REVISED BASIC ASSESSMENT REPORT AND ENVIRONMENTAL MANAGEMENT PROGRAMM REPORT FOR THE APPLICATION OF A PROSPECTING RIGHT SITUATED ON KNOPFONTEIN "A" 215 IN THE DISTRICT OF VILJOENSKROON

FOR

RITLUKA RESOURCES (PTY) LTD

DMR REF. NO. FS 10495 EM

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mineral resources

Department:
Mineral Resources
REPUBLIC OF SOUTH AFRICA

REVISED BASIC ASSESSMENT REPORT

AND

ENVIRONMENTAL MANAGEMENT PROGRAMME REPORT

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

NAME OF APPLICANT: RITLUKA RESOURCES (PTY) LTD
REFERENCE NUMBER: FS 30/5/1/3/3/2/1/10495 EM
PROJECT NAME: KNOPFONTEIN "A" 215
DATE: 05 DECEMBER 2017
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FILE REFERENCE NUMBER SAMRAD: FS 30/5/1/3/3/2/1/10495EM

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1. 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 prospecting right if among other the prospecting "will not result in unacceptable pollution, ecological degradation or damage to the environment".

Unless an Environmental Authorization can be granted following the evaluation of an Environmental Impact Assessment and an Environmental Management Program report in term so 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 authorization for listed activities triggered by an application for a right or a permit submitted in the exact format of, and provide all 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 Authorization 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.

2. 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 the sites and the risk of impact of the proposed activity and technology alternatives on these aspects to determine:
    i. The nature, significance, consequence, extent, duration, and probability of the impacts occurring to; and
    ii. The degree to which these impacts –
        a. Can be reversed
        b. May cause irreplaceable loss of resources; and
        c. Can be managed, avoided or mitigated;
(e) 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 –
    i. Identify and motivate a preferred site, activity and technology alternative;
    ii. Identify suitable measures to manage, avoid or mitigate identified impacts; and
    iii. Identify residual risks that need to be managed and monitored.

PROJECT DETAILS

Name of Project:	KNOPFONTEIN "A" 215
Prospecting right:	FS 30/5/1/3/3/2/1/10495 EM
Name of Applicant:	RITLUKA RESOURCES (PTY) LTD
Responsible person:	Tshimangadzo Mulaudzi
Physical Address:	44a Umfolozi Street, Aerorand, Middleburg, 1055
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Environmental Consultant (EAP):	Tshimangadzo Mulaudzi
Responsible Person:	Tshimangadzo Mulaudzi
Physical Address:	15 Barnes Street, Langebaan building, Bloemfontein 9301
Postal Address:	P.O. Box 29567, Danhof
Telephone:	079 362 6046
Facsimile:	086 556 2568
E-mail:	info@engedime.com
Expertise of EAP:	Refer to Part A (3) (a) (ii) on the expertise of EAP

ABBREVIATIONS USED IN THIS REPORT

DMR	:	Department of Mineral Resources
DRPW	:	Department of Roads and Public Works
DWS	:	Department of Water and Sanitation
ECO	:	Environmental Control Official
EIA	:	Environmental Impact Assessment
EMP	:	Environmental Management Programme
FS	:	Free State
IAPs	:	Interested and Affected Parties
LOM	:	Life of Mine
MPRDA	:	Minerals and Petroleum Resources Development Act
NEMA	:	National Environmental Management Act
SAHRA	:	South African Heritage Resources Agency
SAPS	:	South African Police Services

PART A
SCOPE OF ASSESSMENT AND BASIC ASSESSMENT REPORT

3. CONTACT PERSON AND CORRESPONDENCE ADDRESS

a) Details of

i. Details of the Environmental Assessment Practitioner (EAP)

Name of the Practitioner: Tshimangadzo Mulaudzi

Tel No.:079 362 6046

Fax No.:086 556 2568

Email address: mulaudzit@engedime.com

ii. Expertise of the EAP

1) **The qualifications of the EAP** (with evidence)

Tshimangadzo hold an Honours Degree in Prospecting and Environmental Geology from the University of Venda. He has been working as an environmental geologist and environmental practitioner ever since. He has 5 years' experience in Environmental Science, 3 years' experience in Geology, and 5 years' experience in public participation.

2) **Summary of the EAP's past experience** (in carrying out the Environmental Impact Assessment Procedure)

Tshimangadzo has been carrying out Environmental Impact Assessment Procedure since 2012, managing a construction company called Tshedza Concrete Art in Limpopo Province, Makhado town.

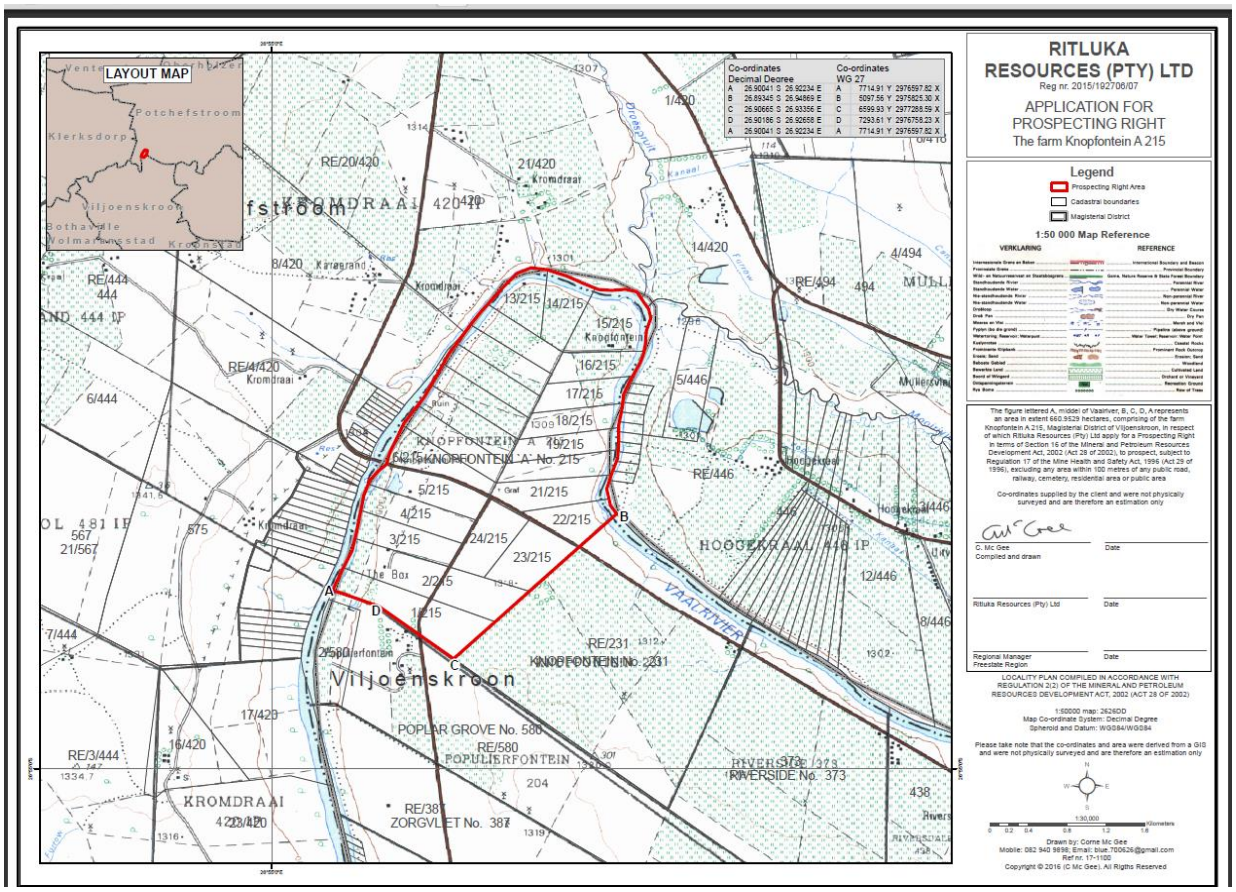
In 2014, he joined a large prospecting consulting company in Kimberly called Breeze Court Investments 47 (Pty) Ltd (Geologist and Prospecting consulting firm). This is where Mr Mulaudzi acquired in-depth experience and know how in the mining consulting business by assisting the large to small scale mining companies to obtain prospecting right, mining rights, mining permits, technical co-operate permits, reconnaissance permits, exploration rights, production rights, integrated water use license, and environmental authorisation among other licenses.

Tshimangadzo has five years working experience in environmental management, geology and public participation process.

b) Location of the overall Activity

Farm name:	Knopfontein "A"215
Application area (Ha):	656,71a Ha
Magisterial district:	Viljoenskroon
Distance and direction from nearest town:	34 km North of Viljoenskroon town
21 digit Surveyor General Code for each farm portion:	T0360000000021500001,T0360000000021500002,T0360000000021500003,T0360000000021500004,T0360000000021500005,T0360000000021500006,T0360000000021500007,T0360000000021500008,T0360000000021500009,T0360000000021500010,T0360000000021500011,T0360000000021500012,T0360000000021500013,T0360000000021500014,T0360000000021500015,T0360000000021500016,T0360000000021500017,T0360000000021500018,T0360000000021500019,T0360000000021500020,T0360000000021500021,T0360000000021500022,T0360000000021500023,T0360000000021500024,
Locality map	Attach a locality map at a **scale not smaller than 1:250000 and attach as Appendix 2**
Description of the overall activity. **(Indicate Mining Right, Mining Permit, Mining right, Bulk Sampling, Production Right, Exploration Right, Reconnaisance permit, Technical co-operation permit, Additional listed activity)**	PROSPECTING RIGHT Ritluka (Pty) Ltd proposes to prospect for Diamonds on the farm Knopfontein A 215. A mobile drill rig will be used to do the drilling of 15 exploration boreholes.

c) **Locality map**
(show nearest town, scale not smaller than 1:250 000)



d) 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)

i. Listed and specified activities

NAME OF ACTIVITY **(E.g. For prospecting –** drill site, site camp, ablution facility, accommodation, equipment storage, sample storage, site office, access route **etc…etc…etc** **E.g. for prospecting** – excavation, blasting, stockpiles, discard dumps or dams, loading, hauling and transport, water supply dams and, accommodation, offices, ablution, stores, workshops, processing plant, storm water control, berms, roads, pipelines, power lines, conveyors, **etc…etc…etc**)	**Aerial extent of the Activity (Ha or m^2)**	**LISTED ACTIVITY (**Mark with an **X** where applicable or affected**)**	**APPLICABLE LISTING NOTICE (*GNR 324, GNR 325 OR GNR 327)***
Drilling	5 Ha	**X**	Listing Notice 1 Activity No. 20
Sample storage	0.04 Ha	**X**	Listing Notice 1 Activity No. 20
Machinery storage	0.01 Ha	**X**	Listing Notice 1 Activity No. 20

ii. 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 activity is for the proposed prospecting, which will involve the prospecting of diamond (alluvial), diamond (general) and permission to remove and dispose of diamond (alluvial), diamond (general) only. Only drilling will be done to take out the cores to be taken to the laboratory for analysis. Nine (9) geological core boreholes will be drilled in phrase 1 (Year) A further six (6) boreholes in year 2 (Phase 2). The depth of all planned

boreholes is 25m and will be drilled to intersect all the underlying geological strata and coal strata.

e) Policy and Legislative Context

APPLICABLE LEGISLATION AND GUIDELINES USED TO COMPILE THE REPORT (a description of the policy and legislative context within which the development is proposed including an identification of all legislation, policies, plans, guidelines, spatial tools, municipal development planning frameworks and instruments that are applicable to this activity and are to be considered in the assessment process)	**REFERENCE WHERE APPLIED**	**HOW DOES THIS DEVELOPMENT COMPLY WITH AND RESPOND TO THE LEGISLATION AND POLICY CONTEXT.** (E.g. in terms of the National Water Act a Water Use License has/has not been applied for)
National Environmental Management Act (NEMA), No. 107 of 198, as amended	Section 24	In terms of the National Environmental Management Act, an application for an Environmental Authorisation has been applied for.
Regulation 982. National Environmental Management Act (Act No. 107 of 1998): Environmental Impact Assessment Regulations, 2014	Regulation 19	In terms of the NEMA EIA Regulations a Basic Assessment Report (BAR) and Environmental Management Programme (EMPr) were prepared to submit to the competent authority.
Regulation 983. National Environmental Management Act (Act No. 107 of 1998): Listing notice 1: List of activities and competent authorities identified in terms of sections 24(2) and 24D	Regulation 20	In terms of NEMA EIA Regulations R.983, Listing notice 1, the activity triggers regulation 21 which refers to a prospecting permit application and therefore needs an Environmental Authorizations to proceed as well as follow procedures as prescribed in regulation 19 of R.982 (EIA

		Regulations, 2014).
Mineral and Petroleum Resources Development Act (Act No. 28 of 2002)	Section 16	In terms of the MPRDA, any person who wishes to apply for a prospecting permit must lodge the application in the prescribed manner.
Mineral and Petroleum Resources Development Amendment Act (Act No. 49 of 2008)	Section 12	In terms of the MPRDA, any person who wishes to apply for a prospecting permit must simultaneously apply for an environmental authorisation and must lodge the application to requirements contemplated by competent authority.

f) Need and desirability of the proposed activities

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

The need for the proposed development is of paramount importance in the sense that it is going to assist the local community in terms of poverty alleviation through job creation, black economic empowerment in terms of the prospecting charter which will contribute to the Nations visions of job creation.

g) Motivation for the overall preferred site, activities and technology alternative

The proposed prospecting site is preferred because:

1. It contains the right quality of diamond (alluvial) and diamond (general);
2. The prospecting site still has good high grade diamond (alluvial) and diamond (general);
3. The site is close to the processing plant, thus minimising transportation costs; and
4. The area was cleared for previous mine support structures, hence preferred than opening a new area which could entail cutting down some trees.
5. There won't be a need to start excavating on virgin ground since the recovering will only be focused on the material along the historic rail line skeletons.

h) Full description of the process followed to reach the proposed preferred alternatives within the site

NB!!! – This section is about the determination of the specific site layout and the location of infrastructure and activities on site, having taken into consideration the issues raised by interested and affected parties, and the consideration of alternatives to the initially proposed site layout.

i. Details of the development footprint alternatives considered.

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

- **a.** The property on which or location where it is proposed to undertake the activity;
- **b.** The type of activity to be undertaken;
- **c.** The design or layout of the activity;
- **d.** The technology to be used in the activity;
- **e.** The operational aspects of the activity; and
- **f.** The option of not implementing the activity

No alternatives are applicable to this project since diamond (alluvial) and diamond (general) is contained in the proposed area. Locating the development to another area will result in the diamond (alluvial) and diamond (general) possibly not being found and the economy and society not benefitting from proposed prospecting activity.

ii. Details of the Public Participation Process Followed

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

Definitions:

'consultation' means a two way communication process between the applicant and the community or interested and affected party wherein the former is seeking, listening to, and considering the latter's response, which allows openness in the decision making process.

'community' means a group of historically disadvantaged persons with interest or rights in a particular area of land on which the members have or exercise communal rights in terms of an agreement, custom or law: Provided that, where as a consequence of the provisions of the Act negotiations or consultations with the community are required, the community shall include the members or part of the community, directly affected by prospecting or prospecting, on land occupied by such members or part of the community.

'Interested and affected' parties include, but are not limited to; –

- Host Communities
- Landowners (Traditional and Title Deed owners)
- Traditional Authority
- Land Claimants
- Lawful land occupier
- The Department of Land Affairs,
- Any other person (including on adjacent and non-adjacent properties) whose socio-economic conditions may be directly affected by the proposed prospecting or prospecting operation
- The Moqhaka Local Municipality,
- The relevant Government Departments, agencies and institutions responsible for the various aspects of the environment and for infrastructure which may be affected by the proposed project.

The following I&APs were contacted:

- Land owner
- Free State Department of Economic Development, Tourism, Environmental Affairs, and Small Business;
- Chief Director: Department of Rural Development and Land Reform (Free State);
- Moqhaka Local Municipality – Municipal Office;
- Viljoenstroon District Municipality – Municipal Office;
- Department of Water and Sanitation; and
- Other relevant parties or departments.

The identified I&APs were provided with information regarding the applied proposed prospecting. The final location of the planned drilling will be decided in consultation with the landowners during prospecting. All comments from the identified I&APs will be noted and taken into consideration.

After the directly affected land owner has been identified, these parties were consulted telephonically, per email or personally (whichever method is most convenient for the party concerned).

The public participation process mainly comprises engagement with Interested and Affected Parties (I&APs) and is of utmost importance in any environmental assessment process. The public participation process, *inter alia*, involves the following:

- Inform, raise awareness, educate and increase understanding of a broad range of environmental issues that might be arise with the proposed extension in the size of prospecting operation.
- Establish lines of communication between stakeholders, I&APs and the project team.
- Provide opportunity to all parties for the exchange of information and expression of views and concerns.
- Obtain contributions of stakeholders and I&APs and ensure that all views, issues, concerns and queries raised are fully documented.
- Identify all the significant issues associated with the proposed extension of project

Engedi Minerals and Energy was appointed by **Ritluka Resources (pty) Ltd** as the independent consultant to conduct the public participation process as part of the Basic Assessment Report and Environmental Management Programme Report. As stipulated in Section 27 (5) (b) of the MPRDA (Act 28 of 2002) as amended by the MPRDA (Act 49 of 2008) and Regulations, Interested and Affected Parties (I&APs) need to be notified and consulted with, as part of a prospecting right application and extension thereof.

The public participation process aims to provide I&APs with objective information in order to assist them to:

- Raise issues of concern and make suggestions for enhanced benefits;
- Contribute local knowledge and experience;
- Verify that their issues have been captured;
- Verify that their issues have been considered; and
- Comment on the findings of the EMP.

An email explaining the project and the background information will be sent to all other I&APs introducing the project. Specifically, the Free State Department of Economic Development,

Tourism, Environmental Affairs, and Small Business responded that **Engedi Minerals and Energy Pty (Ltd)** does not need to send them any information as the BAR and EMPr will be provided to them from the DMR once the BAR and EMPr is submitted.

The draft BAR and EMPr was made available for all the registered I&APs. The draft BAR and EMPr was made available to inform the I&APs of the activities, background information of the area, the possible impacts and mitigation measures and other relevant information, and to respond to request input and comment on it.

iii. Summary of issues raised by I&APs

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

Interested and Affected Parties **List the names of persons consulted in this column, and** **Mark with an X where those who must be consulted were in fact consulted**	**Date Comments Received**	**Issues raised**	**EAPs response to issues as mandated by the applicant**	**Section and paragraph reference in this report where the issues and or response were incorporated**
AFFECTED PARTIES				
Landowner/s				
Please see the attached consultation results attached as Consultation report				

Lawful occupier/s of the land					
Landowners or lawful occupiers on adjacent properties					
Municipal councilor					

District Municipality –	**X**				
Local Municipality – Moqhaka Local Municipality	**X**				
Organs of state (Responsible for infrastructure that may be affected i.e. Roads Department, Eskom, Telkom, DWA etc.)					
Department of Water Affairs – Free State	**X**				
Communities					
Department of Land Affairs					
Department of Rural Development and Land Reform,	**X**				

Traditional Leaders					
No traditional leaders are present on site					
Department of Environmental Affairs					
Free State Department of Economic Development, Tourism, Environmental Affairs, and Small Business	**X**				
Other Competent Authorities affected					

No other competent authorities will be affected as of yet.					
OTHER AFFECTED PARTIES					
No other affected parties have been identified					

INTERESTED PARTIES

Community

iv. The Environmental attributes associated with the alternatives.

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

3.1 BASELINE ENVIRONMENT

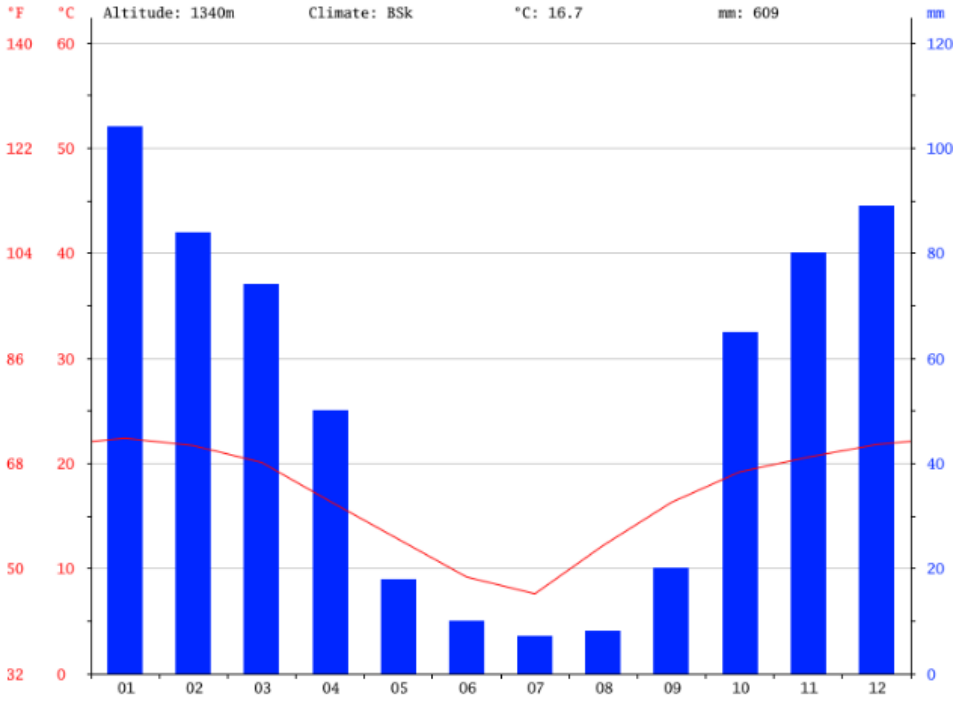
a) Type of environment affected by the proposed activity

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

The environment on site relative to the environment in the surrounding area

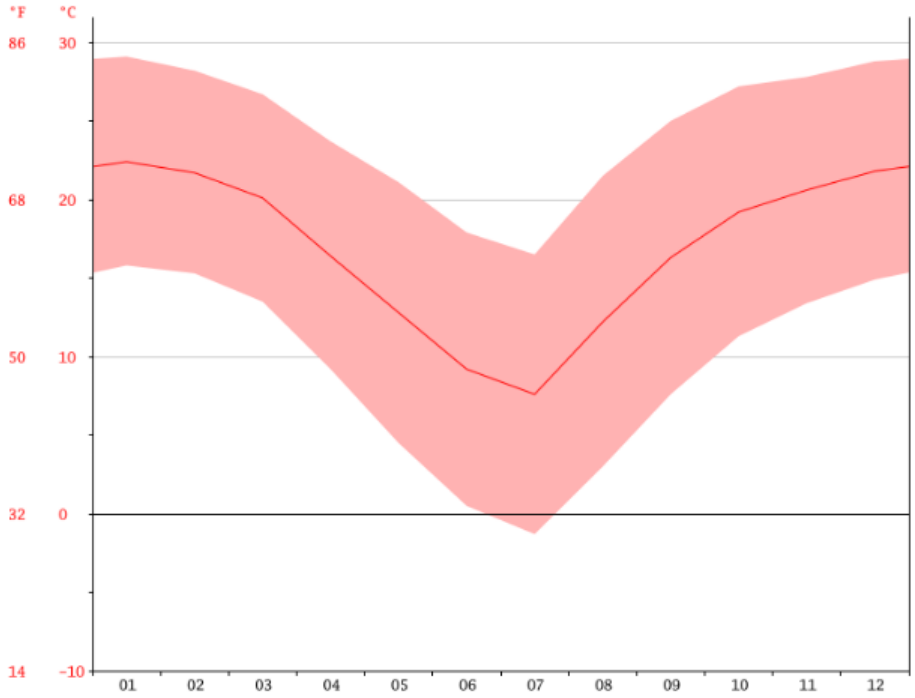
1. Climate

The prevailing climate in Viljoenskroon is known as a local steepe climate. During the year, there is little rainfall in Viljoenskroon. This location is classified as BSk by Koppen and Geiger. The temperature here averages 16.7°C. The average annual rainfall is 609 mm. the most precipitation falls in January, with an average of 104 mm.



2. Temperature

With an average of 22.4°C, January is the warmest month. In July, the average temperature is 7.6°C. It is the lowest average temperature of the whole year.



3. Topography and Elevation:

The elevation for Viljoenskroon, South Africa is: 1308.41 meters.

4. Geology:

At the surface, and extending to a depth of approximately 180 m below surface lie amygdaloidal andesites of the Hekpoort Group. Below this to a depth of approximately 550 m below surface are shales of the Lyttleton formation of the Chuniespoort group. These shales are variously intruded by pre-Bushveld Igneous Complex diabase sills with thickness of up to 80 m. from 550 n to the deepest levels on Helam diamond mine (approxi. 175 m), the abovementioned shales transition to increasingly arenaceous rocks termed wackes, or impure quartzites. At a depth of approximately 500 metres below surface a regional low-angle thrust has been identified in extremely weak, carbonaceous shales of the Lyttleton Formation. This fault had a strong influence on the intrusion of the fissures and in some areas it forms a sharp boundary that appears to cut off the fissure, whilst in other areas the fissure “horsetails” and the fault’s influence is spread over vertical distance of 100m.

Kimberlite dyke swarm is made up of 3 dominant kimberlite types which are recognized on-mine as Main Fissure, Changehouse Fissure and Muil Fissure. The Main Fissure is made up of multiple intrusive phases, and is the only fissure of real economic consequence. Disregarding local variations, the fissure system has a strike direction of 100°, and a near-vertical dip. However, when transitioning from one intrusion zone to another, dips of 30 degrees from the vertical can be attained, and sometimes exceeded

5. Biological Environment

5.1 Fauna

5.1.1 Mammals

The possible presence or absence of threatened mammal species and near threatened mammal species at the site was investigated. Large threatened species such as the black rhinoceros are obviously not present. No smaller mammals of particular high conservation significance are likely to be found on the site either (Ecological Assessment, 2013)

5.1.1. Birds

The possible presence or absence of threatened bird species and threatened bird species (globally and nationally) was investigated at the site. The site does not appear to form part of any habitat of particular important for any threatened bird species or nay bird species of particular conservation importance (Ecological Assessment, 2013)

5.2. Vegetation

Viljoenskroon is situated in the Vaal-Vet Sandy Grassland biome (Mucina and Rutherfort, 2006). More than 63% of land in the Vaal-Vet Sandy Grassland Biome is transformed for cultivation. It should be noted that the study area was used for crop production and is therefore disturbed. The area with natural vegetation on the proposed site is minimal.

6. Conservation areas

There are no protected areas or ecological corridors within 30km of the site.

7. Surface water

Surface water in the Viljoenskroon area includes the Vaal River

8. Catchment

Three major rivers feature prominently in the Free State province, of which two flows through the Moqhaka Municipality. The Vaal River runs from east to west through the town of Viljoenskroon, which forms the north-western boundary of the municipality, and the Vet River flows just south of the Wesselsbron district and forms the southern boundary of the Moqhaka region. Both the rivers play a significant role in the provision of water to Viljoenskroon and Bothaville respectively.

9. Water Management Area

Vaal Water Management Area is the water management area.

10. Rivers

Three major rivers feature prominently in the Free State province, of which two flows through the Moqhaka Municipality. The Vaal River runs from east to west through the town of Viljoenskroon, which forms the north-western boundary of the municipality, and the Vet River flows just south of the Wesselsbron district and forms the southern boundary of the Moqhaka region. Both the rivers play a significant role in the provision of water to Viljoenskroon and Bothaville respectively.

11. Groundwater

The Viljoenskroon area has a characteristically shallow water table. The wetland area (i.e. Olifants Vlei) that stretches from the southeast to the west of Viljoenskroon is evident of this shallow water table.

12. Noise and Air Quality

Viljoenskroon area has very little major industrial services causing high atmospheric emissions, therefore the overall air quality is good.

13. Sites of archaeological and cultural Interest

The proposed site was previously disturbed by agricultural activities (i.e. crop production). It is therefore not foreseen that there will be any elements of heritage or archaeological value. This specific area is also not known for significant historical events.

14. Socio-economic setting

14.1 Population

The population of Viljoenkroon is 2091 (165.03 per km²) according Census 2011

14.2 Race

According to Census 2011 both black and white are found in the area but the blacks are predominant.

Population group	People	Percentage
White	1420	67.91%
Black African	599	28.65%
Coloured	16	0.77%
Indian or Asian	14	0.67%
Other	42	2.01%

14.3 Gender composition

The male populations were slightly higher than the female population according to (Global Insight 2009).

Gender	People	Percentage
Female	1069	51.12%
Male	1022	48.88%

14.4 Age groups

Age Structure	
Population under 14	27%

Population 15 to 64	66.4%
Population over 65	6.5%

14.5 Education

Education (aged 20 +)	
No schooling	5.4%
Higher education	8.6%
Matric	27.8%

14.6 Poverty and inequality

Labour Market	
Unemployment rate (official)	35.2%
Youth unemployment rate (official) 15-34	47.2%

14.7 Employment

EMPLOYMENT	**2014/15**	**2013/14**	**2012/13**	**2011/12**
Employment				
Employment Costs (R'000)	118 797	111 952	n/a	n/a
Remuneration of councilors (R'000)	7 133	6 977	n/a	n/a
Total Employee Positions	488	418	489	489
Total Vacant Employee Positions	0	2	6	8
Total Vacancy Percentage	0.00%	0.48%	1.23%	1.64%

14.8 Income

Income	Percentage
None income	12,5%
R1 - R4,800	5,3%
R4,801 - R9,600	9,7%
R9,601 - R19,600	24,6%
R19,601 - R38,200	24,5%
R38,201 - R76,4000	11,2%
R76,401 - R153,800	6%
R153,801 - R307,600	3,7%
R307,601 - R614,400	1,7%
R614,001 - R1,228,800	0,4%
R1,228,801 - R2,457,600	0,2%
R2,457,601+	0,2%

b) Description of the current land uses

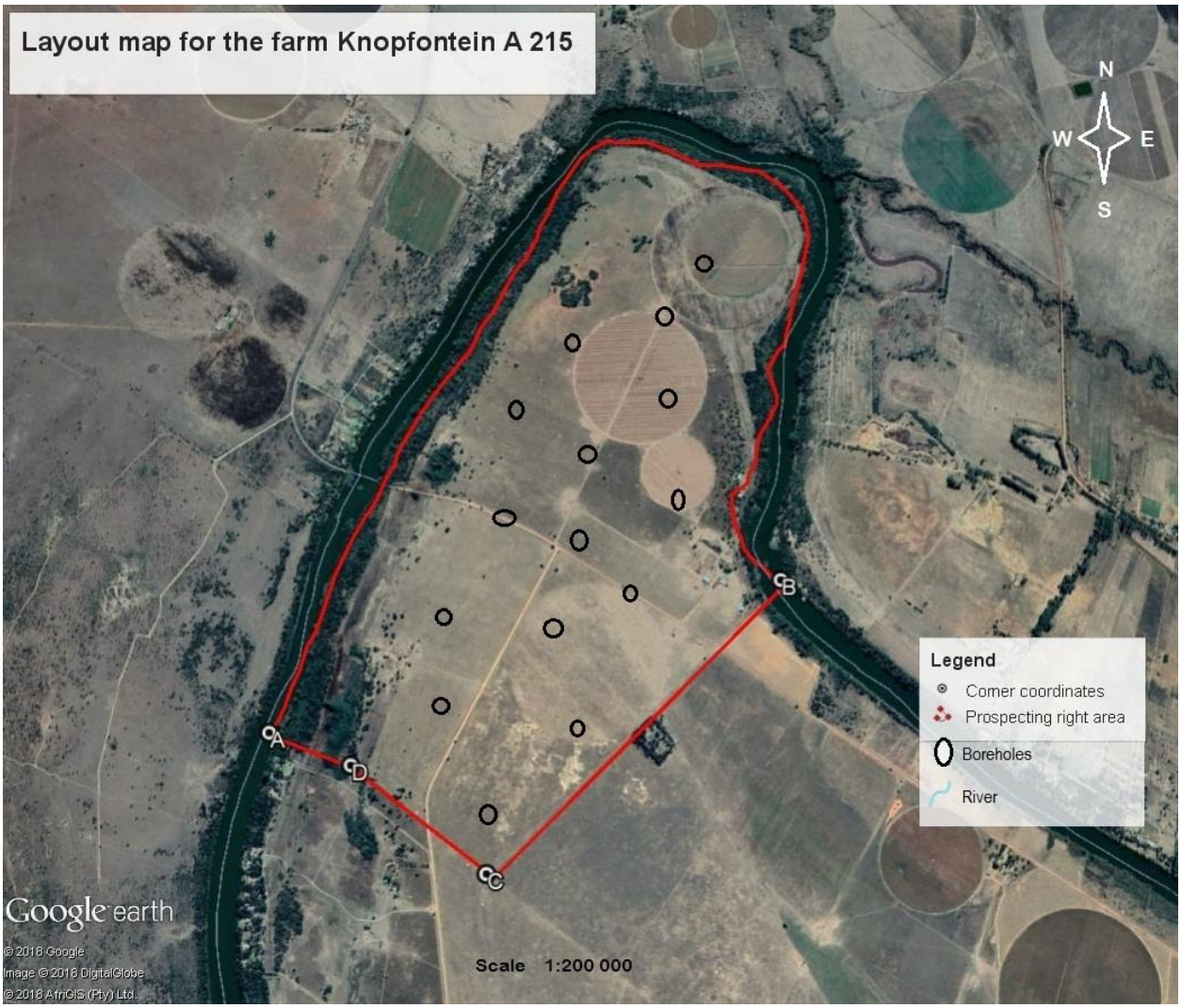
Agricultural and prospecting

c) Description of specific environmental features and infrastructure on the site

Industrial area

d) Environmental and current land use map
(Show all environmental and current land use features)

Prospecting and Agriculture. Vegetation also available for grazing



v. Impacts and risks identified including the nature, significance, consequence, extent, duration and probability of impacts, including the degree to which these impacts

(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 impact of such activities, and as informed by the consultations with affected parties together with the significance, probability, and duration of these 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).

Potential impact of each main activity in each phase, and corresponding significance assessment

No	Activity	impact	Duration	intensity	Probability	Significance Rating

1	Site Preparation	Loss of vegetation	3	5	10	80	High
		Habitat Destruction	3	5	10	80	High
		Visual scarring	3	4	8	56	Medium
		Soil erosion	3	4	6	42	Low
2	Drilling	Fly rock	2.5	5	10	75	high
		Noise and vibrations	2.5	5	10	75	high
		Dust	2.5	5	10	75	high

- **Potential cumulative impacts**

Since they are other prospecting company around, the cumulative impact will be noise and dust.

- **Potential impact on heritage resources**

Heritage Resources are those resources, both human and natural, created by activities from the past that remain to inform present and future societies of that past. Heritage Resources are relatively permanent, although highly tenuous, features of the environment; if they are present, their integrity is highly susceptible to construction and ground-disturbing activities. On the site where the mining activities will take place, no potential impact on heritage resources is anticipated since there are no heritage resources on site.

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

(If no such impacts are identified this must be specifically stated together with a clear explanation why this is not the case.)

Expectations could be created that numerous job and business opportunities will become available during prospecting. All Interested and Affected Parties (I&APs) need to be informed throughout the prospecting process.

- **Confirmation that the list of potential impacts has been compiled with the participation of the landowner and interested and affected parties**

The draft BAR and EMPr was made available to the interested and affected parties for comment and input. The list of potential impacts was included in the draft BAR and EMPr.

vi. Methodology used in determining and ranking 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 they initial site layout needs revision).

Criteria of assigning significance to potential impacts

The significance of the impacts was determined through the consideration of the following criteria:

Probability:	Provides a description of the likelihood/probability of the impact occurring
Extent:	Describes the spatial scale over which the impact will be experienced
Duration:	The period over which the impact will be experienced
Intensity:	The degree/order of magnitude/severity to which the impact affects the health and welfare of humans and the environment
Significance:	Overall significance of the impact on components of the affected environment and whether it is a negative or positive impact

The impacts were individually described and assessed using the criteria drawn from the Environmental Impact Assessment (EIA) Regulations, published by the DEA in terms of the NEMA (Act 107 of 1998).

The significance of each impact is assessed using the following formula (before and after mitigation):

Significance Point (SP) = (Probability + Extent + Duration) x Intensity

The maximum value is 150 SP. The impact significance will then be rated as follows:

SP > 75	Indicates **high** environmental significance	An impact that could influence the decision about whether or not to proceed with the project regardless of any possible mitigation.
SP 30 – 75	Indicates **moderate** environmental significance	An impact or benefit which is sufficiently important to require management and which could have an influence on the decision unless it is mitigated.
SP < 30	Indicates **low** environmental significance	Impacts with little real effect and which should not have an influence on or require modification of the project design.
+	Positive impact	An impact that is likely to result in positive consequences/effects.

Probability (P)		
None (N)	1	The possibility of the impact occurring in none, due either to the circumstances, design or experience (0%).
Possible (P)	2	The possibility of the impact occurring is very low, due either to the circumstances, design or experience (25%).
Likely (L)	3	There is a possibility that the impact will occur to the extent that provisions must therefore be made (50%).
Highly likely (H)	4	It is most likely that the impacts will occur at some stage of the development and plans must be drawn up before carrying out the activity (75%).

Definite (D)	5	The impact will take place regardless of any prevention plans, and only mitigation actions or contingency plans to contain the effect can be relied on (100%).
Extent (E)		
Footprint (F)	1	The impact area extends only as far as the activity which occurs within the total site area.
Site (S)	2	The impact could affect the whole site or a significant portion of the site.
Regional (R)	3	The impact could affect the area including the neighbouring farms, the transport route and/or the adjoining towns.
National (N)	4	The impact could have an effect that expands throughout the country.
International (I)	5	Where the impact has international ramifications that extend beyond the boundaries of the country.
Duration (D)		
The period over which the impact will be experienced		
Temporary (T)	1	0 – 3 years (or confined to the construction period).
Short term (S)	2	3 – 10 years (or confined to the construction and part of the operational period).
Medium term (M)	3	10 – 15 years (or confined to the construction and whole operational period).
Long term (L)	4	For the whole life of mine (including closure and rehabilitation period).
Permanent (P)	5	Beyond the anticipated lifetime of the project.
Intensity (I)		
Insignificant	2	Will have a no or very little impact on the health and welfare of

(I)		humans and environment
Low (L)	4	Will have a slight impact on the health and welfare of humans and environment
Moderate (M)	6	Will have a moderate impact on the health and welfare of humans and environment
High (H)	8	Will have a significant impact on the health and welfare of humans and the environment
Very high/ don't know (V)	10	Will have a severe impact on the health and welfare of humans and the environment

vii. Summary of the positive and negative impacts and risks of the proposed activity and identified alternatives;

No alternatives were considered. The summary of identified positive and negative risks is as follows.

Negative Impacts:

- Visual Impacts
- Noise Impacts
- Air Quality Deterioration
- Disruption of surface drainage
- Destruction of flora and loss of habitat
- Loss of soil and agricultural potential
- Water pollution
- Erosion
- Safety and Security Impacts
- Land Degradation

Positive impacts:

- Creation of employment opportunities
- Training and skills development opportunities

viii. 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).

ASPECT	POTENTIAL IMPACT	MITIGATION MEASURES
Soil	Compaction – from movement of heavy machinery	• Existing roads and tracks will be used as far as possible. • New access tracks will be kept to a minimum. • Rehabilitation of disturbed areas will take place.
	Loss of topsoil – when site is cleared of vegetation, topsoil may be lost	• Any removed topsoil will be kept to one side and protected from being blown away or being eroded. • Rehabilitation of drilling and disturbed areas will take place.
	Erosion – from the clearing of drill sites and movement along access tracks	• Sediment and erosion controls will be designed to prevent runoff from the drilling sites into the rivers and any wetland areas. • Appropriate water management, sediment and erosion control measures will be designed for roads and tracks that may be constructed. • Rehabilitation of drilling and disturbed areas will take place.
	Contamination – from diesel, oil, grease, etc. used from maintenance of machinery conducted on site and from domestic waste and sewerage	• Topsoil must not be contaminated with oil, grease, diesel, etc. which may inhibit the later growth of vegetation. • Drilling sumps and containment measures will be designed to contain all drilling fluid. • Drilling sumps will be constructed sufficiently large to retain all slurry produced during drilling.

		• All chemicals, fuels and oils to be stored on site will be appropriately stored in sealed containers and placed on a lined area. • Inspect equipment daily for leaks. Machinery and equipment will only be maintained over a drip tray, a thin concrete slab or a PVC lining to prevent soil and water contamination. No vehicle will be extensively repaired on site. • All equipment and vehicles must be adequately maintained so that during operations it does not spill oil, diesel, fuel, etc. • Any contaminated soil will be collected into non-permeable bags and disposed of at an approved landfill site. • A chemical toilet will be used on site and will be used in such a way as to prevent water pollution. Full or leaking toilets must be reported to the supervisor for corrective action or replacement. • All drilling core will be removed from the drilling sites or place in a specified area as per request or permission from the land owner. • Rehabilitation of drilling and disturbed areas will take place.
Land use	mining may interfere with any land uses currently taking place on the site	• The area to be disturbed will be kept to a

		minimum (not exceeding 20mx20m). • Rehabilitation of drilling and disturbed areas will take place.
Biodiversity (fauna and flora)	The fauna and flora could be negatively affected by the establishment of the drilling and access tracks	• Drilling and access tracks will be located in areas that will result in minimal ground disturbance. • A field survey will be undertaken before drilling commences at each drilling site to confirm that no threatened species or ecologically sensitive areas are present in sections to be cleared. • Permission will be obtained from the landowner before trees are felled, should it be necessary. • All trees protected in terms of the National Forests Act, 1998, will be protected – will not be cut, disturbed, damaged, removed, etc. • Rehabilitation of drilling and disturbed areas will take place.
	Alien and invasive species could be introduced through the disturbance	• Machinery will be cleared of mud and seeds prior to relocation to the next site to prevent the spread of alien invasive species. • An inspection on whether there is evidence of alien and invasive species as a result of prospecting activities will be undertaken and removed if required.

Surface- and groundwater	• Contamination – from diesel, oil, grease, etc. used for maintenance of machinery conducted on site • Contamination – from domestic waste, sewerage, and contaminated soil	• No drilling will be established within 100m of any watercourse or wetland. • Drilling sumps and containment measures will be designed to contain all drilling fluid. • Drilling sumps will be constructed sufficiently large to retain all slurry produced during drilling. • All chemicals, fuels and oils to be stored on site will be appropriately stored in sealed containers and placed on a lined area. • All waste will be collected, separated and stored properly in containers with lids and removed to an approved landfill. • Inspect equipment daily for leaks. Machinery and equipment will only be maintained over a drip tray, a thin concrete slab or a PVC lining to prevent soil and water contamination. No vehicle will be extensively repaired on site. • All equipment and vehicles must be adequately maintained so that during operations it does not spill oil, diesel, fuel, etc. • Any contaminated soil will be collected into non-permeable bags and disposed of at an approved landfill site. • A chemical toilet will be used on site and will be used in such a way as to prevent water

		pollution. Full or leaking toilets must be reported to the supervisor for corrective action or replacement. • All drilling will be drilled and constructed in such a way as to prevent ingress of water into the hole. • Any completed pitting that is not required for groundwater monitoring will be rehabilitated to prevent groundwater contamination. • Rehabilitation of disturbed areas will take place.
	Drinking water	• Drinking water will be supplied in plastic containers to be stored on site.
Heritage sites	Heritage sites may be present on the site, which may be disturbed and/or damaged during mining	• Potential heritage sites will be identified during the planning of borehole locations and demarcated. • Access to these sites will then be limited and all workers will be notified to keep at least 100m away from these sites.
Air quality (dust)	The air quality will not be disturbed, however, a minimal dust problem may be experienced, especially in the mining area during drilling	• All drilling rigs will be fitted with appropriate dust suppression equipment like water sprays, where possible. • Speed limits on gravel roads will be limited to 40km/hr to minimise dust generation. • Dust will be effectively controlled in all disturbed areas through water spraying. • D rilling, handling and transportation of erodible materials should be avoided during

		periods of excessive wind. • If necessary, other appropriate dust suppression techniques will be administered. For example chemicals, wind fencing, covering of surfaces and vegetation of open areas.
Noise	Noise from the drilling activities could disturb residents within the site	• Modern, low noise emission vehicles and equipment will be favoured. • All equipment on site will be maintained in good working order. • Drilling will be restricted to day light hours. • Speed limits on gravel roads will be limited to 40km/h to minimise noise generation.
Socio-economic	Expectations could be created that numerous job and business opportunities will become available during mining	• Due to the nature of mining, employment opportunities will be minimal. The mining crew is small (4-6 people) with specialised skills. Where possible, local people will however be employed during the project.

ix. Motivation where no alternative sites were considered

No location alternatives are applicable to this project since the diamond (alluvial) and diamond (general) is contained in the proposed prospecting area. Locating the development to another area will result in the diamond (alluvial) and diamond (general) not being found and the economy and society not benefitting from future proposed possible prospecting activities. The proposed site for the proposed prospecting is located within an area which is already severely disturbed as a result of agricultural activities and previous prospecting practice compare to the breaking down of a new virgin ground.

x. Statement motivating the alternative development location within the overall site

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

The prospecting of the site is motivated by the need to improve life of the community of Moqhaka local municipality, which is currently faced with poverty due to high unemployment rate and through this project poverty will be alleviated. The proposed prospecting site is preferred as it is situated on the rightful spot for diamond (alluvial) and diamond (general) prospecting reflecting to the previous prospecting which was taking place thereby.

h) **Full description of the process undertaken to identify, assess and rank the impacts and risks of the activity will impose on the preferred site**

(In respect to the final site layout plan) through the life of the activity (Including

(i) a description of all the environmental issues and risks that were identified during the environmental impact assessment process and

(ii) (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.)

An activity mapping exercise was conducted for the proposed activity, then potential environmental impacts where identified. The DEA impact assessment matrix was used. The impact with medium to high significance requires mitigation/control measures, the following are the possible impacts the project will have on the environment:

- Dust generated during drilling, loading, transportation and offloading of diamonds and dust generated by movement of vehicles from prospecting site to construction site causing air pollution.

- Noise generated by machinery during diamond (alluvial) and diamond (general) prospecting and vehicles while transporting gravel from prospecting site to construction site.
- Vegetation destruction due to clearing of the site for prospecting purposes.
- Ecosystem disturbance due to vegetation clearing.
- Erosion causes by removal of vegetation and stripping of top soil to extract the gravel.
- Visual impact due to prospecting activities, pits will be enlarged and machinery around the site will disturb the natural visual landscape.
- Exposure of animals to open pit filled with water resulting in drowning and death.
- Open pits a danger to animals falling in and breaking limps.
- Improper disposal of waste resulting in land pollution.
- Fuel and oil leakages causing ground and surface water pollution.

i) 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 and affected parties).

NAME OF ACTIVITY **(E.g. For prospecting –** drill site, site camp, ablution facility, accommodation, equipment storage, sample storage, site office, access route **etc…etc…etc** **E.g. For mining–** excavations, blasting, stockpiles, discard dumps or dams, loading, hauling and transport, water supply dams and pitting and trenching, accommodation, offices, ablution, stores, workshops, processing plant, storm water control, berms, roads, pipelines, power lines, conveyors,	**POTENTIAL IMPACT** (Including the potential impacts for cumulative impacts) (E.g. dusts, noise, drainage surface disturbance, fly rock, surface water contamination, groundwater contamination, air pollution etc…etc…etc…)	**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, alternative activity etc…etc…etc)	**SIGNIFICANCE** **If mitigated**

etc…etc…etc)						
Site Establishment activities (fencing, signage, access formation, etc)	Loss of vegetation	Visual character, Land use	Pre-prospecting	Medium	Remedy through rehabilitation, Limit footprint	Low
	Habitat Destruction	Visual character	Pre-prospecting	Medium	Remedy through rehabilitation, Limit footprint	Low

	Visual scarring	Visual character	Pre-prospecting	Medium	Remedy through rehabilitation	Low
	Soil erosion	Visual character, Land use	Pre-prospecting	Medium	Remedy through rehabilitation, Limit footprint, Control through storm water control	Low
Clearance of area for prospecting	Visual scarring	Visual Character	Operational Phase	Medium	Remedy through rehabilitation	Low
	Destruction of flora and habitat	Visual Character, Land use	Operational Phase	Medium	Remedy through rehabilitation, Limit footprint and removal of vegetation	Low
	Loss of agricultural	Land use management	Operational Phase	Low	Control through soil conservation	Low

	potential				techniques Limit footprint of the proposed prospecting as far possible to limit loss of agricultural land	
	Soil erosion	Land use	Operational Phase	Medium	Control through soil conservation techniques, Stop through appropriate storage of topsoil	Low
Drilling	Noise and vibrations	Noise	Operational Phase	Medium	Control through blast control measures	Low
	Dust	Air quality	Operational Phase	Low	Control through dust control measures	Low
	Fly rock	Safety	Operational	Low	Control through	Low

			Phase		blast control measures	
Waste Disposal and Material storage	Soil contamination	Land degradation	Operational Phase	Low	Avoidance	Low
	Water pollution	Water	Operational Phase	Low	Avoidance	Low
	Increased risk of fire	Safety	Operational Phase	Low	Avoidance	Low
Material handling, hauling and transportation	Dust	Air quality	Operational Phase	Low	Control through dust control measures	Low
	Increased risk of accidents	Safety	Operational Phase	Low	Stop through site management protocols	Low
	Noise	Noise	Operational Phase	Low	Control through noise control measures	Low

	Soil contamination from oil/fuel leaks	Land degradation	Operational Phase	Low	Stop through operational control measures e.g. drip trays and use of well serviced machinery	Low
Removal of infrastructure & equipment and re-shaping of proposed prospecting	Noise	Noise	Decommissioning and closure	Low	Control through noise control measures	Low
	Dust	Air quality	Decommissioning and closure	Low	Control through dust Control measures	Low
	Soil contamination from oil/fuel	Land degradation	Decommissioning and closure	Low	Stop through operational Control measures, e.g. drip trays and use of well serviced machinery	Low

	Disruption of surface drainage	Water movement	Decommissioning and closure	Low	Control through storm water controls, remedy through rehabilitation	Low
Community and labour relations management	Community conflicts and tensions	Community relations	Operational	Low	Control through Site Management protocols	Low
	Increase risk of fire	Fire risk	Operational	Low	Control through Site Management protocols	Low
	Reduced security on area	Safety Issues	Operational	Low	Control through Site Management protocols	
	Improved employment	Community relations	Operational	Low	Control through Site Management	Low

	Improved skills	Community relations			protocols	

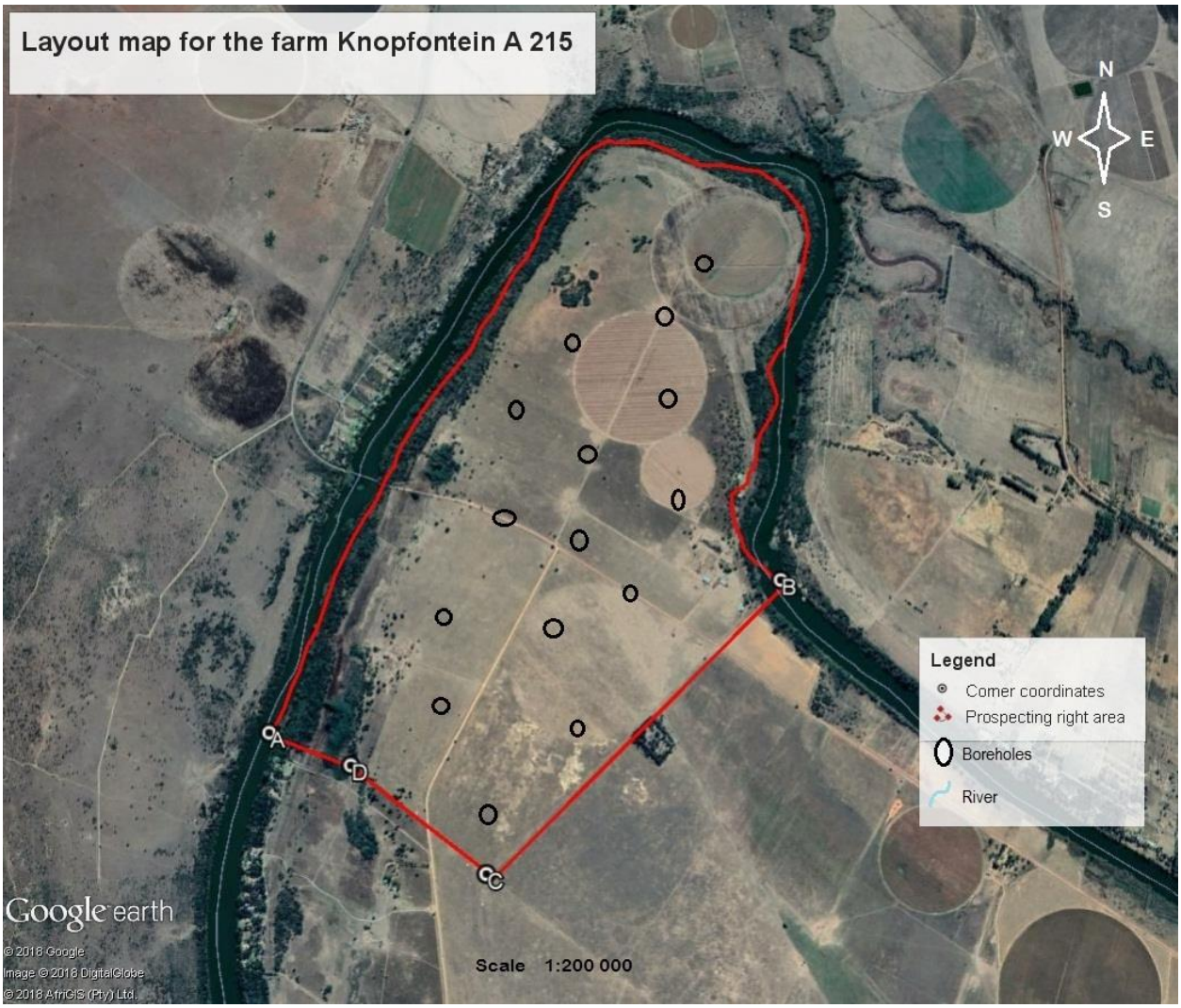
j) Environmental impact statement

i. Summary of the key findings of the environmental impact assessment;

In general, it is recognized that the proposed prospecting activities has the potential to pose various risks to the environment as well as to the residents or businesses in the surrounding area. Therefore, it is important that these possible risks and key issues are identified during the draft phase of the BAR compilation. These impacts, issues and risks will be addressed in consultation with the I&APs, through an internal process based on similar developments.

ii. 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 C**



k) Summary of the positive and negative impacts and risks of the proposed activity and identified alternatives;

No alternatives were considered. The summary of identified positive and negative risks is as follows.

Negative Impacts:

- Visual Impacts
- Noise Impacts
- Air Quality Deterioration
- Disruption of surface drainage
- Destruction of flora and loss of habitat
- Loss of soil and agricultural potential
- Water pollution
- Erosion
- Safety and Security Impacts
- Land Degradation

Positive impacts:

- Creation of employment opportunities
- Training and skills development opportunities

l) Proposed impact management objectives and the 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 impact management are to avoid and/or minimize negative impacts of a proposed development to ensure minimal impact on the environment.
The mitigation measures are detailed in the EMPr which must be provided to the contractor at tendering stage, implemented and monitored.

It is therefore recommended that an Environmental Control Officer be appointed to monitor and audit the project during prospecting activities to ensure adherence to the recommendations of the EMPr.

m) Aspects for inclusion as conditions of Authorization

Any aspects which must be made conditions of the Environmental Authorization

EMPr must be on site

- The contractor and key personnel must get an understanding of the EMPr
- An Environmental Control Officer must be appointed to ensure that environmental controls are being implemented, and quarterly reports must be forwarded to the Competent Authority (DMR among others).
- The proponent and contractor must be made aware that they are responsible for rehabilitating the environment they damage to the pre-state of which they found it to be.
- Upon getting done with the prospecting activity, closure report must be submitted to the competent authority ensuring that all the disturbed environmental features are rehabilitated to the pre prospecting state.
-

n) Description of any assumptions, uncertainties and gaps in knowledge
(Which relate to the assessment and mitigation measures proposed)

No specialist were engaged hence some impacts could have been missed.

o) Reasoned opinion as to whether the proposed activity should or should not be authorized

i. **Reasons why the activity should be authorized or not.**

The project will have an advance community development and to fulfill the Integrated Development Plan and mandate of the Moqhaka local municipality to provide services to the community in terms of job creation.

ii. **Conditions that must be included in the authorization**

EMPr must be on site;

- The contractor and key personnel must get an understanding of the EMPr
- An Environmental Control Officer must be appointed to ensure that environmental controls are being implemented, and quarterly reports must be forwarded to the Competent Authority.
- The proponent and contractor must be made aware that they are responsible for rehabilitating the environment they damage to the pre-state of which they found it to be.

- Upon getting done with the prospecting activity, closure report must be submitted to the competent authority.

p) Period for which the Environmental Authorisation is required

The Environmental Authorisation is required for the duration for which a prospecting right is being applied for a period of 5 years.

q) 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.

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 BAR and EMPr 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 Basic Assessment Report and Environmental Management Programme as proposed.	
Full Names and Surname	**TSHIMANGADZO MULAUDZI**
Identity Number	**8803265731082**

r) Financial provision

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

iii. **Explain how the aforesaid amount was derived.**

The financial provisions were derived in order to ensure that the amount of money required for rehabilitation and remediation of environmental impacts and associated damage as well as close-out is provided for and adequately calculated. The money would cover decommissioning and final closure of the operation; and post closure management of residual and latent environmental impacts. The amount was based on an assessment of the expected operational activities that will take place, the level of disturbance damage expected, the sensitivity of the area and the amount of work that is required to bring the site back to a self-sustaining ecosystem again. Consideration on how much it will cost to get labour, material and equipment used for the rehabilitation were also considered.

Calculation of the quantum of the financial provision required to manage and rehabilitate the environment has been worked out.

Please refer to Appendix 6 for the Quantum Calculation.

iv. **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 Financial and Technical Competence Report (Ftat) or Prospecting Work Programme as the case may be).

Financial provision has been made available through the company's cash reserves. The reserves provide for sufficient funds for premature and planned closure of the prospecting operation. The quantum for financial provision for rehabilitation will be re-assessed on an annual basis and arrangement to fund shortfalls will be made. The amount of R50544 will be provided for proposed prospecting.

s) Specific information required by the Competent Authority

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

1. **Impact on the socio-economic conditions of any directly affected person.** (Provide results of investigation, assessment, and evaluation of the impact of the prospecting, 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 .**

   Socio-economic impact will be due the job creation and revenue generation for the Moqhaka Local Economic Development.

2. **Impact on any national estate referred to in section 3(2) of the National Heritage Resources Act.** (Provide the results of investigation, assessment, and evaluation of the impact of the prospecting, 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).

   No historical or cultural sites where identified by the previous miners. In case any human remains are excavated during operation, work should be stopped and a report made to the police and SAHRA for removal of the human remains.

t) 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 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 B).

The Environmental Authorization applied for, is attached as Appendix B.

PART B
ENVIRONMENTAL MANAGEMENT PROGRAMME REPORT

1. DRAFT ENVIRONMENTAL MANAGEMENT PROGRAMME.

b. 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).

Tshimangadzo has been carrying out Environmental Impact Assessment Procedure since 2012, managing a construction company called Tshedza Concrete Art in Limpopo Province, Makhado town, Madabani village.

In 2014, he joined a large prospecting consulting company in Kimberly called Breeze Court Investments 47 (Pty) Ltd (Geologist and Prospecting consulting firm). This is where Mr Mulaudzi acquired in-depth experience and know how in the mining consulting business by assisting the large to small scale mining companies to obtain mining right, prospecting rights, mining permits, technical co-operate permits, reconnaissance permits, exploration rights, production rights, integrated water use license, environmental authorisation among other licenses.

Tshimangadzo has five years working experience in environmental, geology and public participation.

c. 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).

I, Tshimangadzo Mulaudzi, hereby confirm that the requirements to describe the aspects of the activity that are covered by the draft environmental management programme are already included in PART A, section 1(h) herein.

d. Composite Map(Provide a map **(Attached as an Appendix)** 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)

e. Description of Impact management objectives including management statements

i. **Determination of closure objectives.**(ensure that the closure objectives are informed by the type of environment described)

The following closure objectives will be applicable for rehabilitation:

- Return the disturbed area to an acceptable post prospecting state
- Ensure that all areas are stable, and there is no risk of erosion
- Prevent alien plant invasion on the site until the site is in a stable state
- Ensure that all areas are free draining and non-polluting

If the commitments in this EMPr are adhered to and rehabilitation is undertaken as described above, it is not anticipated that there will be any long-term management or maintenance required for areas disturbed during prospecting.

ii. Volumes and rate of water use required for the application.

About 20 cubic meters of water per day will be used from the nearby Vaal River (drilling water requirements falls within the smaller industrial use, the use of less than (<) 20 cubic meters per day for prospecting)

iii. Has a water use license been applied for?

Not Applicable (because the drilling water requirements falls within the smaller industrial use, the use of less than (<) 20 cubic meters per day for prospecting)

iv. Impacts to be mitigated in their respective phases

Measures to rehabilitate the environment affected by the undertaking of any listed activity

ACTIVITIES **(E.g. For prospecting –** drill site, site camp, ablution facility, accommodation, equipment storage, sample storage, site office, access route **etc…etc…etc** **E.g. For prospecting –** excavations, blasting, stockpiles, discard dumps or dams, loading, hauling and transport, water supply dams and pitting and trenching, accommodation, offices, ablution, stores, workshops, processing plant, storm water control, berms, roads, pipelines, power lines, conveyors, **etc…etc…etc)**	**PHASE** (Of operation in which activity will take place. State; Planning and design, Pre-Construction, Construction, Operational, Rehabilitation, Closure, Post closure)	**SIZE AND SCALE of disturbance** (volumes, tonnages and hectares or m^2)	**MITIGATION MEASURES** (describe how each of the recommendations in herein will remedy the cause of pollution or degradation and migration of pollutants)	**COMPLIANCE WITH STANDARDS** (A description of how each of the recommendations herein will comply with any prescribed environmental management standards or practices that have been identified by Competent Authorities)	**TIME PERIOD FOR IMPLEMENTATION** Describe the time period when the measures in the environmental management programme must be implemented. Measures must be implemented when required. With regard to Rehabilitation specifically this must take place at the earliest opportunity. With regard Rehabilitation, therefore state either – • Upon cessation of the individual activity Or • Upon cessation of alluvial diamond prospecting as the case may be.

Site Establishment activities (fencing, signage, access formation, etc.)	Start-up	± 0.1ha	See appendix	Issues of compliance with standards will be incorporated into the day to day business activities at the proposed prospecting. The work methods used the monitoring and measures done and the review processes will be aimed at ensuring that legal thresholds as set out in the environmental standards are complied with. This will include compliance with standards as per COLTO 1998, the standards as per Prospecting and Petroleum Resources Development Act regulations, Mine Health and Safety Act regulations, National Water Act regulations. COLTO 1998 Refers to - Standard Specification for Road and Bridge Works for State Road Authorities by the South African Committee of Land Transport Officials.	During start up, operational phase

Clearance of area for prospecting	Start up & Operational Phase	ha	See appendix	The work methods used, the monitoring and measurements done and the review processes will be aimed at ensuring that legal thresholds as set out in the environmental standards are complied with. This will include compliance with standards as per COLTO 1998, the standards as per Prospecting and Petroleum Resources Development Act regulations, Mine Health and Safety Act regulations, and Conservation of Agricultural Resources Act	During start up, operational phase as necessary
Drilling	Operational	As needed	See appendix	This will be achieved by clearly outlining the environmental standards to be achieved and the Thresholds which are not to be exceeded in the management system used at the site. This will include compliance with standards as per COLTO 1998, Explosive Act regulations, Mine Health and Safety	Operational Phase (when necessary

				Act Regulations and the Hazardous Substances Act	
Waste Disposal and Material storage	Operational	Undetermined	See appendix	The waste management hierarchy and the proximity principle will be used in ensuring that the environmental standards as set out in COLTO 1998 and the National Environmental Management Waste Act regulation and National Water Act regulation, are complied with.	Operational Phase
Material handling, hauling and transportation	Operational	Undetermined	See appendix	Issues of compliance with standards will be incorporated into the day to day business activities at the proposed prospecting to ensure that legal thresholds as set out in the environmental standards are complied with. This will include compliance with standards as per COLTO 1998, the standards as per Prospecting and Petroleum Resources Development Act regulations, Mine Health and Safety	Operational phase

				Act regulations, National Water Act regulations, Mine Health and Safety Act regulations.	
Removal of infrastructure & equipment	Decommissioning and closure	Affected areas	See appendix	The recommendations will incorporate factors that include the elimination or the minimization of negative impacts in the work methodologies used during decommissioning so as to comply with the standards as per COLTO 1998, Prospecting and Petroleum Resources Development Act regulations, Mine Health and Safety Act regulations and the National Environmental Management Act.	At decommissioning
Re-shaping of proposed prospecting	Decommissioning and closure	5h	See appendix	Considerations with the elimination or at least the minimization of any future impacts from the proposed prospecting and the long term stability of the facility and any concerns in relation to the long term liability for the proposed	Closure period

				prospecting and its aesthetics will be incorporated in order to ensure compliance with standards as set out in COLTO 1998, Mine Health and Safety Act regulations, National Environmental Management Act and National Water Act regulations.	
Community and labour relations management	Operational	N/A	See appendix	Will comply with standards as per COLTO 1998, Basic Conditions of Employment Act regulations, Employment equity Act, Labour Relations Act and Skills Development Act	During Operational Phase
Re-vegetation of disturbed areas	Closure	5ha	See appendix	The future impacts from the proposed prospecting and the long term stability of the area, any concerns in relation to the long term liability for the facility and its aesthetics will be taken into account to ensure compliance with the environmental standards as set out in COLTO 1998, the National Environmental Management Act, Conservation of Agricultural resources Act, National	During Operational Phase in sections where prospecting has been completed and during closure

				Environmental Management Biodiversity Act regulations.	

f. **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 listed) **(E.g. Excavations, blasting, stockpiles, discard dumps or dams, loading, hauling and transport, water supply dams and pitting and trenching, accommodation, offices, ablution, stores, workshops, processing plant, storm water control, berms, roads, pipelines, power lines, conveyors, etc…etc…etc)**	**POTENTIAL IMPACT** **(e.g. dust, noise, drainage surface disturbance, fly rock, surface water contamination, groundwater contamination, air pollution etc…etc…etc…)**	**ASPECTS AFFECTED**	**PHASE** In which impact is anticipated **(e.g. Construction, commissioning, operational, decommissioning, closure, post-closure)**	**MITIGATION TYPE** **(modify, remedy, control, or stop) through (e.g. noise control measures, storm-water control, dust control, rehabilitation, design measures, blasting controls, avoidance, relocation, alternative activity etc…etc…etc…)**	**STANDARD TO BE ACHIEVED** **(Impact avoided, noise levels, dust levels, rehabilitation standards, end use objectives etc…etc…etc…)**
Site Establishment activities (fencing, signage, access formation, etc.)	Loss of vegetation	Visual character, land use	Start-up	Remedy through rehabilitation Limit footprint	Impact managed effectively, Rehabilitate to a self-sustaining environment

	Habitat Destruction	Visual character, land use	Start up	Remedy through rehabilitation Limit footprint	Impact reduced
	Visual scarring	Visual character	Start up and operational	Remedy through rehabilitation	Impact managed effectively
	Soil erosion	Visual character, land use	Start up and operational	Remedy through rehabilitation, Storm water control. Limit footprint, Control through storm water control	Impact avoided
Clearance of area for prospecting	Visual scarring	Visual Character	Operational Phase	Remedy through rehabilitation Limit footprint and removal of vegetation.	Impact managed to acceptable levels, residual impact reduced
	Destruction of flora and habitat	Visual Character, land use	Operational Phase	Remedy through rehabilitation	Impact reduced to a satisfactory level, Rehabilitate to an end land use similar to that prior to the activity (depending on the

					end land use objectives)
	Loss of agricultural potential	Land use management	Operational Phase	Use soil conservation techniques Limit Foot print	Impact managed to ensure suitable soil fertility levels, Rehabilitate to an end land use similar to that prior to the activity.
	Soil erosion	Visual character, land use	Start up and operational	Remedy through rehabilitation, Storm water control	Impact avoided
Drilling	Noise and vibrations	Noise	Operational Phase	Control with blast control measures	Noise levels reduced to acceptable levels
	Dust	Air quality	Operational Phase	Control with dust control measures Control with blast control	Particulates reduced to acceptable levels

	Fly rock	Safety, Land degradation	Operational Phase	Control with blast control measures	Fly rock minimised
Waste Disposal and Material storage	Soil contamination	Land degradation	Operational Phase	Avoidance, Operational control measures	Impact Avoided
	Water pollution	Water	Operational Phase	Avoidance, Operational control measures	Impact Avoided
	Increased risk of fire	Safety	Operational Phase	Avoidance, Operational control measures	Impact avoided or managed to low levels
	Dust	Air quality	Operational Phase	Dust Control measures	Particulates reduced to acceptable levels
	Increased risk of accidents	Safety	Operational Phase	Site management protocols	Accidents avoided or reduced to low levels
	Noise	Noise	Operational Phase	Noise control measures	Noise reduced to acceptable levels

	Soil contamination from oil/fuel leaks	Land degradation	Operational Phase	Operational control measures	Impact managed to suitable soil fertility levels
Removal of infrastructure & equipment and re-shaping of proposed prospecting	Noise	Noise	Decommissioning and closure	Control with noise control measures	Noise levels reduced to acceptable levels
	Dust	Air quality	Decommissioning and closure	Control with dust control measures	Particulates reduced to acceptable levels
	Soil contamination from oil/fuel	Land degradation, water pollution	Decommissioning and closure	Control with operational control measures	Impact managed to suitable soil fertility levels, pollution of water avoided
	Disruption of surface drainage	Water movement	Decommissioning and closure	Control with storm water controls	Free drainage achieved
	Community conflicts and tensions	Community relations	Operational	Control using site management protocols	Reduction in complaints and incidences of conflict
	Increased risk of	Fire risk	Operational	Control using site	Fires avoided and

	fire			management protocols	risk reduced
	Reduced security on area	Safety Issues	Operational	Control using site management protocols	Improvement in security and elimination of theft incidences
	Improved employment	Community relations	Operational	Control using site management protocols	Increase in number of people employed
	Improved skills	Community relations	Operational	Control using site management protocols	Improvement in skills level

g. **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) **(E.g. Excavations, blasting, stockpiles, discard dumps or dams, loading, hauling and transport, water supply dams and pitting and trenching, accommodation, offices, ablution, stores, workshops, processing plant, storm water control, berms, roads, pipelines, power lines, conveyors, etc…etc…etc)**	**POTENTIAL IMPACT** **(e.g. dust, noise, drainage surface disturbance, fly rock, surface water contamination, groundwater contamination, air pollution etc…etc…etc…)**	**MITIGATION TYPE** **(modify, remedy, control, or stop) through (e.g. noise control measures, storm-water control, dust control, rehabilitation, design measures, blasting controls, avoidance, relocation, alternative activity etc…etc…etc…)**	**TIME PERIOD FOR IMPLEMENTATION** Describe the time period when the measures in the environmental management programme must be implemented. Measures must be implemented when required. With regard to Rehabilitation specifically this must take place at the earliest opportunity. With regard Rehabilitation, therefore state either – • Upon cessation of the individual activity Or Upon cessation of alluvial diamond prospecting as the case may be.	**COMPLIANCE WITH STANDARDS** (A description of how each of the recommendations in 2.11.6 read with 2.12 and 2.15.2 herein comply with any prescribed environmental management standards or practices that have been identified by Competent Authorities).
Site Establishment activities (fencing,	Loss of vegetation	Remedy through rehabilitation	Start-up	Issues of compliance with standards will be incorporated into the day to

signage, access formation, etc.)				day business activities at the proposed prospecting. The work methods used the monitoring and measures done and the review processes will be aimed at ensuring that legal thresholds as set out in the environmental standards are complied with. This will include compliance with standards as per COLTO 1998, the standards as per Prospecting and Petroleum Resources Development Act regulations, Mine Health and Safety Act regulations, National Water Act
	Habitat Destruction	Limit footprint	Start-up	
	Visual scarring	Remedy through rehabilitation	Start up and operational	
	Soil erosion	Limit footprint	Start up and	

			operational	
Drilling	Drainage disruption	Control with Storm water controls	Operational Phase	Management of legal compliance will be incorporated into normal business activities. This means that particular responsibilities need to be clearly defined for the identification of relevant issues and delivery of compliance. This will help to ensure that adequate resources are available to support these activities. Environmental standards as set out in COLTO 1998, Prospecting and Petroleum Resources Development Act regulations, Mine Health and Safety Ac
	Slope instability	Control with slope management controls	Operational Phase	
	Noise	Control with Noise control measures	Operational Phase	
	Visual Scarring	Rehabilitation	Operational Phase	
	Soil erosion	Rehabilitation, use slope management control	Operational Phase	
	Destruction of heritage resource	Avoidance	Operational Phase	
	Noise and vibrations	Control with blast control measures	Operational Phase	

Waste Disposal and Material storage	Dust	Control with dust control measures Control with blast control measures	Operational Phase	This will be achieved by clearly outlining the environmental standards to be achieved and the thresholds which are not to be exceeded in the management system used at the site. This will include compliance with standards as per COLTO 1998, Explosive Act regulations, Mine Health and Safety Act Regulations and the Hazardous Substances Act
	Fly rock	Control with blast control measures	Operational Phase	
	Soil contamination	Avoidance, Operational control measures	Operational Phase	

Material handling, hauling and transportation	Water pollution	Avoidance, Operational control measures	Operational Phase	The waste management hierarchy and the proximity principle will be used in ensuring that the environmental standards as set out in COLTO 1998 and the National Environmental Management Waste Act regulation and National Water Act regulation, are complied with.
	Increased risk of fire	Avoidance, Operational control measures	Operational Phase	
	Dust	Control with dust Control measures	Operational Phase	
Removal of infrastructure & equipment and re-shaping of proposed prospecting	Increased risk of accidents	Site management protocols	Operational Phase	Issues of compliance with standards will be incorporated into the day to day business activities at the proposed prospecting to ensure that legal thresholds as set out in the environmental standards are complied with. This will include compliance with standards as per COLTO 1998, the standards as per Prospecting and Petroleum Resources Development Act regulations, Mine Health and Safety
	Noise	Control with noise control measures	Operational Phase	
	Soil contamination from oil/fuel leaks	Control with operational control measures	Operational Phase	
	Noise	Control with noise control measures	Decommissioning and closure	

				Act regulations, National Water Act regulations, Mine Health and Safety Act regulations
Community and labour relations management	Dust	Control with dust control measures	Decommissioning and closure	The recommendations will incorporate factors that include the elimination or the minimization of negative impacts in the work methodologies used during decommissioning so as to comply with the standards as per COLTO 1998, Prospecting and Petroleum Resources Development Act regulations, Mine Health and Safety Act regulations and the National Environmental Management Act.
	Soil contamination from oil/fuel	Control with operational control measures	Decommissioning and closure	
	Disruption of surface drainage	Control with storm water controls	Decommissioning and closure	
	Community conflicts and tensions	Control using site management protocols	Operational	
Site Establishment activities (fencing, signage, access formation, etc.)	Increased risk of fire	Control using site management protocols	Operational	The future impacts from the proposed prospecting and the long term stability of the area, any concerns in relation to the long term liability for the facility and its aesthetics will be taken into account to ensure compliance with the environmental standards as set out in
	Reduced security on	Control site management	Operational	

	area	protocols		COLTO 1998, the National Environmental Management Act, Conservation of Agricultural resources Act and National Environmental Management Biodiversity Act regulations
	Improved employment	Control site management protocols	Operational	
	Improved skills	Controls site management protocols	Operational	
	Loss of vegetation	Remedy through rehabilitation	Start-up	

2. FINANCIAL PROVISION

Determination of the amount of Financial Provision

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

The DPR acknowledges that a proposed prospecting is a temporary land use which results in areas of land being temporarily disturbed. Whilst steps are taken throughout the project life cycle to reduce negative environmental impacts as they occur, the specific closure objectives are as follows:

- To create a post prospecting environment that eliminates unacceptable health hazards and ensures public safety.
- To leave the site in a stable, non-polluting and tidy condition with no remaining plant or infrastructure that is not required for post prospecting operational use.
- To minimise or eliminate the downstream environmental impacts on the ecosystem due to interruption of drainage once the proposed prospecting operations cease.
- To establish a stable post-prospecting land surface which has been rehabilitated that also supports vegetation growth, is erosion resistant and has long term sustainability.

To reduce the need for long-term monitoring and maintenance by establishing

b) Confirm specifically that the environmental objectives in relation to closure have been consulted with landowner and interested and affected parties.

Yes it is confirmed.

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

Rehabilitation plan

The exact location and extent of the prospecting activities, including the need for construction of new access tracks, will be determined once all available information has been evaluated. It is therefore not possible to include a rehabilitation plan showing the areas and aerial extent of the main prospecting activities, including the anticipated prospected area at the time of closure. The extent of the proposed prospecting area is however shown in.

Closure objectives and their extent of alignment to the pre-prospecting environment

The following closure objectives will be applicable for rehabilitation:

- Disturbed land will be rehabilitated to a stable and permanent form suitable for subsequent land use.
- There will be no adverse environmental effect outside the disturbed area and the affected area will be shaped to ensure effective drainage and prevent ponding on site.
- The disturbed area will not require any more maintenance than that in or on surrounding land after prospecting is completed.

If the commitments in this BAR are adhered to and rehabilitation is undertaken as described above, it is not anticipated that there will be any long-term management or maintenance required for areas disturbed during prospecting

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

The following closure objectives will be applicable for rehabilitation:

- Return the disturbed area to an acceptable post prospecting state.
- Ensure that all areas are stable and there is no risk of erosion,
- Prevent alien plant invasion on the site until the site is in a stable state, and
- Ensure that all areas are free draining and non-polluting.

The prospecting operations area is within the agricultural grazing land. The continuous rehabilitation program will attempt to restore the area to an acceptable standard as close to the baseline environmental state as possible to ensure safe use of the area for grazing purpose.

If the commitments in this EMPr are adhered to and rehabilitation is undertaken as described above, it is not anticipated that there will be any long-term management or maintenance required for areas disturbed during prospecting. Thus the rehabilitation plan is compatible with the closure objectives.

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

CALCULATION OF THE QUANTUM

Applicant:	Ritluka resources (Pty) Ltd	Ref No.:	FS 10495 PR
Evaluators:	Engedi Minerals and Energy (Pty) Ltd	Date:	Feb-18

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	14,05	1	1	0
2 (A)	Demolition of steel buildings and structures	m2	0	195,76	1	1	0
2(B)	Demolition of reinforced concrete buildings and structures	m2	0	288,49	1	1	0
3	Rehabilitation of access roads	m2	100	35,03	1	1	3503
4 (A)	Demolition and rehabilitation of electrified railway lines	m	0	340,01	1	1	0
4 (A)	Demolition and rehabilitation of non-electrified railway lines	m	0	185,46	1	1	0
5	Demolition of housing and/or administration facilities	m2	0	391,53	1	1	0
6	Opencast rehabilitation including final voids and ramps	ha	0,16	205242,16	1	1	32838,7456
7	Sealing of shafts adits and inclines	m3	0	105,09	1	1	0
8 (A)	Rehabilitation of overburden and spoils	ha	0	136828,1	1	1	0
8 (B)	Rehabilitation of processing waste deposits and evaporation ponds (non-polluting potential)	ha	0	170416,93	1	1	0
8 (C)	Rehabilitation of processing waste deposits and evaporation ponds (polluting potential)	ha	0	494971,55	1	1	0
9	Rehabilitation of subsided areas	ha	0	114572,93	1	1	0
10	General surface rehabilitation	ha	0	108390,94	1	1	0
11	River diversions	ha	0	108390,94	1	1	0
12	Fencing	m	0	123,64	1	1	0
13	Water management	ha	0	41213,28	1	1	0
14	2 to 3 years of maintenance and aftercare	ha	0	14424,65	1	1	0
15 (A)	Specialist study	Sum	0			1	0
15 (B)	Specialist study	Sum				1	0
					Sub Total 1		36341,7456

1	Preliminary and General	4361,009472	weighting factor 2 1	4361,009472
2	Contingencies	3634,17456		3634,17456
			Subtotal 2	44336,93
			VAT (14%)	6207,17
			Grand Total	**50544**

f) Confirm that the financial provision will be provided as determined.

Yes it is confirmed.

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

g) Monitoring of Impact Management Actions
h) Monitoring and reporting frequency
i) Responsible persons
j) Time period for implementing impact management actions
k) 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
Site Establishment activities (fencing, signage, access formation, etc.)	Loss of vegetation, Habitat destruction, Visual scarring, Soil erosion	Visual checks, monitoring incidences of non-compliance, recording of key parameters	Appointed Contractor	At start and as and when required. Record incidences of non-compliance monthly.
Clearance of area for prospecting	Visual scarring, Destruction of flora and habitat, Loss of agricultural potential, soil erosion	Visual checks, monitoring incidences of non-compliance, recording of key parameters	Appointed Contractor	At start and as and when required. Record incidences of non-compliance monthly.
Drilling	Noise and vibrations, Dust, Fly rock	Visual checks, monitoring incidences of non-compliance, recording of key	Appointed Contractor	At start and as and when required. Record incidences of non-compliance

		parameters		monthly.
Waste Disposal and Material storage	Soil contamination, Water pollution, Increased risk of fire	Visual checks, monitoring incidences of non-compliance, recording of key parameters	Appointed Contractor	At start and as and when required. Record incidences of non-compliance monthly.
Material handling, hauling and transportation	Dust, Increased risk of accidents, Noise, Soil contamination	Visual checks, monitoring incidences of non-compliance, recording of key parameters	Appointed Contractor	At start and as and when required. Record incidences of non-compliance monthly.
Removal of infrastructure & equipment and re-shaping of proposed prospecting	Noise, Dust, Soil contamination, Disruption of surface drainage	Visual checks, monitoring incidences of non-compliance, recording of key parameters	Appointed Contractor	At start and as and when required. Record incidences of non-compliance monthly.
Community and labour relations management	Community conflicts and tensions, Increase risk of fire, Reduced security on area, Improved employment	Visual checks, monitoring incidences of non-compliance, recording of key parameters	Appointed Contractor	At start and as and when required. Record incidences of non-compliance monthly.

	rates, Improved skills			

l) Indicate the frequency of the submission of the performance assessment/environmental audit report.

The BAR and EMPr will be audited by an independent party on an annual basis to determine the level of compliance. The results of this audit will be used to improve environmental management procedures, where required. The audit report will also be submitted to the Department of Mineral Resources (DMR) upon completion.

m) Environmental Awareness Plan

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

Induction (including environmental awareness) training will be conducted on all people involved in the prospecting programme, including truck drivers, mine managers crew and relevant technical services, prior to the commencement of any work; according to the relevant legislation, **Engedi Minerals and Energy Pty (Ltd)** Standard Operational Procedures (SOPs) and this EMP. **Engedi Minerals and Energy Pty (Ltd)** will do in-house training, should it be necessary to its personnel on site. The prospecting contractor will be responsible for training its prospecting crew and supervisor.

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

a) Description of solutions to risks

(Describe the manner in which the risk must be dealt with in order to avoid pollution or degradation of the environment)

It is essential that people involved in the prospecting programme know how to respond in the event of an environmental emergency situation in order to avoid significant environmental degradation or injury to human health. Ideally such incidents should not occur. If people involved in the prospecting programme implement all management measures outlined in this EMPr, the likelihood of such incidents occurring is greatly reduced. However, despite the best intentions and the best environmental management practices, it is impossible to ensure that no incidents will ever occur during prospecting activities. Therefore, it is vital to ensure that all personnel are aware of the management measures to be undertaken in the event of an accident.

Two emergency incidents have been identified:

- Hydrocarbon spills.
- The outbreak of fire.

Emergency incident procedures are outlined below. An Environmental Officer will be appointed to the project to manage all environmental related aspects of the prospecting programme.

Emergency planning

- The site and all people involved in the prospecting programme are to be managed in strict accordance with the Occupational Health and Safety Act (Act No. 85 of 1993).
- Potentially hazardous areas are to be cordoned off and clearly marked at all times.
- No unauthorized firearms are permitted on site.
- Adequate emergency facilities (e.g. first aid kit) must be provided for the treatment of an emergency on site.
- Emergency contact numbers are to be displayed conspicuously.
- Necessary Personal Protective Equipment (PPE) and safety gear appropriate to the task being undertaken is to be provided to all personnel working on site (e.g. hard hats, safety boots, ear plugs, masks, etc.).
- All vehicles and equipment used on site must be operated by appropriately trained and/or licensed individuals in compliance with all safety measures.

Management of fire risks

- Each prospecting site will be cleared of vegetation.
- "No Smoking" signs must be prominently displayed.
- Fires will only be allowed within a facility especially constructed for the purpose of keeping warm and for cooking.
- No burning of refuse or vegetation is permitted.
- Fire equipment must be easily accessible.
- Fire equipment must be serviced, full and in good working order.

Management of spills

- Ensure that a proper spill-kit is available on site. The kit must include absorptive material that can handle all forms of hydrocarbon.
- Ensure that any hydrocarbon spills are cleaned up as soon as possible.
- At least one person on site must receive formal training in the use of the spill control kit.
- Equipment is to be required immediately upon developing leaks.
- A drip tray, a thin concrete slab or a PVC lining shall be used to prevent soil and water contamination.
- All spills on site must be reported to the Control Environmental Officer (CEO).
- Spread absorbent chrome ore, platinum group metal, diamond (alluvial), diamond (general) ,copper ore, gold ore, iron ore, lead, limestone, manganese ore, zinc ore ,diamond (alluvial) and diamond (general) areas where oil spills have occurred. Oil-contaminated soils are to be removed to a contained storage area and disposed of appropriately.
- Non-degradable waste must be collected and disposed of at a registered waste site.

Incident reporting

- The supervisor on site must take corrective action to mitigate an incident appropriate to the nature and scale of the incident, immediately after the occurrence of the incident.
- Residual environmental damage that remains after having taken corrective action must be rehabilitated.
- Change operating procedures where necessary to prevent recurrence of similar incident.
- All incidents must be recorded in an Environmental Incident Report, within 24 hours of the incident occurring. Additional documents, including photos must be appended to the incident report to provide a comprehensive record of the incident and the corrective and preventative action taken.
- All incidents will be investigated in collaboration with the Environmental Officer. The focus of these investigations shall not be to apportion blame to specific employees, but to ascertain the root cause of the incident and to prevent a recurrence of similar incidents.

Environmental awareness training

(Describe the general environmental awareness training and training on dealing with emergency situations and remediation measures for such emergencies).

A number of key elements must be addressed during an environmental awareness training session, since it is recognised that the majority of employees are generally not informed about the environment. The following key elements must be addressed:

- An explanation of the basic key concepts;
- The importance of the environment, including the management thereof;
- Examples of environmental degradation;
- The role that the employees have in protecting the environment;
- Examples of pollution;
- Simple, easy-to-follow rules to protect the environment; and
- South African laws which protect the environment.

All people involved in the prospecting programme must receive environmental awareness training, to ensure that they are aware of their responsibilities and are competent to carry out their work in an environmentally acceptable manner. The training must also contain all relevant sections of the EMPr and must be presented in a clear, understandable manner. Relevant sections of the EMPr include:

- Access, including use of roads, tracks, gates, etc.;
- Control measures required to manage excluded and exempted areas;
- The handling, storage and disposal of waste;
- Emergency response procedures;
- Control of alien and invasive plant species;
- Fire prevention;
- Sediment and erosion control;

- Control measures to be implemented with regards to the management of water, noise and dust; and

This training may take the form of a PowerPoint presentation, information posters or pamphlets, and other easily accessible methods of information communication.

n) Specific information required by the Competent Authority
(Among others, confirm that the financial provision will be reviewed annually).

The BAR and EMPr will be audited by an independent party on an annual basis to determine the level of compliance. The results of this audit will be used to improve environmental management procedures, where required. The audit report will also be submitted to the Department of Mineral Resources (DMR) upon completion.

Ritluka Resources (Pty) Ltd will undertake rehabilitation to minimise negative impacts on the environment.

THE CV AND DECLARATION OF THE EAP

CURRICULUM VITAE
OF

Tshimangadzo Mulaudzi
P.O Box 29567
Danhof
93120
Contacts: 0793626046 / 072 901 0990
E-mail: mulaudzit@engedime.com

Date of Birth: 26 March 1988
Languages : Speak and write (English and Tshivenda).
Driver's license: Code 10 (C1)

Nationality : South African
ID : 8803265731082
Gender : Male
Health status : Excellent

EDUCACTIONAL QUALIFICATION

Institution	:	Litshovhu High School
Qualification	:	Grade 12 (Senior Certificate)
Major subject passed	:	Mathematics, Physical Science, Biology, Agric, English and Tshivenda all in Higher Grade.
Year	:	2006

Institution	:	University of Venda
Qualification	:	BSc (Honours). Mining and Environmental Geology
Subject passed	:	See attached Academic Record
Year	:	2011

SUMMARY

I am a Candidate in a possession of a BSc (Hons) in Mining and Geology with vast variety of experience in Geological, Geochemical, Geophysical Exploration, and Managing of a Manufacturing team. Currently I am working as a Consultant Geologist at Breeze Court Investments 47 (Pty) Ltd and i have gained experience in Map Production (Using ArcGis), Identification of Minerals, and Applications for (Prospecting Right, Mining Right, and Mining Permit on DMR Samradonline portal), Petroleum applications (Compilation of EMP, EIA, Progress report, Environmental Performance Assessment, Closure application, and Mineral Laws Administration (knowledge of MPRDA, 2002, NWA, 1998, NEMA, 1998, NHRA, 1999, MHSA, 1996, Mining Charter, 2010 and Freedom Charter, 1955.).

I have also worked with the small scale miners in the region of Northern Cape, Free State and North West helping them with the application for Mining permit, prospecting right and also attend the site inspection with the officials from Department Mineral Resources to help the small scale miners to comply with the legislation of the department.

I served at the Makhado Municipality for two (2) years under Local Economic Development as an Intern (**In Mining, Environmental and Geology Sectors)** and was attending seminars on Local Economic Development issues, interacting with the stake holders and helping the Small Micro Medium Enterprises (SMME's) to get funds from the sponsors.

EMPLOYMEMT HISTORY

Job title	:	Trainee Mine Geologist
Name of organization	:	Agnes gold mine
Period	:	June 2010 – June 2011 (1 year)
Experiences and skills	:	Face mapping, stope observing, continuous sampling, Geological data capturing, Report writing and Geological mapping.
Job title	:	Chief production, quality, and safety officer
Name of Organization	:	Tshedza concrete art
Period	:	January 2012 – January 2013 (1 year, 1 month)
Experiences and skills	:	Managing high quality production and enforcing safe working Environment for workers
Job title	:	LED Intern (in Mining, Environmental and Geology)
Name of Organization	:	Makhado Local Municipality (Limpopo)
Period	:	February 2013 – December 2014 (11 Months)
Experiences and skills	:	To formulate and implement measures and procedures to Facilitate for the development of SMME's. Implement Measures, processes, and procedures to attract the Investors, Facilitate and implement job creation projects and initiatives. Formulate, review and update LED plans in alignment with the Province and District Municipality. Facilitate and create Partnership with regard to service provider, trade exhibitions, Corporate and SMME's.
Job title	:	Consultant Environmental Geologist and GIS specialist
Name of organization	:	Breeze court investment (Pty) Ltd Geol & Min Consultants
Period	:	January 2014 – January 2015
Experiences and skills	:	Map Production (Using ArcGis), Identification of Minerals, and Applications for (Prospecting Right, Mining Right, and Mining Permit on DMR Samradonline portal), Technical Cooperation Permit, Reconnaissance Permit, Exploration Right, Production right (Petroleum

applications) Compilation of EMP, EIA, Environmental Authorisation, Progress report, Environmental Performance Assessment, Closure application, and Mineral Laws Administration (Broad knowledge of MPRDA, 2002), Assisting small scale miners in the region of Northern Cape, North West, and Free State with application for Mining permit and Prospecting right, help them with compliance in terms of the MPRDA, 2002. Also do the site inspection with the officials from Department of Mineral Resources, and help the miners and management to comply with the statutory while operating and always work in a safe working conditions and enforce also that the act of one employee must be safer towards another employee to achieve zero harm.

Job title : Consultant Environmental Geologist and GIS specialist
Name of organization : Engedi Minerals and Energy (Pty) Ltd
Period : February 2015 – Present
Experiences and skills: Map Production (Using ArcGis), Identification of Minerals, and Applications for (Prospecting Right, Mining Right, and Mining Permit on DMR Samradonline portal), Technical Cooperation Permit, Reconnaissance Permit, Exploration Right, Production right (Petroleum applications) Compilation of EMP, EIA, Environmental Authorisation, Progress report, Environmental Performance Assessment, Closure application, and Mineral Laws Administration (Broad knowledge of MPRDA, 2002), Assisting small scale miners in the region of Northern Cape, North West, and Free State with application for Mining permit and Prospecting right, help them with compliance in terms of the MPRDA, 2002. Also do the site inspection with the officials from Department of Mineral Resources, and help the miners and management to comply with the statutory while operating and always work in a safe working conditions and enforce also that the act of one employee must be safer towards another employee to achieve zero harm.

Knowledge of Legislations and Acts

Constitution of the Republic of South Africa No.108 of 1996
Mineral and Petroleum Resources Development Act, 2002 (Act 28 of 2002)
Mineral and Petroleum Resources Development Act Amendments bill 15 of 2013
Mineral and Petroleum Resources Development Act Regulations
National Water Act, 1998 (Act 36 of 1998)
Mine Health and Safety Act, 1996 (Act 29 of 1996)
National Heritage Resources Act, 1999 (Act 25 of 1999)
National and Environmental Management Act, 1998 (Act 107 of 1998)
Public Finance Management Act, 1999 (Act 1 of 1999) and Act 29 of 1999 as Amended
2014 Environmental Impact Assessment Regulations
Mining Charter, 2010
Freedom Charter, 1955

Municipal System Act, 2000 (Act 32 of 2000)
Municipal Structure Act, 1998 (Act 117 of 1998) and as amended in Act 20 of 2002.

COMPETENCIES

Ability to relate with people,
Ability to work independently and as a team,
Determination to succeed,
Strong leadership skills,
Proactive, resourceful, well organized and able to meet deadlines, and
Ability to communicate effectively

EXTRAMURAL ACTIVITIES AND INTERESTS

I love reading news papers, business literatures, watching discovery channels, News, writing and Public speaking, these help me share my ideas and opinion and to get my message across, and I love learning new things everyday and i am eager to learn.

REFERENCES

Name	:	Mr P. Makoela
Name of organization	:	Agnes gold mine (Pty) Ltd
Position	:	Head of department of geology section
Contacts	:	087 351 8304 (W), 076 311 7791 (C)
Name	:	Mr R.P. Mamphaga
Name of organization	:	Tshedza concrete art (Pty) Ltd
Position	:	Managing director
Contacts	:	011 024 1167 (W), 082 857 3204 (C)
Name	:	Mr P. Netshivhuyu
Name of organization	:	Makhado Local Municipality
Position	:	Supervisor
Contacts	:	072 718 3220(C)
Name	:	Mr A.J. Davids
Name of organization	:	Breeze Court Investments (Pty) Ltd
Position	:	Consultant Environmental Geologist
Contacts	:	082 707 3239 (C)

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Langebaan Building
Bloemfontein, South Africa
9301

P.O.Box 29567
Danhof
9310

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Reg. No. 2015/153624/07

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28 June 2016

UNDERTAKING AND DECLARATION UNDER OATH AS EAP

As refer to the subject of the matter above;

I am hereby to confirm that all the information contained in this report is true and correct And I, **Mr Tshimangadzo Mulaudzi,** an environmental Geologist Consultants at Engedi Mineral and Energy (Pty) Ltd (Reg. No, 2015/153624/07) of Identity number: 8803265731082, I am an Environmental Assessment Practitioner (EAP) and I am capable to compile Environmental reports in support of permits and rights application with Department of Mineral Resource (DMR) and Environmental authorisation with the Department of Environmental Affairs (DEA).

This was done and signed at Bloemfontein on the 28th Day of June 2016

Yours sincerely

T. Mulaudzi
Engedi Minerals and Energy (Consultant)

Kommissaris van Ede vir die R.S.A
Commissioner of Oaths for the R.S.A
Nicole Lindeboom
Professional Accountant - 2279/6(SAIPA)
Barnesstraat 15 - Westdene - Bloemfontein 9301
P.O Box / Posbus 100990 - Brandhof 9324
Tel: 051 410 4160 Faks - 086 544 3353
Date: 05/07/2016

UNDERTAKING

The EAP herewith confirms

a) The correctness of the information provided in the reports	X
b) The inclusion of comments and inputs from stakeholders and I&APs;	X
c) The inclusion of inputs and recommendations from specialist reports where relevant ; and	
d) 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.	X

Signature of the environmental assessment practitioner:

Engedi Minerals and Energy
Name of company:

09th of March 2018

Date:

-END-