Mitigation measures	Compliance with standards	Time period for implementation
			when required to manage dust emissions from vehicle movement. 34. Depending on the need and quantity of water used for wet suppression, chemical suppression alternatives must be considered to conserve water. 35. Visual impact of structures will be mitigated through measures as included in Item 35. 36. Visual dust dispersion will be mitigated through measures as included in Item 33. 37. Site activities will be conducted during the day between 07h00-17h00 to avoid night time noise disturbances. 38. Access control procedures must be agreed on with farm owners. 39. Casual labour will not be recruited at the site to eliminate the incentive for persons travelling to site seeking employment. 40. The landowner (the Department of Rural Development and Land Reform) will be notified of unauthorised persons encountered on site. 41. If deemed necessary, the South African Police Service will be		

Activities	Phase	Size and scale of disturbance	Mitigation measures	Compliance with standards	Time period for implementation
			informed of unauthorised persons encountered on site. 42. The prospecting areas must be clearly demarcated. 43. No prospecting activities may be undertaken in the pan areas. 44. All site plans must indicate the presence of pans.		
Removal of temporary infrastructure including: • Removal of temporary site office shaded area, potable ablution faculties, water storage tanks and core bay **Borehole capping** Drill pad rehabilitation including: • Ripping of drill pad and access • road • Re-spreading of	Decommissioning	Included into the site establishment size of 18 450m^2	45. Drill holes must be temporarily plugged immediately after drilling is completed and remain plugged until they are permanently plugged below ground to eliminate risk posed to fauna by open drill holes. 46. Drill holes must be permanently capped as soon as possible. 47. Based on visual observation, wet dust suppression will be undertaken to manage dust emissions from vehicle movement. 48. Depending on the need and quantity of water used for wet suppression, chemical suppression alternatives must be considered to conserve water. 49. Access control procedures must be agreed on with farm owners and all staff trained. 50. All fuel storage tanks will be emptied prior to removal.	• The applicant must adhere to the NEMA Section 2 Principle and ensure that a cradle to grave approach is followed in terms of waste management and that all activities are undertaken with a precautionary approach. Where impacts may result, a proactive manner should be implemented to ensure that potential negative results are avoided. • The applicant must comply with the conditions of the Environmental Authorization at all times.	Concurrently with the completion of prospecting activities in an area.

Activities	Phase	Size and scale of disturbance	Mitigation measures	Compliance with standards	Time period for implementation
stockpiled topsoil • Re-vegetation			51. Drill holes must be permanently capped as soon as is practicable to eliminate the risk of groundwater contamination. 52. Wastes will be removed and disposed of at an appropriately 53. licensed landfill (facility disposal licenses will be verified) and recyclables will be taken to a licensed recycling facility. 54. Mechanical erosion control methods will be implemented if required. This may include the use of geotextiles. 55. Re-vegetation will be conducted by hand seeding exposed areas using indigenous grass species as determined by a suitably qualified ecologist. 56. Re-vegetation efforts will be monitored every 2nd month for 6 months after initial seeding. 57. An effective vegetation cover of 45% must be achieved. Reseeding will be undertaken if this cover has not been achieved after 6 months.		

6.4.4 Impacts to be mitigated in their respective phases

Measures to rehabilitate the environment affected by the undertaking of any listed activity is presented in the following table.

6.5 Impact management outcomes

A description of impact management outcomes, identifying the standard of impact management required for the aspects contemplated in paragraph.

Activity (whether listed or not)	**Potential impact**	**Aspects affected**	**Phase** (in which impact is anticipated)	**Mitigation type**	**Standard to be achieved**
Phase 1: Data acquisition and desktop study					
Data collection and assessment (desktop only)	1. None identified.	N/A	Planning	• Control potential deviations from the approved PWP through effective implementation of the data acquisition and desktop study.	Remain within the ambits of the PWP and Environmental Authorization.
Phase 2: Drilling					
Site access	2. Destruction and/or disturbance of on-site fauna and flora.	Loss of fauna and flora	Construction phase	• Control through the clear delineation of the prospecting area.	Remain within the ambits of the PWP and Environmental Authorization.
	3. Soil compaction resulting from repeated use of access roads to drill sites.	Loss of soil resources	Construction phase	• Control through clear delineation of prospecting area. • Control through implementation of soil management programme in terms of the correct topsoil removal, stockpiling and rehabilitation practices as per EMP.	Remain within the ambits of the PWP and Environmental Authorization. Retain topsoil integrity for the reuse in rehabilitation.

Activity (whether listed or not)	**Potential impact**	**Aspects affected**	**Phase** (in which impact is anticipated)	**Mitigation type**	**Standard to be achieved**
	4. Vehicle traffic noise impact affecting cattle and/or wildlife.	Loss of fauna	Construction phase	• Control through clear delineation of the prospecting area. • Control through the limiting of the activities to the day time and the implementation of an open and transparent channel of communication.	Remain within the ambits of the PWP and Environmental Authorization.
	5. Poor access control resulting in impacts on cattle movement, breeding and grazing practices.	Loss of fauna	Construction phase	• Control through clear delineation of the prospecting area. • Control through the limiting of the activities to the day time and the implementation of an open and transparent channel of communication.	Remain within the ambits of the PWP and Environmental Authorization.
	6. Potential destruction of heritage resources.	Loss of Cultural and/or Heritage Significance	Construction phase	• Control through the clear delineation of the prospecting area.	Comply with the requirements by SAHRA. No damage may result on heritage and cultural significant sites.
Site establishment activities including: • Vegetation clearing of drill pad area • Topsoil stripping and	7. Destruction and/or disturbance of on-site fauna and flora.	Loss of fauna and flora	Construction phase	• Control through the clear delineation of the prospecting area.	Remain within the ambits of the PWP and Environmental Authorization.

Activity (whether listed or not)	**Potential impact**	**Aspects affected**	**Phase** (in which impact is anticipated)	**Mitigation type**	**Standard to be achieved**
stockpiling • Drill pad compaction • Excavation and lining of drill water sump • Erection of temporary site office shaded area, potable ablution faculties and water storage tanks and core bay • Erection of fuel storage tank • Erection of safety barrier • Waste generation and management	8. Soil disturbance and topsoil stockpiling resulting in soil compaction and erosion.	Loss of soil resources	Construction phase	• Control through clear delineation of the prospecting area. • Control through the implementation of a soil management programme in terms of the correct topsoil removal, stockpiling and rehabilitation practices as discussed in the EMP.	Remain within the ambits of the PWP and Environmental Authorization. Retain topsoil integrity for the reuse in rehabilitation.
	9. Dust emission resulting from site clearing, soil stripping and construction activities (including vehicle entrained dust).	Dust emissions	Construction phase	• Control through implementation of dust suppression methods, when required. Dust suppression methods could include wet suppression.	Remain within the designated area demarcated for prospecting activities. Remain within the National Environmental Management: Air Quality Act, 2004 Dust Regulation guidelines for rural communities.
	10. Visual Impact affecting visual character and "sense of place".	Loss in aesthetics	Construction phase	• Control through clear delineation of the prospecting area. • Control through implementation of environmental induction and	Remain within the ambits of the PWP and Environmental Authorization.

Activity (whether listed or not)	**Potential impact**	**Aspects affected**	**Phase** (in which impact is anticipated)	**Mitigation type**	**Standard to be achieved**
				toolbox talks, as well as the implementation of a fine system.	No removal of vegetation outside of demarcated areas.
	11. Influx of persons (job seekers) to site as a result of increased activity resulting in increased incidents of theft and opportunistic crime.	Increase in petty crimes	Construction phase	• Control through limiting of the activities to the day time and the implementation of an open and transparent channel of communication.	Maintain a 100% crime free area within the control of the prospecting activities and applicant.
	12. Potential destruction of heritage resources.	Loss of Cultural and/or Heritage Significance	Construction phase	• Control through clear delineation of the prospecting area. • Control through implementation of environmental induction and toolbox talks.	Comply with the requirements by SAHRA. No damage may result on heritage and cultural significant sites.
Exploration drilling and core sample collection and storage including: Scout and delineation drilling Drill maintenance and re-fuelling	13. Water and soil pollution resulting from disposal of drill fluids.	Loss of water resources, loss of soil resources	Operational phase	• Control through clear delineation of the prospecting area. • Control through implementation of environmental induction and toolbox talks, as well as the implementation of a fine system. • Control through implementation of a soil management	Remain within the ambits of the PWP and Environmental Authorization. Retain topsoil integrity for the reuse in rehabilitation.

Activity (whether listed or not)	**Potential impact**	**Aspects affected**	**Phase** (in which impact is anticipated)	**Mitigation type**	**Standard to be achieved**
Core sample collection and storage Drill fluid collection, storage and evaporation Waste generation and management				programme in terms of the correct topsoil removal, stockpiling and rehabilitation practices as per the EMP. • Control through implementation • of the NWA GN704 water management principles.	
	14. Continued soil erosion from topsoil stockpile and soil compaction from drill pad platform.	Loss of soil resources	Operational phase	• Control through clear delineation of the prospecting area. • Control through implementation of a soil management programme in terms of the correct topsoil removal, stockpiling and rehabilitation practices as per the EMP	Remain within the ambits of the PWP and Environmental Authorization. Retain topsoil integrity for the reuse in rehabilitation.
	15. Potential water and soil pollution resulting from hydrocarbon spills and drill maintenance activities.	Loss of water resources, loss of soil resources	Operational phase	• Control through clear delineation of the prospecting area. • Control through implementation • of the NWA GN704 water management principles.	Remain within the ambits of the PWP and Environmental Authorization. Retain topsoil integrity for the reuse in rehabilitation.
	16. Dust emissions from drilling and general site activities (including vehicle	Increase in dust emissions	Operational phase	• Control to the implementation of dust suppression methods, when this is required. Dust suppression methods could include wet	Remain within the designated area demarcated for prospecting

Activity (whether listed or not)	**Potential impact**	**Aspects affected**	**Phase** (in which impact is anticipated)	**Mitigation type**	**Standard to be achieved**
	entrained dust)			suppression.	activities. Remain within the NEMA: Air Quality Act, 2004 Dust Regulation guidelines for rural communities.
	17. Visual Impact affecting visual character and "sense of place"	Loss in aesthetic value	Operational phase	• Control through clear delineation of the prospecting area. • Control through implementation of the conditions in the EMP.	Remain within the ambits of the PWP and Environmental Authorization. No removal of vegetation outside of demarcated areas.
	18. Vehicle traffic and drill noise impact affecting wildlife game farm animals.	Loss of fauna	Operational phase	• Control through clear delineation of the prospecting area. • Control through implementation of environmental induction and toolbox talks, as well as implementation of a fine system.	Remain within the ambits of the PWP and Environmental Authorization.
	19. Poor access control resulting in impacts on cattle movement, breeding and grazing practices.	Loss of cattle	Operational phase	• Control through clear delineation of the prospecting area. • Control through implementation of environmental induction and toolbox talks, as well as the implementation of a fine system.	Remain within the ambits of the PWP and Environmental Authorization.

Activity (whether listed or not)	**Potential impact**	**Aspects affected**	**Phase** (in which impact is anticipated)	**Mitigation type**	**Standard to be achieved**
				• Control through limiting of the activities to the day time and the implementation of an open and transparent channel of communication.	
	20. Influx of persons (job seekers) to site as a result of increased activity resulting in increased incidents of theft and opportunistic crime.	Increase in petty crimes	Operational phase	• Control through limiting of the activities to the day time and the implementation of an open and transparent channel of communication.	Maintain a 100% crime free area within the control of the prospecting activities and applicant.
	21. Impact on the pans and associated ecosystems in the area.	Loss of sensitive environment, loss of fauna, loss of flora	Operational phase	• Control through clear delineation of the prospecting area. • Control through implementation of environmental induction and toolbox talks, as well as the implementation of a fine system. • Control through limiting of the activities to the day time and the implementation of an open and transparent channel of communication.	Remain within the ambits of the PWP and Environmental Authorization.
Removal of temporary infrastructure	22. Destruction and / or disturbance of on-site fauna.	Loss of sensitive environments,	Decommissioning	• Control through clear delineation of the prospecting area. • Control through implementation	Remain within the ambits of the PWP and Environmental

Activity (whether listed or not)	**Potential impact**	**Aspects affected**	**Phase** (in which impact is anticipated)	**Mitigation type**	**Standard to be achieved**
including: Removal of temporary site office shaded area, potable ablution faculties, water storage tanks and core bay Borehole capping Drill pad rehabilitation including: Ripping of drill pad and access road Re-spreading of stockpiled topsoil Re-vegetation		loss of fauna, loss of flora		of environmental induction and toolbox talks, as well as the implementation of a fine system. • Control through limiting of the activities to the day time and the implementation of an open and transparent channel of communication.	Authorization.
	23. Dust emissions from decommissioning activities (including vehicle entrained dust).	Increase in dust emissions	Decommissioning	• Control through implementation of dust suppression methods, when this is required. Dust suppression methods could include wet suppression.	Remain within the designated area demarcated for prospecting activities. Remain within the NEMA Air Quality Act, 2004 Dust Regulation

Activity (whether listed or not)	**Potential impact**	**Aspects affected**	**Phase** (in which impact is anticipated)	**Mitigation type**	**Standard to be achieved**
					guidelines for rural communities.
	24. Poor access control resulting in impacts on cattle movement, breeding and grazing practices.	Loss of cattle	Decommissioning	• Control through clear delineation of the prospecting area. • Control through implementation of environmental induction and toolbox talks, as well as the implementation of a fine system. • Control through limiting of the activities to the day time and the implementation of an open and transparent channel of communication.	Remain within the ambits of the PWP and Environmental Authorization.
	25. Potential water and soil pollution resulting from hydrocarbon spills.	Loss of water resources, loss of soil resources	Decommissioning	• Control through clear delineation of the prospecting area. • Control through implementation of environmental induction and toolbox talks, as well as the implementation of a fine system. • Control through implementation • of the NWA GN704 water management principles.	Remain within the ambits of the PWP and Environmental Authorization.
	26. Soil erosion resulting from the re-spreading of topsoil before vegetation is	Loss of soil resources	Decommissioning	• Control through clear delineation of the prospecting area. • Control through implementation of environmental induction and	Remain within the ambits of the PWP and Environmental Authorization.

Activity (whether listed or not)	**Potential impact**	**Aspects affected**	**Phase** (in which impact is anticipated)	**Mitigation type**	**Standard to be achieved**
	reestablished.			toolbox talks, as well as the implementation of a fine system. • Control through implementation of a soil management programme in terms of the correct topsoil removal, stockpiling and rehabilitation practices as per the EMP.	

6.6 Impact management actions

A description of impact management actions, identifying the manner in which the impact management objectives and outcomes contemplated in paragraphs (c) and (d) will be achieved.

ACTIVITY (whether listed or not listed)	**POTENTIAL IMPACT**	**MITIGATION TYPE**	**TIME PERIOD FOR IMPLEMENTATION**	**COMPLIANCE WITH STANDARDS**
Phase1: Data acquisition and desktop study				
Data collection and assessment (desktop only)	None identified.	1. No mitigation proposed	N/A	Remain within the ambits of the PWP and Environmental Authorization
Phase1: Drilling				
	Site establishment	2. Site activities will be conducted during daytime hours 07h00 – 17h30 to avoid night time noise disturbances and night time collisions with fauna.		

ACTIVITY (whether listed or not listed)	**POTENTIAL IMPACT**	**MITIGATION TYPE**	**TIME PERIOD FOR IMPLEMENTATION**	**COMPLIANCE WITH STANDARDS**
		3. Vehicle speed will be reduced, particularly in highly vegetated areas is one way to avoid deaths by vehicle impacts.		
	Soil compaction	4. Where track clearing is necessary, raised blade clearing be conducted to minimise disturbance and aid rehabilitation efforts. 5. As part of rehabilitation, all compacted roads and drill pads will be ripped and re-vegetated.	Concurrently with the completion of prospecting activities	• Remain within the ambits of the PWP and Environmental Authorization. • Retain topsoil integrity for the reuse in rehabilitation.
	Vehicle traffic noise impact affecting cattle and/or wildlife.	6. Site activities will be conducted during daytime hours 07h00-17h30 to avoid night time noise disturbances.	Concurrently with the completion of prospecting activities	Remain within the ambits of the PWP and Environmental Authorization.
	Poor access control resulting in impacts on cattle movement, breeding and grazing practices.	7. Access control procedures must be agreed on with farm owners and staff trained.	Concurrently with the completion of prospecting activities	Remain within the ambits of the PWP and Environmental Authorization.
	Potential destruction of heritage	8. Prior to the establishment of new access roads, a heritage impact assessment must be undertaken	Concurrently with the completion of prospecting	• Comply with the requirements by SAHRA. • No damage may result on

ACTIVITY (whether listed or not listed)	POTENTIAL IMPACT	MITIGATION TYPE	TIME PERIOD FOR IMPLEMENTATION	COMPLIANCE WITH STANDARDS
	resources.	and mitigation and / or management measure for the protection of such resources must be implemented	activities	heritage and cultural significant sites.
Site establishment activities including: • Vegetation clearing of drill pad area • Topsoil stripping and stockpiling • Drill pad compaction • Excavation and lining of drill water sump • Erection of temporary site office shaded area, potable ablution faculties and water storage tanks and core bay • Erection of fuel storage tank • Erection of safety barrier • Waste generation and management	Destruction and / or disturbance of on-site fauna and flora.	9. The removal of vegetation within the drill pad area will be minimised. If practicable, raised blade clearing be conducted for the entire drill pad to minimise disturbance and aid rehabilitation efforts. The design of the drill fluid sump must incorporate effective fauna egress to avoid entrapment. 10. A fire emergency procedure will be developed to contain and minimise the destruction of flora and faunal habitat which may result from fire.	Concurrently with the completion of prospecting activities	Remain within the ambits of the PWP and Environmental Authorization.
	Soil disturbance and topsoil stockpiling resulting in soil compaction and erosion.	11. In the event that the drill pad is cleared of all vegetation, lower blade clearing will be undertaken prior to the stripping of topsoil. 12. Topsoil including the remaining vegetation, will be stripped and stockpiled up-slope of the pad. The stockpile will be shaped to divert	Concurrently with the completion of prospecting activities	• Remain within the ambits of the PWP and Environmental Authorization. • Retain topsoil integrity for the reuse in rehabilitation.

ACTIVITY (whether listed or not listed)	POTENTIAL IMPACT	MITIGATION TYPE	TIME PERIOD FOR IMPLEMENTATION	COMPLIANCE WITH STANDARDS
		storm water around the drill pad to minimise soil erosion of the pad. 13. Where practicable topsoil will be stripped to a depth of 10cm. 14. Vegetation removed through lower blade clearing will be mixed with topsoil to increase organic content and to preserve the seed bank in order to aid rehabilitation efforts. 15. Topsoil will be stockpiles to a maximum height of 1.5m with a side slope of not more than 1:3. 16. Mechanical erosion control methods will be implemented if required. This may include the use of geotextiles to stabilise slopes.		
	Dust emission resulting from site clearing, soil stripping and construction activities (including vehicle entrained dust).	17. Based on visual observation, wet dust suppression will be undertaken to manage dust emissions from vehicle movement and other construction 18. activities as and when needed. 19. Depending on the need and quantity of water used for wet suppression, a suitable, low environmental impact chemical suppression alternative must be	Concurrently with the completion of prospecting activities	• Remain within the designated area demarcated for prospecting activities. • Remain within the NEMA Air Quality Act, 2004 Dust Regulation guidelines for rural communities.

ACTIVITY (whether listed or not listed)	POTENTIAL IMPACT	MITIGATION TYPE	TIME PERIOD FOR IMPLEMENTATION	COMPLIANCE WITH STANDARDS
		considered in order to conserve water resources.		
	Visual Impact affecting visual character and "sense of place".	20. The shaded office area, portable ablution facilities, vertical water tanks and any other infrastructure should be acquired with a consideration for colour. Natural earth, green and mat black options which will blend in with the surrounding area must be favoured.	Concurrently with the completion of prospecting activities	• Remain within the ambits of the PWP and Environmental Authorization. • No removal of vegetation outside of demarcated areas.
	Influx of persons (job seekers) to site as a result of increased activity resulting in increased incidents of theft and opportunistic crime.	21. Casual labour will not be recruited at the site to eliminate the incentive for persons travelling to site seeking employment. 22. The landowner (all private and state land owners) will be notified of unauthorised persons encountered on site. 23. If deemed necessary, the South African Police Service will be informed of unauthorised persons encountered on site.		Maintain a 100% crime free area within the control of the prospecting activities and applicant.
	Potential destruction of heritage resources.	24. Prior to the site establishment, a heritage impact assessment must be undertaken and mitigation and / or management measure for the	Concurrently with the completion of prospecting activities	• Comply with the requirements by SAHRA. • No damage may result on heritage and cultural significant

ACTIVITY (whether listed or not listed)	POTENTIAL IMPACT	MITIGATION TYPE	TIME PERIOD FOR IMPLEMENTATION	COMPLIANCE WITH STANDARDS
		protection of such resources must be implemented		sites.
Exploration drilling and core sample collection and storage including: • Scout and delineation drilling • Drill maintenance and re-fuelling • Core sample collection and storage • Drill fluid collection, storage and evaporation • Waste generation and management	Water and soil pollution resulting from disposal of drill fluids.	25. A sump will be constructed with a sufficient capacity to receive drill fluids and allow for evaporation 26. The sump will be constructed to divert storm water away and / or around the sump to avoid clean stormwater inflow.	Concurrently with the completion of prospecting activities	• Remain within the ambits of the PWP and Environmental Authorization. • Retain topsoil integrity for the reuse in rehabilitation.
	Continued soil erosion from topsoil stockpile and soil compaction from drill pad platform.	27. In the event that raise blade clearing is not undertaken, and the drill pad is cleared, topsoil will be stockpiles to a maximum height of 1.5m with a side slope of not more than 1:3. 28. The topsoil stockpile will be shaped to divert storm water around the drill pad to minimise soil erosion of the pad. 29. Management efforts through the use of mechanical erosion control	Concurrently with the completion of prospecting activities	• Remain within the ambits of the PWP and Environmental Authorization. • Retain topsoil integrity for the reuse in rehabilitation.

ACTIVITY (whether listed or not listed)	POTENTIAL IMPACT	MITIGATION TYPE	TIME PERIOD FOR IMPLEMENTATION	COMPLIANCE WITH STANDARDS
		methods will be implemented if required. This may include the use of geotextiles.		
	Potential water and soil pollution resulting from hydrocarbon spills and drill maintenance activities.	30. Fuel storage tanks will have a secondary containment structure with a capacity of 110% of the total tank capacity. 31. Oils and lubricant will be stored in secondary containment structures. 32. Where practicable, vehicle maintenance will be undertaken off-site. 33. If vehicle maintenance is done on-site (like breakdown maintenance), drip trays and/or UPVC sheets will be used to prevent spills and leaks onto the soil. 34. Unused machinery must be completely drained of oil and other hydrocarbons to ensure that leaks do not develop. 35. Regular inspections of all vehicles must be carried out to ensure that all leaks are identified early and rectified. 36. A sufficient number of waste receptacles will be provided.	Concurrently with the completion of prospecting activities	• Remain within the ambits of the PWP and Environmental Authorization. • Retain topsoil integrity for the reuse in rehabilitation.

ACTIVITY (whether listed or not listed)	**POTENTIAL IMPACT**	**MITIGATION TYPE**	**TIME PERIOD FOR IMPLEMENTATION**	**COMPLIANCE WITH STANDARDS**
		37. Waste separation will be undertaken at source and separate receptacles will be provided (general waste, recyclables and hazardous waste). 38. Receptacles will be closed (i.e. fitted with a lockable lid) to eliminate the possibility of access by animals overnight. 39. Wastes will be removed and disposed of at an appropriately licensed landfill (facility disposal licenses will be verified) and recyclables will be taken to a licensed recycling facility.		
	Dust emissions from drilling and general site activities (including vehicle entrained dust)	40. Based on visual observation wet dust suppression will be undertaken when required to manage dust emissions from vehicle movement. 41. Depending on the need and quantity of water used for wet suppression, chemical suppression alternatives must be considered in order to conserve water resources.	Concurrently with the completion of prospecting activities	• Remain within the designated area demarcated for prospecting activities. • Remain within the NEMA Air Quality Act, 2004 Dust Regulation guidelines for rural communities.
	Visual Impact affecting visual character and	42. Visual impact of structures will be mitigated through measures as included in Item 35.	Concurrently with the completion of prospecting	• Remain within the ambits of the PWP and Environmental Authorization.

ACTIVITY (whether listed or not listed)	**POTENTIAL IMPACT**	**MITIGATION TYPE**	**TIME PERIOD FOR IMPLEMENTATION**	**COMPLIANCE WITH STANDARDS**
	"sense of place"	43. Visual dust dispersion will be mitigated through measures as included in Item 33.	activities	• No removal of vegetation outside of demarcated areas.
	Vehicle traffic and drill noise impact affecting wildlife game farm animals.	44. Site activities will be conducted during daytime hours 07h00-17h00 to avoid night time noise disturbances.	Concurrently with the completion of prospecting activities	Remain within the ambits of the PWP and Environmental Authorization.
	Poor access control resulting in impacts on cattle movement, breeding and grazing practices	45. Access control procedures must be agreed on with farm owners.	Concurrently with the completion of prospecting activities	Remain within the ambits of the PWP and Environmental Authorization.
	Influx of persons (job seekers) to site as a result of increased activity resulting in increased incidents of theft and opportunistic crime.	46. Casual labour will not be recruited at the site to eliminate the incentive for persons travelling to site seeking employment. 47. The landowner (Department of Rural Development and Land Reform) will be notified of unauthorised persons encountered on site. 48. If deemed necessary, the South African Police Service will be informed of unauthorised persons	Concurrently with the completion of prospecting activities	Maintain a 100% crime free area within the control of the prospecting activities and applicant.

ACTIVITY (whether listed or not listed)	**POTENTIAL IMPACT**	**MITIGATION TYPE**	**TIME PERIOD FOR IMPLEMENTATION**	**COMPLIANCE WITH STANDARDS**
		encountered on site.		
	Impact on the pans and associated ecosystems in the area.	49. The prospecting areas must be clearly demarcated. 50. No prospecting activities may be undertaken within the pan areas. 51. All site plans must indicate the presence of pans.	Concurrently with the completion of prospecting activities	Remain within the ambits of the PWP and Environmental Authorization.
Removal of temporary infrastructure including: • Removal of temporary site office shaded area, potable ablution faculties, water storage tanks and core bay • Borehole capping Drill pad rehabilitation including: • Ripping of drill pad and access road • Re-spreading of stockpiled topsoil • Re-vegetation	Destruction and / or disturbance of on-site fauna.	52. Drill holes must be temporarily plugged immediately after drilling is completed and remain plugged until they are permanently plugged below ground to eliminate the risk posed to fauna by open drill holes. 53. Drill holes must be permanently capped as soon as is practicable	Concurrently with the completion of prospecting activities	Remain within the ambits of the PWP and Environmental Authorization.
	Dust emissions from decommissioning activities (including	54. Based on visual observation wet dust suppression will be undertaken to manage dust emissions from vehicle movement. 55. Depending on the need and	Concurrently with the completion of prospecting activities	• Remain within the designated area demarcated for prospecting activities. • Remain within the NEMA Air Quality Act, 2004 Dust Regulation

ACTIVITY (whether listed or not listed)	POTENTIAL IMPACT	MITIGATION TYPE	TIME PERIOD FOR IMPLEMENTATION	COMPLIANCE WITH STANDARDS
	vehicle entrained dust).	quantity of water used for wet suppression, chemical suppression alternatives must be considered in order to conserve water resources.		guidelines for rural communities.
	Poor access control resulting in impacts on cattle movement, breeding and grazing practices.	56. Access control procedures must be agreed on with farm owners and all staff trained.	Concurrently with the completion of prospecting activities	Remain within the ambits of the PWP and Environmental Authorization.
	Potential water and soil pollution resulting from hydrocarbon spills.	57. All fuel storage tanks will be emptied prior to removal. 58. Drill holes must be permanently capped as soon as is practicable to eliminate the risk of groundwater contamination. 59. Wastes will be removed and disposed of at an appropriately licensed landfill (facility disposal licenses will be verified) and recyclables will be taken to a licensed recycling facility.	Concurrently with the completion of prospecting activities	Remain within the ambits of the PWP and Environmental Authorization.
	Soil erosion resulting from the re-spreading of	60. Mechanical erosion control methods will be implemented if required. This may include the use	Concurrently with the completion of prospecting	Remain within the ambits of the PWP and Environmental Authorization.

ACTIVITY (whether listed or not listed)	POTENTIAL IMPACT	MITIGATION TYPE	TIME PERIOD FOR IMPLEMENTATION	COMPLIANCE WITH STANDARDS
	topsoil before vegetation is reestablished.	of geotextiles. 61. Re-vegetation will be conducted through hand seeding exposed areas using indigenous grass species as determined by a suitably qualified ecologist. 62. Re-vegetation efforts will be monitored every 2nd month for 6 months after initial seeding. 63. An effective vegetation cover of 45% must be achieved. Re-seeding will be undertaken if this cover has not been achieved after 6 months.	activities	

7 Determination of the amount of financial provision

Describe the closure objectives and the extent to which they have been aligned to the baseline environment described under the Regulation

Each phase of the prospecting activities depends on the success of the previous. Depending on the outcome of the Phase 1 assessment, a drilling programme will be initiated. The location and extent of the drill sites cannot be determined at this stage.

The rehabilitation plan is developed on the basis that the rehabilitated areas are safe, stable, non-polluting and able to support a self-sustaining ecosystem similar to surrounding natural environment. To ensure that the rehabilitation plan is aligned with the closure objective, a high-level risk assessment of the prospecting components has been undertaken to establish the potential risks associated therewith.

The closure objectives are to:

- Eliminate any safety risk associated with drill holes and sumps though adequate drill hole capping and backfilling
- Remove and/or rehabilitate all pollution and pollution sources such as waste materials and spills
- To establish rehabilitated area which is not subject to soil erosion which may result in the loss of soil, degradation of the environment and cause pollution of surface water resources
- Restore disturbed area and re-vegetate these areas with grass species naturally occurring in the area to restore the ecological function of such areas as far as is practicable

7.1 Consultation with landowners

Confirm specifically that the environmental objectives in relation to closure have been consulted with landowners and interested and affected parties

This Basic Assessment Report and Environmental Management Plan will be made available to each registered stakeholder for review and comment. All comments will be captured in the issues and response section and will be included into the final report.

7.2 Rehabilitation plan

Provide a rehabilitation plan that describes and shows the scale and aerial extent of the main mining activities, including the anticipated mining area at the time of closure

Each phase of the prospecting activities depends on the success of the previous. Depending on the outcome of the Phase 1 assessment, an airborne/ground geophysics survey and/or loam sampling programme will be initiated. Targets that have been prioritised through detailed anomaly-specific loam sampling will be tested by initial drilling. The location and extent of soil sampling and drill sites cannot be determined at this stage. Prospect activity mapping could thus not be undertaken.

Due to the nature of the activities, the impacts will be limited and of short duration. The management plan is provided in such a manner as to ensure concurrent rehabilitation. The areas for drilling purposes will be the main area experiencing impacts. In this event the activities will be temporary in nature, and a detailed management plan has been provided to address potential impacts associated with these activities. The only rehabilitation that will specifically be required is borehole capping and revegetation.

7.2.1 Borehole capping

Drill holes must be permanently capped as soon as is practicable.

7.2.2 Re-vegetation

It is recommended that a standard commercial fertilizer high in the standard elements is added to the soil before re-vegetation, at a rate of 10-20kg/ha (application rate to be confirmed based on input from a suitably qualified specialist). The fertilizer should be added to the soil in a slow release granular form. A suitably qualified ecologist will be appointed to determine the appropriate veld grass mix for hand seeding. Re-vegetation efforts will be monitored every second month for a period of 6 months after initial seeding. An effective vegetation cover of 45% must be achieved. Re-seeding will be undertaken if this cover has not been achieved after 6 months.

7.3 Compatibility of rehabilitation plan with closure objectives

Explain why it can be confirmed that the rehabilitation plan is compatible with the closure objectives.

Due to the nature of the activities, the impacts will be limited and of short duration. The management plan is provided in such a manner as to ensure concurrent rehabilitation. The areas for drilling purposes will be the main area experiencing impacts. In this event the activities will be temporary in nature, and a detailed management plan has been provided to address potential impacts associated with these activities.

7.4 Quantum of financial provision required

Calculate and state the quantum of the financial provision required to manage and rehabilitate the environment in accordance with the applicable guideline.

The financial provision for the environmental rehabilitation and closure of any mine/prospecting and its associated operations forms an integral part of the MPRDA. Sections 41(1), 41(2), 41(3) and 45 of the MPRDA deal with the financial provision for rehabilitation and closure. During 2012 the DMR made updated rates available for the calculation of the closure costs, where contractor's costs are not available these are used in assessments.

The *Guideline Document for the Evaluation of Financial Provision made by the Mining Industry* was developed by the DMR in January 2018, in order to empower the personnel at regional DMR offices to review the quantum determination for the rehabilitation and closure of mining sites. With the determination of the quantum for closure it must be assumed that the infrastructure has no salvage value (clean closure). The closure cost estimate (clean closure) was determined in accordance with the DMR guidelines and is based, where possible, on actual costs provided by a third-party contractor. The closure costs are as follows:

Sub-Total 1: R 100 972,827 (excluding VAT)

Sub-Total 2: R 123 186,85 (excluding VAT)

Sub-Total 3 (clean closure cost): R 141 665 (including VAT)

7.5 Financial provision as determined

Confirm that the financial provision will be provided as determined.

The prospecting activities will require R 141 665 (including VAT) for environmental rehabilitation. Financing will be sourced from the capital expenditure as planned by the company; this capital will come from the treasury of the company. As part of the PWP, the applicant has provided the annual financial statement for 2017. The Mine's annual financial statement for 2017 was also submitted to the DMR for confirmation that the company has funding available to implement the proposed project.

It should be noted that the current expenditure provided for in the PWP does not included the calculated Financial Provision as included in this Basic Assessment, as these values were not available at the time of the submission of the PWP. The provision for closure should be included in the PWP prior the decision by the DMR should this decision be positive.

7.6 Compliance monitoring mechanisms

Mechanisms for monitoring compliance with and performance assessment against the environmental management programme and reporting thereon, including

- Monitoring of Impact Management Actions
- Monitoring and reporting frequency
- Responsible persons
- Time period for implementing impact management actions
- Mechanism for monitoring compliance

SOURCE ACTIVITY	**IMPACTS REQUIRING MONITORING PROGRAMMES**	**FUNCTIONAL REQUIREMENTS FOR MONITORING**	**ROLES AND RESPONSIBILITIES** For the execution of the monitoring programmes	**MONITORING AND REPORTING FREQUENCY AND TIME PERIODS FOR IMPLEMENTING IMPACT MANAGEMENT ACTIONS**
Phase1: Data acquisition and desktop study	None identified.	None	N/A	N/A
Phase 2: Target generation and ground truthing	Noise impacts resulting from site fly-overs affecting cattle and game farm animals	Adjacent landowners will be informed of the planned dates of the Airborne geophysics survey and a grievance mechanism will be made available.	Prospecting Manager	• Once-off upfront consultation with affected parties. • As required as grievances are received. • Consultation to be signedoff by Environmental Management. • All grievances to be signed-off by Environmental Management. • All corrective action and close out of grievances to be signed-off by Environmental Management. • Proof of consultation to be submitted to the Department of

SOURCE ACTIVITY	IMPACTS REQUIRING MONITORING PROGRAMMES	FUNCTIONAL REQUIREMENTS FOR MONITORING	ROLES AND RESPONSIBILITIES For the execution of the monitoring programmes	MONITORING AND REPORTING FREQUENCY AND TIME PERIODS FOR IMPLEMENTING IMPACT MANAGEMENT ACTIONS
				Mineral Resources prior to airborne survey is conducted. • Record of grievances, corrective action taken and close out to be submitted to the Department of Mineral resources at the end of the project phase.
Phase 3: Ground geophysics and soil sampling	All site activities to be undertaken must be communicated with directly affected landowners.	As soon as the extent of site activities are known. These must be communicated with directly affected landowners. The following procedures must developed in conjunction with these landowners: Emergency Preparedness and Response Plan; and Access control procedures and requirements.	Prospecting manager	• Confirmation of the extent of site activities to be submitted to the Department of Mineral Resources prior to such activities been undertaken. • Proof of consultation with directly affected landowners and the outcome of such consultation to be submitted to the Department of Mineral Resources. • Continuous monitoring of compliance with the access control procedure will be undertaken.
Phase III: Exploratory Drilling	Visual inspection of soil erosion and / or compaction	All exposed areas, access roads, the drill pad and soil stockpiles must be monitored for erosion on a regular basis and specifically after rain events.	Prospecting Manager Contractor	• Weekly and after rain events • Monthly monitoring reports to be signed-off by the Environmental Manager. • Corrective action to be confirmed

SOURCE ACTIVITY	IMPACTS REQUIRING MONITORING PROGRAMMES	FUNCTIONAL REQUIREMENTS FOR MONITORING	ROLES AND RESPONSIBILITIES For the execution of the monitoring programmes	MONITORING AND REPORTING FREQUENCY AND TIME PERIODS FOR IMPLEMENTING IMPACT MANAGEMENT ACTIONS
				and signed-off by the Environmental Manager. • Consolidated monthly monitoring reports (including the corrective action taken) to be submitted to the Department of Mineral Resources.
	Dust generated will be assessed through visual observation	If dust outfall is excessive and regarded to affect any sensitive receptors a monitoring programme must be initiated based on the input of a suitably qualified air quality specialist.	Prospecting Manager Contractor	• On-going • Monthly monitoring reports to be signed-off by the Environmental Manager. • Corrective action to be confirmed and signed-off by the Environmental Manager. • Consolidated monthly monitoring reports (including the corrective action taken) to be submitted to the Department of Mineral Resources.
	Visual inspection of biodiversity impacts and the occurrence of invader species	Visual inspection of clearing activities and other possible secondary impact on biodiversity will be undertaken. The introduction of alien invasive vegetation species will be	Prospecting Manager Contractor	• Once-off during clearing activities • Weekly inspection of secondary impacts • Monthly monitoring reports to be signed-off by the Environmental Manager.

SOURCE ACTIVITY	IMPACTS REQUIRING MONITORING PROGRAMMES	FUNCTIONAL REQUIREMENTS FOR MONITORING	ROLES AND RESPONSIBILITIES For the execution of the monitoring programmes	MONITORING AND REPORTING FREQUENCY AND TIME PERIODS FOR IMPLEMENTING IMPACT MANAGEMENT ACTIONS
		determined.		• Corrective action to be confirmed and signed-off by the Environmental Manager. • Consolidated monthly monitoring reports (including the corrective action taken) to be submitted to the Department of Mineral Resources.
	Visual inspection of pollution incidents, the integrity of secondary containment structures and waste management	All secondary containment structure will be inspected on a regular basis to confirm the integrity thereof and to identify potential leaks. All spill incidents will be identified, and corrective action taken in accordance with an established spill response procedure. Waste management practices will be monitored to prevent contamination and littering.	Prospecting Manager Contractor	• Monthly monitoring reports to be signed-off by the Environmental Manager. • Corrective action to be confirmed and signed-off by the Environmental Manager. • Consolidated monthly monitoring reports (including the corrective action taken) to be submitted to the Department of Mineral Resources. • Incident reporting will be undertaken as required in terms of the relevant legislation including, but not limited to, the Mineral and Petroleum Resources Development Act 28 of 2002; and National Water

SOURCE ACTIVITY	IMPACTS REQUIRING MONITORING PROGRAMMES	FUNCTIONAL REQUIREMENTS FOR MONITORING	ROLES AND RESPONSIBILITIES For the execution of the monitoring programmes	MONITORING AND REPORTING FREQUENCY AND TIME PERIODS FOR IMPLEMENTING IMPACT MANAGEMENT ACTIONS
				Act 36 of 1998.
• Post-closure monitoring	• Follow up inspections and monitoring of rehabilitation	• Inspection of all rehabilitated areas to assess whether any soil erosion is occurring and implement corrective action where required. • Confirm that the set target of 45% cover for all re-vegetated areas have been achieved after a period of 6 months and re-seed where required • Identify any areas of subsidence around drill holes and undertake additional backfilling if required.	Prospecting Manager	• Monthly for a period of 6 months after rehabilitation activities are concluded. • Monthly monitoring reports to be signed-off by the Environmental Manager. • Corrective action to be confirmed and signed-off by the Environmental Manager. • Consolidated monthly monitoring reports (including the corrective action taken) to be submitted to the Department of Mineral Resources. • Final impact and risk assessment report for site closure to be submitted to the DMR for approval.

7.7 Frequency of performance assessment submission

Indicate the frequency of the submission of the performance assessment/ environmental audit report

Annual performance assessments must be undertaken on the EMP. These reports must include the financial provision assessment. The reports should be submitted to the DMR.

7.8 Environmental Awareness Plan

Manner in which the applicant intends to inform his or her employees of any environmental risk which may result from their work.

An Environmental Awareness and Risk Assessment Schedule have been developed and is outline in Table 17. The purpose of this schedule is to ensure that employees are not only trained but that the principles are continuously re enforced.

Table 16: Environmental training and awareness schedule

Frequency	Time allocation	Objective
Induction (all staff and workers)	1-hour training on environmental awareness training as part of site induction	• Develop an understanding of what is meant by the natural environmental and social environment and establish a common language as it relates to environmental, health, safety and community aspects. • Establish a basic knowledge of the environmental legal framework and consequences of non-compliance. • Clarify the content and required actions for the implementation of the Environmental Management Plan. • Confirm the spatial extent of areas regarded as sensitive and clarify restrictions. • Provide a detailed understanding of the definition, the method for identification and required response to emergency incidents.
Monthly Awareness Talks (all staff and workers)	30-minute awareness talks	Based on actual identified risks and incidents (if occurred) reinforce legal requirements, appropriate responses and measures for the adaptation of mitigation and/or management practices.
Risk Assessments (supervisor and workers involved in task)	Daily task-based risk assessment	Establish an understanding of the risks associated with a specific task and the required mitigation and management measures daily as part of daily tool box talks.

8 Manner in which risks will be dealt with in order to avoid pollution or the degradation of the environment

Task / Issue Based Risk Assessments must be undertaken with all worker involved in the specific task in order to establish an understanding of the risks associated with a specific task and the required mitigation and management measures.

8.1 Environmental Awareness Training Content – Induction Training

The following environmental awareness training will be provided to all staff and workers who will be involved in prospecting activities.

- Description of the approved prospecting activities and content of the prospecting right
- Overview of the applicable legislation and regulations as it relates to environmental, health, safety and community including (but not limited to):
    - General Environmental Legal Principles and Requirements
    - Air Quality Management
    - Water and Wastewater Management
    - Hazardous Substances
    - Non-Mining-Related Waste Management
    - The Appropriate Remediation Strategies & Deteriorated Water Resources
    - Biodiversity
    - Weeds and Invader Plants
    - Rehabilitation
    - Contractors and Tenants
    - Energy & Conservation
    - Heritage Resources
    - General Health and Safety Matters
    - Basic Conditions of Employment
    - Compensation for Occupational Injuries and Diseases
    - General Mine Health and Safety Matters
    - Smoking in the Workplace
    - Noise & Hearing Conservation
    - Handling, Storage and use of Hazardous Substances
    - Weapons and Firearms
- Content and implementation of the approved Environmental Management Plan
    - Allocated responsibilities and functions
    - Management and mitigation measures
    - Identification of risks and requirements adaptation

- Sensitive environments and features
    - Description of environmentally sensitive areas and features
    - Prohibitions as it relates to activities in or in proximity to such areas
- Emergency situations and remediation
    - Methodology for the identify areas where accidents and emergency situations may occur, communities and individuals that may be impacted
    - An overview of the response procedures,
    - Equipment and resources
    - Designate of responsibilities
    - Communication, including communication with potentially Affected Communities
    - Training schedule to ensure effective response.

8.2 Development of procedures and checklists

The following procedures will be developed and all staff and workers will be adequately trained on the content and implementation thereof.

8.2.1 Emergency preparedness and response

The procedure will be developed to specifically include risk identification, preparedness, response measures and reporting. The procedure will specifically include spill and fire risk, preparedness and response measures. The appropriate emergency control centres (fire department, hospitals) will be identified and the contact numbers obtained and made available on site. The procedure must be developed in consultation with all potentially affected landowners. In the event that risks are identified which may affected adjacent landowners (or other persons), the procedure will include the appropriate communication strategy to inform such persons and provide response measures to minimise the impact.

8.2.2 Incident reporting procedure

Incident reporting will be undertaken in accordance with an established incident reporting procedure to (including but not limited to):

- Provide details of the responsible person including any person who: (i) is responsible for the incident; (ii) owns any hazardous substance involved in the incident; or (iii) was in control when the incident occurred
- Provide details of the incident (time, date, location)
- The details of the cause of the incident
- Identify the aspects of the environment impacted

- The details corrective action taken
- The identification of any potential residual or secondary risks that must be monitored and corrected or managed

8.2.3 Environmental and social audit checklist

An environmental audit checklist will be established to include the environmental and social mitigation and management measures as developed and approved as part of the Environmental Management Plan. Non-conformances will be identified and corrective action taken where required.

8.3 Specific information required by the Competent Authority

Among others, confirm that the financial provision will be reviewed annually.

No specific information was required by the Competent Authority.

9 UNDERTAKING

The EAP herewith confirms:

- The correctness of the information provided in the reports
- The inclusion of comments and inputs from stakeholders and I&APs
- The inclusion of inputs and recommendations from the specialist reports where relevant
- That the information provided by the EAP to interested and affected parties and any responses by the EAP to comments or inputs made by interested and affected. parties are correctly reflected herein

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Signature of the Environmental Assessment Practitioner (Singo Consulting (Pty) Ltd)

Name of company

Singo Consulting (Pty) Ltd

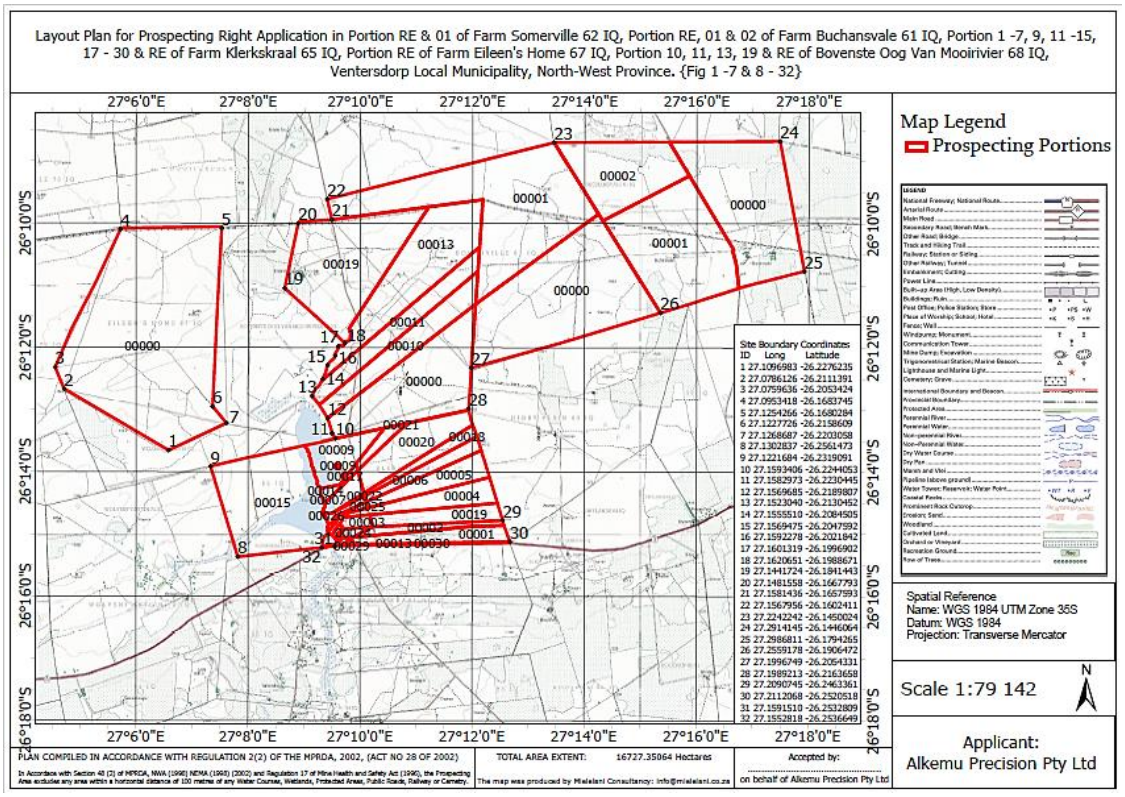
Date 28-02-2019

10 Undertaking by the client

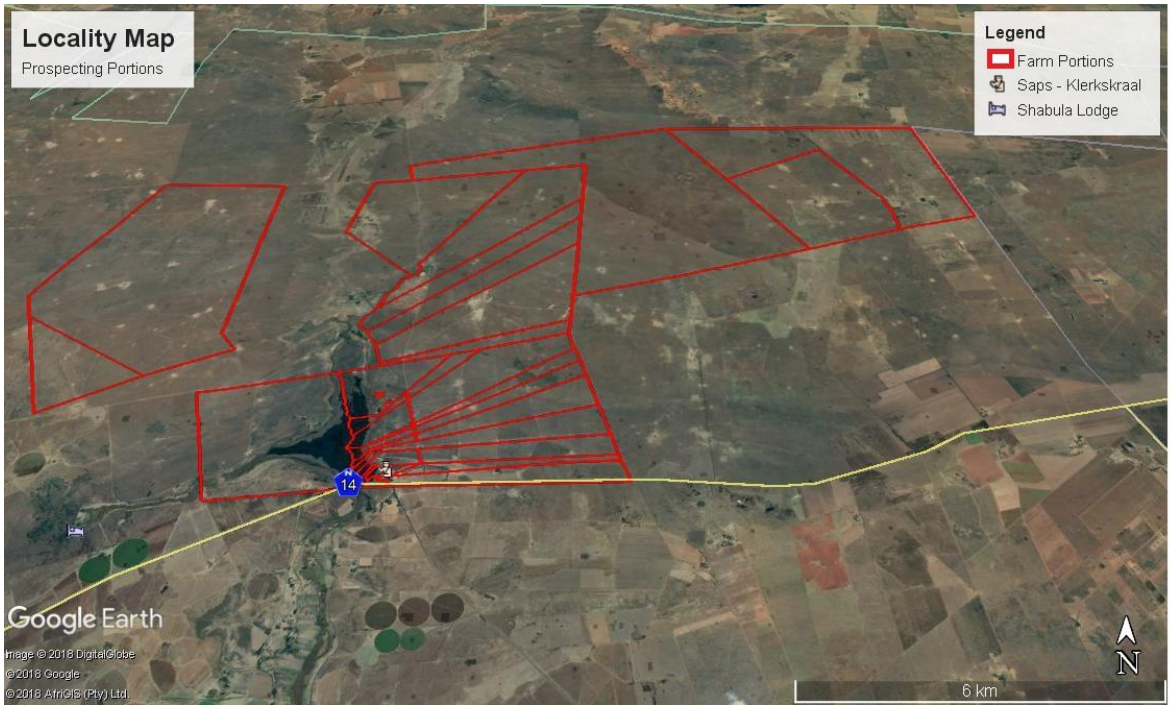
Herewith I, the person whose name and identity number is stated below, confirm that I am the person authorised to act as representative of the applicant in terms of the resolution submitted with the application, and confirm that the above report comprises EIA and EMP compiled in accordance with the guideline on the Departments official website and the directive in terms of sections 29 and 39 (5) in that regard, and the applicant undertakes to execute the Environmental management plan as proposed.	
Full names and surname	Given Bongane Simelane
Identity number	821117 5629 083
Designation	Managing Member
Signature	
Date	

-END-

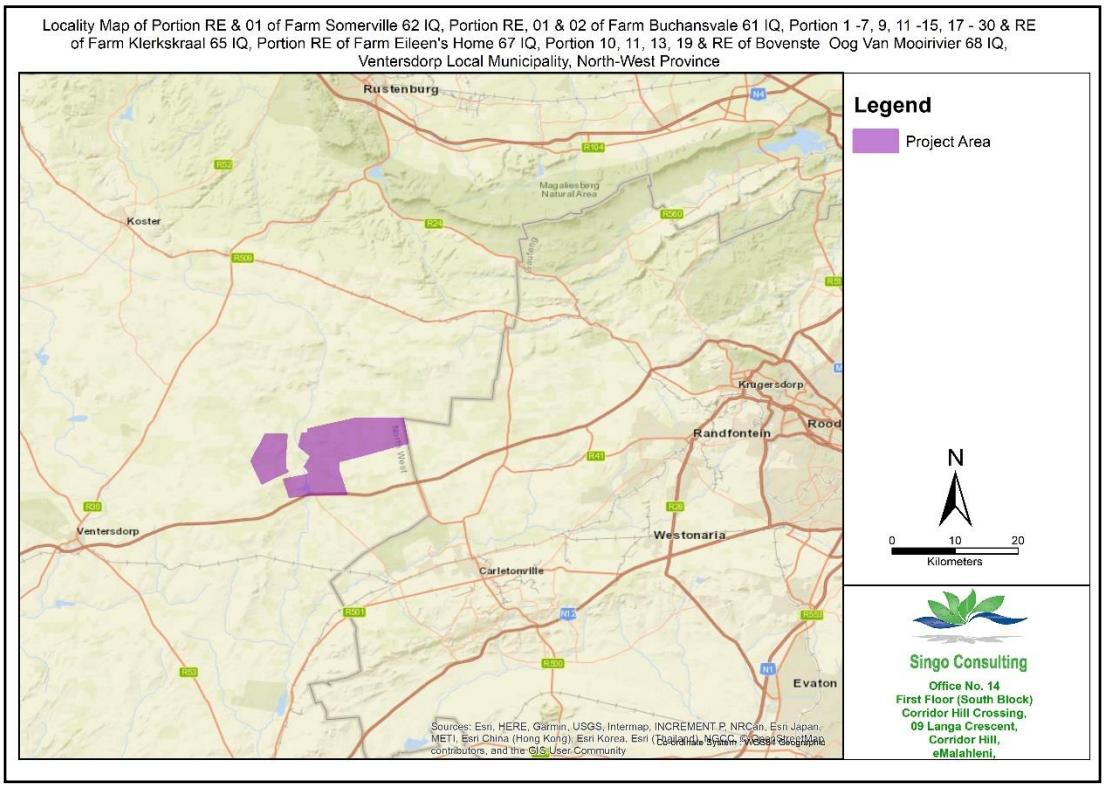
Appendix A: Project Maps



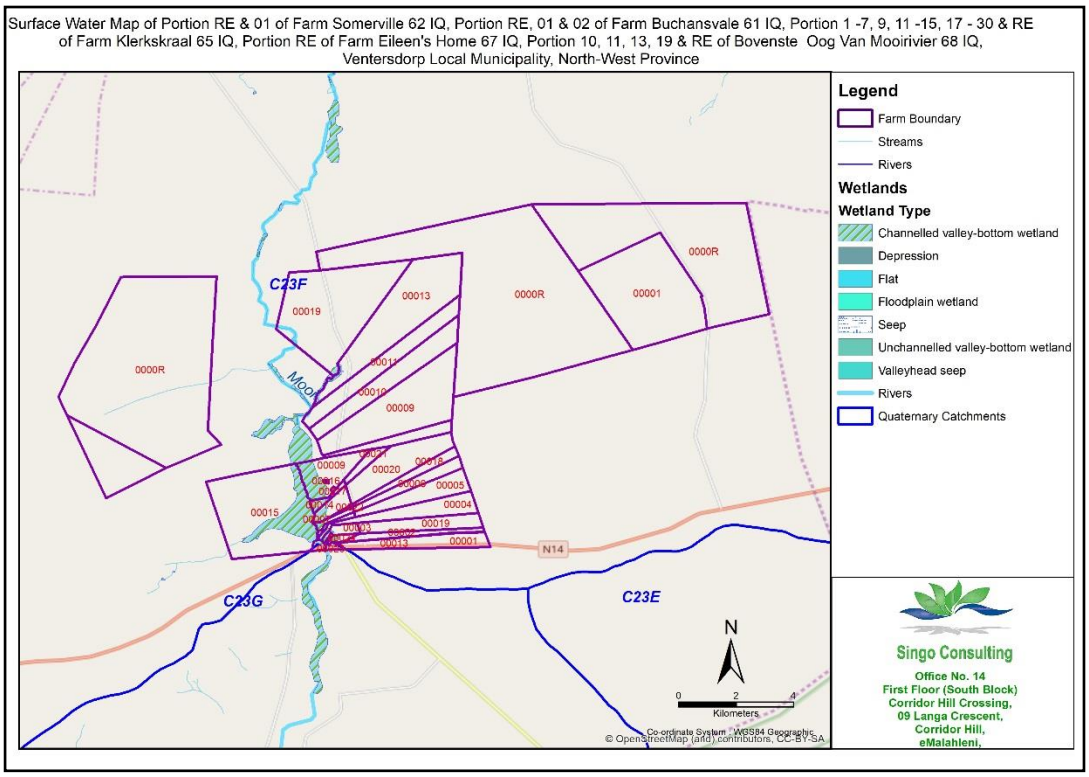
Regulation Map



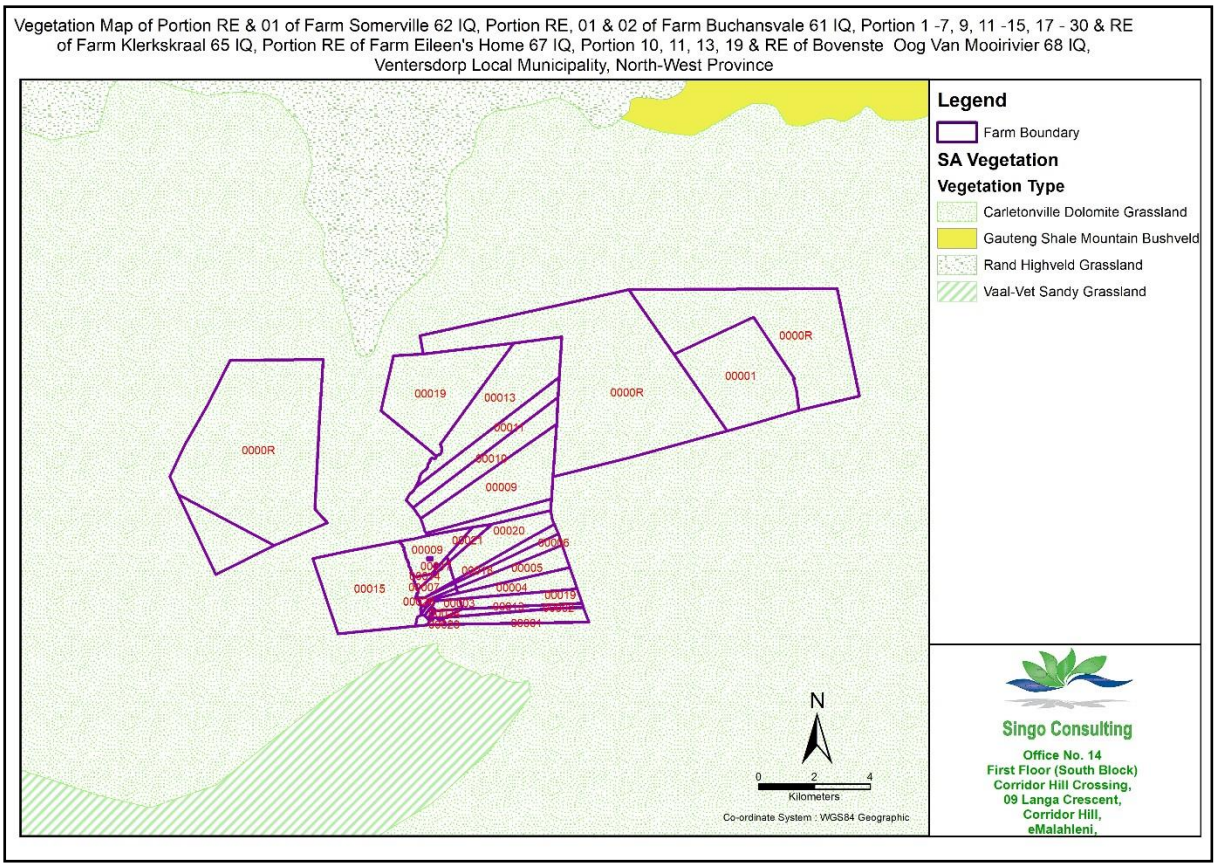
Google Earth Map



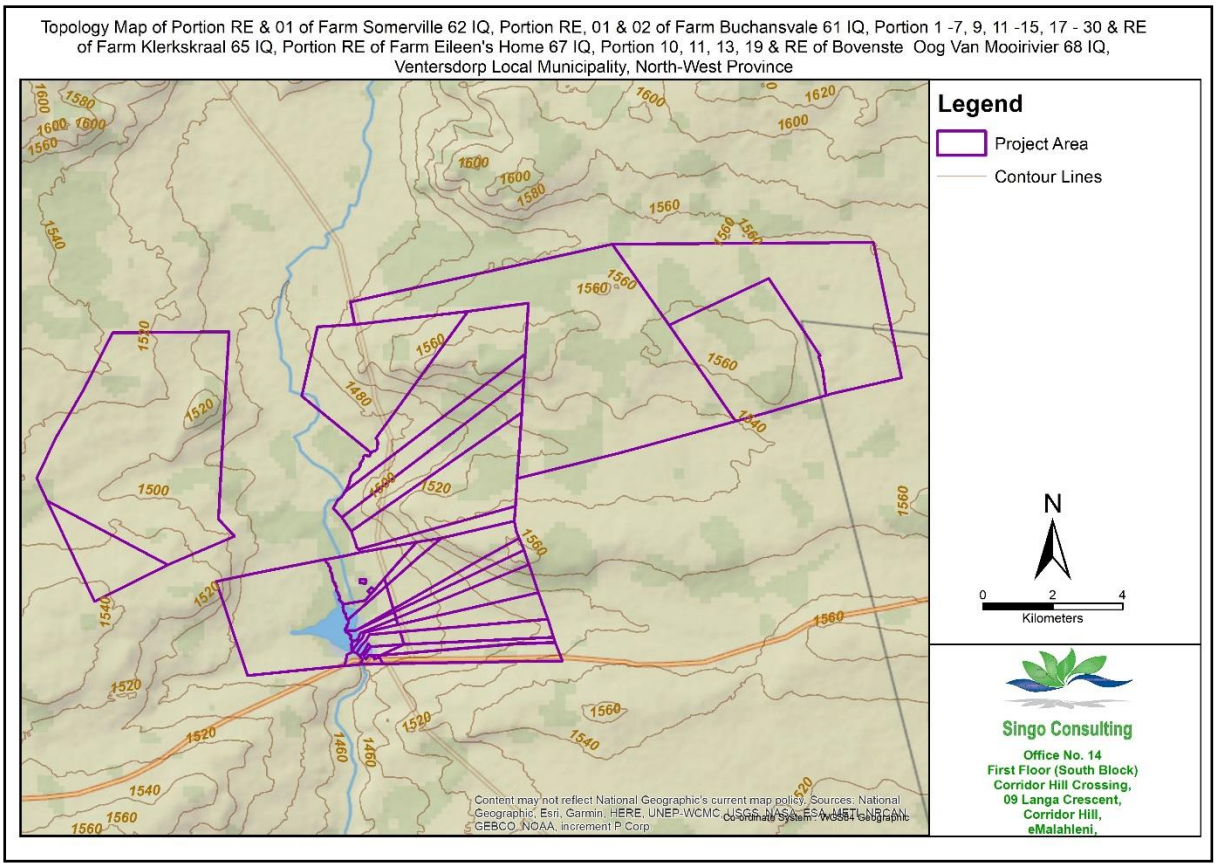
Locality Map



Surface Water Map



Vegetation Map



Topography Map

Appendix B: Curriculum Vitae

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SINGO CONSULTING

www.singoconsulting.co.za

Company Background

About us

Singo Consulting (Pty) Ltd is a private independent research consultancy, holding no equity in any project and is owned by the staff. This enables it to offer clients objective support on crucial issues.

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In the year 2008, Singo Consulting (Pty) Ltd was formed as an Independent Research Company focused to create opportunities for Mining and Environmental Industry. The core business is providing Geological, Environmental and Hydrological Research Solutions to the industry.

The core business is providing Geological, Environmental and Hydrological Research Solutions to the industry.

Mission

Singo Consulting (Pty) Ltd provides high value Geological, Hydrological and Environmental specialized services to clients across a range of industries that are primarily natural resource based.

The company aims to be a consultant that communicates sound waste and environmental services solutions.

As a full service Scientific and Environmental firm, Singo Consulting (Pty) Ltd considers each project on an individual basis, providing expert technical services while meeting deadlines and staying within budgets.

"Protect & Manage the best remaining Environment"

MANAGEMENT

SINGO CONSULTING

Dr. Singo Kenneth Ndinannyi - Pr.Sci.Nat
Managing Director
PhD, MSc, BSc (Hons) Mining & Env Geol
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kenneth@singoconsulting.co.za

DR. N.K Singo is a registered competent person with the South African Council for Natural Scientific Professions (SACNASP: Earth Science Reg. No: 400069/16), Geological Society of South Africa (GSSA), the Land Rehabilitation Society of Southern Africa (LaRSSA) and South African Affiliates of the International Association for Impact Assessment. Kenneth holds an MSc in Environmental Management (University of South Africa (UNISA) & a BSc (Hons) in Mining & Environmental Geology the University of Venda).

He has just recently qualified for his Ph.D. (Geology, Applied Environmental Mineralogy and Geochemistry) at the University of Johannesburg. He worked for Malatleng Mining CC as Geologist Consultant and Environmental Analyst. In search for growth, he joined Ncondezi Coal Company in Mozambique, Tete Coal basin as Leading Project Geologist. He worked for Anglo American Thermal Coal as a Senior Project Geologist. He is the Managing Director and Principal Consultant for Singo Consulting (Pty) Ltd

Kenneth has knowledge of Mine Water and Mine Environmental Management (acid mine drainage, heavy metal assessments and tailings management) in various commodities including Silica (general), gold, magnesite and base metals (Cu, Pb, Zn). He has extensive knowledge of defunct mining waste and waste water impact assessments in communities residing in the vicinity of those mines. This knowledge was gained through MSc. Kenneth has sound knowledge of risk assessment, both in terms of human health and the environment. He is experienced in the appraisal of potential constraints, as well as devising means of mitigation through remedial strategy development, feasibility and validation.

During his PhD studies, Kenneth learned how to operate within contaminated lands. His PhD largely focused on disused mines (gold, copper and magnesite) ranging from Phase I and Phase II investigations to development of remedial strategies (i.e. Phase III). His PhD further equipped him to intensively understand the waste classification, profiling and understanding of the implications associated with the management of waste, landfill disposal profiling and development of beneficiation strategies.

MANAGEMENT

SINGO CONSULTING

Mrs Elelwani Singo

Safety Officer

NQF level 4 Engineering & Safety Management

+27 73 762 8866

elelwani@singoconsulting.co.za

Mrs Singo is responsible for all safety principles and best practices at the Operating site. She is the facilitator of organisational cost saving initiatives.

Mr Muvhulawa Emmanuel Netshisaulu

Geologist

BSc (Hons) Mining & Env Geology

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emmanuel@singoconsulting.co.za

Emmanuel holds a Bsc (Hons) Mining and Environmental Geology from the University of Venda for Science and Technology. He is currently busy with MSc proposal at the University of South Africa. He is in charge of Environmental (Environmental Impact Assessment, Basic Assessment Report and Hydrogeological studies) and Geological (Exploration Plans, Geological Mapping, Geotech Studies, and Drill Management) aspects at Singo Consulting firm.

He is currently working as an Environmental Control Officer (ECO) at Goedvertrouwd Colliery Coal Mining and Processing under Singo Consulting. He is a Geological & Environmental consultant on Singo Consulting (Pty) Ltd.

Mr Ndivhuwo Maxwell Mualusi

Administrative Assistant

Mr Maxwell Mualusi is responsible for assisting in daily office needs such as timelines of company's projects, maintaining appropriate filing systems and managing the company's general administrative activities.

"Protect & Manage the best remaining Environment"

MANAGEMENT

SINGO CONSULTING

Mr Talelani Anthony Singo

Hydrologist

MSc Environ (Cand), BSc (Hons) Hydrology & Water Resources

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anthony@singoconsulting.co.za

Anthony is a Hydrologist. He has been actively involved in many projects including, but not limited to: Water quality studies on boreholes drilled in close vicinity of the abandoned mine, water balance & chemistry of the tailings dumps of Musina Copper Mine, Giyani Louis Moore Gold Mine and Zwigodini Magnesite Mine.

He was a Team Leader for the Water Studies Project at Weideman Quarry Open Pit (Ermelo, MP). The scope of the project included: Surface, Intermediate and Deep-water sampling for the analysis of a variety of parameters to meet the DMR requirements.

He is currently busy with his Masters of Science (MSc) in Environmental Sciences at the University of South Africa (UNISA), the main focus of which is closure and rehabilitation of mines.

Anthony is a registered competent person with the South African Council of Natural Science Professions (SACNASP: Water Resources Science Reg. No: 116762), Geological Society of South Africa (GSSA), the Land Rehabilitation Society of Southern Africa (LaRSSA) and Southern Africa Water Institute (WISA). Anthony is currently busy with an MSc in Environmental Management (University of South Africa (UNISA)) and holds BSc (Hons) in Hydrology and Water Resources (the University of Venda).

Anthony has knowledge of Mine Water and Mine Environmental Management in various commodities. He has extensive knowledge of hydrological aspects, such as flood-line modelling, stormwater management (Pollution Control Dam (PCD) sizing, Slit traps sizing & channel sizing), Water quality monitoring (both Surface and ground water). Due to his MSc he already gained knowledge of mine rehabilitation. He is experienced in the appraisal of potential constraints, as well as devising means of mitigation through remedial strategy development, feasibility and validation.

He designs storm water management plans he acquired experience through different projects that were done in South Africa and other African countries such as Angola and many more. He delineates clean and dirty water catchments with the use of GIS.

MANAGEMENT

SINGO CONSULTING

MR STANLEY RAKHADANI

Senior Environmental Assessment Practitioner
BSc (Hons) Mining and Environmental Geology
MSc (Geochemistry) Proposal (UJ & Unisa)

078 840 9798 | 071 4075 8332

stanley@singoconsulting.co.za

Areas of Expertise: Environmental Management (incl. compliance monitoring & auditing), Mining & Geology, Geohydrology, Environmental Law, Water Management (incl. water use auditing), & Project Management

Key Responsibilities: As entitled by the policies of Singo Consulting, Mr Stanley Rakhadani's duties involve taking full responsibility to ensure quality control on all projects as well as managing in house team of consultants. Ensuring that projects are managed efficiently and according to their agreed timeframes and allocated budgets. Liaise with Clients and competent authorities. Conduct mineral exploration, environmental impacts assessment, public participation activities, environmental compliance audit, water use licence audit, borehole certification, pump tests, mine feasibility studies and compile sound and reader friendly reports/plans. Lodge permits/licence applications in terms of the Republic of South Africa laws such as NEMA (i.e. Environmental Authorizations), MPRDA (i.e. Prospecting Rights, Mining Permits, Mining Rights).

Recent Training: Environmental law, Waste Classification & Management, ISO 14001 (March 2018, Singo Consulting Offices, Lecture-Mr Tshusa) Environmental Management Principles (May 2018, Singo Consulting Offices, Lecture-Mrs Ramuhulu N)

Current Academic: Project Co-researcher on the project "Assessment of the potential Acid Mine Drainage (AMD) occurrence around previously mine stressed area using available boreholes (within 2km radius) and newly drilled boreholes at Goedvertrouwd Coal Mine in Balmoral, Mpumalanga Province"

Mr Livhuwani Sigwadi

Junior Consultant
BSc (hons) Environmental Management (Univen)

+2776 6529 062

livhuwani@singoconsulting.co.za

Sigwadi Livhuwani is a junior consultant at Singo consulting (Pty) Ltd from September 2018. He is responsible with all related EIA tasks such as advertisement of projects, conducting of public participation Process and also developing of Empr in the company

"Protect & Manage the best remaining Environment"

MANAGEMENT

SINGO CONSULTING

Ms Samkele Lulutho Dandala

GIS Technician

BSc (Hons) Environmental Management (cand)

062 691 4321

samkelel@singoconsulting.co.za

Samkele Dandala holds a Bachelor's degree in Geography and Environmental Management and she is currently doing her honours in Environmental Management. Samkele has 2 years and 6 months experience in environmental consultancy. She is hardworking and goal driven individual who believes in a combination of working hard and working smart to achieve her goals.

She is a well-rounded individual in the Environment Management and GIS fields as she has been involved in various projects such as environmental consulting projects, disaster management, water use authorization and licensing, environmental remote sensing, and general mapping projects She is currently working as a GIS Technician and Environmental consultant at Singo Consulting.

Miss. Shonisani Rudzani

Junior Consultant

N.Dip Geology

+27 78 548 1244

rudzani@singoconsulting.co.za

Rudzani is a Junior Consultant. She joined Singo Consulting Pty (Ltd) in August 2018 and she has been actively involved in assistance with environmental authorization processes (including Basic Assessment and Scoping & Environmental Impact Assessment processes), report writing public and authority consultation, environmental site assessment, assisting in the management of large and small EA and environmental permitting projects, as well as applying and enforcing Singo Consulting Pty (Ltd) project standards. She was a core masker intern at Terracore (Pty) Ltd and she was involved in several projects including making, product check, core log interpretation and box masking and also worked at Vhembe Municipality as junior technician, involved in drilling projects, office based report check and admin work.

Rudzani is currently studying towards her BTech in Geology at Tshwane University of Technology and she is doing her research project with Singo Consulting Pty (Ltd) under the supervision of Mr FS Rakhadani and Mr NK Singo.

MANAGEMENT

SINGO CONSULTING

Miss Boipelo Motlhatlhedi

Junior Consultant

BTech: Geology (Cand), N.DIP: Geology

083 473 8300

boipelo@singoconsulting.co.za

Boipelo is a Junior Consultant. She joined Singo Consulting in May 2018 and she has been actively involved in assistance with environmental authorization processes (including Basic Assessment & Scoping & Environmental Impact Assessment processes), report writing, public and authority consultation, environmental site assessment, assisting in the management of large & small EA and environmental permitting projects, as well as applying and enforcing Singo Consulting project standards.

She was a Geophysics intern at Open Ground Resources and she was involved in several projects including gravity and Ground Penetrating Radar (GPR). Boipelo is currently studying towards her BTech in Geology at Tshwane University of Technology and she is doing her research project with Singo Consulting under the supervision of Mr FS Rakhadani and Mr NK Singo.

Mr Tshifhiwa Netshiavha

Junior Consultant

BSc (Hons) Mining and Environmental Geology

+27 076 775 6389 | +27 66 129 5959

owen@singoconsulting.co.za

Mr Netshiavha is a junior consultant in Singo Consulting. Singo Consulting Pty (Ltd) in July 2018 appointed him as a junior consultant. He is accountable with the advertisements of services from Singo Consulting, Prospecting Rights projects and also responsible with the development of Rehabilitation plan.

He did research in legal and illegal mining (Hons) and came up with an applicable model of health and safety. It is highlighted that with great intellectual nourishment from Singo Consulting Pty (Ltd), he will consider enrolment of Msc in Geology.

SERVICES

SINGO CONSULTING

OVERVIEW

We are a receptive company that provides an opportunity to clients to solve the following problems.

Geological

- Borehole Planning and Pegging
- Drilling Management and Supervision
- Core Logging (diamond, percussion and RC drilling) and Core Sampling
- Exploration Rehabilitations and Managing
- Geological (Exploration, Resource Estimation and Competency Report)
- Hydrological and Hydrology (Surface and Groundwater Studies)
- Soil Science (Soil profiling, Modelling and Soil Chemistry)
- Geotechnical (Soil and Rock)
- Mining Feasibility Studies

Environmental

- Conducting Environmental Impact Assessments
- Developing Environmental Management Plans
- Environmental Management Systems
- Legal Compliance with Environmental Mining & Water laws
- Social Impact Assessment
- Social and Community Development Plans

Waste Management

- Loading and transporting

Cleaning Services (our moto Clean it)

- Industrial Cleaning: Singo Consulting is a leading service provider within the mall or shopping complex, mining, government and manufacturing industries. We pride ourselves in customer satisfaction by providing excellent quality services on time. We are driven by the need to protect the environment through preservation, reuse & recycling
- We do, office and other industrial Cleaning, dam cleaning, Dredging Services, Slurry Pumps, High Pressure Cleaning & more

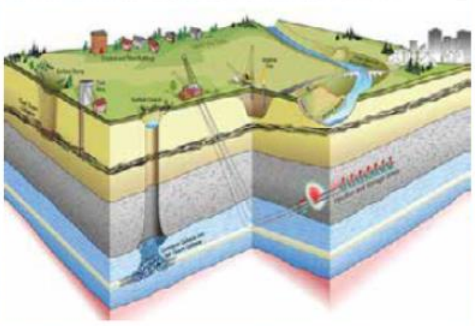
Site Rehabilitation

- Singo Consulting a leading specialist in providing innovative and effective solutions for slimes dam, dust control, & the rehabilitation of mining & industrial sites. We provide a turnkey solution to all environmental problems.
- Close of the drill site and mined out areas

"Protect & Manage the best remaining Environment"

GALLERY

SINGO CONSULTING



CONTACT US

SINGO CONSULTING

POSTAL ADDRESS

P/ Bag 7214
Postnet Suite 125
Witbank (Benflour)
eMalaheni
1035. ZA

OFFICE ADDRESS

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First Floor (South Block).
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eMalahleni

CONTACT DETAILS

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+27 72 081 6682
+27 86 5144 103
www.singoconsulting.co.za
kenneth@singoconsulting.co.za

Appendix C: Competent Authority

mineral resources

Department:
Mineral Resources
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: Mrs. Linah Tshisevhe **Tel:** (018) 487 4300 **Fax:** (018) 487 4350
E-Mail: tshisikhawe.tshisevhe@dmr.gov.za **Ref: NW 30/5/1/1/3/2/1/12466 EM**

REGISTERED MAIL

The Manager
Singo Consulting (Pty) Ltd
(Alkemu Precision (Pty) Ltd)
Private Bag x 7214
Postnet Suite 125
Witbank
1035

Attention: Mr. K Singo **Fax: 086 514 4103**

ACKNOWLEDGEMENT RECEIPT OF AN APPLICATION FOR ENVIRONMENTAL AUTHORISATION AS REQUIRED IN TERMS OF REGULATION 3(6) OF THE NATIONAL ENVIRONMENTAL MANAGEMENT ACT, 1998 (ACT NO.107 OF 1998): ENVIRONMENTAL IMPACT ASSESSMENT REGULATIONS, 2014 LODGED IN TERMS OF REGULATION 16 OF THE ABOVE MENTIONED REGULATIONS AS READ TOGETHER WITH SECTION 12 OF THE MINERAL AND PETROLEUM RESOURCES DEVELOPMENT ACT, 2008 (ACT NO.49 OF 2008) AS AMENDED IN RESPECT OF THE FARM BUCHANSVALE NO. 61, SOMERVILLE NO. 62, BOVENSTE OOG VAN MOOIRIVIER NO. 68 KLERKSKRAAL NO. 65 AND EILEEN'S HOME NO. 67 SITUATED IN THE MAGISTERIAL DISTRICT OF VENTERSDORP BY ALKEMU PRECISION (PTY) LTD.

1. The above-mentioned matter refers.

2. This letter serves to inform you that your application for Environmental Authorisation lodged on **the 03rd October 2018** is hereby acknowledged.

3. Notwithstanding this, you are reminded that all documents must be submitted in accordance with the timeframes stipulated on the NEMA: EIA Regulations, 2014 therefore you are required to submit three (3) hard copies of Basic Assessment Report and Environmental Management Programme together with the proof of public participation process undertaken to this office and upload 1 copy on a departmental SAMRAD System **within 90 days from lodgment date of your application**.

4. You are required to consult with every organ of state that administers a law relating to a matter affecting the environment as stipulated on Regulation 7 (2) of NEMA: EIA Regulations: 2014 and submit proof of such consultation together with the Basic Assessment Report mentioned on paragraph 3 above.

5. In case of the tribal authority, you are required to ensure that proof of consultation of the community concerned is supported by a resolution which is taken in a meeting attended/ facilitated by the Department of Rural Development and Land reform.

6. You are further required to submit locality map which must be on A3 paper size, must have legend, north point and printed in colour **within 30 days from the date of signing of this letter.**

7. You are also advised to provide a declaration of the EAP and affirmation that all the information submitted or to be submitted for the purpose of the application is true and correct as prescribed in terms of regulation 16 (b) (iv) of the NEMA: EIA Regulations. This information must submitted to this office **within 30 days from the date of signing of this letter.**

8. Kindly also note your application has been assigned to **Mrs. Linah Tshisevhe** who could be reached at the following contact details: Tel: (018) 487 4300/4390.

Yours faithfully,

.....

REGIONAL MANAGER: MINERAL REGULATION
NORTH WEST REGION
DATE: 12/10/2018

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

Public Consultation Report

This report is required for an application for a prospecting right, as well as environmental authorisation for prospecting on Portions 1 and RE of the Farm Somerville 62 IQ, Portions 1-7, 9,11-15,17-30 & RE of the Farm Klerkskraal 65 IQ, Portion RE of the Farm Eileen's Home 67 IQ, Portions 10,11,13,19 & RE of the Farm Bovenste Oog van Mooirivier 68 IQ & Portion RE of the Farm Bovenste Oog van Mooirivier 271 IQ, situated under the Magisterial District of Ventersdorp, North West province.

D1. CONSULTATION REPORT

1. INTRODUCTION

This Consultation Report has been compiled for an application for a Prospecting Right and Environmental Authorisation Application that has been submitted in terms of the Mineral and Petroleum Resources Development Act (Act No.28 of 2004) (MRPDA) and the National Environmental Management Act, Act No. 107 of 1998 (NEMA). The application for a Prospecting Right on Portions 1 and RE of the Farm Somerville 62 IQ, Portions 1-7, 9,11-15,17-30 & RE of the Farm Klerkskraal 65 IQ, Portion RE of the Farm Eileen's Home 67 IQ, Portions 10,11,13,19 & RE of the Farm Bovenste Oog van Mooirivier 68 IQ & Portion RE of the Farm Bovenste Oog van Mooirivier 271 IQ was submitted to the North West Department of Mineral Resources (DMR) (**Reference Number**: NW 30/5/1/1/2/12466 PR).

As part of the application process, the DMR requires that the applicant undertake public consultation as part of the basic assessment (BA) process. In fulfillment of this requirement, Alkemu Precision (Pty) Ltd appointed Singo Consulting (Pty) Ltd to conduct the public consultation process with the land owners and other affected parties and to compile this report. This report describes the process used to notify stakeholders and Interested and Affected Parties (I&APs) of the applications.

The proposed prospecting will be taking place in Carolina area of the Mpumalanga Province.
The activities applied for will take place on the following property (ies):

Table 1: Proposed Farms and Farm Portions

Farm(s) Name	Farm No.	Portions
Buchansvale	61 IQ	1, 2 & RE

Somerville	62 IQ	1 & RE
Klerkskraal	65 IQ	1-7, 9,11-15,17-30 & RE
Eileen's Home	67 IQ	RE
Bovenste Oog Van Mooirivier	68 IQ	10,11,13,19 & RE
Bovenste Oog Van Mooirivier	271 IQ	RE

b) The Applicant

Alkemu Precision (Pty) Ltd lodged an application for environmental authorization for a prospecting right with the Mpumalanga DMR. The applicant's details are as follows:

Table 2: Applicant Contact Details

Name	**Alkemu Precision (Pty) Ltd**
Physical Address	12 Martjie Street, Judor Ext 4, Witbank, Mpumalanga, 1035
Cell:	+27 76 246 3677/ +27 74 897 7977
Email:	simelanegb@gmail.com
Contact Person:	Bongani Simelane

c) Environmental Assessment Practitioners

Singo Consulting (Pty) Ltd has been appointed on behalf of Alkemu Precision (Pty) Ltd as independent environmental consultants to undertake the Public Participation Process and compile the Basic Assessment Report and Environmental Management Program (EMPR) for this application process.

Table 3: EAP Contact Details

Name	**Singo Consulting (Pty) Ltd**
Tel:	+27 13 692 0041
Fax:	+27 86 5144 103
Cell:	083 473 8300
Email:	boipelo@singoconsulting.co.za / admin@singoconsulting.co.za
Postal Address:	P/Bag X7214, Postnet Suite 125, Witbank, 1035

PUBLIC PARTICIPATION PROCESS

a) Legislative Framework

In terms of Section 24 (4) of the Act and Regulation 41 (b) of the NEMA Regulations (2014) (as amended 2017), Alkemu Precision (Pty) Ltd is required to consult with, and notify in writing, all landowners or lawful occupiers and any

I&APs of the prospecting right application and the BA process. Legislation also requires the results of such consultation to be submitted to the DMR together with the Final BAR within 90 days of the applicant receiving acknowledgement of receipt of the application for the prospecting right. To ensure compliance with the MPRDA and NEMA Regulations the following activities have been undertaken to date:

- Identification of Stakeholders IAPs;
- Development and on-going updating of an IAP database;
- Advertising the notification of application for the prospecting right and environmental authorization applications in a local newspaper;
- Placement of site notices;
- Email distribution of letters of notification and BIDs to IAPs;
- Placement of the Draft BAR and EMP in public venues for public review and comment; and
- Conducting a public open day providing an opportunity for stakeholders to get answers from Alkemu Precision (Pty) Ltd and Singo Consulting (Pty) Ltd.

These aspects that form part of the public participation process (PPP) and are discussed in detail below.

b) Objectives of Public Participation

Following the requirements for public participation in terms of the NEMA, objectives of the PPP include providing sufficient and accessible information to enable stakeholders to:

- Identify issues of concern;
- Make suggestions for enhanced benefits and commenting on alternatives;
- Contribute to local knowledge and experience; and
- Ensure that their comments, issues of concern and suggestions are correctly captured, addressed and considered in the BA process and BAR.

c) Commencement of PPP

Upon the lapse of 14 days after applying for environmental authorization, and in compliance with the NEMA, Singo Consulting commenced with the PPP for the BA process on 22 October 2018. This was concluded on 21 November 2018, allowing IAPs a 30-day comment period to respond to the proposed application.

d) Identification of Interested & Affected Parties

A stakeholder database for the application was developed and updated during the PPP. Stakeholders and I&APs were identified at national, provincial, district and local levels (refer to **Appendix D2)**. Other IAPs surrounding the project site were also identified and added to the database, and the general public was invited through advertisements and the distributed BID documents to register as IAPs on the database.

e) Written Notification

Advertisements

An advertisement was placed in a local newspaper (i.e. *Potchefstroom Herald*, on Thursday 25 October 2018) to advertise Alkemu Precision (Pty) Ltd's intention to prospect gold, diamond, manganese & iron ore resources along with its application for environmental authorization. The advertisement served to notify the public about the applications and the BA process, provided the description and location of the proposed activities, the availability of the Draft BAR for review and comment and the 30-day public review period, and details on the environmental consultants to contact for the BID and further information on the proposed project. Please refer to **Appendix D3** for the clipping of the advertisements.

Site Notices

A3-sized site notices containing the same information as the advertisements were put up around the proposed project area on 06 August 2018. A total of 4 site notices were erected- in English. Please refer to **Appendix D4** for photographic evidence and locations of all notices.

Letters of Notification

A letter of notification of application for environmental authorization and the BA process was compiled for identified IAPs. The letter provided details on the applicant, EAP and the consultation period for raising issues, concerns and / or queries. Please refer to **Appendix D8** for a copy of letter and proof of emails sent.

Background Information Document

A background information document (BID) to provide further information on the proposed project and BA process was prepared for IAPs (please refer to **Appendix D2**). The BID provided the following information:

- Purpose of the BID;
- Appointed EAP;
- Project Description including proposed project activities;
- Basic Assessment and Public Participation process;
- Contact details of the EAP for IAPs to register and send through written issues, concerns or queries; and
- Map of the proposed area (farm portions).

The BID was available in English.

f) Public Open day

The public open day offer an opportunity for I&APs to register on the stakeholder database and to submit written comments to the consultant. Information on the project was put on posters for the public to view (please refer to **Appendix D4**). In addition to site notices and the newspapers adverts, I&APs were sent a letter of notification informing them of the application process and upcoming public open day. Please Refer to **Appendix D8 & D9,** which provides a copy of the notification letter.

g) Focus Group Meeting with Landowners and Representative

The landowners are Mr Jacob Luesaffron, Mr Henri Fouche & PSN Icorporated Attorneys Conveyancers. Letter of notification about proposed project was sent to the landowners above via email to notify them. The letter also offered the landowner and his representatives an opportunity to raise issues and concerns with the project as part of the public consultation process. Letter of notification is found in **Appendix D8**. **Draft Reports**

A copy of the Draft BAR and EMP were released into public domain on 21 November 2018 for the public to review. The documents were placed as follows:

- Electronic copies made available on Email via the following address:

boipelo@singoconsulting.co.za

Proof of all key correspondence with I&APs can be found in **Appendix D**

D2. BACKGROUND INFORMATION DOCUMENT (BID)

BACKGROUND INFORMATION DOCUMENT

Prospecting Right Application & Environmental Authorization Application on the Farm(s) Buchansvale 61 IQ; Somerville 62 IQ; Klerkskraal 65 IQ; Eileen's Home 67 IQ; and Bovenste Oog Van Mooirivier 68 IQ, situated under the Magisterial District of Ventersdorp, North West province.

Prepared By: Singo Consulting (Pty) Ltd

Prepared For: Alkemu Precision (Pty) Ltd

DMR reference for the proposed project:

Applicant	Farm Name & Portion	DMR Reference
Alkemu Precision (Pty) Ltd	Portions 1, 2 & RE of the Farm Buchansvale 61 IQ	NW 30/5/1/1/2/12466 PR
	Portions 1 and RE of the Farm Somerville 62 IQ	
	Portions 1-7, 9,11-15,17-30 & RE of the Farm Klerkskraal 65 IQ	
	Portion RE of the Farm Eileen's Home 67 IQ	
	Portions 10,11,13,19 & RE of the Farm Bovenste Oog Van Mooirivier 68 IQ	
	Portion RE of the Farm Bovenste Oog Van Mooirivier 271 IQ	

For any project related information contact:

Singo Consulting (Pty) Ltd

Boipelo Motlhatlhedi

T: +27 83 473 8300

F: +27 86 5144 103

E: boipelo@singoconsulting.co.za

Private Bag X 7214, Postnet suite 125, Witbank 1035

Office No: 14 Corridor Hill Crossing, 09 Langa Crescent, Corridor Hill,

1. Introduction

Alkemu Precision (Pty) Ltd applied for a Prospecting Right (DMR Ref: NW 30/5/1/1/2/12466 PR) together with the environmental authorization in terms of Section 16 of the Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002) (MPRDA) on **Portions 1, 2 & RE** of the Farm Buchansvale 61 IQ; **Portions 1 and RE** of the Farm Somerville 62 IQ; **Portions 1-7, 9,11-15,17-30 & RE** of the Farm Klerkskraal 65 IQ; **Portion RE** of the Farm Eileen's Home 67 IQ; **Portions 10,11,13,19 & RE** of the Farm Bovenste Oog Van Mooirivier 68 IQ; and **Portion RE** of the Farm Bovenste Oog Van Mooirivier 271 IQ, situated in the magisterial district of Ventersdorp, North West province.

Singo Consulting (Pty) Ltd has been appointed as an independent Environmental Assessment Practitioner (EAP), to compile an Environmental Management Plan (EMP) and to undertake the Public Participation Process (PPP) for the respective Prospecting Right Application.

This Background Information Document (BID) has been developed to:

- Share information about the proposed Project;
- Present the Prospecting Right Application process according to South African legislation; and
- Provide more detail about the Public Participation Process (PPP) which will be followed.

1. PROJECT DESCRIPTION

The Prospecting Right Application has been submitted for the prospecting of Manganese, Diamond, Gold & Iron Ore on the above mentioned Farms and their portions. The Farms are located approximately 29.0 km north west of Carletonville, 98.06 km west of Krugersdorp and 46.00 km east of Ventersdorp, North West province.

Prospecting activities will be undertaken over a period of five (5 years) and the application entails both invasive and non-invasive methods. This is followed by reconnaissance exploration in which geological mapping; geochemical survey; and geotechnical surveys are used. In turn, this is followed by detailed geophysical studies and later, a detailed drilling, sampling, assaying and mineralogical study. Percussion drilling and Diamond drilling methods will be utilized to prospect in situ Manganese, Diamond, Gold and Iron Ore deposits in this project. Once the chips & cores have been retrieved from the drill holes, those chips & cores

containing the mineral deposits will be sampled and be prepared for lab analysis. All the drilling activities will be guided by the project's EMP such that the project does not impact the environment negatively.

2. PROJECT JUSTIFICATION

The North West province is aligned with the Western Limb of the Bushveld Igneous Complex, a remarkably rich mineral formation. Mines in the province produce 50% of the platinum produced in the world, and 65% of South Africa's platinum group minerals.

The domestic utilization and export of the minerals mentioned above have contributed vastly to South Africa's economy furthermore this has aided in eradicating poverty, providing much needed development and employment opportunities. Therefore there is a need to continue to harness these economic benefits of the mentioned mineral resources.

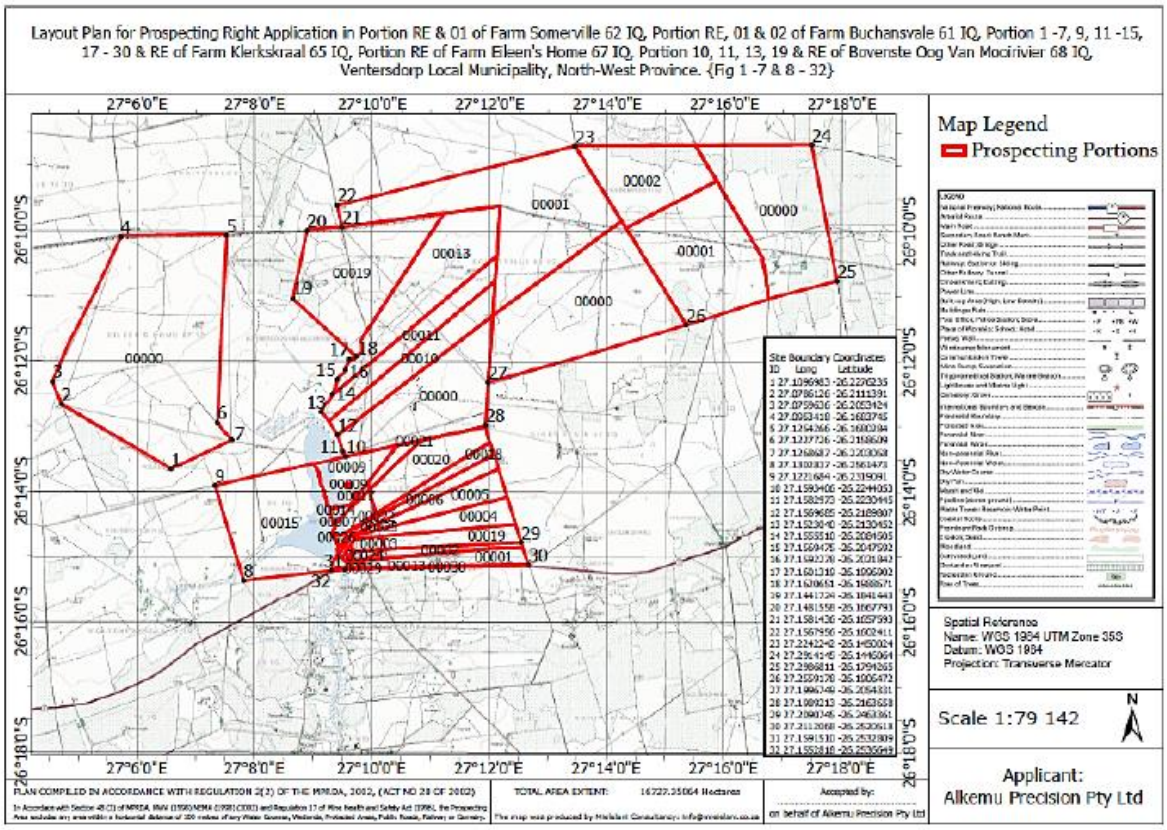

Figure 1: Plan showing prospecting portions.

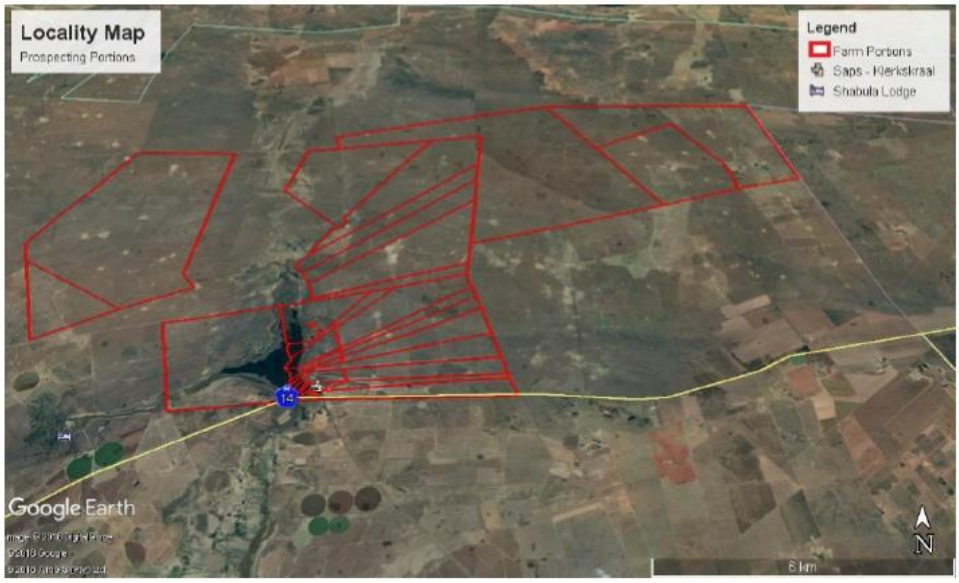

Figure 2: Google Earth map of the project areas (indicated by red polygons).

3. REGULATORY FRAMEWORK

The following relevant legislation will be followed for this project: Mineral and Petroleum Resources Development Act, 2002, (Act 28 of 2002) (MPRDA), National Environmental Management Act, 1998 (Act 38 of 1998), EIA regulation, as amended (April 2017), National Water Act, 1998 (Act 36 of 1998), National Air Quality Standards (GN 1210:2009) and National Dust Control regulations (GN 275:2017). In terms of the MPRDA, it is required to consult with Interested and Affected Parties (I&APs). Comments received from I&APs will be recorded and included in the EMP for the project which will submitted to the Department of Mineral Resources (DMR). The EMP will be compiled and implemented to ensure that potential impacts of the proposed prospecting activities are mitigated and managed. According to the MPRDA, the EMP need to include the following activities but is not limited to:

- describing the environment that is likely to be affected by the proposed prospecting;
- identifying the potential impacts;
- assessing the significance of the potential impacts of the proposed project on the environment, socio economic conditions and cultural heritage; and evaluating the proposed mitigation measures to minimize negative impacts.

4. PUBLIC PARTICIPATION PROCESS (PPP)

PPP is a cornerstone of any EIA process that facilitates openness and transparency. It provides a platform for I&APs to obtain sufficient information about the proposed development and affords them an opportunity to make valuable contributions towards the EIA process and associated specialists studies in terms of their issues and concerns.

- Who is an I&AP? Any person, group of persons or organization interested in or affected by an activity; and any organ of state that may have jurisdiction over any aspect of the activity.

The following dates are important to note for the PPP going forward:

- Announcement of the Prospecting Right Application: October 2018
- Stakeholder engagement and consultation: 22 October 2018– 21 November 2018 (13:00 pm)
- Review of Draft Basic Assessment Report: 21 November 2018 – 21 December 2018 (13:00 pm)
- Submission of the Final EMP: 24 December 2018

Please note: that the DBAR & EMPR will be available on request. Singo Consulting (Pty) Ltd will also have a **Public Day** on the **13th of November 2018** at **Elizabeth Sentrum**, Carmichael St, Ventersdorp, 2710.

Please complete the following in clear handwriting or typing to register as an interested and affected party (I&AP) and **return to the EAP using contacts on the first page by no longer than 21 November 2018**.

Title		Name		Surname	
Company					
Designation					
Address					
Tel No.			Fax No.		
E-mail			Cell No.		
I would like to receive my notifications be (mark with "X"):			Post ☐ E-mail ☐ Fax		
Please indicate why you would have an interest in the above-mentioned project.					
Please provide your comments and questions here:					
Please feel free to attach a separate document					
Please add any person you think may be interested and affected parties:					
Full name			Company		
Address					
E-mail			Contact No.		

D3. NEWSPAPER ADVERT & PROOF OF PUBLISHING

- Project Advert

NOTICE OF JOINT PUBLIC PARTICIPATION FOR PROSPECTING RIGHT AND ENVIRONMENTAL AUTHORIZATION APPLICATION

Notice of the Prospecting Right Application Process as per the Minerals and Petroleum Resources Development Act (Act 28 of 2002) for the proposed Gold Ore prospecting project on **Portions 1, 2 & RE** of the Farm Buchansvale 61 IQ; **Portions 1 and RE** of the Farm Somerville 62 IQ; **Portions 1,2,3,4,5,6,7,8,9,11,12,12,14,15,17,18,19,20,21,22,23,24,25,26,27,28,29 & 30** of the Farm Klerkskraal 65 IQ; **Portion RE** of the Farm Eileen's Home 67 IQ; **Portions 10,11,13,19 & RE** of the Farm Bovenste Oog Van Mooirivier 68 IQ; and **Portion RE** of the Farm Bovenste Oog Van Mooirivier 271 IQ; situated in the Magisterial District of Ventersdorp, in North West Province.

INVITATION TO COMMENT

Notice is given in terms of the Mineral and Petroleum Development Act (MPRDA) (Act 28 of 2002) and EIA regulations 2017 (as amended), that **Alkemu Precision (Pty) Ltd** applied for a Prospecting Right to prospect Gold Ore resources (DMR Ref: NW 30/5/1/1/2/1/12466 PR)

As part of the EIA process, more especially the public participation process for this proposed project, I&AP's are invited to register and kindly submit any comments or concerns to reach Miss Boipelo Motlhatlhedi by no later than Wednesday the **21st of November 2018** using the contact details provided below. The public is also invited to review and comment on DBAR and EMPr. The draft EMPr report will be available for review for a 30 days calendar period from **21 November 2018 to 24 December 2018**. This report will be available on request from the EAP.

Public day: **Elizabeth Sentrum**, Carmichael St, Ventersdorp, 2710; **08 November 2018** (Handing out flyers & Q/A session)
For more information, to register as an interested or affected party, please contact:

SINGO CONSULTING (PTY) LTD
P/Bag X7214
Postnet Suite 125
Witbank, 1035
Boipelo, 083 473 8300
boipelo@singoconsulting.co.za

ALKEMU PRECISION (PTY) LTD
P.O. Box 1422
Parklands, Gauteng
2121
Bongani Simelane, +27 76 246 3677
simelanegb@gmail.com

LAND OWNER/LESSEE OR LAND OCCUPIER NOTICE

Alkemu Pty (Ltd) applied to be the holder of a Prospecting Right over the mentioned property and now request a right upon granting to carry out exploration activities. Please inform us immediately via above contact so that we can arrange a meeting to discuss terms and conditions. Your assistance will be much appreciated.

N.O.T.I.C.E.S

KENNISGEWINGS • NOTICES

NOTICE OF JOINT PUBLIC PARTICIPATION FOR PROSPECTING RIGHT AND ENVIRONMENTAL AUTHORIZATION APPLICATION

NOTICE OF THE PROSPECTING RIGHT APPLICATION PROCESS AS PER THE MINERALS AND PETROLEUM RESOURCES DEVELOPMENT ACT (ACT 28 OF 2002) FOR THE PROPOSED GOLD ORE PROSPECTING PROJECT ON **PORTIONS 1, 2 & RE** OF THE FARM BUCHANSVALE 61 IQ; **PORTIONS 1 AND RE** OF THE FARM SOMERVILLE 62 IQ; **PORTIONS 1-7, 9, 11-15, 17-30 & RE** OF THE FARM KLERKSKRAAL 65 IQ; **PORTION RE** OF THE FARM EILEEN'S HOME 67 IQ; **PORTIONS 10,11,13,19 & RE** OF THE FARM BOVENSTE OOG VAN MOOIRIVIER 68 IQ; AND PORTION RE OF THE FARM BOVENSTE OOG VAN MOOIRIVIER 271 IQ; SITUATED IN THE MAGISTERIAL DISTRICT OF VENTERSDORP, IN NORTH WEST PROVINCE.

INVITATION TO COMMENT

NOTICE IS GIVEN IN TERMS OF THE MINERAL AND PETROLEUM DEVELOPMENT ACT (MPRDA) (ACT 28 OF 2002) AND EIA REGULATIONS 2017 (AS AMENDED), THAT **ALKEMU PRECISION (PTY) LTD** APPLIED FOR A PROSPECTING RIGHT TO PROSPECT GOLD ORE RESOURCES (DMR REF: NW 30/5/1/1/2/1/12466 PR)

AS PART OF THE EIA PROCESS, MORE ESPECIALLY THE PUBLIC PARTICIPATION PROCESS FOR THIS PROPOSED PROJECT, I&AP'S ARE INVITED TO REGISTER AND KINDLY SUBMIT ANY COMMENTS OR CONCERNS TO REACH MISS BOIPELO MOTLHATLHEDI BY NO LATER THAN WEDNESDAY THE **21ST OF NOVEMBER 2018** USING THE CONTACT DETAILS PROVIDED BELOW. THE PUBLIC IS ALSO INVITED TO REVIEW AND COMMENT ON DBAR AND EMPR. THE DRAFT EMPR REPORT WILL BE AVAILABLE FOR REVIEW FOR A 30 DAYS CALENDAR PERIOD FROM **21 NOVEMBER 2018 TO 24 DECEMBER 2018.** THIS REPORT WILL BE AVAILABLE ON REQUEST FROM THE EAP.

PUBLIC DAY: **ELIZABETH SENTRUM**, CARMICHAEL ST, VENTERSDORP, 2710; **08 NOVEMBER 2018** (HANDING OUT FLYERS & Q'A SESSION)
FOR MORE INFORMATION, TO REGISTER AS AN INTERESTED OR AFFECTED PARTY, PLEASE CONTACT:

SINGO CONSULTING (PTY) LTD	ALKEMU PRECISION (PTY) LTD
P/BAG X7214	P.O. BOX 1422
POSTNET SUITE 125	PARKLANDS, GAUTENG 2121
WITBANK, 1035	BONGANI SIMELANE, +27 76 246 3677
BOIPELO, 083 473 8300	
boipelo@singoconsulting.co.za	simelangb@gmail.com

LAND OWNER/LESSEE OR LAND OCCUPIER NOTICE

ALKEMU PRECISION PTY (LTD) APPLIED TO BE THE HOLDER OF A PROSPECTING RIGHT OVER THE MENTIONED PROPERTY AND NOW REQUEST A RIGHT UPON GRANTING TO CARRY OUT EXPLORATION ACTIVITIES. PLEASE INFORM US IMMEDIATELY VIA ABOVE CONTACT SO THAT WE CAN ARRANGE A MEETING TO DISCUSS TERMS AND CONDITIONS. YOUR ASSISTANCE WILL BE MUCH APPRECIATED.

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KENNISGEWINGS • NOTICES

N.O.T.I.C.E.S

KENNISGEWINGS • NOTICES

KENNISGEWING

BOEDEL WYLE: MOIPI SAMUEL LEREFOLO, IDENTITEITSNOMMER: 4910025223088, BOEDELNOMMER: 4751/2015, OORLEDE: 14 JULIE 2015, WIE LAAS WOONAGTIG WAS TE BATHOENGSTRAAT 1251, IKAGENG, POTCHEFSTROOM, 2531. GELIEWE KENNIS TE NEEM DAT DIE LIKWIDASIE EN DISTRIBUSIEREKENING TER INSAE SAL LÊ IN DIE MEESTERSKANTOOR VAN DIE HOOGGEREGSHOF MAHIKENG, EN DIE LANDDROSHOF POTCHEFSTROOM VIR 'N TYDPERK VAN EEN EN TWINTIG (21) DAE, VANAF PUBLIKASIE HIERVAN NAAMLIK 26 OKTOBER 2018. EKSEKUTRISE: CINDY CHARMAIN DU PLESSIS, HORN DU PLESSIS INGELYF, PETER MOKABALAAN 133, POTCHEFSTROOM TEL: (018) 293 1133

.....P218

KENNISGEWINGS • NOTICES

BOEDELKENNISGEWING

IN DIE BOEDEL VAN WYLE DIETER PAUL BRÜSTLE IDENTITEITSNOMMER 401210 5081 187, WAT GETROUD WAS BINNE GEMEENSKAP VAN GOEDERE MET CATHARINA ELIZABETH JACOBA BRÜSTLE WAT GEWOONLIK WOONAGTIG WAS TE AZALIASTRAAT 3, GRIMBEEKPARK, POTCHEFSTROOM EN WAT OP DIE 26STE DAG VAN APRIL 2018 TE POTCHEFSTROOM OORLEDE IS.
BOEDELNOMMER: 012501/2018
KENNIS WORD HIERMEE GEGEE INGEVOLGE ARTIKEL 35(5) VAN WET NR 66 VAN 1965 DAT DIE EERSTE EN FINALE LIKWIDASIE EN DISTRIBUSIEREKENING IN BOGEMELDE BOEDEL TER INSAE SAL LÊ TE KANTORE VAN DIE MEESTER VAN DIE SUID GAUTENGSE HOOGGEREGSHOF TE MARSHALLTOWN EN DIE LANDDROS TE POTCHEFSTROOM VIR 'N TYDPERK VAN 21 (EEN-EN-TWINTIG) DAE VANAF DATUM VAN PUBLIKASIE HIERVAN NAAMLIK 26 OKTOBER 2018.

SANET RAS PROKUREURS, PETER MOKABALAAN 101, PRIVAATSAK X1268, POTCHEFSTROOM, 2520

PROKUREURS VIR EKSEKUTRISE
VERWYSING: ST RAS/RIAS/B538

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KENNISGEWINGS • NOTICES

IN THE MAGISTRATE'S COURT FOR THE DISTRICT OF MERAFONG HELD AT OBERHOLZER

CASE NUMBER: 655/2017

IN THE MATTER BETWEEN:

TRANSNET SOC LIMITED EXECUTION CREDITOR

AND

EMMANUEL SEAKE EXECUTION DEBTOR
(IDENTITY NUMBER: 810421 5505 084)

NOTICE OF SALE IN EXECUTION

IN PURSUANCE of a writ of execution issued out of the magistrates' court for the district of merafong held at Oberholzer, dated 20 August 2018 and the judicial attachment dated 30 August 2018 the following motor vehicle will be sold in execution by THE Sheriff Oberholzer – MM Simango, **TEL: 018 786 3241 on 8 November 2018 at 11h00 at cnr annan & agrew road Carletonville** without reserve to the highest bidder:

Chevrolet Spark hatchback

TERMS: STRICTLY CASH

DATED AT PRETORIA ON THIS THE 17TH DAY OF OCTOBER 2018.

ROTHMANN PHAHLAMOHLAKA INC
ATTORNEYS FOR THE EXECUTION CREDITOR
927 JUSTICE MAHOMED STREET, BROOKLYN, PRETORIA
P O BOX 2233, BROOKLYN SQUARE, 0075
TEL: (012) 460 0220; FAX: 086 681 8856
E-MAIL: david@rm.co.za
REF: D A SITHOLE/DAS/TRA4/0571 CAL 041

KENNISGEWINGS • NOTICES

KENNISGEWINGS • NOTICES

BOEDELKENNISGEWING

IN DIE BOEDEL WYLE **SULA PAUL NYOKONG,** IDENTITEITSNOMMER 450414 5401 08 6, WAT GETROUD WAS BUITE GEMEENSKAP VAN GOEDERE, WIE GEWOONLIK WOONAGTIG WAS TE PHUDUHUDUSTRAAT 2421, SONE 0005, IKAGENG, POTCHEFSTROOM EN WAT OP DIE 19DE JUNIE 2018 OORLEDE IS.
BOEDELNOMMER: 020987/2018
ALLE KREDITEURE EN DEBITEURE WORD HIERMEE VERSOEK OM HULLE EISE IN TE DIEN EN HULLE SKULDE TE BETAAL BINNE 'N TYDPERK VAN 30 (DERTIG) DAE GEREKEN VANAF DATUM VAN VERSKYNING VAN HIERDIE ADVERTENSIE, NAAMLIK **26 OKTOBER 2018.**
SANET RAS PROKUREURS, PETER MOKABALAAN 101, PRIVAATSAK X1268, POTCHEFSTROOM,2520
PROKUREURS VIR EKSEKUTRISE,VERWYSING: ST RAS/GS/N361

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KENNISGEWINGS • NOTICES

KENNISGEWINGS • NOTICES

KENNISGEWING

BOEDEL WYLE FOTINI DANILATOS, IDENTITEITSNOMMER 230529 0010 08 2, STERFDATUM: 20 OCTOBER 2016, WIE WOONAGTIG WAS TE 2 LUNGILE WOONSTELLE, KERKSTRAAT 27, POTCHEFSTROOM
BOEDEL NOMMER 9953/2017
KENNIS GESKIED HIERMEE IN TERME VAN ARTIKEL 29 VAN WET 66 VAN 1965, DAT ALLE PERSONE WIE EISE TEEN BOGEMELDE BOEDEL HET, GENOEMDE EISE MOET INDIEN TE DIE KANTORE VAN MÜLLER MOSTERT & VENNOTE, IN GEMELDE BOEDEL BINNE 'N TYDPERK VAN 30 (DERTIG) DAE VANAF DATUM VAN PUBLIKASIE HIERVAN, NAAMLIK **25 OKTOBER 2018**

(GET) D M MOSTERT, MÜLLER MOSTERT EN VENNOTE, DIE FORUM GEBOU, H/V GOVAN MBEKIRYLAAN EN TOTIUSSTRAAT, POSBUS 208, POTCHEFSTROOM, 2520, TEL (018) 297 3841, FAKS (018) 294 5683

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KENNISGEWINGS • NOTICES

jbmarks LOCAL MUNICIPALITY
Marks of excellence

NOTICE

JB MARKS LOCAL MUNICIPALITY: MPAC PUBLIC PARTICIPATION MEETING

The JB MARKS MUNICIPALITY hereby invites the local community in terms of section 21A of the Local Government: Municipal Systems Act, 2000 (Act 32 of 2000) to attend Public Meetings of the 2016/2017 Oversight Reports of Ventersdorp Municipality which will be held as indicated in the schedule below. The accounting officer must in accordance with the Act make public an oversight report referred to in subsection (1) within seven days of its adoption.

MUNICIPALITY	DATE	VENUE	TIME
Ventersdorp Municipality	05 November 2018	Tshing Community Hall X2	17H00

Enquiries may be directed to Mrs Betsie Mncube, Office of the Municipal public Accounts on the following telephone numbers at (018) 299 5674- 018 299 5532.

Notice 121/2018/kl

Acting Municipal Manager
CP HENRY

TRADITIONAL HEALERS

MAMA SHINAH
SHE MADE MY LIFE A SUCCESS AFTER SEVERAL YEARS OF UNHAPPINESS ANDSUFFERING.
I met Mama Shinah. She read my fortune accurately and told me about my past life, my marriage and finances through a dish of water.
Call Mama Shinah at 073 184 9204. Potchefstroom

LAKABANE OIL OR SANDAWANA OIL FOR FINANCIAL PROBLEMS

- Bring back lost lover in 3 days.
- Bad luck / pregnancy problems.
- Family problems and courts cases.
- And many more.

CALL: 078 597 0195
MAMA RITA IN POTCHEFSTROOM

Invitation 2019

Student Financial Assistance Application

Ald B.E. Mosiane-Segotso
Executive Mayor
Dr Kenneth Kaunda District Municipality

The Office of the Executive Mayor of Dr Kenneth Kaunda District Municipality invites all the students who reside in the Dr Kenneth Kaunda District to apply for Student Financial Assistance (SFA) for the 2019 Academic Year. The granting of the SFA will benefit financially needy and academically deserving student residing in the District.

The following documents should accompany the application forms:
* **Proof of acceptance with an accredited South African academic institution**
* **Proof of Residence**
* **Certified copy of Matric Certificate / Statement of Results**
* **Statement of Course Fees**
* **Proof of Household Income**

The closing date for submission of application forms is 31 January 2019 at 16H00. Application forms will be available at all local municipality offices (within Dr Kenneth Kaunda District) and District Municipality in Orkney from 01 November 2018. Completed application forms together with certified copies of all required documents should be forwarded to:

The Bursary Committee
Dr Kenneth Kaunda District Municipal Office
Old Mutual Building, Patmore Road
Office of the Executive Mayor, 2nd Floor, Orkney

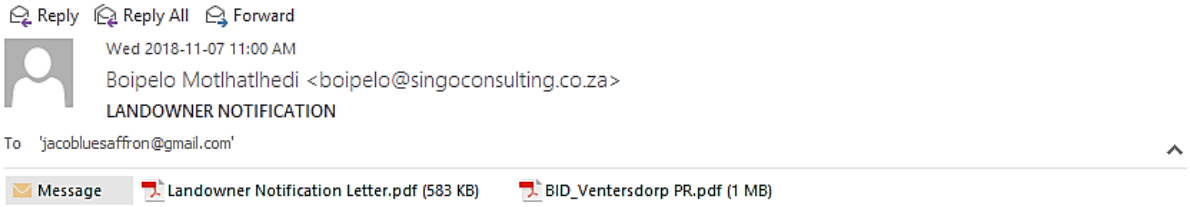
Or posted to:
Private Bag X5017
Klerksdorp
2570

DR. KENNETH KAUNDA DISTRICT MUNICIPALITY

For enquiries contact: Mr. Nthoane Mosiane on Tel: 018 473 8009/ Cell 083 634 5166

N.O.T.I.C.E.S

D5. LANDOWNER NOTIFICATION



Dear Landowner

PROSPECTING RIGHT APPLICATION BY ALKEMU PRECISION (PTY) LTD FOR MANGANESE, DIAMOND, GOLD AMD IRON ORE RESOURCES IN THE MAGISTERIAL DISTRICT OF VENTERSDORP, NORTH WEST PROVINCE.

Alkemu Precision (Pty) Ltd, hereby wish to inform you that it has submitted an application for a prospecting right together with the application of environmental authorization to the North West DMR for the proposed manganese, diamond, gold and iron ore exploration on **Portions 1, 2 & RE** of the Farm Buchansvale 61 IQ; **Portions 1 and RE** of the Farm Somerville 62 IQ; **Portions 1-7, 9,11-15,17-30 & RE** of the Farm Klerkskraal 65 IQ; **Portion RE** of the Farm Eileen's Home 67 IQ; **Portions 10,11,13,19 & RE** of the Farm Bovenste Oog Van Mooirivier 68 IQ; and **Portion RE** of the Farm Bovenste Oog Van Mooirivier 271 IQ, Ventersdorp, North West Province. Kindly review the attached Background Information Document for detailed description of the proposed project and the landowner notification letter.

This Notification is being given in compliance with the terms of: Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002) (MPRDA), National Environmental Management Act, 1998 (Act No. 107 of 1998), and EIA Regulations (as amended, 07 April 2017) which requires that landowners and people in control of land be notified of Jaments' intention to obtain prospecting right for above mentioned mineral.

Singo Consulting (Pty) Ltd has been appointed as an independent Environmental Assessment Practitioner (EAP) to manage the environmental authorization application, by conducting Environmental Impact Assessment, Public Participation for the proposed project and compile an Environmental Management Plan. A Basic Assessment process has commenced, for your participation kindly fill the comment form in the page below and register your comments, issues, questions that you have about the proposed project. Kindly note that Singo Consulting is going to have a public day on the 13th of November 2018 (handing flyers and conducting questions/ answers sessions) at Elizabeth Sentrum Mall. Should you have any issues during the course of the Environmental Impact Assessment feel free to contact me (appointed EAP) on the below on the signature.

Regards,

Good Afternoon Mr Fouche

PROSPECTING RIGHT APPLICATION BY ALKEMU PRECISION (PTY) LTD FOR MANGANESE, DIAMOND, GOLD AMD IRON ORE RESOURCES IN THE MAGISTERIAL DISTRICT OF VENTERSDORP, NORTH WEST PROVINCE.

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Singo Consulting (Pty) Ltd has been appointed as an independent Environmental Assessment Practitioner (EAP) to manage the environmental authorization application, by conducting Environmental Impact Assessment, Public Participation for the proposed project and compile

an Environmental Management Plan. A Basic Assessment process has commenced, for your participation kindly fill the comment form in the page below and register your comments, issues, questions that you have about the proposed project. Should you have any issues during the course of the Environmental Impact Assessment feel free to contact me (appointed EAP) on the below on the signature.

Regards,

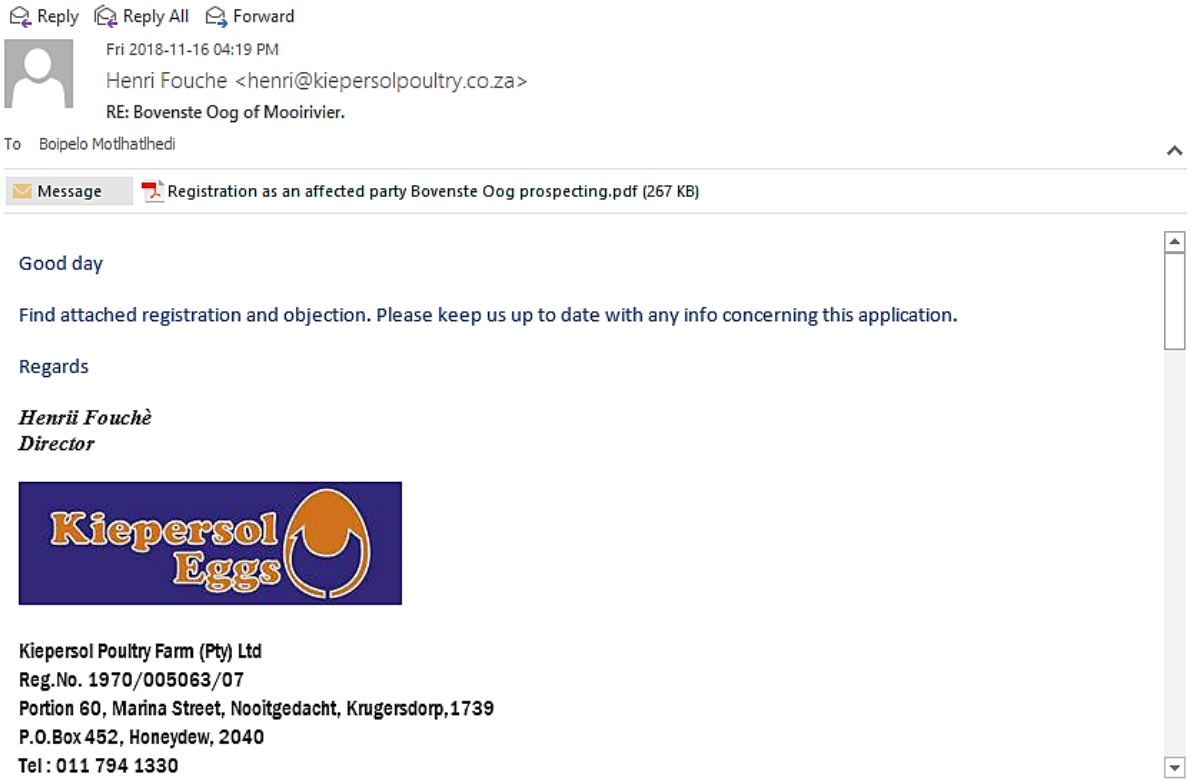
Boipelo Motlhatlhedi

T: +27 83 473 8300

F: +27 86 5144 103

E: boipelo@singoconsulting.co.za

D6. LANDOWNER CORRESPONDENCE



Reply Reply All Forward

Fri 2018-11-16 04:19 PM

Henri Fouche <henri@kiepersolpoultry.co.za>

RE: Bovenste Oog of Mooirivier.

To Boipelo Motlhatlhedi

Message Registration as an affected party Bovenste Oog prospecting.pdf (267 KB)

Good day

Find attached registration and objection. Please keep us up to date with any info concerning this application.

Regards

Henrii Fouchè
Director

Kiepersol Eggs

Kiepersol Poultry Farm (Pty) Ltd
Reg.No. 1970/005063/07
Portion 60, Marina Street, Nooitgedacht, Krugersdorp,1739
P.O.Box 452, Honeydew, 2040
Tel : 011 794 1330

I, Henri Fouche herewith acknowledge receipt of:

One (1) copy of the letter entitled: PROSPECTING RIGHT APPLICATION FOR THE PROPOSED MANGANESE, DIAMOND, GOLD AND IRON ORE RESOURCES, IN VENTERSDORP, NORTH WEST PROVINCE

DATE: 16-11-2018

SIGNATURE:

LANDOWNER COMMENT FORM

Title		Name		Surname	
Company	Kiepersol Poultry Farm (Pty) Ltd				
Designation	Director.				
Address					
Tel No.	011794 1330			Fax No.	
E-mail	henri@kiepersolpoultry.co.za			Cell No.	082 8574198
I would like to receive my notifications be (mark with "X"):		Post ☐	E-mail ☒	Fax ☐	

Please indicate why you would have an interest in the above-mentioned project.

We own the farm Bonneste Oog of Mooirivier 271 Registration Division IQ Northwest Province. We have a large chicken and cattle farm

Please provide your comments and questions here:

We object strongly against prospecting and mining activities in a fresh water ecosistem. We will go as far as seeking legal representation to stop this activities which will have a future negative impact on water resources.

Please feel free to attach a separate document

Please add any person you think may be interested and affected parties:

Full name		Company	
Address			
E-mail		Contact No.	

THANK YOU

Reply | Reply All | Forward

Mon 2018-11-19 02:10 PM

Alet Vorster <avorster@psn.co.za>

L18157 - APPLICATION : PROSPECTING RIGHTS : ALKEMU PRECISION (PTY) LTD

To boipelo@singoconsulting.co.za; simelanegb@gmail.com

Cc krugervdb@mweb.co.za

Message | L18157_Singo Consulting (Pty) Ltd.pdf (177 KB) | doc0376922018111914154 4.pdf (200 KB)

SEE DOCUMENTS ATTACHED

Kind regards

Alet Vorster

Assistant, Corporate and Commercial

Switchboard: 016 932 9101
Facsimile: 016 932 9129
Email: avorster@psn.co.za

PSN | INCORPORATED
ATTORNEYS & CONVEYANCERS

Member of the Phatshoane Henney Group

Our Website | Our Services | Our People | Contact Us | Group Website

PSN | INCORPORATED
ATTORNEYS & CONVEYANCERS

Junxion Building Cnr Frikkie Meyer
Boulevard & Sullivan Street Vanderbijlpark
Private Bag X041 Vanderbijlpark 1900
Docex 6 Vanderbijlpark

Tel +27 (0)16 932 9101
Fax +27 (0)16 932 9129
Email avorster@psn.co.za
Website www.psn.co.za

Attention: Ms. Boipelo Motlhathledi
Singo Consulting (Pty) Ltd

Our ref MR. L.P. SWART/av/L18157
Your ref
Date 19 November 2018

EMAIL: boipelo@singoconsulting.co.za
EMAIL: simelanegb@gmail.com

Dear Madam

APPLICATION : PROSPECTING RIGHTS : ALKEMU PRECISION (PTY) LTD ("ALKEMU")

1. We act on behalf of Kruger Family Trust, Registration Number IT1792/1995 ("the Trust") and Dalenberg Landgoed (Pty) Ltd, Registration Number 1982/004761/07 ("Dalenberg") (collectively referred to as "our clients").

2. We are duly authorized by our clients as it appears from the attached powers of attorney, a resolution of the trustees of the Trust and the sole director of Dalenberg respectively.

3. Our clients are the registered owners of the following properties:

   3.1. Remaining Extent of Portion 18 of the farm Klerkskraal 65, Registration Division I.Q., Province of Gauteng, held by Deed of Transfer T37970/2001.

   3.2. Portion 20 (a portion of portion 7) of the farm Klerkskraal 65, Registration Division I.Q., Province of Gauteng, held by Deed of Transfer T37970/2001.

   3.3. Portion 21 (a portion of portion 14) of the farm Klerkskraal 65, Registration Division I.Q., Province of Gauteng, held by Deed of Transfer T37970/2001.

   3.4. Remaining Extent of Portion 5 of the farm Klerkskraal 65, Registration Division I.Q., Province of Gauteng, held by Deed of Transfer T47599/2007.

   3.5. Remaining Extent of Portion 6 of the farm Klerkskraal 65, Registration Division I.Q., Province of Gauteng, held by Deed of Transfer T47599/2007.

3.6. Remaining Extent of Portion 1 of the farm Klerkskraal 65, Registration Division I.Q., Province of Gauteng, held by Deed of Transfer T135232/2005.

3.7. Remaining Extent of Portion 2 of the farm Klerkskraal 65, Registration Division I.Q., Province of Gauteng, held by Deed of Transfer T135232/2005.

3.8. Portion 19 (a portion of portion 3) of the farm Klerkskraal 65, Registration Division I.Q., Province of Gauteng, held by Deed of Transfer T135232/2005.

4. Our clients are as such interested and affected parties insofar as it relates to Alkemu's application for prospecting rights in accordance with the notice published in the Potchefstroom Herold during October 2018.

5. Although our clients do not intend to deal with its objections in any detail at this point in time (and reserve the right to do so), it should be noted that any mining activities on our clients' properties are objected to, inter alia, on the following grounds:

5.1. Mining activities will impact negatively on the agricultural potential of the affected properties, including our clients' properties.

5.2. Scares water resources will be negatively affected by the prospective prospecting and any subsequent mining, taking into consideration a water fountain originates from the farm Bovenste Oog. The impact will be in respect of dams and other water resources, including underground water.

5.3. Farming communities will be adversely affected from a health and safety perspective, and job opportunities in the agricultural sector will be adversely affected by the proposed prospecting and any subsequent mining rights to be granted. The socio-economic impact of mining activities in farming communities is mainly negative.

6. In summary, our clients object due to the invasive efforts and the impact the proposed project will have on the environment, socio-economic conditions and cultural heritage.

7. Please confirm our clients' registration as interested and affected parties, and furnish us with copies of the reports referred to in the notice, in order to enable our clients to consider a review of such reports. The reports include, but are not limited to the draft EMPR report.

8. Please acknowledge receipt.

Kind regards

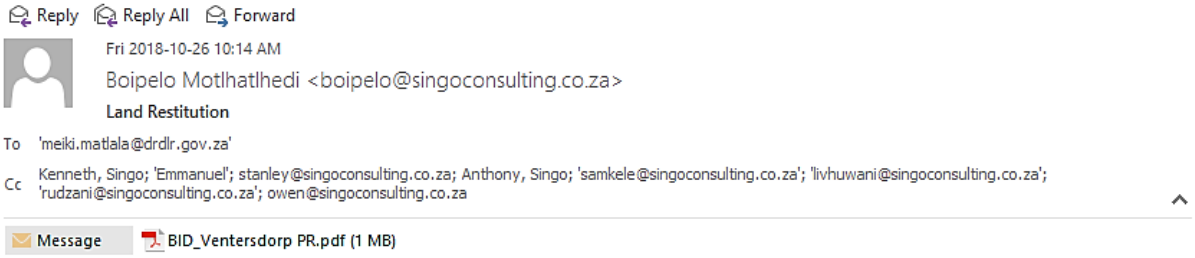
LOURENS SWART
PSN | INCORPORATED

cc **Mr. Hennie Kruger**
EMAIL: krugervdb@mweb.co.za

Please complete the following in clear handwriting or typing to register as an interested and affected party (I&AP) and **return to the EAP using contacts on the first page by no longer than 21 November 2018.**

Title Mr.		Name Lourens Petrus		Surname Swart	
Company	PSN Incorporated				
Designation	Attorneys				
Address	Private Bag X041, Vanderbijlpark, 1900				
Tel No.		016 932 9101	Fax No.		
E-mail		lswart@psn.co.za	Cell No.	083 627 6674	
I would like to receive my notifications be (mark with "X"):			Post		E-mail X Fax
Please indicate why you would have an interest in the above-mentioned project.					
See the attached letter, powers of attorney and resolutions.					
Please provide your comments and questions here:					
See attached letter.					
Please feel free to attach a separate document					
Please add any person you think may be interested and affected parties:					
Full name	Hendrik Bernardus Kruger		Company	Kruger Familie Trust	
Address	c/o PSN Incorporated				
E-mail	krugervdb@mweb.co.za		Contact No.	082 854 9131	

D7: CORRESPONDANCE WITH STAKEHOLDERS



Good Morning

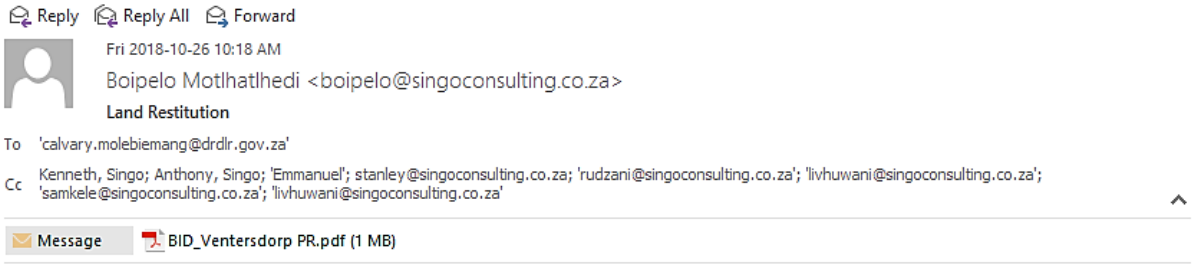
Kindly note that we are currently conducting basic assessment together with public participation for projects to prospect Manganese, Diamond, Gold & Iron Ore resources on **Portions 1, 2 & RE** of the Farm Buchansvale 61 IQ; **Portions 1 and RE** of the Farm Somerville 62 IQ; **Portions 1-7, 9,11-15,17-30 & RE** of the Farm Klerkskraal 65 IQ; **Portion RE** of the Farm Eileen's Home 67 IQ; **Portions 10,11,13,19 & RE** of the Farm Bovenste Oog Van Mooirivier 68 IQ; and **Portion RE** of the Farm Bovenste Oog Van Mooirivier 271 IQ, situated under the Magisterial district of Ventersdorp, in North West Province. According to EIA Regulations 2017 (as amended) read together with Minerals And Petroleum Resources Development Act, (Act 28 of 2002), land owners or lawful occupiers of land where mineral development will be taking place must be consulted prior to the commencement of any activity on their land. Furthermore, land owners or lawful occupiers of land are entitled to access all project information and to comment on BAR process.

The purpose of this enquiry is to ensure that the claimants are notified about the proposed projects and afforded an opportunity to:

- Register as an I&AP and to respond to the environmental compliance process;
- Raise issues of concern and provide suggestions for enhanced benefits;
- Contribute to local knowledge;
- Comment on the Draft Basic Assessment Report (DBAR) & Environmental Management Program (EMP); and
- Inform any other person / organization that they may feel should be informed about the project.

Thank you for taking your time to read this email, your assistance will be highly appreciated.

Kind regards



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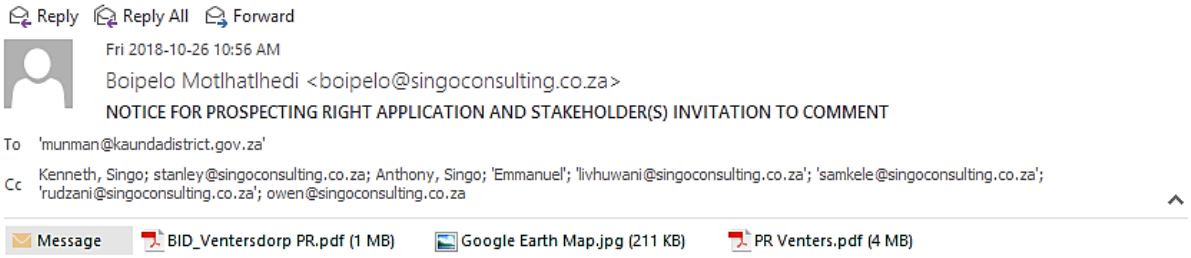

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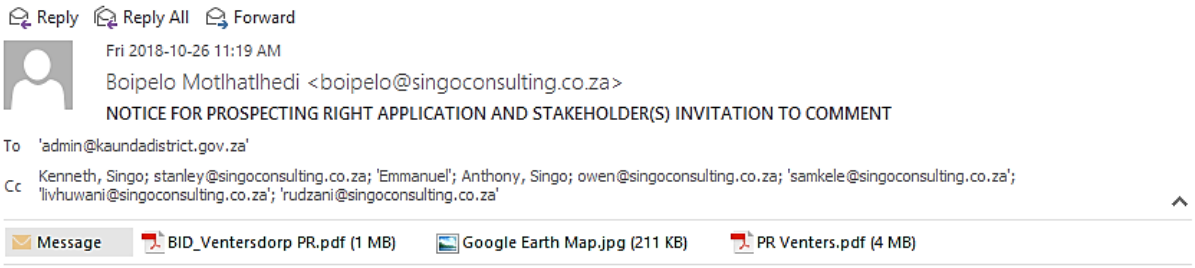
Public Participation Process and timelines

Chapter 6, regulation 40(2)(3) of EIA Regulations (GNR 326, 7 April 2017) requires that the Public Participation Process provides access to all information that may have potential to influence decision regarding the applications, it further outlines that the potential interested and affected parties be provided with an opportunity to comment on reports and plans. Kindly complete the comment form on the last page of the Background Information Document and return it by no longer than Wednesday the **21st of November 2018**. The Draft Basic Assessment Report will be available for review from **21 November 2018 to 24 December 2018.** E-copies of this report will be made available to I&AP's.

If you know anyone who might be interested in this project, kindly forward this email to that person.

Kind regards,



Good Morning

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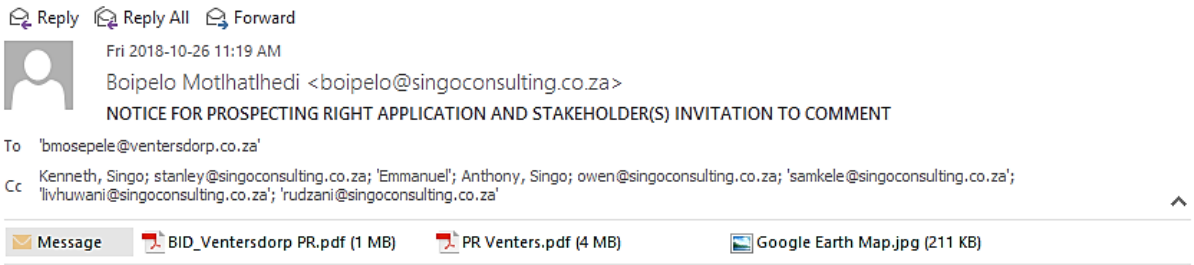
If you know anyone who might be interested in this project, kindly forward this email to that person.

Kind regards,

Boipelo Motlhatlhedi
Junior Consultant
Btech. (Cand) Geology
N.Dip Geology
+27 83 473 8300
+27 86 5144 103
www.singoconsulting.co.za
boipelo@singoconsulting.co.za
09 Langa Crescent, Corridor Hill Crossing
First Floor (South Block), Office No. 14, eMalahleni
Singo Consulting (pty) Ltd



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If you know anyone who might be interested in this project, kindly forward this email to that person.

Kind regards,

Reply Reply All Forward

Fri 2018-10-26 11:19 AM

Boipelo Motlhatlhedi <boipelo@singoconsulting.co.za>

NOTICE FOR PROSPECTING RIGHT APPLICATION AND STAKEHOLDER(S) INVITATION TO COMMENT

To 'molefile@nwpg.gov.za'

Cc Kenneth, Singo; stanley@singoconsulting.co.za; 'Emmanuel'; Anthony, Singo; 'samkele@singoconsulting.co.za'; owen@singoconsulting.co.za; 'rudzani@singoconsulting.co.za'; 'livhuwani@singoconsulting.co.za'

Message PR Venters.pdf (4 MB) Google Earth Map.jpg (211 KB) BID_Ventersdorp PR.pdf (1 MB)

Good Morning

Invitation to participate in a Prospecting Right Applications on **Portions 1, 2 & RE** of the Farm Buchansvale 61 IQ; **Portions 1 and RE** of the Farm Somerville 62 IQ; **Portions 1-7, 9,11-15,17-30 & RE** of the Farm Klerkskraal 65 IQ; **Portion RE** of the Farm Eileen's Home 67 IQ; **Portions 10,11,13,19 & RE** of the Farm Bovenste Oog Van Mooirivier 68 IQ; and **Portion RE** of the Farm Bovenste Oog Van Mooirivier 271 IQ, situated in the magisterial district of Ventersdorp, North West province.

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If you know anyone who might be interested in this project, kindly forward this email to that person.

Kind regards,

From: Hennie Stander <HStander@media24.com>

Date: 2018/10/26 11:58 (GMT+02:00)

To: boipelo@singoconsulting.co.za

Cc: simelangegb@gmail.com

Subject: Notice of Prospecting Right Application

Good day Miss Motlhatlhedi,

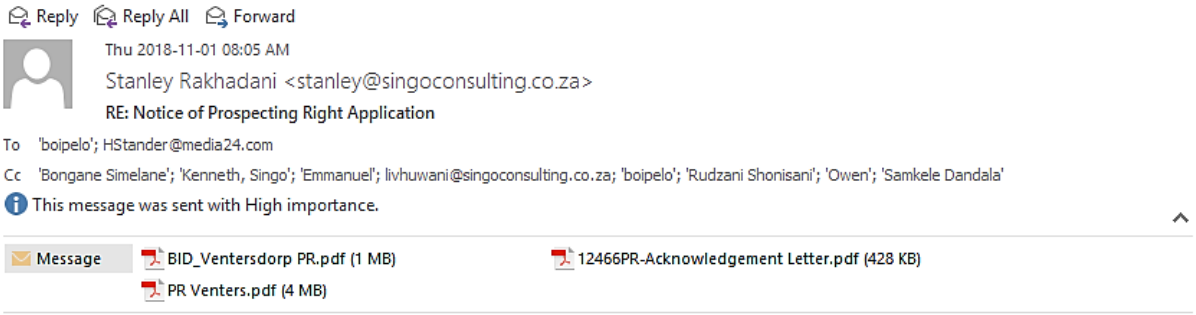
I am the editor of the Potchefstroom Herald newspaper also circulating in the Ventersdorp/Klerkskraal area with readers having an interest on what is happening in the area mentioned in the attached notice advertised by your firm in our newspaper.

Please also take into consideration that the area is part of and/or in the region of the Bovenste Oog which is part of the Mooi River catchment area, a water system managed by the Department of Water Affairs from where Potchefstroom get their household water supply as well as extensive irrigation networks to farmers stretching from the Klerkskraal Dam area to an area far south of Potchefstroom.

According to us it is in public interest that we as newspaper give our readers more background on what the application entails and the possible effect it can have in the area.

Can you please forward us the draft EMPR report mentioned in the notice. Can you please also supply us with any more information so that we as newspaper can give our readers an informed report on what the planned prospecting entails. We would for example want to know whether any mining company are already involved.

Best regards
Hennie



Good day Hennie,

Kindly note that Miss Motlhatlhedi is on leave until Monday the 05th of November 2018. To ensure that you get instant response all correspondence must be directed to me until her leave lapses. Thanks a lot for the email and for raising concerns regarding the proposed project. Chapter 6, regulation 40(2)(3) of EIA Regulations (GNR 326, 7 April 2017) requires that the Public Participation Process (PPP) provides access to all information that may have potential to influence decision regarding the applications, it further outlines that the potential Interested and Affected Parties (I&APs) be provided with an opportunity to comment on project reports and plans. It also requires that the project be advertised in a local newspaper as a means of notifying the public.

Furthermore, after the PPP, a consultation report will be compiled which contains amongst others a database of I&APs. Hence we would like to know if we should register you or Potchefstroom Herald newspaper as an I&AP for this project? Thank you for making us aware that the Mooi River Catchment is the major source of water in the region and it is managed by the Department of Water and Sanitation. Kindly note that as per the advertisement (also see attached BID), the proposed project relates to Prospecting instead of Mining. In the actual Prospecting activities no water is required, water will be required for drinking purposes only by personnel on site.

It is essential to note that almost all Government Departments are being consulted about this proposed project including Department of Water and Sanitation as they are key stakeholders in mineral development projects. We will appreciate it if you refer your readers to us as we have technical expertise to address their concerns besides that we have been appointed to do so by the applicant. The DBAR will be forwarded to you once it is available on the dates outlined on the advert in your possession. Attached for perusal is the project's Background Information Document (BID) containing baseline information about the proposed project, Department of Mineral Resources acknowledgement letter, and project map showing affected properties.

Looking forward to your correspondence

Kind Regards,

From: Boipelo Motlhatlhedi [mailto:boipelo@singoconsulting.co.za]
Sent: 15 November 2018 03:50 PM
To: Enoch Candace
Cc: 'Kenneth, Singo'; stanley@singoconsulting.co.za; 'Emmanuel'; 'Anthony, Singo'; owen@singoconsulting.co.za; rudzani@singoconsulting.co.za; livhuwani@singoconsulting.co.za; samkele@singoconsulting.co.za
Subject: NOTICE FOR PROSPECTING RIGHT APPLICATION AND STAKEHOLDER(S) INVITATION TO COMMENT

Good afternoon

Invitation to participate in a Prospecting Right Applications on **Portions 1, 2 & RE** of the Farm Buchansvale 61 IQ; **Portions 1 and RE** of the Farm Somerville 62 IQ; **Portions 1-7, 9,11-15,17-30 & RE** of the Farm Klerkskraal 65 IQ; **Portion RE** of the Farm Eileen's Home 67 IQ; **Portions 10,11,13,19 & RE** of the Farm Bovenste Oog Van Mooirivier 68 IQ; and **Portion RE** of the Farm Bovenste Oog Van Mooirivier 271 IQ, situated in the magisterial district of Ventersdorp, North West province.

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If you know anyone who might be interested in this project, kindly forward this email to that person.

Kind regards,

Reply Reply All Forward

Wed 2018-11-21 12:55 PM

Enoch Candace <EnochC@dws.gov.za>

RE: NOTICE FOR PROSPECTING RIGHT APPLICATION AND STAKEHOLDER(S) INVITATION TO COMMENT

To Boipelo Motlhatlhedi

Message Untitled_21112018_124059.pdf (100 KB)

Good Day Boipelo,

Please find the application attached to register as an interested and affected party.

Regards,
Candace Enoch
Environmental Officer
Department of Water and Sanitation
Chief Directorate: Mine Water Management
4058 Ndinaye House
178 Francis Baard Street
Tel: 0123367193
Cell: 0834094539

Please complete the following in clear handwriting or typing to register as an interested and affected party (I&AP) and **return to the EAP using contacts on the first page by no longer than 21 November 2018**.

Title	MISS	Name	CANDACE	Surname	ENOCH
Company	DEPARTMENT OF WATER AND SANITATION				
Designation	ENVIRONMENTAL SCIENTIST				
Address	178 FRANCIS BAARD ST, NDINAYE HOUSE 4058				
Tel No.	083 409 4539			Fax No.	
E-mail	EnochC@dws.gov.za			Cell No.	083 4094539
I would like to receive my notifications be (mark with "X"):			Post [ ] E-mail [X] Fax [ ]		

Please indicate why you would have an interest in the above-mentioned project.

The chief Directorate: Mine Water Managent has a mandate to oversee the management of mine water in SA.

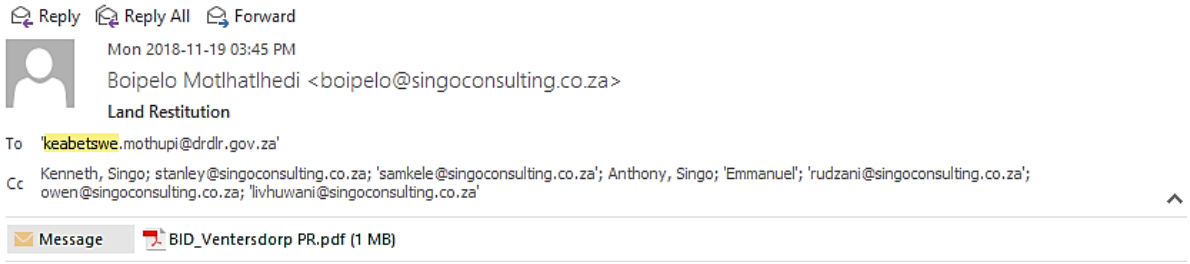
Please provide your comments and questions here:

Comments will be provided following the viewing of further information such as the EMP.

Please feel free to attach a separate document

Please add any person you think may be interested and affected parties:

Full name		Company	
Address			
E-mail		Contact No.	



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- Inform any other person / organization that they may feel should be informed about the project.

Thank you for taking your time to read this email, your assistance will be highly appreciated.

Kind regards

Reply Reply All Forward

Tue 2018-11-20 09:50 AM

Keabetswe Mothupi <keabetswe.mothupi@drdlr.gov.za>

Acknowledgement letter

To boipelo@singoconsulting.co.za

You replied to this message on 2018-11-20 11:16 AM.

Message buchansvale 61 iq.pdf (311 KB)

Good morning.

Kindly find the attached.

Kind regards.

Keabetswe W Mothupi

Administrative Officer: IMS

RLCC NW: MMABATHO

018 388 7220

Good Morning Keabetswe,

Thank you for the response. I will wait for the document.

Kind Regards,

Boipelo Motlhatlhedi

T: +27 83 473 8300

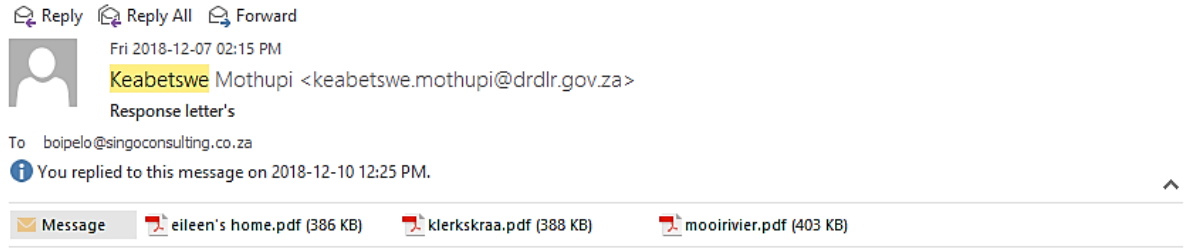
F: +27 86 5144 103

E: boipelo@singoconsulting.co.za


Reply Reply All Forward
Fri 2018-12-07 02:05 PM
Keabetswe Mothupi <keabetswe.mothupi@drdlr.gov.za>
Response letter
To boipelo@singoconsulting.co.za
Message buchansvale.pdf (379 KB)

Kindly find the attached

Keabetswe W Mothupi
Administrative Officer: IMS
RLCC NW: MMABATHO
018 388 7220


Reply Reply All Forward
Fri 2018-12-07 02:15 PM
Keabetswe Mothupi <keabetswe.mothupi@drdlr.gov.za>
Response letter's
To boipelo@singoconsulting.co.za
You replied to this message on 2018-12-10 12:25 PM.
Message eileen's home.pdf (386 KB) klerkskraa.pdf (388 KB) mooirivier.pdf (403 KB)

Kindly find the attached

Keabetswe W Mothupi
Administrative Officer: IMS
RLCC NW: MMABATHO
018 388 7220

Good Day,

Thanks for the response. Much appreciated.

Kind Regards,

Boipelo Motlhatlhedi

T: +27 83 473 8300

F: +27 86 5144 103

E: boipelo@singoconsulting.co.za

COMMISSION ON RESTITUTION OF LAND RIGHTS

OFFICE OF THE REGIONAL LAND CLAIMS COMMISSIONER: NORTH WEST
Cnr James Moroka and Sekame drive, West gallery, Megacity, MMABATHO
Tel: (018) 388 7000

Reference: R/7/030/11/2018
Enquiries: Keabetswe Mothupi
Tel: (018) 388-7220/ E-mail: keabetswe.mothupi@drdlr.gov.za

By E-Mail:boipelo@singoconsulting.co.za

Dear Boipelo Motlhatlhedi

LAND CLAIM ENQUIRY: **PORTIONS 1, 2 & RE OF THE FARM BUCHANSVALE 61 IQ**
PORTIONS 1 & RE OF THE FARM SOMERVILLE 62 IQ
PORTIONS 1-7, 9, 11-15, 17-30 & RE OF THE FARM KLERKSKRAAL 65 IQ
PORTION RE OF THE FARM EILEEN'S HOME 67 IQ
PORTIONS 10, 11, 13, 19 & RE OF THE FARM BOVENSTE OOG VAN MOOIRIVIER 68 IQ
PORTION RE OF THE FARM BOVENSTE OOG VAN MOOIRIVIER 271 IQ

I acknowledge receipt of your letter dated the 19 of November 2018 regarding the above mentioned matter.

Kindly note that a formal response could be expected from our office within the next 7(seven) working days.

Should you however required any additional information, you can contact **Ms K.W Mothupi** at the above mentioned contact details.

Yours faithfully

MR L J BOGATSU
CHIEF DIRECTOR
OFFICE OF THE REGIONAL LAND CLAIMS COMMISSIONER
NORTH WEST PROVINCE
DATE: 20/11/2018

COMMISSION ON RESTITUTION OF LAND RIGHTS

OFFICE OF THE REGIONAL LAND CLAIMS COMMISSIONER: NORTH WEST
Cnr James Moroka and Sekame Drive, West Gallery, Mega City, MMABATHO 2735
Tel: (018) 388 7000/7008

Enquiries: Keabetswe Mothupi
E-Mail: keabetswe.mothupi@drdlr.gov.za
Tel: 018 388 7220

By E-Mail: boipelo@singoconsulting.co.za

Dear Boipelo Motlhatlhedi

LAND CLAIM ENQUIRY – PORTIONS 1, 2 & RE OF THE FARM BUCHANSVALE 61 IQ

We refer to your letter dated 19 of November 2018.

We confirm that as at the date of this letter no land claims appears on our database in respect of the above properties. This includes the database for claims lodged by 31 December 1998; and those lodged between 1 July 2014 and 27 July 2016 in terms of the Restitution of Land Rights Amendment Act, 2014.

Whilst the Commission takes reasonable care to ensure the accuracy of the information it provides, there are various factors that are beyond the Commission's control, particularly relating to claims that have been lodged but not yet gazetted such as:

1. Some Claimants referred to properties they claim dispossession of rights in land against using historical property descriptions which may not match the current property description; and
2. Some Claimants provided the geographic descriptions of the land they claim without mentioning the particular actual property description they claim dispossession of rights in land against.

The Commission therefore does not accept any liability whatsoever if through the process of further investigation of claims it is found that there is in fact a land claim in respect of the above property.

If you are aware of any change in the description of the above property after 19 June 1913 kindly supply us with such description so as to enable us to do further search.

Yours faithfully

MR. L.J BOGATSU
CHIEF DIRECTOR
OFFICE OF THE REGIONAL LAND CLAIMS COMMISSIONER: NORTH WEST
DATE: 05/12/2018

COMMISSION ON RESTITUTION OF LAND RIGHTS

OFFICE OF THE REGIONAL LAND CLAIMS COMMISSIONER: NORTH WEST
Cnr James Moroka and Sekame Drive, West Gallery, Mega City, MMABATHO 2735
Tel: (018) 388 7000/7008

Enquiries: Keabetswe Mothupi
E-Mail: keabetswe.mothupi@drdlr.gov.za
Tel: 018 388 7220

By E-Mail: boipelo@singoconsulting.co.za

Dear Boipelo Motlhatlhedi

LAND CLAIM ENQUIRY – PORTION RE OF THE FARM EILEEN'S HOME 67 IQ

We refer to your letter dated 19 of November 2018.

We confirm that as at the date of this letter no land claims appears on our database in respect of the above properties. This includes the database for claims lodged by 31 December 1998; and those lodged between 1 July 2014 and 27 July 2016 in terms of the Restitution of Land Rights Amendment Act, 2014.

Whilst the Commission takes reasonable care to ensure the accuracy of the information it provides, there are various factors that are beyond the Commission's control, particularly relating to claims that have been lodged but not yet gazetted such as:

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Yours faithfully

MR. L.J BOGATSU
CHIEF DIRECTOR
OFFICE OF THE REGIONAL LAND CLAIMS COMMISSIONER: NORTH WEST
DATE: 05/12/2018

COMMISSION ON RESTITUTION OF LAND RIGHTS

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E-Mail: keabetswe.mothupi@drdlr.gov.za
Tel: 018 388 7220

By E-Mail: boipelo@singoconsulting.co.za

Dear Boipelo Motlhatlhedi

LAND CLAIM ENQUIRY – PORTIONS 1-7, 9, 11-15, 17-30 & RE OF THE FARM KLERKSKRAAL 65 IQ

We refer to your letter dated 19 of November 2018.

We confirm that as at the date of this letter no land claims appears on our database in respect of the above properties. This includes the database for claims lodged by 31 December 1998; and those lodged between 1 July 2014 and 27 July 2016 in terms of the Restitution of Land Rights Amendment Act, 2014.

Whilst the Commission takes reasonable care to ensure the accuracy of the information it provides, there are various factors that are beyond the Commission's control, particularly relating to claims that have been lodged but not yet gazetted such as:

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2. Some Claimants provided the geographic descriptions of the land they claim without mentioning the particular actual property description they claim dispossession of rights in land against.

The Commission therefore does not accept any liability whatsoever if through the process of further investigation of claims it is found that there is in fact a land claim in respect of the above property.

If you are aware of any change in the description of the above property after 19 June 1913 kindly supply us with such description so as to enable us to do further search.

Yours faithfully

MR. L.J BOGATSU
CHIEF DIRECTOR
OFFICE OF THE REGIONAL LAND CLAIMS COMMISSIONER: NORTH WEST
DATE: 05/12/2018

COMMISSION ON RESTITUTION OF LAND RIGHTS

OFFICE OF THE REGIONAL LAND CLAIMS COMMISSIONER: NORTH WEST
Cnr James Moroka and Sekame Drive, West Gallery, Mega City, MMABATHO 2735
Tel: (018) 388 7000/7008

Enquiries: Keabetswe Mothupi
E-Mail: keabetswe.mothupi@drdlr.gov.za
Tel: 018 388 7220

By E-Mail: boipelo@singoconsulting.co.za

Dear Boipelo Motlhatlhedi

LAND CLAIM ENQUIRY – PORTIONS 10, 11, 13, 19 & RE OF THE FARM BOVENSTE OOG VAN MOOIRIVIER 68 IQ
PORTION RE OF THE FARM BOVENSTE OOG VAN MOOIRIVIER 271 IQ

We refer to your letter dated 19 of November 2018.

We confirm that as at the date of this letter no land claims appears on our database in respect of the above properties. This includes the database for claims lodged by 31 December 1998; and those lodged between 1 July 2014 and 27 July 2016 in terms of the Restitution of Land Rights Amendment Act, 2014.

Whilst the Commission takes reasonable care to ensure the accuracy of the information it provides, there are various factors that are beyond the Commission's control, particularly relating to claims that have been lodged but not yet gazetted such as:

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If you are aware of any change in the description of the above property after 19 June 1913 kindly supply us with such description so as to enable us to do further search.

Yours faithfully

MR. L.J BOGATSU
CHIEF DIRECTOR
OFFICE OF THE REGIONAL LAND CLAIMS COMMISSIONER: NORTH WEST
DATE: 05/12/2018

Reply Reply All Forward

Thu 2019-02-14 03:03 PM

Boipelo Motlhatlhedi <boipelo@singoconsulting.co.za>

RESPONSE TO THE ISSUES RAISED ON PROSPECTING RIGHT APPLICTION BY ALKEMU PRECISION (PTY) LTD

To 'Alet Vorster'

Cc Kenneth, Singo; stanley@singoconsulting.co.za; 'Emmanuel'; Anthony, Singo; 'rudzani@singoconsulting.co.za'; 'livhuwani@singoconsulting.co.za'; 'mutshidzi@singoconsulting.co.za'; 'tendani@singoconsulting.co.za'; 'vincent@singoconsulting.co.za'

Message Response to Klerkskraal.pdf (517 KB) Ventersdorp_PR.pdf (17 MB)

Good Afternoon,

Please find the letter attached and the draft EMP for your perusal.

Kind Regards,

SINGO CONSULTING (Pty) Ltd

Address: 09 Langa Crescent, Corridor Hill Crossing, First Floor (South Block), Office No. 14, eMalahleni
Email: kenneth@singoconsulting.co.za
Phone: +27 13 692 0041
Web: www.singoconsulting.co.za

Attention: Lourens Swart

PSN Incorporated Attorneys and Conveyancers

Date: 14 February 2019

Email: avorster@psn.co.za

CC: krugervdb@mweb.co.za

RE: Response to the issues raised on behalf of Kruger Family Trust and Dalenberg Landgoed (Pty) Ltd by PSN Incorporated Attorneys and Covenyancers in respect to the Prospecting Right Application by Alkemu Precision.

Dear Sir/Madam

We are referring to the letter dated 19 November 2018 and below is our response to the issues raised.

Kindly note that the project is a Prospecting Right and not a Mining project. Prospecting Right is a permit which allows one to investigate or survey an area or land for the purpose of identifying a mineral deposit.

Also note that no mining activities are going to take place during the project. Investigation or exploration of minerals is going to through trenching and drilling techniques, therefore this project will not impact agricultural activities, landowner's properties and the environment negatively.

In terms of water resources, buffers will be created on the boundaries of rivers and dams and drilling or trenching is going to take place 500 m away from all the water resources within the prospecting area.

An Environmental Management Programme (EMP) is being compiled to manage all potential impacts of the activities to be undertaken. You are also entitled to review such report to see how adequate it is in addressing your concerns.

Please find the attached Draft EMP report for review.

Kind Regards,

Reply Reply All Forward

Mon 2019-02-18 11:58 AM

Alet Vorster <avorster@psn.co.za>

L18157 - APPLICATION : PROSPECTING RIGHTS : ALKEMU PRECISION (PTY) LTD

To boipelo@singoconsulting.co.za; simelanegb@gmail.com

Cc krugervdb@mweb.co.za

You replied to this message on 2019-02-20 11:38 AM.

Message L18157_Singo Consulting (Pty) Ltd.pdf (157 KB)

SEE LETTER ATTACHED

Kind regards

Alet Vorster

Assistant, Corporate and Commercial

Switchboard: 016 932 9101
Facsimile: 016 932 9129
Email: avorster@psn.co.za

PSN | INCORPORATED
ATTORNEYS & CONVEYANCERS

Member of the Phatshoane Henney Group

PSN | INCORPORATED
ATTORNEYS & CONVEYANCERS

Junxion Building Cnr Frikkie Meyer Boulevard & Sullivan Street Vanderbijlpark
Private Bag X041 Vanderbijlpark 1900
Docex 6 Vanderbijlpark

Tel +27 (0)16 932 9101
Fax +27 (0)16 932 9129
Email avorster@psn.co.za
Website www.psn.co.za

Attention: Ms. Boipelo Motlhathledi
Singo Consulting (Pty) Ltd

Our ref MR. L.P. SWART/av/L18157
Your ref
Date 18 February 2019

EMAIL: boipelo@singoconsulting.co.za
EMAIL: simelanegb@gmail.com

Dear Madam

APPLICATION : PROSPECTING RIGHTS : ALKEMU PRECISION (PTY) LTD ("ALKEMU")

1. We acknowledge receipt of your letter dated 14 February 2019.

2. Your client's representative wants to arrange access to the property and it will be appreciated if you could inform us on what basis and for what purpose access is required prior to the granting of any prospecting rights.

3. For the record, we are aware that your client is applying for prospecting rights (see our client's resolutions), and the purpose of the interaction was to register as an affected and interested person. The argument, however, is that due to the sensitive nature of the land, prospecting should also not be allowed.

4. We reserve the right to raise further objections.

Kind regards

LOURENS SWART
PSN | INCORPORATED

cc **Mr. Hennie Kruger**
EMAIL: krugervdb@mweb.co.za

Reply Reply All Forward

Wed 2019-02-20 11:42 AM

Boipelo Motlhatlhedi <boipelo@singoconsulting.co.za>

RE: L18157 - APPLICATION : PROSPECTING RIGHTS : ALKEMU PRECISION (PTY) LTD

To 'Alet Vorster'

Cc Kenneth, Singo; stanley@singoconsulting.co.za; 'simelane@jaments.co.za'

Message Response to Klerkskraal...pdf (580 KB)

Greetings,

Please find the attached.

Kind Regards,

SINGO CONSULTING (Pty) Ltd

Address: 09 Langa Crescent, Corridor Hill Crossing, First Floor (South Block), Office No. 14, eMalahleni
Email: kenneth@singoconsulting.co.za
Phone: +27 13 692 0041
Web: www.singoconsulting.co.za

Attention: Lourens Swart

PSN Incorporated Attorneys and Conveyancers

Date: 20 February 2019

Email: avorster@psn.co.za

CC: krugervdb@mweb.co.za

Dear Sir/Madam

RE: PROSPECTING RIGHT APPLICATION BY ALKEMU PRECISION (PTY) LTD

We acknowledge the receipt of your letter dated 18 February 2019.

1. The reason for arranging access to the property is to; (i) conduct a comprehensive site assessment (ii) conduct specialist studies (Biodiversity and surface water) (iii) Take pictures of the actual land use that will be incorporated in the Basic Assessment Report and Environmental Management Plan.
2. The main aim of conducting biodiversity study is to evaluate the sensitiveness of the area (i.e. Ecological Support Areas and Critical Biodiversity Areas).
3. Should the Prospecting Right be granted, we also need to access the site to conduct geological mapping and sampling.
4. Kindly note that the objection has been recorded, however we are still required to submit the Basic Assessment Report to the Department of Mineral Resources.

Kind Regards,

Boipelo Motlhatlhedi
Junior Consultant
Singo Consulting (pty) Ltd
Btech. (Cand) Geology
N.Dip Geology
+27 83 473 8300
+27 86 5144 103
www.singoconsulting.co.za
boipelo@singoconsulting.co.za
09 Langa Crescent, Corridor Hill Crossing
First Floor (South Block), Office No. 14, eMalahleni

Appendix E: Calculation of a Quantum

CALCULATION OF THE QUANTUM

Alkemu Precision (Pty) Ltd **Date:** **12-12-2018**

Risk Class
Area Sensitivity

No.	Description	Unit	A	B	C	D	E=A*B*C*D
			Quantity	**Master rate**	**Multiplication factor**	**Weighting factor 1**	**Amount (rands)**
1	Dismantling of **processing plant and related structures** (including overland conveyors and powerlines)	m3	0,00	13,30	1,00	1,10	0
2(A)	Demolition of **steel buildings and structures**	m2	0,00	183,72	1,00	1,10	0
2(B)	Demolition of **reinforced concrete buildings and structures**	m2	0,00	270,77	1,00	1,10	0
3	Rehabilitation of **access roads**	m2	0,00	32,86	1,00	1,10	0
4(A)	Demolition and rehabilitation of **electrified railway lines**	m	0,00	319,11	0,00	0,00	0
4(B)	Demolition and rehabilitation of **non-electrified railway lines**	m	0,00	174,06	0,00	0,00	0
5	Demolition of **housing and/or administration facilities**	m2	0,00	368,61	1,00	1,10	0
6	**Opencast rehabilitation** including final voids and ramps	ha	0,00	192 629,82	1,00	1,10	0
7	Sealing of **shafts, adits and inclines**	m3	0,00	98,63	0,00	0,00	0
8(A)	Rehabilitation of **overburden and spoils**	ha	0,00	128 419,87	1,00	1,10	0
8(B)	Rehabilitation of processing waste **deposits and evaporation ponds (basic salt-producing waste)**	ha	0,00	159 944,63	1,00	1,10	0
8(C)	Rehabilitation of processing waste **deposits and evaporation ponds (acidic, metal-rich waste)**	ha	0,00	464 555,03	1,00	1,10	0
9	Rehabilitation of **subsided areas**	ha	0,00	107 532,30	0,00	0,00	0
10	**General surface rehabilitation**	ha	0,45	101 730,19	1,00	1,00	45 779
11	**River diversions**	ha	0,00	101 730,19	1,00	0,00	0
12	**Fencing**	m	0,00	116,03	1,00	1,10	0
13	**Water management**	ha	0,00	38 680,68	0,50	1,10	0
14	2 to 3 years of **maintenance and aftercare**	ha	0,00	13 538,24	1,00	1,00	0
15A	Specialist study	Sum	0,00	0,00	0,00	0,00	
15B	Specialist studies (soil remediation)	ha	0,00	0,00	0,00	0,00	0,00
						SubTotal 1	**45 779**
				(Sum of items 1 to 15 above)			
1	Preliminary and General	6,0% if Subtotal 1 > 100 000 000			Weighting factor 2		
		12,0% if Subtotal 1 < 100 000 000				0,00	0
7	Contingency	10,0% of Subtotal 1					4 578
						SubTotal 2	**50 356**
				(Subtotal 1 plus sum of management and contingency)			
						Add Vat (15%)	7 050
						GRAND TOTAL	**57 406**
						(Subtotal 2 plus VAT)	

Appendix F: Impact Management Outcomes

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.).	**POTENTIAL IMPACT** (Including the potential impacts for cumulative impacts) (E.g. dust, noise, drainage surface disturbance, fly rock, surface water contamination, groundwater contamination, air pollution etc.)	**ASPECTS AFFECTED**	**PHASE** In which impact is anticipated (E.g. Construction, commissioning, operational, Decommissioning, closure, post-closure)	**MITIGATION** (modify, remedy, co Throug (E.g. noise control measures, sto control, rehabilitation, design m controls, avoidance, relocatio (E.g. Modify through alternative m control. Control through managem rehabilitat
Planning and Project Management	**EMP**	Project Management	Planning	• A finalized EMP must address stipulated by the DEA (and oth • The EMP should also encomp mitigation measures as identifi
	Appointment of Environmental Officer	Project Management	Planning	Alkemu Precision (Pty) Ltd env serve as the Environmental Officer (EO) du short duration of construction impacts which are envisaged. environmental geologist will b the compliance of the constru employees on site with the EM operation.
	Permits and Permissions		Planning	JB Marks Local Municipality mu permits or certificates required and in place prior to the comm activities on site.

	Emergency	Safety and health	Planning	Plan all emergency respon

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.).	**POTENTIAL IMPACT** (Including the potential impacts for cumulative impacts) (E.g. dust, noise, drainage surface disturbance, fly rock, surface water contamination, groundwater contamination, air pollution etc.)	**ASPECTS AFFECTED**	**PHASE** In which impact is anticipated (E.g. Construction, commissioning, operational, Decommissioning, closure, post-closure)	**MITIGATION** (modify, remedy, co Throug (E.g. noise control measures, sto control, rehabilitation, design m controls, avoidance, relocatio (E.g. Modify through alternative m control. Control through manage rehabilita
	Response Planning	personnel on site		• Response procedures to fires, that will require rapid medical • Responses to community and communication procedures parties (I&AP).
	Project Schedule	Undertaking the project in a timeous manner	Planning	Plan and develop a construct noise generation during the co
	Method Statement	Project Management	Planning	Ensure that a method stateme submitted to the Site/Construc
	Grievances	Project Management	Planning	Develop grievance mechanis management of complaints a including (but not limited to) g in the area.
	Records and Administration	Project Management	Planning	**Ensure the following are up to date** • A complaint register. • An approved method stateme • Copies of the EMP.

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.).	POTENTIAL IMPACT (Including the potential impacts for cumulative impacts) (E.g. dust, noise, drainage surface disturbance, fly rock, surface water contamination, groundwater contamination, air pollution etc.)	ASPECTS AFFECTED	PHASE In which impact is anticipated (E.g. Construction, commissioning, operational, Decommissioning, closure, post-closure)	MITIGATION (modify, remedy, co Throug (E.g. noise control measures, sto control, rehabilitation, design m controls, avoidance, relocation (E.g. Modify through alternative m control. Control through managem rehabilitat
				• Environmental Permits and aut • Copies of weekly checklists, co reports and corrective action • Photographs of areas of compliance areas as well corr • Attendance registers of enviro
	Recruitment of Labor	Project Management	Planning	• Where possible, the contractor in support of the local econom • Advertise employment opport to limit application opportuniti • Implement a transparent proc staff, following pre-established
PRE-DRILLING/ EXPLOR ATION				
	Site establishment	Project Management	Planning	☐ The Contractor must, in agree Manager, decide upon an are construction camp. The constr properly demarcated and fen sized, with sufficient space for vehicles, equipment, material

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.).	POTENTIAL IMPACT (Including the potential impacts for cumulative impacts) (E.g. dust, noise, drainage surface disturbance, fly rock, surface water contamination groundwater contamination air pollution etc.)	ASPECTS AFFECTED	PHASE In which impact is anticipated (E.g. Construction, commissioning, operational, Decommissioning, closure, post-closure)	MITIGATION (modify, remedy, co Through (E.g. noise control measures, storm control, rehabilitation, design me avoidance, relocation, alternati (E.g. Modify through alternative me control. Control through managem rehabilitati

				• The construction camp must l minimal damage or disturbance • Establish 'NO-GO' areas- where equipment/machinery or vel identified Environmental Sensitiv be designated as 'NO-GO' area
	Site Housekeeping	Project Management	Planning	The construction camp should b all times.
	Ablution Facilities	Project Management	Planning	• Enough toilet facilities should be camp. The toilets should be pro and should contain hand washi • Portable toilets should be prope avoid toppling in the case of a • Ensure that all toilets function p state. The toilets should be clea • Ensure that there are no spillag and emptied. • Urination on site should be strict
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.).	**POTENTIAL IMPACT** (Including the potential impacts for cumulative impacts) (E.g. dust, noise, drainage surface disturbance, fly rock, surface water contamination, groundwater contamination, air pollution etc.)	**ASPECTS AFFECTED**	**PHASE** In which impact is anticipated (E.g. Construction, commissioning, operational, Decommissioning, closure, post-closure)	**MITIGATION** (modify, remedy, co Through (E.g. noise control measures, storm control, rehabilitation, design m avoidance, relocation, alternati (E.g. Modify through alternative me control. Control through managem rehabilitati
Site establishment activities (-ve) _ Vegetation clearance _ Topsoil stripping & stockpiling _ Drill pad compaction _ Erection of office, toilets, fuel storage (if not by road tanker), water tanker, core storage	Cultural and Heritage	Destruction or loss of Cultural and Heritage Resources: No cultural/heritage artefacts have been identified on site	Construction / Set_up	• Environmental Permits and auth • Copies of weekly checklists, co reports and corrective action re
	Noise	Noise Generation	Construction / Set_up	Photographs of areas of conce compliance areas as well corre
	Visual	Visual intrusion	Construction / Set_up	Attendance registers of env training.

_ Vehicle movements _ Waste management	Traffic	Increase in traffic volumes in the vicinity of the drilling site	Construction / Set_up	• Traffic signs to be put around th activities • Construction vehicles to make necessary
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.).	**POTENTIAL IMPACT** (Including the potential impacts for cumulative impacts) (E.g. dust, noise, drainage surface disturbance, fly rock, surface water contamination, groundwater contamination, air pollution etc.)	**ASPECTS AFFECTED**	**PHASE** In which impact is anticipated (E.g. Construction, commissioning, operational, Decommissioning, closure, post-closure)	**MITIGA** (modify, reme Thr (E.g. noise control measure control, rehabilitation, des controls, avoidance, reloc etc.) (E.g. Modify through altern through noise control. Cor and monitoring through rehab
				Construction vehicles to a far as possible when drivin
	Signage	Traffic volumes, safety	Construction / Set_up	• The construction communicate the co of construction activiti • Clear signage needs keep the community activities so as to occurrences. • Provide adequate sa roads.
	Dust fall	Dust fall & nuisance from activities	Construction / Set_up	• Wet suppression should be visible dust is raised by any operations; • Separation of distance of preferably 1000m • to be maintained betwee Low vehicle speeds will be surfaces.
	Soil and vegetation	The potential impact of the proposed prospecting on the	Construction / Set_up	• The soil disturbance and c at drill pad areas will be lim minimum required; No cle • carried out unless absolute a level drill pad.

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.).	**POTENTIAL IMPACT** (Including the potential impacts for cumulative impacts) (E.g. dust, noise, drainage surface disturbance, fly rock, surface water contamination, groundwater contamination, air pollution etc.)	**ASPECTS AFFECTED**	**PHASE** In which impact is anticipated (E.g. Construction, commissioning, operational, Decommissioning, closure, post-closure)	**MITIGA** (modify, reme Thr (E.g. noise control measure control, rehabilitation, des controls, avoidance, reloc etc.) (E.g. Modify through altern through noise control. Cor and monitoring through rehab
		vegetation would occur at proposed drilling sites and the access routes used to get to these sites.		• Rather that surface vegeta for the drilling rig leaving th vegetation can coppice a • Disturbed areas will be re-v indigenous species as soon
	Animal life	Animal life will be affected in the immediate vicinity of the drilling rig. It is anticipated that the noise and general activity will keep the animal life away from the site while the prospecting is ongoing.	Construction/ Set up	• • Environmental awareness part of the workers' induct If any animals are encoun or injured, but should rathe away from the site with the specialist
	Social	Friction	Construction /	All operations will be carrie of a strong,

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.).	**POTENTIAL IMPACT** (Including the potential impacts for cumulative impacts) (E.g. dust, noise, drainage surface disturbance, fly rock, surface water contamination, groundwater contamination, air pollution etc.)	**ASPECTS AFFECTED**	**PHASE** In which impact is anticipated (E.g. Construction, commissioning, operational, Decommissioning, closure, post-closure)	**MITIGATION** (modify, remedy, co Through (E.g. noise control measures, storm control, rehabilitation, design m avoidance, relocation, alternati (E.g. Modify through alternative me control. Control through managem rehabilitati
		between residents/land owners and construction personnel	Set_up	experienced manager with prov consultation and conflict resolut • All prospecting personnel will b conditions and sensitivities in th fact that some of the residents n prospecting activities in the area • There will be a strict requirement and courtesy at all times.
	Job creation	Employment will be created for the clearing of the land and establishing the drilling site.	Construction/ set-up	No mitigation measures required.
	Storage and Disposal of Waste	Safety and aesthetic/ visual aspects of the property, as well	Construction/ set-up & Operation	• Litter generated by constructio in containers that are clearly lab at registered waste disposal site • Sufficient weather- and vermin- on site for the disposal of solid w be

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.).	**POTENTIAL IMPACT** (Including the potential impacts for cumulative impacts) (E.g. dust, noise, drainage surface disturbance, fly rock, surface water contamination, groundwater contamination, air pollution etc.)	**ASPECTS AFFECTED**	**PHASE** In which impact is anticipated (E.g. Construction, commissioning, operational, Decommissioning, closure, post-closure)	**MITIGATION** (modify, remedy, co Through (E.g. noise control measures, storm control, rehabilitation, design me avoidance, relocation, alternati (E.g. Modify through alternative me control. Control through managem rehabilitati
		as waste disposal practices.		strictly prohibited. The burning o be prohibited. • All waste generated from co rubble, solid and liquid waste e frequently at an appropriately li Minimize waste generation, e.g. and refillable containers (e.g. fo a 'cradle to grave' responsibility • Comply with legal requirements pollution control and employ monitoring practices.
	Hazardous Waste	Safety and aesthetic/ visual aspects of the property, as well as waste disposal practices.	Construction/ set-up & Operation	• Any hazardous waste that ma separated from general waste and properly sealed secondary • Any hazardous waste genera accordance with the Hazar Regulations, 1995 (Regulation 1
	Spills and	Safety and	Construction/ set-up	Any equipment that is leakin

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.).	**POTENTIAL IMPACT** (Including the potential impacts for cumulative impacts) (E.g. dust, noise, drainage surface disturbance, fly rock, surface water contamination, groundwater contamination, air pollution etc.)	**ASPECTS AFFECTED**	**PHASE** In which impact is anticipated (E.g. Construction, commissioning, operational, Decommissioning, closure, post-closure)	**MITIGATION** (modify, remedy, co Through (E.g. noise control measures, storm control, rehabilitation, design me avoidance, relocation, alternati (E.g. Modify through alternative me control. Control through managem rehabilitati
	Leaks	aesthetic/ visual aspects of the property, as well as waste disposal practices.	& Operation	decommissioned and removed to a surface with an impermeab collection system. Spill response kits must be readil to all personnel on site.
	PPE			Ensure that all persons on site use Pe (PPE) at all times, this including safet protective masks etc.
	Illegal Fires			Ensure that no fires are ignited on sit construction purposes, in which cas areas for the fires. The designated a possible from vegetation.
	Erosion	The properties of the receiving environment, and ensuring that the ground is not susceptible to	Construction/ set-up & Operation	• Ensure that erosion manageme strictly implemented from the activities. • All topsoil stockpiles (if any) mus erosion and seeds, i.e. by use of • Topsoil stockpiles should not exc

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.).	**POTENTIAL IMPACT** (Including the potential impacts for cumulative impacts) (E.g. dust, noise, drainage surface disturbance, fly rock, surface water contamination, groundwater contamination, air pollution etc….etc…)	**ASPECTS AFFECTED**	**PHASE** In which impact is anticipated (E.g. Construction, commissioning, operational, Decommissioning, closure, post-closure)	**MITIG** (modify, rer Th (E.g. noise control measu dust control, rehabilitati blasting controls, avoid activity etc.) (E.g. Modify through alte through noise control. C and monitoring through reha
		erosion beyond that which can be rehabilitated.		
EXPLORATION				
Exploration drilling (ve) - Drilling - Drill maintenance & refuelling - Core sample collection & storage - Vehicle movements - Waste generation & management	Noise	Noise Generation	Operations	• Construction/setup, operc activities will be limited to to Saturdays and no activi holidays; • Separation of distance of preferably 1000m to be m and dwellings; Noise abat mufflers on diesel engines, • condition; and If intrusive noise levels are at any point, the source o practical, or it will be plac or an acoustic barrier will b source and the recipient.
	Visual	Visual intrusion	Operations	• The drilling rig and other vi site will be in consultation • Make use of existing vege screen the

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.).	**POTENTIAL IMPACT** (Including the potential impacts for cumulative impacts) (E.g. dust, noise, drainage surface disturbance, fly rock, surface water contamination, groundwater contamination, air pollution etc.)	**ASPECTS AFFECTED**	**PHASE** In which impact is anticipated (E.g. Construction, commissioning, operational, Decommissioning, closure, post-closure)	**MITIGA** (modify, rem Th (E.g. noise control measu dust control, rehabilitati blasting controls, avoid activity etc.) (E.g. Modify through alte through noise control. C and monitoring through reha
				prospecting operations fro • If necessary, the operation view by erecting a shade
	Traffic	Increase in traffic volumes near the drilling site	Operations	• Traffic signs to be put arou of the activities • Construction vehicles to m when necessary • Construction vehicles to a far as possible when drivin
	Dust fall	Dust fall & nuisance from activities	Operations	• Wet suppression will be ap visible dust is raised by any operations; • Separation of distance of preferably 1000m • to be maintained betwee Low vehicle speeds will be surfaces.
	Soil and vegetation	Soil and vegetation disturbance	Operations	• The soil disturbance and c at drill pad areas will be lim minimum required; No clea • carried out unless necessa drill pad. Rather that surfac

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.).	**POTENTIAL IMPACT** (Including the potential impacts for cumulative impacts) (E.g. dust, noise, drainage surface disturbance, fly rock, surface water contamination, groundwater contamination, air pollution etc.)	**ASPECTS AFFECTED**	**PHASE** In which impact is anticipated (E.g. Construction, commissioning, operational, Decommissioning, closure, post-closure)	**MITIGATION** (modify, remedy, co Through (E.g. noise control measures, storm control, rehabilitation, design m avoidance, relocation, alternati (E.g. Modify through alternative me control. Control through managem rehabilitati
		from drill pad preparation		vegetation be cleared to make leaving the roots intact so that v regrow; and • Disturbed areas will be re_vegeta species as soon as possible.
	Animal life	Animal life will be affected in the immediate vicinity of the drilling rig. It is anticipated that the noise and general activity will keep the animal life away from the site while the prospecting is ongoing.	Operations	Measures implemented during site e this phase as well.
	Social	Friction between	Operations	All operations will be carried a strong,

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.).	**POTENTIAL IMPACT** (Including the potential impacts for cumulative impacts) (E.g. dust, noise, drainage surface disturbance, fly rock, surface water contamination, groundwater contamination, air pollution etc.)	**ASPECTS AFFECTED**	**PHASE** In which impact is anticipated (E.g. Construction, commissioning, operational, Decommissioning, closure, post-closure)	**MITIGATION** (modify, remedy, co Through (E.g. noise control measures, storm control, rehabilitation, design m avoidance, relocation, alternati (E.g. Modify through alternative me control. Control through managem rehabilitati
		residents/land owners and construction personnel		experienced manager with prov consultation and conflict resolut • All prospecting personnel will b conditions and sensitivities in th fact that some of the residents n prospecting activities in the area • There will be a strict requirement and courtesy always.
	Job creation	Employment will be created for the clearing of the land and establishing the drilling site.	Operations	No mitigation measures required.
DECOMMISSIONING AN D REHABILITATION				
Rehabilitation of the drill sites and	**Removal of construction structures**	Ensuring the receiving environment is	Rehabilitation	Clear and completely remove t plant equipment, storage conta fencing, temporary services, fixt temporary works;

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.).	**POTENTIAL IMPACT** (Including the potential impacts for cumulative impacts) (E.g. dust, noise, drainage surface disturbance, fly rock, surface water contamination, groundwater contamination, air pollution etc.)	**ASPECTS AFFECTED**	**PHASE** In which impact is anticipated (E.g. Construction, commissioning, operational, Decommissioning, closure, post-closure)	**MITIGATION** (modify, remedy, co Through (E.g. noise control measures, storm control, rehabilitation, design me avoidance, relocation, alternati (E.g. Modify through alternative me control. Control through managem rehabilitati
surroundings		not impacted on any further, by dismantling machinery and equipment appropriately.		and Ensure that all access roads utili (which are not earmarked for c returned (as far as possible) to t construction.
	Waste and Rubble Removal	Visual aspects by preventing any further pollution.	Rehabilitation	• Clear the site of all inert waste rock, foundations and batching • Load and haul excess spoil and pits / dongas or to dump sites indica environmental control specialist • Remove from site all domestic approved manner at a registere
	Solid & Hazardous Waste			• Store hazardous waste as in Environmental Management Pla • Dispose of all hazardous wast recycling or resale at a register site. • Remove from site all temporary

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** (Including the potential impacts for cumulative impacts) (E.g. dust, noise, drainage surface disturbance, fly rock, surface water contamination, groundwater contamination, air pollution etc….etc…)	**ASPECTS AFFECTED**	**PHASE** In which impact is anticipated (E.g. Construction, commissioning, operational, Decommissioning, closure, post-closure)	**MITIGATION** (modify, remedy, co Through (E.g. noise control measures, storm control, rehabilitation, design me avoidance, relocation, alternati (E.g. Modify through alternative me control. Control through managem rehabilitati
				substance stores, hazardous wa control sumps. Dispose of hazar manner. • Do not hose oil or fuel spills into or into the surrounding natural e • Dispose of all visible remains of the site.
	Erosion protection		Rehabilitation	• Protect all areas susceptible to is no undue soil erosion resulta adjacent to the construction sit • Retain shrubbery and grass spe • Perform regular monitoring ar control measures.

Appendix G: Site Pictures and Site Notices

Appendix H: Specialist Study