mineral resources
Department:
Mineral Resources
REPUBLIC OF SOUTH AFRICA

FINAL BASIC ASSESSMENT REPORT

And

ENVIRONMENTAL MANAGEMENT PROGRAMME REPORT

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

NAME OF APPLICANT: **EURAFRICAN DIAMOND CORPORATION (PTY) LTD**

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FILE REFERENCE NUMBER SAMRAD: MP 30/5/1/1/2/15426 PR **(Annexure A)**

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 mining right if among others the mining "will not result in unacceptable pollution, ecological degradation or damage to the environment".

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

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

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

It is furthermore an instruction that the Environmental Assessment Practitioner must process and interpret his/her research and analysis and use the findings thereof to compile the

information required herein. (Unprocessed supporting information may be attached as appendices). The EAP must ensure that the information required is placed correctly in the relevant sections of the Report, in the order, and under the provided headings as set out below, and ensure that the report is not cluttered with uninterpreted 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 sites and the risk of impact of the proposed activity and technology alternatives on the 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—

(aa) can be reversed;

(bb) may cause irreplaceable loss of resources; and

(cc) 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.

PART A

SCOPE OF ASSESSMENT AND BASIC ASSESSMENT REPORT

INTRODUCTION

Eurafrican Diamond Corporation (Pty) Ltd (herein referred to as "Eurafrican") has a applied for Prospecting Right in terms of section 16 of the Mineral and Petroleum Resources Development Act (MPRDA), 2002 (Act No. 28 of 2002) for Diamond (DIA), Diamond (Alluvial-DA), Diamond (General-D), and Diamond (In Kimberlite) on on portions of the farm Vlakplaats 317 JT, Lakenvalei 355 JT, and Langkloof 356 JT, all located in the Magisterial District of Belfast in the Mpumalanga Province.

The application was lodged on the 16th of August 2018 with the Department of Mineral Resources (DMR) Mpumalanga Regional Office. The extent of the area applied for covers approximately 4376.005923 hectares. The project area is represented in the figure below.

To prove the resources (diamonds and associated minerals), an exploration program must be implemented for the project, including detailed geological mapping, ground magnetic survey, and core drilling. From the geological findings, a resource/reserve estimate will be calculated and finally a more realistic data will be obtained using polygon approach and with several considerations taken hence defining the estimate on the basis of three categories: measured, indicated, and inferred. The resource estimate will be further refined and a mineable reserve will be quantified using geological reserve interpellation.

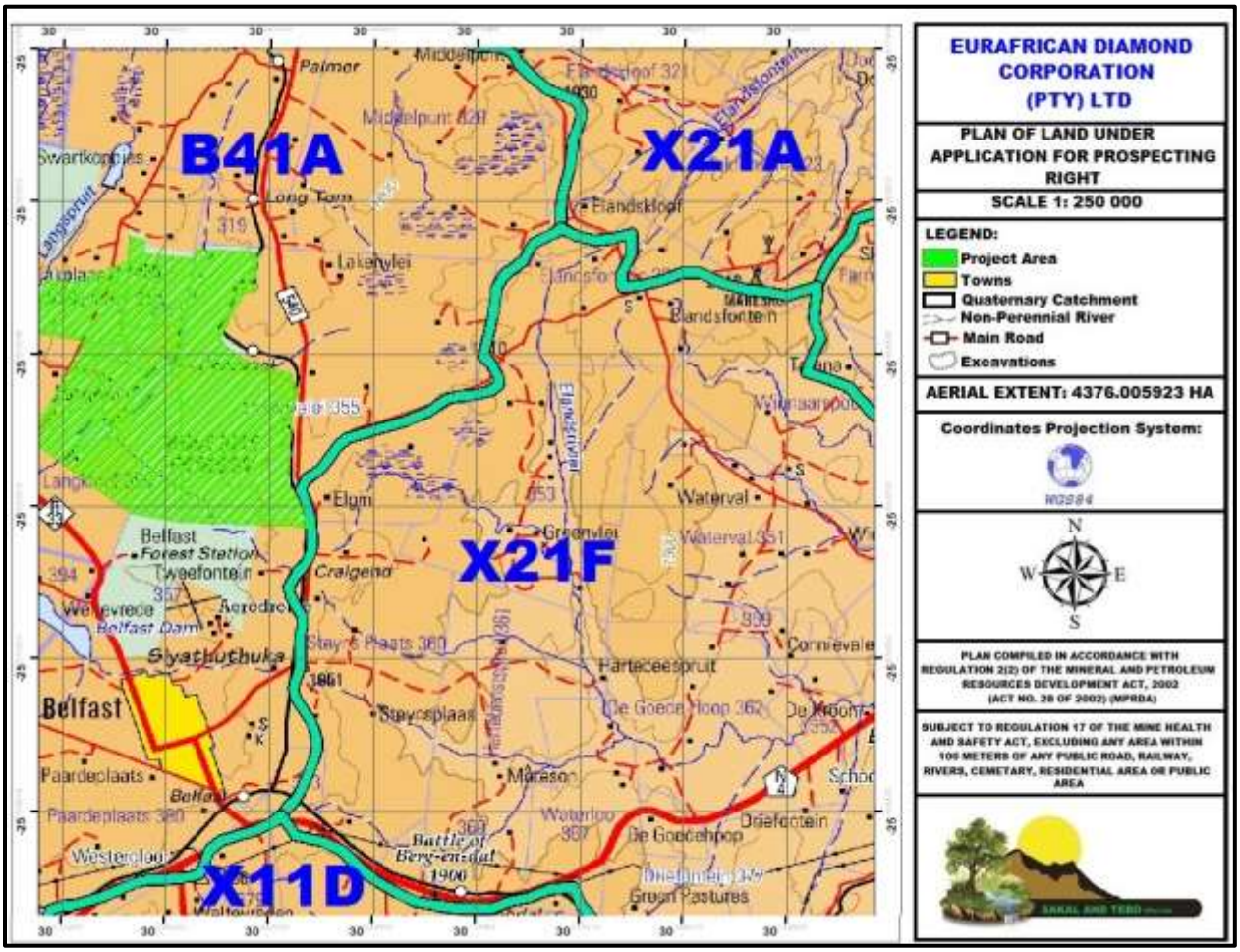


Figure 0-1: Regional Locality of the Study Area

3 Contact Person and Correspondence Address

a) Details of

i. Details of the EAP

Name of the Practitioner:	Sakal and Tebo (Pty) Ltd
	(Mr. Mandla Masango)
Tel No.:	011 655 7193
Cell No.:	072 714 8556
Fax No.:	086 560 4741
E-mail:	mandlamasango@outlook.com

ii. Expertise of the EAP

(1) The qualifications of the EAP

(with evidence)

Please refer to **Annexure B** for the Curriculum Vitae of **Mr. Joubert Bulasigobo** and **Mr. Mandla Masango**.

Mr. Joubert Bulasigobo:

Education:

- BSc. Chemical Engineering (University of KwaZulu-Natal)
- MSc. Geohydrology (University of Western Cape (UWC))
- Post. Grad. Dipl. Integrated Water Resource Management (UWC)

Professional Affiliations:

- Water Institute of South Africa (WISA)

Mr. Mandla Masango:

Education:

- BSc. Hons. Hydrology and Water Resources (University of Venda)

Professional Affiliations:

- South African Council for Natural Scientific Professions (SACNASP)
- Water Institute of South Africa (WISA)

(2) Summary of the EAP`s past experience

(In carrying out the Environmental Impact Assessment Procedure)

Mr. Joubert Bulasigobo is a member of the Water Institute of Southern Africa. His qualifications include a BSc. in Chemical Engineering, a Post Graduate Diploma in Integrated Water Resources Management from University of KwaZulu-Natal and University of Western Cape, respectively. In addition to the tertiary qualifications, he obtained a MSc. in Geohydrology (Environment and Water Science) from UWC.

With over more than 10 years, Mr. Joubert Bulasigobo specializes in environmental decision-making, numerical and statistical groundwater flow and mass transport modelling, resource quantification, surface water-groundwater interaction, mine dewatering, mine water management and development of water management strategies. In addition, his key qualities also involve management and coordination of impact assessment processes, audits and compliance assessments.

Mr. Mandla Masango is an Environmental Assessment Practitioner with 5 years of experience. He has a BSc. Hons. in Hydrology and Water Resources from the University of Venda and registered with SACNASP as a Candidate Natural Scientist. Projects he has worked on include Environmental Impact Assessment for the mining sector, riverine and eco-parks rehabilitation, and other developments (residential and industrial developments). He has experience in compiling Environmental Management Plans, Waste License Applications, Prospecting Right Applications, Environmental Risk Assessment and Environmental Legal Compliance Audits. He is experienced in public participation, presenting public meetings, managing specialists and general project management of environmental projects. He has outstanding and working knowledge of the relevant environmental legislation.

Please refer to **Annexure B** for the Curriculum Vitae of **Mr. Joubert Bulasigobo** and **Mr. Mandla Masango**.

b) Location of the overall Activity

The following table represents the location and associated cadastral details for the application area.

Table 3—1: Location and Property Details

Farm Name:	Portion 2 of the farm Vlakplaats 317 JT Portion 8 of the farm Vlakplaats 317 JT Portion 9 of the farm Vlakplaats 317 JT Portion 10 of the farm Vlakplaats 317 JT Portion 17 of the farm Vlakplaats 317 JT Portion 2 of the farm Lakenvalei 355 JT Portion 16 of the farm Lakenvalei 355 JT Portion 17 of the farm Lakenvalei 355 JT Portion 18 of the farm Lakenvalei 355 JT Portion 19 of the farm Lakenvalei 355 JT Portion 20 of the farm Lakenvalei 355 JT Portion 25 of the farm Lakenvalei 355 JT Portion 3 of the farm Langkloof 356 JT Portion 4 of the farm Langkloof 356 JT Portion 9 of the farm Langkloof 356 JT Portion 11 of the farm Langkloof 356 JT Portion 19 of the farm Langkloof 356 JT Portion 20 of the farm Langkloof 356 JT Portion 21 of the farm Langkloof 356 JT Portion 22 of the farm Langkloof 356 JT
Application area (Ha)	4376.005923 Hectares (Ha)
Magisterial District	The project area falls under eMakhazeni Local Municipality which is under Nkangala District Municipality. The application

	area is located within Belfast Magisterial District.
Distance and direction from the nearest town	The project area is located approximately ±5 km north of Belfast and 19 km south-west of Dullstroom. Access to the site is via the R540 main road, which connects the town of Belfast to the town of Dullstroom.
21 digit Surveyor General Code for each farm	Please refer to the table overleaf for the list of properties/farms and associated 21 digit Surveyor General Code for each farm portion

Table 3—2: SG Digit Surveyor General Codes for the Prospecting Area

Farm name	Farm Number	Registration Division	Portions	21 SG Code
Vlakplaats	317	JT	2	T0JT00000000031700002
Vlakplaats	317	JT	8	T0JT00000000031700008
Vlakplaats	317	JT	9	T0JT00000000031700009
Vlakplaats	317	JT	10	T0JT00000000031700010
Vlakplaats	317	JT	17	T0JT00000000031700017
Lakenvalei	355	JT	2	T0JT00000000035500002
Lakenvalei	355	JT	16	T0JT00000000035500002
Lakenvalei	355	JT	17	T0JT00000000035500017
Lakenvalei	355	JT	18	T0JT00000000035500018
Lakenvalei	355	JT	19	T0JT00000000035500019
Lakenvalei	355	JT	20	T0JT00000000035500020
Lakenvalei	355	JT	25	T0JT00000000035500025
Langkloof	356	JT	3	T0JT00000000035600003
Langkloof	356	JT	4	T0JT00000000035600003
Langkloof	356	JT	9	T0JT00000000035600009
Langkloof	356	JT	11	T0JT00000000035600011
Langkloof	356	JT	19	T0JT00000000035600019
Langkloof	356	JT	20	T0JT00000000035600020
Langkloof	356	JT	21	T0JT00000000035600021
Langkloof	356	JT	22	T0JT00000000035600022

c) Locality Map

(show nearest town, scale not smaller than 1:250,000)

The proposed prospecting program lies on the central parts (near Carolina) of the Mpumalanga Province within the Magisterial District of Belfast. Mpumalanga Province is bordered by Limpopo Province to the north, Mozambique on the north-eastern parts, to the east and south-east by Swaziland, KwaZulu-Natal Province and Free State Province on the south and south-western boundary and lastly Gauteng Province to the west.

The proposed Prospecting Right application area is located approximately 5 km north of Belfast and 19 km south-west of Dullstroom on portions of the farm Lakenvalei 355 JT, Vlakplaats 317 JT, and Langkloof 356 JT in the Mpumalanga Province. The project site covers an area of about 4376.005923 hectares (ha) in extent and lies at geographical coordinates -25.606000° south and 30.038000° east. Access to the site is via the R540 main road, which connects the town of Belfast to the town of Dullstroom.

The proposed prospecting project area falls under eMakhazeni Local Municipality which is under Nkangala District Municipality. The project area is represented in the Regulation 2(2) plan below.

The project area falls within Quaternary Catchment B41A (Langspruit Catchment) of the Olifants water management area (WMA).

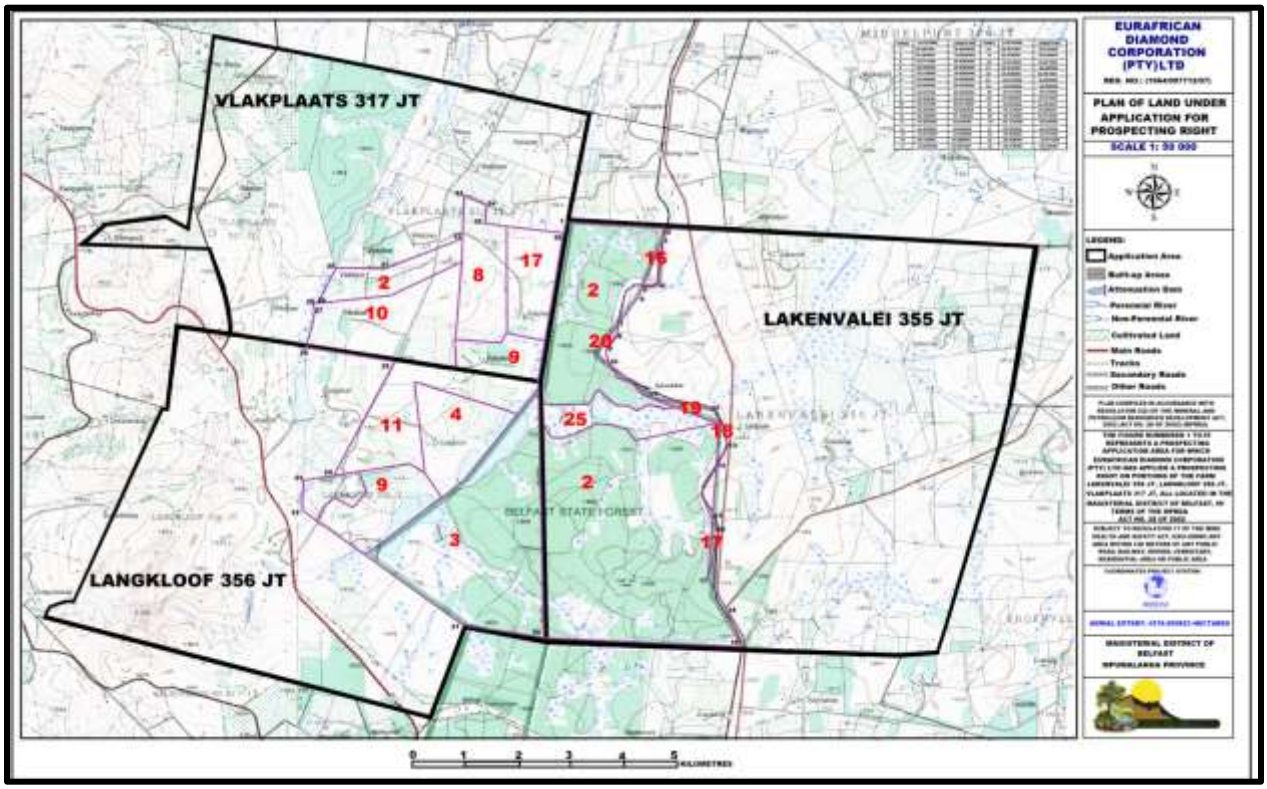


Figure 3-1: Regulation 2(2) Plan

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)

The proposed prospecting works programme will focus on investigating a cluster of small kimberlite pipes within the Lakenvlei Formation, Nederhorst Formation, Vryheid Formation and Vermont Formation. Approximately 7 exploration boreholes will be developed as shown in the figure below. Prospecting will be carried out in 4 phases over a period of 4 years (48 months), comprising of invasive and non-invasive planned activities, including pre-feasibility assessments.

<u>Phase 1: Data Acquisition (including Desktop Studies) and Geophysical Survey</u>

The non-invasive methods will include:

- Acquisition of existing data;
- Computer modeling of existing data;

- Pre-mining feasibility;
- Environmental Impact Assessment;
- Market studies and sales agreements;
- Social-economic studies.

Data acquisition

A desktop study of all available data of the area will be undertaken to accumulate historical data for the application area. These include reviewing published geological reports and historical core data from the Council for Geoscience.

Geophysical survey

A handheld proton Magnetometer will be used to undertake the Geophysical survey. Readings will be taken every 5 meters (minimum) along traverse lines. A base station will be used to record any changes in the earth magnetic field during the field survey. Field data will be obtained based on the principles and guidelines as outlined in the Geophysical Field Manual for technicians – the Magnetic Method, SAGA; A.T. Roux.

A GPS will be used to record the data point locations. No roads will need to be constructed for this survey. No trees will need to be removed during this survey.

Phase 2 and 3: Core drilling and Sampling

The invasive methods include:

- Diamond core drilling;
- Logging and sampling;
- Sample analysis;
- Geospatial modeling and evaluation;
- Mine design and planning;
- Environmental impact and programme studies.

Boreholes will be drilled at pre-determined sites on the properties. A 63.5 mm diameter core drill will be used to drill the geological boreholes. The time required is 24 months to complete all core drilling and rehabilitation of the core drilled holes. All boreholes will be logged with descriptions of all layers intersected.

Site preparation

- Site clearance (borehole sump area (10 m width x 10 m breadth) – the site is cleared of all vegetation and levelled;
- Topsoil will not be removed on site.

Rig/Drill preparation

- A drill rig is placed on site for the drilling of a diamond core borehole with 63.5 mm diameter. Top of hole lined with a steel casing to suitable depth if required;
- Small sumps (about 0.25 m^3 in volume) will be excavated. These sumps are used to recycle water used during the drilling process;
- The entire drill area is fenced off with barricade tape that will serve as access control,

Drilling

- Diamond core drilling commences. This process uses water for cooling and is powered by a diesel engine, with an estimated usage of about 500 litres per shift;
- 7 x boreholes (600 m depth x 10 m width x 10 m breadth) will be drilled on predetermined positions;
- Core material are removed as the drilling progresses and sent to the Laboratory for further analysis. The core material will be kept for future reference;

- The drill bit has to be removed to extract the core material. Drilling does not take place continuously. This is coupled with general maintenance of the associated equipment. Major maintenance is not done on site.

Bulk Sampling

A total of four (4) pits/trenches will be developed at 5 m width x 10 m length x 10 m depth.

Phase 4: Pre-Feasibility Studies

This phase will be comprised of the following key aspects:

- Geological modelling
- Resources determination
- Development of Mining Works Programme (mine planning)
- Mining Right Application
- Integrated Water Use Licence Application
- Waste Management Licence Application
- Development of Social and labour Plan

Resource Estimation and 3D Modeling

A resource will be estimated and signed by a Competent Person. The estimation will include the tonnage and quality within this area of interest. Any boreholes where significant core losses (greater than ten percent) have been recorded cannot be incorporated into the resource estimates.

Pre-Feasibility Programme

A multi-disciplinary pre-feasibility study will be done based on the geological model and Indicated Resource outlined above.

The outcome of the pre-Feasibility Study will be a complete mine and plant design, together with a preliminary EMP for the operations. The associated infrastructure,

human resourcing, and social and labour plan will have been completed to 15% accuracy. Should this prove positive, the full feasibility study work will commence.

The Feasibility Study will essentially improve the degree of accuracy of the pre-Feasibility to <10% accuracy. This will include the detailed mine design, preparation and application for the Water Use Licence, EMP, Mining Right Application; and placement of provisional orders for construction. The outcome of the Feasibility Study will provide a blueprint for construction, procurement and project finance.

Table 3-2: Planned Prospecting Invasive and Non-Invasive Activities

Phase	Activity (what are the activities that are planned to achieve optimal prospecting)	Skill(s) required (refers to the competent personnel that will be employed to achieve the required results)	Timeframe (in months) for the activity)	Outcome (What is the expected deliverable, e.g. Geological report, analytical results, feasibility study, etc.)	Timeframe for outcome (deadline for the expected outcome to be delivered)	What technical expert will sign off on the outcome? (e.g. geologist, mining engineer, surveyor, economist, etc)
1.	**(Non-Invasive Prospecting)** <u>Geophysical Survey</u> • Gravity method. <u>Planning of logistics of the physical drilling program</u> <u>Literature Survey</u> • Council for Geoscience • Internet • Reconnaissance Survey	Geologists	Months 0-12	Gravity profiles of the ground below the surface	Months 12	Geologist
2. (i)	**(Invansive Prospecting)** **1. Bulk Sampling** 2 X Trenches (5 m width X 10 m length X 10 m depth) **2. Diamond Core Drilling**	Geologists Operators Yellow Fleet Supervisor Site Manager	Months 13-24	Desktop study of historical data, including previous exploration results in the area. ▪ Borehole Profile	Months 24	Geologist

Phase	Activity (what are the activities that are planned to achieve optimal prospecting)	Skill(s) required (refers to the competent personnel that will be employed to achieve the required results)	Timeframe (in months) for the activity)	Outcome (What is the expected deliverable, e.g. Geological report, analytical results, feasibility study, etc.)	Timeframe for outcome (deadline for the expected outcome to be delivered)	What technical expert will sign off on the outcome? (e.g. geologist, mining engineer, surveyor, economist, etc)
	5 Boreholes (borehole sump area 600 m depth X 10 m length X 10 m breath)			Logging ▪ Rock chip sampling ▪ Analysis		
3.	**(Invansive Prospecting)** **1. Bulk Sampling** 2 X Trenches (5 m width X 10 m length X 10 m depth) **2. Diamond Core Drilling** 2 additional Boreholes (borehole sump area 600 m depth X 10 m length X 10 m breath)	Geologists	Months 25-36	▪ Borehole Profile Logging ▪ Rock chip sampling ▪ Analysis	Months 36	Geologist
4.	• Geohydrological studies	Geologist	Months 37-48	▪ Cost Estimation,	Months 48	Consultant

Phase	Activity (what are the activities that are planned to achieve optimal prospecting)	Skill(s) required (refers to the competent personnel that will be employed to achieve the required results)	Timeframe (in months) for the activity)	Outcome (What is the expected deliverable, e.g. Geological report, analytical results, feasibility study, etc.)	Timeframe for outcome (deadline for the expected outcome to be delivered)	What technical expert will sign off on the outcome? (e.g. geologist, mining engineer, surveyor, economist, etc)
	• Advance mine planning • Environmental impact assessment • Advance economic analyses • Socio-economic impact assessment • Permitting and authorizations.			▪ Mining Viability Studies, ▪ Infrastructure to be Erected, ▪ Mining Method, Resource Statements and Geological plans /Maps		Geologist

(i) Listed and specified activities

In terms of the 2014 Environmental Impact Assessment (EIA) Regulations enacted in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998) (as amended), the proposed prospecting works programme will involve activities that fall within the ambits of Government Notice (GN) 327 (April 2017). The proposed project will require authorisation from the Department of Mineral Resources (DMR) through the Basic Assessment Process.

A Basic Assessment Process (BAR) is an effective planning and decision-making tool, which allows for the identification of potential environmental consequences of a proposed project, and its management through the planning process. The process will involve consultation with interested and affected parties (I &APs) and submit a Basic Assessment and Environmental Management Plan Report to the DMR.

Table 3—3: Project Listed Activities in terms GNR 327

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 boreholes, accommodation, offices, ablution, stores, workshops, processing plant, storm water control, berms, roads, pipelines, power lines, conveyors, etc…etc…etc.)	Aerial extent of the Activity Ha or m²	LISTED ACTIVITY Mark with an X where applicable or affected.	APPLICABLE LISTING NOTICE (*GNR 544, GNR 545 or GNR 546)*
Prospecting Right Application Area	**4376.005923 Ha**	**X**	**Activity 20 of GN 327 (April, 2017)**
Desktop Studies, Feasibility Studies, and Mineral Resource Estimation	**4376.005923 Ha**	**_**	**Not listed**
Geophysical Survey	**4376.005923 Ha**	**_**	**Not listed**
Planned Invasive Drilling: Large Diameter Drilling	**0.2 Ha**	**X**	**Activity 20 of GN 327 (April, 2017)**
Trenching	**0.01 Ha**	**X**	**Activity 20 of GN 327 (April, 2017)**
Site clearance for camping	**0.16 Ha (1600 m^2)**	**_**	**Not listed**
Geological Mapping	**4376.005923 Ha**	**_**	**Not listed**
Sanitation requirements: Chemical Mobile Toilets)	**n/a**	**_**	**Not listed**
Water required for drilling	**2 000 ℓ**	**_**	**Not listed**
Roads (roads will be temporary gravel roads, not exceeding 3.5 m in width)	**0.15 Ha (1500 m^2)**	**_**	**Not listed**

(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 linear activity, a description of the route of the activity)

Geophysical Survey

Ground geophysical surveys involve the systematic measurement of magnetic, gravitational and electromagnetic fields over target areas of interest within the property. These surveys are carried out using handheld instruments as shown in the figure below.

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

Figure 3-3: Typical Proton Magnetometer
(Source: www.geophysical-equipments.com**)**

Core Drilling

Core drilling will be carried out on identified geophysical anomalies to test for the presence of kimberlite. If kimberlite is discovered, the primary objective for core drilling is for geological logging. The exploration drilling holes may be vertical (to establish cover thickness and kimberlite depth) or inclined up to a maximum angle of 60 degrees (to establish the lateral dimension of the kimberlite pipe or fissure). The borehole depth will be determined by the geologist and will depend on the type of anomaly and the geological conditions, including overburden (the thickness of material that overlies the target kimberlite). However, for the purpose of the prospecting programme, a maximum depth of such holes will typically be 400 meters where the cover is thin, and 600 meters where the cover is thick.

It is proposed that a maximum of 7 boreholes are to be drilled per target area. Should the initial exploration drills yield conclusive results, no further boreholes will be drilled within that particular target area.

The size of core drilled will be determined by such factors as cost, proposed core sampling, the degree of logging required and proposed geotechnical investigations.

Sizes commonly used are 63.5 mm or 47.6 mm diameter core or variations on these. The orientation and depth of core holes will vary depending on the drilling objective. In the case of delineation drilling, angled core holes will be drilled to establish accurate kimberlite / country rock boundaries at depth (in other words, where the edge of the kimberlite is at depth). Vertical holes will be drilled for geological modelling and / or sampling of the core.

Core holes are also used as pilot holes for large diameter holes. The geological information provided by the core holes greatly reduces the risk of selecting inappropriate Large Diameter Drilling (LDD) hole locations. Core holes allow for maximum control on information such as overburden thickness, density, country rock dilution and likely kimberlite intersections, and therefore allow more accurate determinations of the position of likely Large Diameter Drilling holes for diamond recoveries.

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

Support infrastructural requirement for the proposed operation will include the following:

Access Roads

Access to the site will be required for drilling of boreholes. Existing farm access roads will be used as far as practicable. Once the diamond drill sites have been identified,

temporary access roads may be established for access to the sites if the identified drill sites cannot be accessed via existing roads and tracks.

Water Supply

Process water supply for the operation will sourced from water service providers and will be carted onto the site in a tanker. A 2000 litre water cart will be adequate for the size of this operation. The water will be used for dust suppression of access roads. Dust suppression will be conducted as and when necessary. **No water will be abstracted in terms of section 21(a) of National Water Act, 1998 (Act no. 36 of 1998).**

Potable Water Supply

Potable water required for the proposed prospecting operation is approximately 40 litres per day (ℓ/day). The water will be used for drinking purposes and will be sourced from local water vendors within the town of Belfast and supplied in cooled water dispensers.

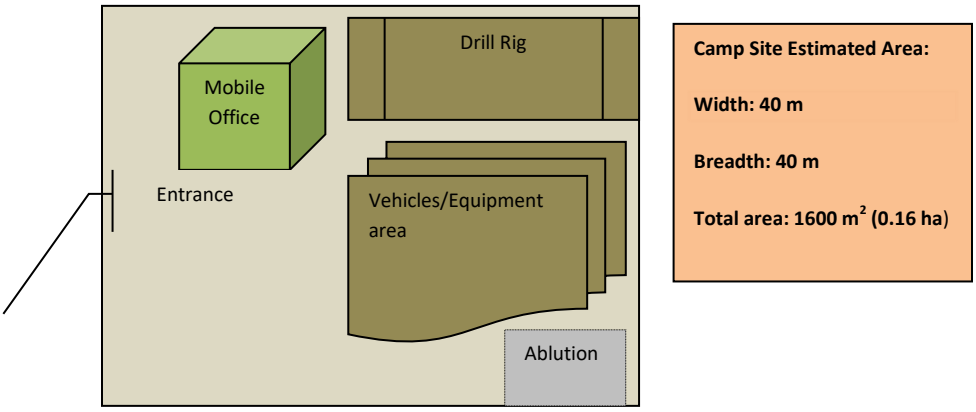
Ablution Facility

Ablution facility at the drill site will involve chemical mobile toilets. Approximately 2 chemical mobile toilets will be required on site. All raw sewage from these toilets will be disposed of into the nearest wastewater treatment works within the Magisterial District of Belfast.

Temporary Office Area/ Camp Site

A temporary office area will be established on site and will include the following:

- Vehicles and equipment area (drill and pipe truck)
- Ablution facility (chemical mobile toilet)
- Mobile office (mobile container)



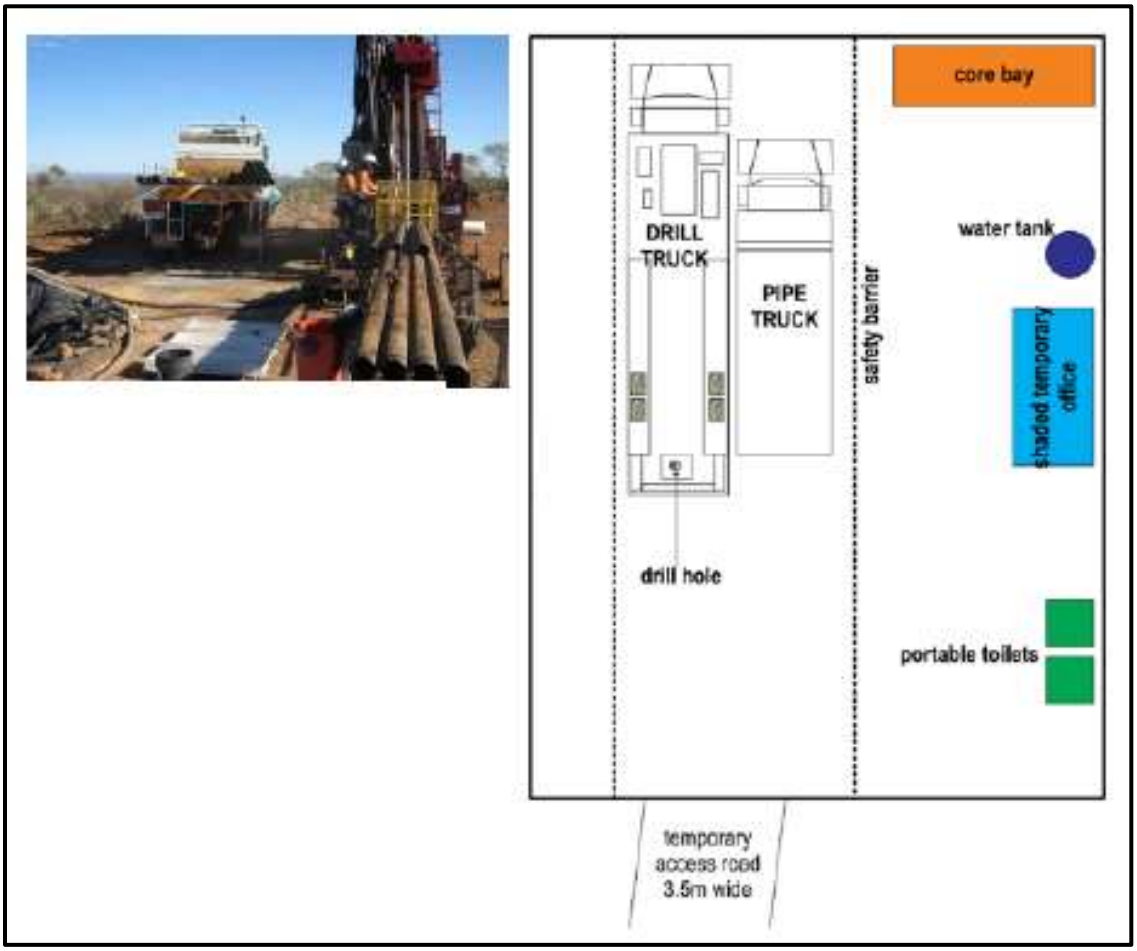


Figure 3-4: Typical Temporary Camp Site

(Source: Department of Mines and Petroleum, DRAFT Guidelines for Environmentally Responsible Mineral Exploration & Prospecting in Western Australia, March 2012**)**

Accommodation

No accommodation for workers will be provided on site. Accommodation will be sourced within the vicinity of Belfast. All workers will be transported on site on a daily basis.

Blasting

No blasting will take place on site. Planned invasive activities are limited to core drilling and site camping.

Bulk Sampling

A total of four (4) pits/trenches will be developed at 5 m width x 10 m length x 10 m depth.

Hydrocarbon Storage

During core drilling on site, limited quantities of diesel fuel, oil, and lubricants will be stored on site. Diesel fuel will be stored in significant quantities in above ground diesel storage tanks with a gross storage capacity of approximately 40 m^3. In the event of a significant hydrocarbon spill, the following procedure is required:

- The source of the spillage shall be isolated
- The spillage must be contained using sand berms, sandbags, pre-made booms, saw dust or absorbent materials.
- The area shall be cordoned off, secured and made safe.
- The incident will be recorded and reported to the Department of Mineral Resources (DMR) and Department of Environmental Affairs (DEA)
- Depending on the nature of and extent of the spill, contaminated soil will be removed and disposed of in a waste deposit receptacle for final disposal at a licensed hazardous landfill site.

- Where relevant, the polluted soil will be treated using absorbent material as well as oil-digestive powders.

- If necessary, oil absorbent sheeting or pads or similar alternatives will be attached to leaky machinery or equipment.
- Material used for the remediation of petrochemical spills must be used according to the product specification and guidance for use.
- Contaminated remediation materials will be carefully removed from the area of the spill so as to prevent further release of hazardous substance to the environment, and stored in adequate containers until appropriate disposal.

e) Policy and Legislative Context

Table 3—4: Policy and Legislative Context

APPLICABLE LEGISLATION AND GUIDELINES USED TO COMPILE THE REPORT	REFERENCE WHERE APPLIED	HOW DOES THIS DEVELOPMENT COMPLY WITH AND RESPOND TO THE LEGISLATION AND POLICY CONTEXT
Specific Environmental Management Acts (SEMAs)		
National Legislation		
Minerals and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002) (MPRDA)	Section 16, 17, and 39 of MPRDA	The conditions and requirements attached to the granting of the prospecting right will apply to the prospecting activities.
National Environmental Management Act, 1998 (Act No 107 of 1998) as amended (NEMA): Environmental Impact Regulations (2014)	Listed Activity 20 of Regulation 983 (December, 2014)	The appropriate environmental authorisation will be obtained before proceeding with any prospecting activities. Measures will be implemented to prevent any pollution occurring during the drilling activities. The disturbed area shall be rehabilitated in such a way that is stable, non-polluting, non-eroded,

APPLICABLE LEGISLATION AND GUIDELINES USED TO COMPILE THE REPORT	REFERENCE WHERE APPLIED	HOW DOES THIS DEVELOPMENT COMPLY WITH AND RESPOND TO THE LEGISLATION AND POLICY CONTEXT
		free from alien invasive species and suitable for agreed post closure land use.
National Water Act, 1998 (Act 36 of 1998) (NWA)	Not applicable	None of the planned invasive activities (prospecting) falls within the ambit of section 21 of the National Water Act, 1998 (Act No. 36 of 1998). **No water use license is required for this application**.
National Environmental Management: Air Quality Act, 2004 (Act No. 39 of 2004): National Dust Control Regulations (GN 827)	Not applicable	Appropriate dust extractions/ suppression equipment will be a condition imposed on the drill contractor for their drill rigs.
National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008)(NEMWA) as amended	Waste management on site	The generation of potential waste will be minimised through ensuring employees of the drilling contractor are subjected to the appropriate environmental awareness campaign before commencement of drilling. All waste generated during the drilling activities will be disposed of in a responsible legal manner. Proof of legal disposal will be maintained on site.
National Heritage Resources Act, 1999 (Act No. 25 of 1999)(NHRA)	Section 38 of NHRA	Phase 1 Heritage Impact Assessment shall be conducted prior to drilling to ensure that significant impacts on heritage artefacts, heritage site and graves are prevented. No drilling activities will take place with 50m of any identified heritage resource such as a grave.
Constitution of the Republic of South Africa (Bill of Rights), 1996	Chapter 2 section 24	The prospecting activities shall be conducted in such a manner that

APPLICABLE LEGISLATION AND GUIDELINES USED TO COMPILE THE REPORT	REFERENCE WHERE APPLIED	HOW DOES THIS DEVELOPMENT COMPLY WITH AND RESPOND TO THE LEGISLATION AND POLICY CONTEXT
		significant environmental impacts are avoided, where significant impacts cannot all together be avoided, be minimised and mitigated in order to protect the environmental right of South Africans.

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)

South Africa is known for its abundance of mineral resources. It is estimated to have the world's fifth-largest mining sector in terms of gross domestic product value and its mining companies are key players in the global industry. South African mining and mining real estate remains attractive for development. Further advances in prospecting and eventual mining application would lead to more community involvement within the projects and result in more sustainable job creation strategies within the surrounding communities as well as attracting foreign investment.

In addition, the South African economy heavily relies on the mining sector. Successful prospecting for Diamonds and associated minerals will boost the current struggling national economy as the project will have the potential to advance to the mining phase. The mining sector has provided more employment opportunities for the citizens in general. The provincial citizens of the Mpumalanga Province will be awarded more employment opportunities. Should the proposed prospecting programme leads to a viable mine, the following economic development activities will result:

- Job creation
- Development of skills

- Potential for business opportunities
- Establishment of bursaries and scholarships
- Stimulate economic activities in the local vicinity

Furthermore, the main objective of the prospecting activities is to locate and evaluate diamond deposits hosted in, or locally derived from kimberlite, which is an igneous rock that can in theory be found within any other older host rocks. As the peak ages of kimberlite intrusion in central South Africa were at roughly 120 Million Years Ago (Ma) and 90 Ma, any rocks older than these dates can host kimberlites. In addition, it has been well established that diamonds are most commonly present in economic concentrations in kimberlites found within cratonic regions and related tectonic blocks. The Prospecting Right application area falls within the Kaapvaal Craton and thus has the generic potential to host diamondiferous kimberlites.

Prospecting activities are therefore needed to:

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

Should planned prospecting activities prove that there are feasible minerals to allow for mining, a new mine may be developed, which will generate extensive employment opportunities within the Magisterial District of Belfast.

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

Kimberlites typically occur as clusters within larger kimberlite fields. Geophysical methods and follow-up drilling have been proven very useful in detecting potential kimberlite targets and they will therefore be used to identify optimal locations of potential bodies of economic interest within the prospecting area.

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)

Exact siting of drill activities is dependent on the early field geophysical studies and have therefore not yet been determined. The information provided in this section outlines the twenty (20) properties (portion 2, 8, 9, 10, and 17 of the farm Vlakplaats 317 JT, portion 16, 17, 18, 19, 20, and 25 of the farm Lakenvalei 355 JT, portion 3, 4, 9, 11, 19, 20, 21, and 22 of the farm Langkloof 356 JT) of interest for which the prospecting rights are being applied for.

i) Details of the development footprint alternatives considered

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

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

The exact location of the proposed core drill sites on portion 2, 8, 9, 10, and 17 of the farm Vlakplaats 317 JT, portion 16, 17, 18, 19, 20, and 25 of the farm Lakenvalei 355 JT, portion 3, 4, 9, 11, 19, 20, 21, and 22 of the farm Langkloof 356 JT depends on the planned non-invasive activities (geo-physical survey) and cannot be confirmed at this stage. However, the following provisions will be applicable to the final site layout plan for the prospecting programme:

- Infrastructure such as houses (including lodges, fences, electricity pylons, gates) will be avoided;
- No prospecting will take place at horizontal distance of 100 m from any infrastructure or water bodies;
- Any boreholes, sewer pipelines, etc will be marked-off prior to site establishment and avoided during operations;

- Where possible existing access roads will be utilized to access the potential drill sites.

(b) The type of activity to be undertaken;

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

(c) The design or layout of the activity

An alternative site layout is being considered with regard to the site camping. Due to the close proximity of the prospecting site to the town of Belfast, the drilling contractor can make use of existing accommodation within the area and this would reduce the surface footprint area to be utilized on site for camping and thereby reducing the quantum of financial provision for rehabilitation of negative environmental impacts.

(d) The technology to be used in the activity;

The method and techniques to be utilized during the planned prospecting programme for the investigation of potential targets (kimberlite pipes) and deposits are suitable for the proposed prospecting activities.

(e) The operational aspects of the activity; and

The activities will commence with geo-physical survey, which is a non-invasive technique. This manner of survey will ensure that Eurafrican Diamond Corporation can clearly delineate areas which are regarded as suitable for further investigation and no unnecessary surface disturbance will be undertaken.

After the preliminary exploration activities, geological anomalies identified will be ranked for exploration drilling. The exploratory drilling will be comprised of establishment of drill sump area (clearing of vegetation (10 m length X 10 m width), drill operations (core extraction and storage), and rehabilitation activities (re-vegetation). Trenches will be developed as part of bulk sampling. Potential impacts associated with the drilling operations will be managed through the implementation of the environmental management plan discussed in Part B of this report.

Ideally, prospecting activities will occur continuously until such time that drilling at individual sites is completed. However, when reaching an access agreement with the identified impacted property owners, Eurafrican Diamond Corporation will ensure that the planned invasive (drilling) activities commence and operate at times that minimise disruption and exposure risks, that is, post-harvest period, daylight hours, and school holidays. This will be discussed and agreed upon in consultation with interested and affected parties prior to the implementation of prospecting activities.

(f) The option of not implementing the activity.

Should economical reserves be present and Eurafrican Diamond Corporation ("the applicant") does not have the opportunity to prospect, the opportunity to utilize these reserves will be lost. Furthermore, prospecting activities are essential to investigate and confirm the existence/presence of diamond deposits (including associated minerals) and also required to generate a SAMREC compliant mineral resources statement or competent persons report (CPR). Furthermore, investment in the mining industry will not transpire without prospecting activities and should the Prospecting Right application be denied, valuable economic and socio-economic opportunities may be lost.

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 attended public meetings. (Information to be provided to affected parties must include sufficient detail of the intended operation to enable them to assess what impact the activities will have on them or on the use of their land.)

The public participation process (PPP), also known as the Stakeholders Engagement Process (SEP) is a fundamental component of the Environmental Impact Regulation (2014). Not only is public participation a statutory requirement in terms of Section 56 of the NEMA, but a process which is designed to lead a joint effort by interested and affected parties to evaluate all aspects and issues of the proposed development, with the ultimate goal of improving the project by minimizing adverse effects and maximizing the benefits of the project. Public participation is designed to provide sufficient and accessible information to Interested and Affected Parties (I&APs) in an objective manner to assist them to:

- Be acquainted with the proposed Eurafrican Belfast Prospecting Right application;
- Raise issues of concern and make suggestions for alternatives and enhanced benefits;
- Contribute local knowledge;
- To obtain stakeholder views and concerns;
- Verify and validate that their issues have been captured and considered in the Basic Assessment Report

Regulation 2(4)f under the principles of NEMA further states that: *the participation of all interested and affected parties in environmental governance must be promoted, and all people must have the opportunity to develop understanding, skills and capacity necessary for achieving equitable and effective participation, and participation by vulnerable and disadvantage persons must be ensured.*

The following media of communication with interested and affected parties (I & APs) were used:

- A newspaper advert was published on the local newspaper "**Middelburg Observer Newspaper**", giving notice to I & APs of the applicant`s intention to prospect the area as well as inviting all affected parties to a meeting where the applicant would provide full details of the project. The Middelburg Observer Newspaper is distributed in areas including the towns of Middelburg, Belfast, Hendrina, Komati, Kragstasie, Wonderfontein, Arnot, Pullenshope, Witbank, Groblersdal, Marble Hall, Loskop, and Stofberg.
- Site notices written in English (A3 sized) were placed in strategic areas such Police Station, Post Office, Restaurant, Filling Stations, Schools, Public Clinics, and Libraries.
- E-mail and telephonic communication with I & APs;
- Comment and registration sheet: I & APs were requested to provide written comments, concerns and inputs that would be consolidated into the BAR;
- Questionnaires: Property owners in particular were provided with an environmental aspect questionnaire to complete to assist in identifying features on their respective farms that may require protection or special attention;
- Two public meetings with interested and affected parties was held as follows:
  Venue: Date: **2nd February 2019 (Saturday)** Time: **11:00-13:00 PM**
- A register of I & APs was kept and as such the following information was distributed to them:
  - Background Information Document (BID). The BID is comprised of the following information:
    - The description of the land concerned;
    - The location of the project;
    - The minerals applied for;
    - Timeframes for submission of reports to the DMR;
    - Request to target audience to register as I & APs;
    - Contact details of the applicant and EAP
  - Prospecting Works Programme

- The draft Basic Assessment Report and Environmental Management Plan (BAR & EMPr) for the proposed project was made available from the **18th of January 2019 to the 18th of February 2019** for public review and comment as following venues:
    - **eMakhazeni Local Community Library**: Scheeper Street, Belfast, 1100 (-25.692649° south and 30.035176° east)

Property Owners (Land Owners)

Deed searches of ownership of properties affected by the proposed project pointed to obvious difficulties in reaching each and every landowner due to the vast size of the area applied for and the fact that the land is subdivided into numerous plots. This made it onerous to track landowners individually; therefore a different methodology was devised whereby site notices were placed at the main entrances to the targeted farms. Through farmer's unions and community organisations, information would then be disseminated to the various land owners and other parties in the area.

Other Interested and Affected Parties

It is important that I & APs represent all relevant sectors of the society and various relevant organs of state who work together to make better decisions. A stakeholder database has been compiled for this project. The I & APs currently identified for the proposed project include the following categories (for full list of I & APs refer to **Appendix C**):

- Land owners and adjacent land owners
- eMakhazeni Local Municipality
- Relevant authority including the following:
    - Department of Water and Sanitation
    - Nkangala District Municipality
    - Department of Public Works, Roads and Transport
    - Mpumalanga Department of Agriculture, Rural Development, Land and Environmental Affairs

- Department of Economic Development and Tourism
- Department of Rural Development and Land Reform (Mpumalanga Regional Land Claims Commissioner)
- South African Heritage Resources Agency
- Eskom

- Organisations including:
  - Mpumalanga Tourism and Parks Agency
  - Mpumalanga Economic Growth and Agency

iii) Summary of issues raised by I &APs

This section will be completed after the Stakeholder Consultation process *(Complete the table summarising comments and issues raised, and reaction to those responses)*

Interested and Affected Parties List the names of persons consulted in this column, and Mark with an X where those who must be consulted were in fact consulted.	**Date Comments Received**	**Issues raised**	**EAPs response to issues as mandated by the applicant**	**Section and paragraph reference in this report where the issues and or response were incorporated.**
No comments, suggestions, or issues have been received to date.				
Landowner/s				
No comments, suggestions, or issues have been received to date.				
Lawful occupier/s of the land				
No comments, suggestions, or issues have been received to date.				
Landowners or lawful occupiers on adjacent proper ties				
No comments, suggestions, or issues have been received to date.				
Municipal Councillors				
No comments, suggestions, or issues have been received to date.				
Municipality				
No comments, suggestions, or issues have been received to date.				
Organs of state (Responsible for infrastructure that may be affected Roads Department)				
No comments, suggestions, or issues have been received to date.				

Eskom, Telkom,				
No comments, suggestions, or issues have been received to date.				
Communities				
No comments, suggestions, or issues have been received to date.				
Department of Land Affairs				
No comments, suggestions, or issues have been received to date.				
Traditional Leaders				
No comments, suggestions, or issues have been received to date.				
Department of Environmental Affairs				
No comments, suggestions, or issues have been received to date.				
Other Competent Authorities affected				
No comments, suggestions, or issues have been received to date.				
Other Affected Parties				
No comments, suggestions, or issues have been received to date.				
Interested Parties				
No comments, suggestions, or issues have been received to date.				

iv) The Environmental attributes associated with the alternatives.

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

Eurafrican Diamond Corporation therefore applied for a Prospecting Right on these subject properties to determine the presence of diamonds and associated minerals, and whether these areas are feasible to enter into further studies towards Mining Right application. No alternatives are available that will have an impact on different settings than the environment discussed below.

1) Baseline Environment

a) Type of environment affected by the proposed activity.

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

1.1 Climate

The monthly average of daily temperatures, illustrating the long-term monthly mean, minimum and maximum temperatures are presented in the tabulation below. The mean monthly temperatures are highest between November and February which are typically summer months. Temperatures gradually drop with the lowest temperatures being recorded during June and July, which are typically winter months in South Africa.

The project area consists of summer rainfall with dry winters. Due to the seasonal variation in temperature as shown in the tabulation below, effectively three seasons occur, namely a cool dry season from May to mid-August, a hot dry season from mid-August to about October and a hot wet season from about November to April. Mean Annual Precipitation (MAP) is about 647.01 mm.

Average daily maximum temperatures are 22.3°C in January and 17.1°C in July. Average daily minimum for the area ranges from 12.4°C in January to 0.6°C in July, whilst extremes can reach -0.4°C respectively. Mean monthly maximum and minimum temperatures is about 25.6 °C and – 0.4°C for February and July, respectively (Mucina and Rutherford, 2006).

Table 3—5: Monthly maximum, minimum and mean temperatures recorded in Belfast (South African Weather Services)

Month	Minimum Temperature (°C)		Maximum Temperatures (°C)	
	Lowest Recorded	Daily Average	Highest Recorded	Daily Average
October	8.9	9.2	25.1	23.3
November	8.9	10.6	22.8	22.2
December	8.7	11.2	23.7	22.6
January	11.2	12.4	23.4	22.3
February	10.9	11.8	25.6	23.4
March	10	10.5	24	22.1
April	5.9	7.2	20.8	20.0
May	2	3.4	21.1	18.2
June	0.5	1.8	19.5	16.5
July	-0.4	0.6	19.1	17.1
August	1.8	3.1	22.6	19.5
September	4.7	6.3	26	23.4

1.1.1 Regional Climate

The project area falls within the summer rainfall region, with approximately 80% of the annual rainfall occurring between November and March. The rainy season range from about October to March, with peak precipitation in November. About 50 to 80 rain days per year may be expected. The area receives a mean annual rainfall of about 647.01 mm.

1.1.2 Rainfall

Historical rainfall records obtained from the South African Weather Station number 05170725 (Belfast) located within Belfast Magisterial District was used to compute the mean annual precipitation. The average monthly rainfall is calculated from the year 1994-2009 (15 years).

The vicinity of the project area receives a mean annual precipitation of about 647.01 mm as shown in tabulation below.

Table 3—6: Average monthly rainfall depth (mm)

Month	Mean Monthly Rainfall (mm)
January	107,09
February	70,88
March	71,93
April	41,15
May	25,04
June	1,73
July	2,523
August	7,05
September	11,19
October	73,37
November	118,93
December	116,11
Total	**647,01**

Maximum recorded storm events are summarized in tabulation below.

Table 3—7: Maximum recorded storm events

Month	24 hour Rainfall (mm)
January	69
February	87
March	92.5
April	42
May	50

Month	24 hour Rainfall (mm)
June	10
July	19.5
August	22
September	25
October	50
November	160.5
December	91

The figure below shows average rainfall depth (mm) for the proposed project area. The monthly rainfall trend is in line with the seasonal rainfall distribution with the summer months having the highest rainfall intensity (118.93-71.93 mm).

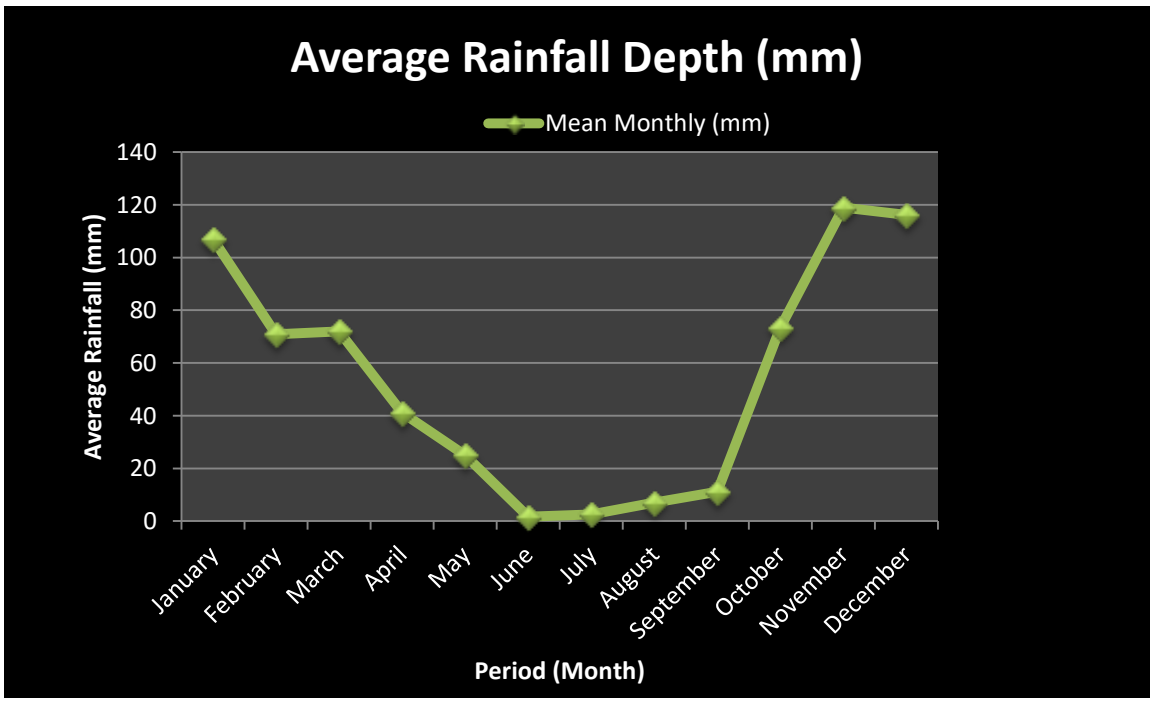


Figure 3-5: Average monthly rainfall depth (mm)

1.2 Evaporation

The mean annual evaporation for Quaternary Catchment B41A (Langspruit Catchment) of the Olifants water management area has been recorded at 1450 mm (Symons Evaporation pan).

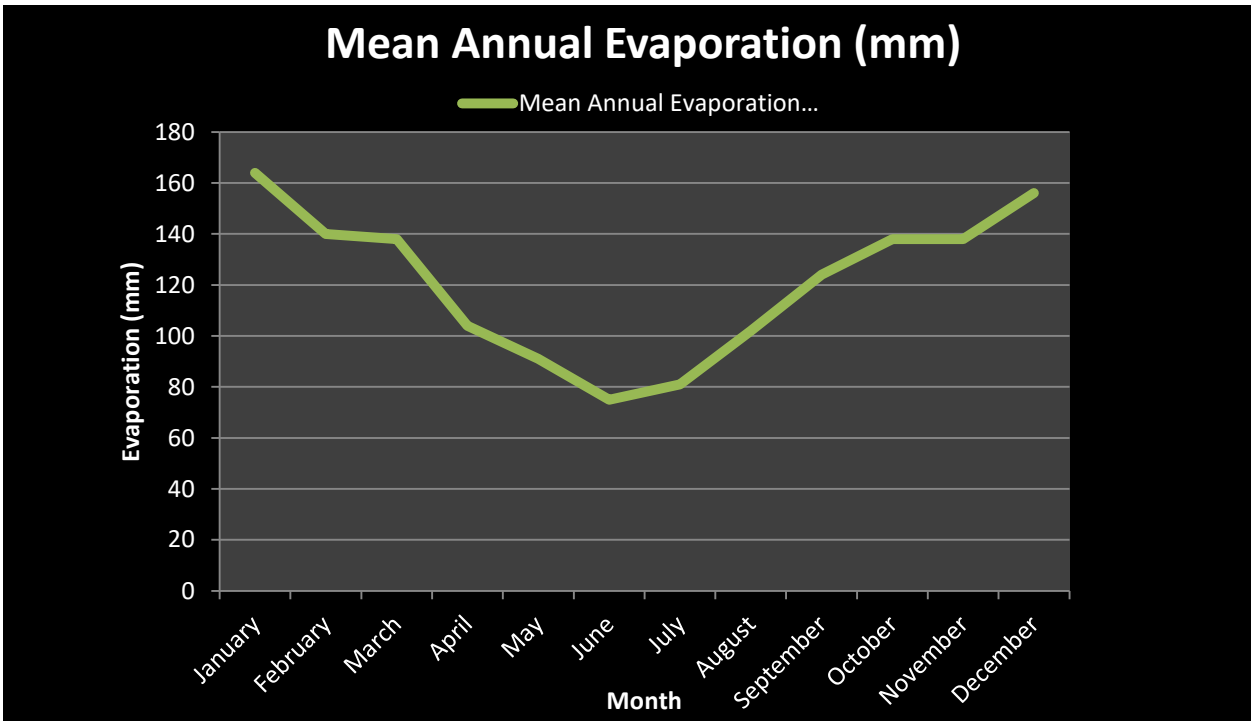


Figure 3-6: Mean Annual Evaporation (mm)

1.3 Topography and Geography

The general topography of the area consists of strongly undulating plains (ENPAT, 2004). The terrain morphology as described by Kruger (1989) consists namely of closed hills and mountains with a moderate and high relief to some extent low mountains. The proposed project lies within ward 2 and 6 of the eMakhazeni Local Municipality which is under Nkangala District Municipality. The site covers an aerial extent of approximately 4376.005923 hectares and including the following farms (as represented in the Regulation 2(2) plan below):

- Portion 2, 8, 9, 10, and 17 of the farm Vlakplaats 317 JT, portion 16, 17, 18, 19, 20, and 25 of the farm Lakenvalei 355 JT, portion 3, 4, 9, 11, 19, 20, 21, and 22 of the farm Langkloof 356 JT

The proposed Prospecting Right application area is located approximately 5 km north of Belfast and 19 km south-west of Dullstroom on portions of the farm Lakenvalei 355 JT, Vlakplaats 317 JT, and Langkloof 356 JT in the Mpumalanga Province. The project site covers an area of about4376.005923 hectares (ha) in extent and lies at geographical coordinates -25.606000° south and 30.038000° east. Access to the site is via the R540 main road, which connects the town of Belfast to the town of Dullstroom. The immediate surrounding environment includes the town of Belfast, plots, agricultural holdings as well as Belfast Dam. The highest altitude is about 1950.40 m above mean sea level (amsl), whilst the lowest is in the range between 1839 m amsl.

1.4 Land Uses

The whole Belfast District comprises of the following land uses: agriculture, mining, industrial, recreational, eco-tourism, nature reserves, conservancies, game farms, open spaces, and settlements. Most prominent of these are mines (coal) and agricultural lands with ownership largely being private. The project application area falls in an area classified as “Conservation” and larger parts of the study area forms part of the Belfast Forest.

Natural: There are a number of environmentally sensitive areas ranging from highly sensitive areas, such as ridges, dams, watercourses, grasslands and wetlands, to non-sensitive areas which have been impacted on by agricultural activity and human settlement amongst others. In most areas the environmentally sensitive areas are being highly impacted and are currently are not statutorily protected.

Agriculture: Extensive farming and subsistence activities exist alongside each other as the area consists of both small holdings as well as large farms. Agricultural activities include the production of maize, sorghum, beans, vegetables, lucerne, kikuyu (lawn grass), and fodder. Borehole water is mainly used to irrigate these crops. Animal husbandry is also prominent in this area. Other farm produce from this area includes beef, milk and processed dairy products,

e.g. cheese, processed ostrich products such as sausage and salami, pecan nuts, protea cut flowers for the export market, soft fruit and vegetables.

Industrial: Coal mining is the leading industrial activity within the Belfast Magisterial District and contributes significantly to the employment status of the eMakhazeni Local Municipality. Clay and sand has been mined and sand and aggregate mines still operate widely.

Urban/rural ratio: Approximately 95% of the region is rural and the land is utilized for agricultural, mining activities. The urban areas are strictly confined to the town centers.

Recreational and Conservation: The surrounding environment is known for its rich history, biodiversity and sensitive environments. There are several recreational and tourist attractions around the vicinity of Belfast. The landowners have organized themselves into conservancies that aim to protect the environment from loss of biodiversity and subsequent degradation by haphazard development.

1.5 Biodiversity

1.5.1 Flora

The application area includes a number of sensitive geographic areas including the vulnerable Lydenburg Montane Grassland which forms part of the Grassland Biome. The National Environmental Management Act: Biodiversity Act (NEMBA) makes provision for a list of threatened ecosystems and activities or processes/activities described as threatening. Lydenburg Montane Grassland is listed as vulnerable ecosystems in terms of the NEMBA, and prospecting for minerals has also been listed as a threatening activity/process. As such, any prospecting activity within these vegetation types needs to comply with the requirements of the NEMBA.

1.5.2 Conservation Status

Lydenburg Montane Grassland is classified as Vulnerable. The conservation target is 27%, with 2.4% formally protected within reserves (Gustav Klingbiel. Makobulaan, Mt Anderson, Ohrigstad Dam. Sterkspruit and Verlorenvlei) as well as in a number of private conservation areas (Buffelskoof, Crane Creek, mc, In-de-Diepte, Kaalboom, Kalmoesfontein. Mbesan. Mondi Indigenous Forest. Mt Sheba: Waterval etc.). The level of transformation is relatively high at 23% with mostly alien plantations (20%) and cultivated lands (2%). Erosion potential very low (74%) and low (12%) (Mucina & Rutherford 2006).

1.5.3 Landscape Features

High-altitude plateaus, undulating plains, mountain peaks and slopes, hills and deep valleys of the Northern Escarpment region, supporting predominantly very low grasslands on the high-lying areas. Height of the grass sward increases on the lower slopes. The grassland is very rich in forb species (Mucina & Rutherford 2006). The vegetation within the mid and lower slopes of the proposed alternative alignment 3 has been heavily impacted on by surrounding anthropogenic activities including (old lands) and degraded overgrazed grasslands. The woody vegetation within protected rocky outcrops and drianage lines are dominated by the tall shrub Diospyros lycioides ssp. Guerkei, Euclea crispa subsp. crispa and the trees Acacia karroo and Acacia caffra, while the herbaceous layer is dominated by the tall grass Hyparrhenia tamba. Other species also present include Diospyros whyteana, Searsia pyroides, Panicum maximum, Themeda triandra, Chamaecrista mimmosoides, Achyranthes sicula, and Senecio microglossus. Extensive livestock grazing, altered fire regimes and alien vegetation invasion has altered the natural species composition (low in forb species).

Dominant Tree Species

Acacaia karroo, Acacia caffra, Protea caffra, Faurea galpinii, Cussonia transvaalensis, Cussonia paniculata, Searsia pyroides, Celtis africana, Combretum erythrophyllum, Dombeya rotundifolia

Dominant Shrub Species

Diospyros lycoides, Gnidia caffra, Leucosidea serícea, Lopholaena disticha, Euclea crispa subsp. crispa, Rhemnus prinoides, Senecio microglossus, Lippia javanica, Acacia ataxacantha, and Dichrostachys cinerea.

Dominant Grass Species

Aristida canescens, Aristida congesta, junciformis, Cymbopogon caesius, Dihetropogon amplectens, Heteropogon contortus, Themeda triandra, Hyparrhenia hirta, Cynodon dactylon, Panicum natalensis, Panicum maximum, Melinis repens, Setaria sphacelata, Digitaria sanguinalis, Eragrostis curvula, and Eragrostis racemosa.

Dominant Herb Species

Chamaesyce inaequilatera, Commelina erecta, Crotalaria lotoides, Hermannia depressa, Mariscus congestus, Pavonia burchellii, Pollichia campestris, Pseudognaphalium luteo-album, Rhynchosia totta, Schkuhria pinnata, Senecio microglossus, Senecio venosus, Monopsis decipiens, Gladiolus sp., Wahlenbergia undulata, Pelargonium luridum, Haplocarpha scaposa, Helichrysum nudifolium, H. rugulosum, Merremia tridentata, Dicerocaryum eriocarpum, Rubus sp., Asclepias fruticosa, Helichrysum rugilosum, Hypoxis rigidula var. pilosissima, Aloe greatheadii var. davyana, Lantana rugosum; Ipomoea spp Achyranthes aspera, Bidens bipinnata, Chamaecrista mimosoides, Sida alba, Sonchus wilmsii, Tephrosia macrocarpa, and Verbena brasiliensis.

Alien Invasive Plant Species

Acacia mearnsii, Populus x canescens, Eucalyptus grandis*, Ipomoea alba*, Ipomoea indica*, Ipomoea purpurea*, Lantana camara*, Melia azedarach*, Jacaranda mimosifolia*, Morus alba*, Ricinus communis*, Rubus rigidus*, Robinia pseudoacacia*, Solanum mauritianum**

1.5.4 Red Data Flora Information

Below is a list of species which may occur within the study area, with a greater than 'Near Threatened' rating (SANBI). The following floral species with a higher than 'Near Threatened' rating that may occur within the study area:

- ACANTHACEAE: *Dyschoriste perrottetii*
- AMARYLLIDACEAE: *Crinum macowanii*
- ANACARDIACEAE: *Searsia sekhukhuniensis*
- APOCYNACEAE: *Brachystelma stellatum*
- AQUIFOLIACEAE: *Ilex mitis var. mitis*
- ARACEAE: *Zantedeschia pentlandii*
- ASPHODELACEAE: *Aloe cooperi subsp. Cooperi, Aloe integra, Aloe reitzii, and Kniphofia triangularis subsp. obtusiloba*
- CELASTRACEAE: *Lydenburgia cassinoides*
- HYACINTHACEAE: *Eucomis vandermerwei, Merwilla plumbea*
- HYPOXIDACEAE: *Hypoxis hemerocallidea*
- IRIDACEAE: *Gladiolus rufomarginatus*
- ORCHIDACEAE: Disa extinctoria, Schizochilus lilacinus
- PASSIFLORACEAE: *Adenia wilmsii*
- RHIZOPHORACEAE: *Cassipourea malosana*
- THYMELAEACEAE: *Gnidia variabilis*

1.6 Cultivated Land

Cultivated lands, used for the cultivation of maize, make up the majority of the study area. As such, these areas are of little conservation importance and with low ecological integrity. However, they still serve as important foraging area for birds and rodents. These animals in turn attract raptors and predators. Birds that use the cultivated lands for foraging include species such as the Vulnerable Blue Crane (*Anthropoides paradiseus*) and Southern Crowned Crane (*Balearica regulorum*) as well as species such as Francolin (*Francolinus shelleyi*) and Helmeted Guineafowl (*Numida meleagris*).

1.7 Fauna

The project site falls within the Lydenburg Montane Grassland and is known to provide natural habitat for animal species. Although no animal species were noted during the brief site visit, the following animals are known to occur within the surrounding area:

- Grey Rhebok (Pelea capreolus);
- Common duiker (Sylvicapra grimmia);
- Baboon (Papio ursinus);
- Hare species (Lepus sp.);
- Steenbok (Raphicerus campestris)

1.7.1 Birds

The following bird's species are known to occur within the vicinity of Belfast:

- Hamerkop (Scopus umbretta)
- Egyptian Goose (Alopochen aegyptiaca)

1.8 Geology

Lakenvalei Quartzite Formation

The Lakenvalei Quartzite Formation is the uppermost recognizable unit of the Pretoria Group. It is only found in the south-western and eastern part of the area. The unit comprises coarse=grained quartzite and feldspathic quartzites. Intense feldspathisation and the development of leptile is often associated with these rocks where they are in contact with Nebo Granite.

Vermont Formation

The Vermont Formation (Button, 1973), which was sampled approximately 15 km east of Belfast in Mpumalanga from a prospecting pit is mainly comprised of carbonates that have been metamorphosed. The contact metamorphism is the result of several younder intruding diabase sills. The carbonate succession is subdivided into stromatolitic-wave rippled limestones at the base, followed by lower energy flat laminated lime muds and capped by a very fine-grained serpentized marble. The stratigraphic position of the Vermont Formation has been well

defined. It conformably overlies the Magalies berg Quartzite Formation and is in turn conformably overlain by the Lakenvlei Quartzite Formation.

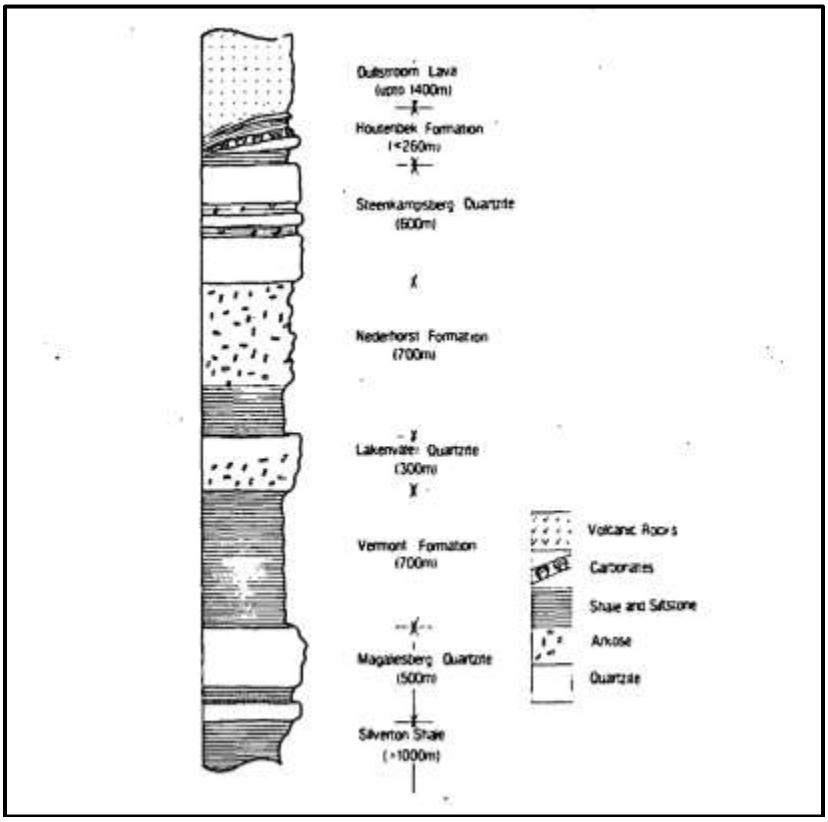


Figure 3-7: Subdivision of the upper part of the Pretoria Group

Vryheid Formation

The Vryheid Formation consists mainly of sandstone and shale with some subordinate coal seams associated with it (SACS, 1980). The sediments of the Vryheid Formation probably represent alluvial plain, upper and lower delta plain deposits with associated shallow lagoon and coastal swamps (Jermy and Bell, 1990). The change from stable margin to subsiding foreland basin confined the Vryheid Formation and the shales of the succession to "pinch-out" to the north. This "pinching-out" results in a gradation of a fluvial valley-fill sequence into sediments of deltaic origin (Van Vuuren, 1981). According to Cadle et al. (1990) the sandstones become interfmgered with the deeper water shales, a so-called "shale-out", approximately 500

km from the present northern basin margin. They state that this is due to rapid basinward facies migration down the southernly dipping paleoslope.

The Formation attains a maximum thickness of 500 m in the deeper part of the basin (SACS, 1980), but in the area of the Eastern Transvaal Coalfield only attains a maximum thickness of 170 m (Greenshields, 1986) and thins to about 80 m in thickness in the proximal basin settings (Cadle et al., 1990). The Vryheid Formation contains 5 major coal seams, with locally developed partings and splits in the coal seams increasing the number to 8, within an 85 m thick stratigraphic horizon (Greenshields, 1986) although this horizon can attain thicknesses up to 160 m in the deeper parts of the basin (Cadle et al., 1990). According to Cidle et al. (1990) all five major seams are still present in the thinnest and most proximal parts of the formation. Greenshields (1986) states that all four cyclothems exhibit a regressive phase where sedimentation occurred in fluvio-deltaic environments, followed by a transgressive phase where sedimentation was typical of both marine and non-marine transgressive shorelines. A seam is therefore associated with clastic successions comprising carbonaceous shale or siltstone, fme to coarse grained sandstone and minor conglomerate (Cadle et al., 1990).

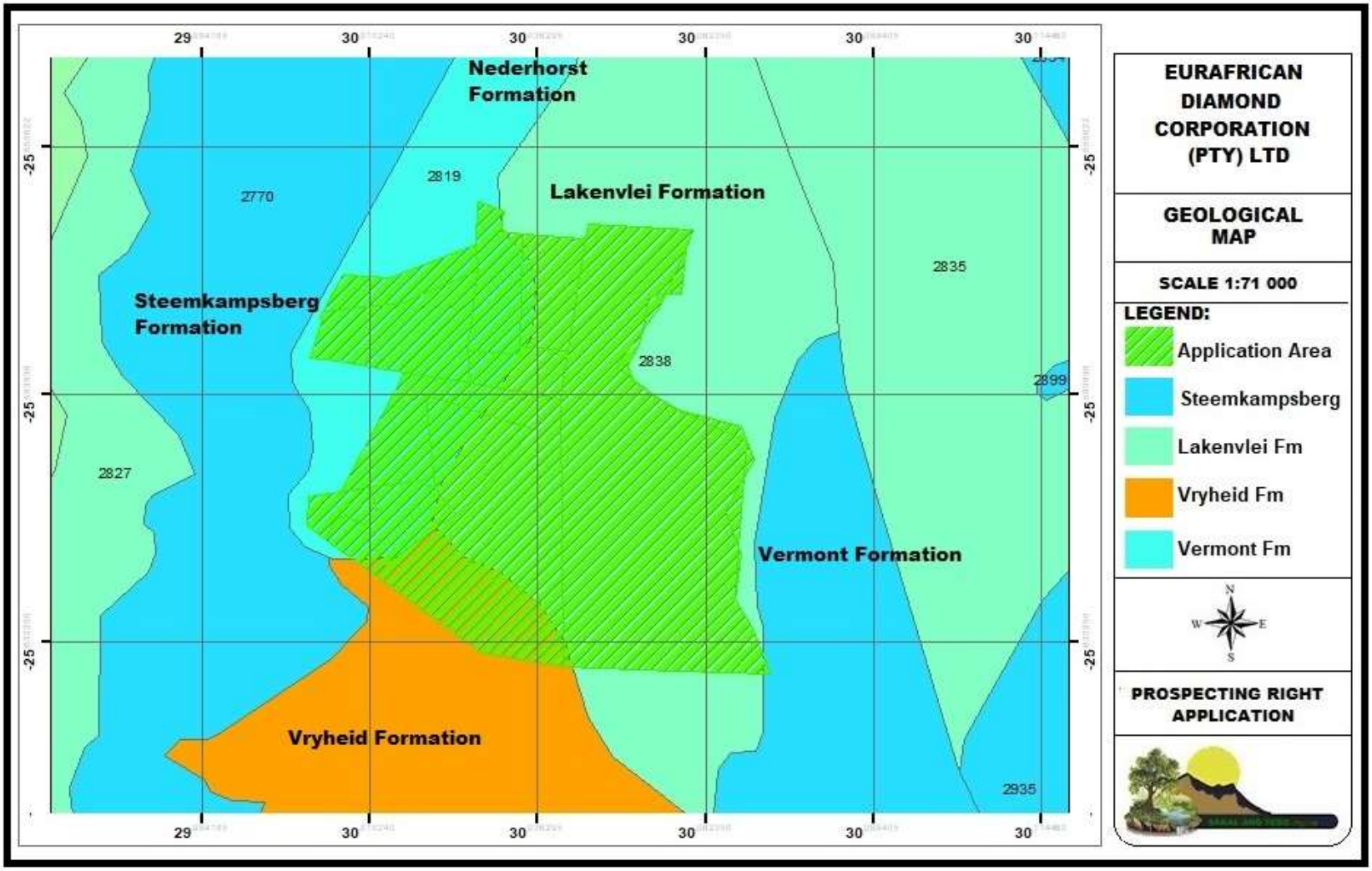


Figure 3-8: Geological Map of the Study Area

1.9 Surface Hydrology

The farm Lakenvalei 355 JT, Langkloof 356 JT, and Vlakplaats 317 JT all falls within Quaternary Catchment B41A (Langspruit Catchment) of the Olifants water management area (WMA). The catchment is bordered on the north by B41B (Steelpoort River Catchment) Quaternary Catchment, on the north-eastern boundary by the Crocodile River Catchment (X21A), to the east by the Elands River Catchment (X21F), on the south-eastern border by the Klein-Komati River Catchment (X11D), on the south-western parts by the Klein-Olifants Catchment River (B12C), and lastly to the west and north-west boundary by the Selons River Catchment (B32B). The B41A catchment covers an aerial extent of approximately 764.5 km^2.

The Steelpoort River, Langspruit, Kleinspruit and Grootspruit (lakenvleispruit) are the most important watercourse in the B41A catchment. The Grootspruit and Kleinspruit forms a tributary of the Langspruit about 2 km south-west of portion 3 of the farm Langkloof 356 JT, whilst the Langspruit recharges the Steelpoort River on the northern boundary of the B41A Quaternary Catchment. Kleinspruit traverse through the farm Vlakplaats 317 JT and Langkloof 356 JT, while the Grootspruit straddles the farm Lakenvalei 355 JT and Langkloof 356 JT. These watercourses are perennial. Belfast Dam is located approximately 4 km south-west of the proposed project site.

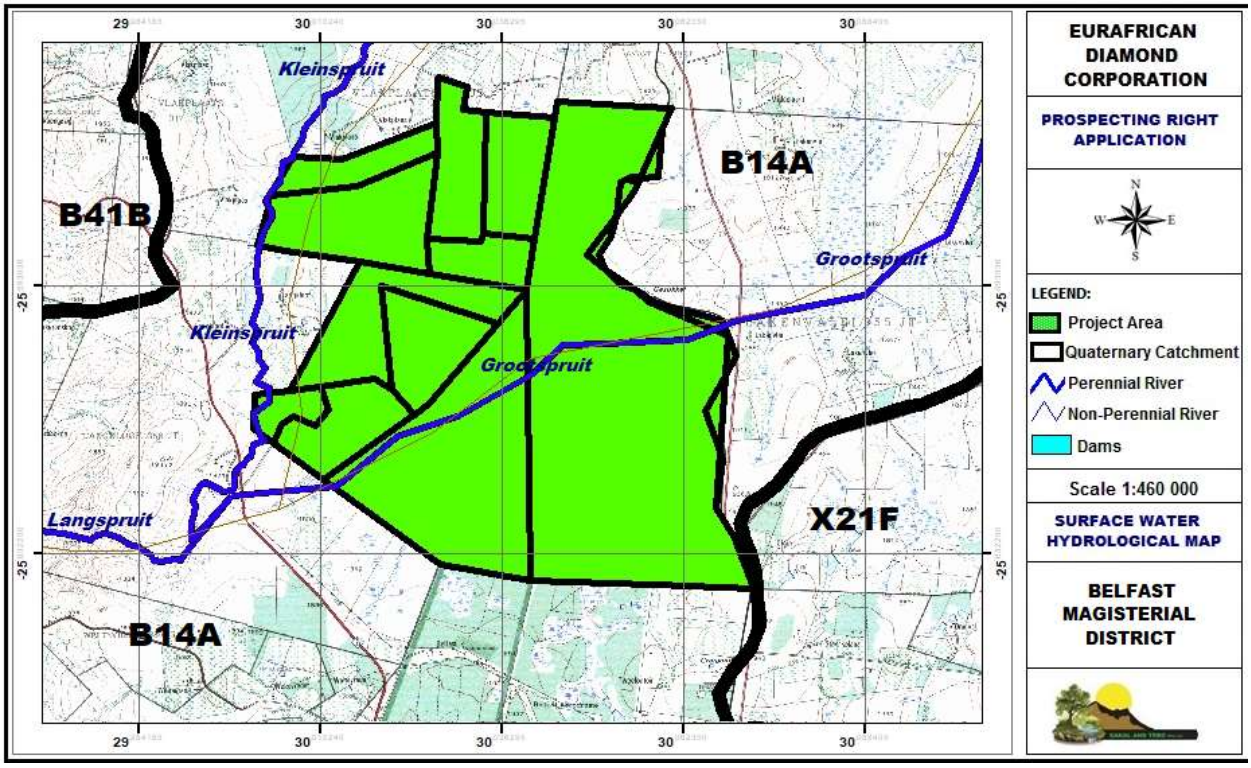


Figure 3-9: Hydrological Map of the Study Area

1.10 General Hydrogeology

Karoo Sequence

Groundwater derived from the Dwyka formation is likely to be of poor quality. Sandstone units, especially if fractured, provide viable aquifers. Contact zones between the sandstone and shale are also good potential areas of groundwater. Secondary permeability may be imparted to the rocks by weathering, fracturing, faulting and dyke intrusions. Dolerite dykes and sills are known to improve the yield in general.

1.11 Water Management Area

The project area falls within Quaternary Catchment B41A (Langspruit Catchment) of the Olifants water management area (WMA).

Olifants Water Management Area

The project site is situated within the Olifants Water Management Area (WMA). The Olifants WMA falls within the Limpopo River Basin, which is shared by South Africa, Botswana, Zimbabwe and Mozambique. This WMA comprises of Sub-WMA`s, that is, the Upper Olifants, the Steelpoort, the Middle Olifants, and Lower Olifants. The Olifants Catchment covers about 54 570 km2 and is considered to be the most stressed WMA in South Africa due to high water consumption from economic activities such as mining, irrigation, power generation, and urban development.

The prospecting right application area is lies in the Upper Olifants of the O-WMA. The Upper Olifants is considered to be the most stressed water management area due to high water consumption (mining, industry and agriculture).

Major Rivers within the Upper Olifants WMA include the Olifants River, Wilge River, Steelpoort River, and Elands River. The provision of water to meet ecological requirements is one of the controlling factors in the management of water resources throughout the O-WMA.

Several dams exist within the O-WMA, i.e.:

- Witbank and Middelburg dams, which meet the urban and industrial demands of the Witbank and Middelburg centres;
- Bronkhorstspruit Dam which supplies Bronkhorstspruit catchment with water for domestic and industrial use. There is also a supply for irrigation;
- Rhenosterkop Dam which supply water for domestic use and irrigation;
- Loskop Dam which is used primarily to supply irrigation water to the Loskop Irrigation Board.

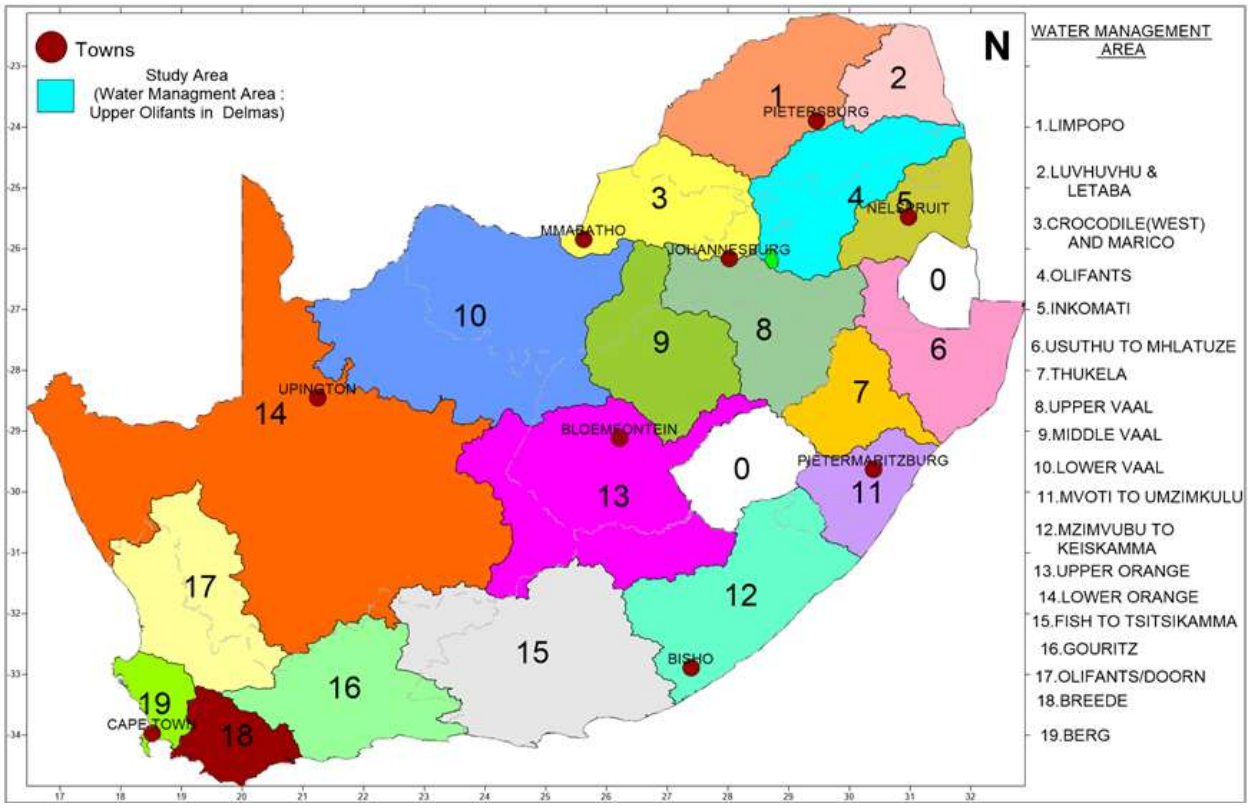


Figure 3-10: Olifants WMA Locality Map

1.12 Water Quality Objectives

There are currently no published water quality objectives (WQOs) for Quaternary Catchment B41A (Langspruit Catchment).

1.13 Air Quality

The types of soil found on site include the Hutton, Avalon, and Arcadia soils. The effective depth of the Hutton and Avalon soils exceed 300 mm inclusive of the Orthic A-Horizons, Soft Plinthic B, Yellow and Red Apedalic B-Horizons. These soil forms are usually characterized by a neutral pH values (between 5.3 and 7.2) and low electric conductivity values. Under these conditions plant available nitrogen (15-20mg/kg), phosphorus (10 – 15mg/kg) and potassium (>50mg/kg) are readily available for plant uptake and sustainable plant growth. The Orthic A-Horizon is typically characterised by a low dense structure and texture distribution of approximately 65% sand, 20% silt and 15% clay with drainage properties in order of 10mm/h.

Table 3—8: Soil Description within Belfast Magisterial District

Soil Type	Agricultural Potential	
	Irrigation	Dry Land
Hutton	High	High
Avalon	High	Medium
Arcadia	Low	Low

1.14 Air Quality

Potential sources of dust may be caused by moving vehicles and earthworks during drilling. Dust could also emanate from mining activities on the adjoining area. Parts of the region suffer from poor air quality and elevated concentrations of 'criteria pollutants' due to concentration of coal mining operations.

Smaller air emissions sources categories include:

- Motor vehicles
- Biomass burning (wood fires)
- sand and coal mining and cross-boundary transport of pollutants

Effects of poor air dispersion conditions in winter are more evident in this area.

1.15 Sites of archaeological and cultural interest

No sites of archaeological or cultural interested were identified on site during a site reconnaissance visit. Property owners will be provided with a registration and comment sheet in order to raise or highlighted cultural or archaeological features that may be occurring on site. The project area is comprised of open-spaces and is currently being utilized for crop cultivation. As a matter precaution, should any further information confirm existence of such sites, steps will be taken to put measures in place for preservation thereof in line with the National Heritage Resources Act, 1999 (Act No. 25 of 1999). The South African Heritage Resources Agency (SAHRA) will also be notified of such findings.

(b) Description of the current land uses.

Based on the site reconnaissance visit conducted on the **7th of January 2019**, the property portions included in the Prospecting Right application are currently utilized for crop cultivation, cattle grazing, farming dwellings (homested), and large parts of the application area is still natural (open spaces). Refer to the current land use maps below.

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

Based on the site reconnaissance visit conducted on the **7th of January 2019**, the property portions included in the Prospecting Right application are currently utilized for crop cultivation, cattle grazing, farming dwellings (homested), and large parts of the application area is still natural (open spaces). Kleinspruit traverse through the farm Vlakplaats 317 JT and Langkloof 356 JT, while the Grootspruit straddles the farm Lakenvalei 355 JT and Langkloof 356 JT. Numerous attenuation dams exist on site and a channeled valley bottom wetland has formed along the Kleinspruit and Grootspruit. The R33 main road straddles the farm Langkloof 356 JT, whilst the 540 main road crosses over the farm Lakenvalei 355 JT.

(d) Environmental and current land use map.

(Show all environmental, and current land use features)

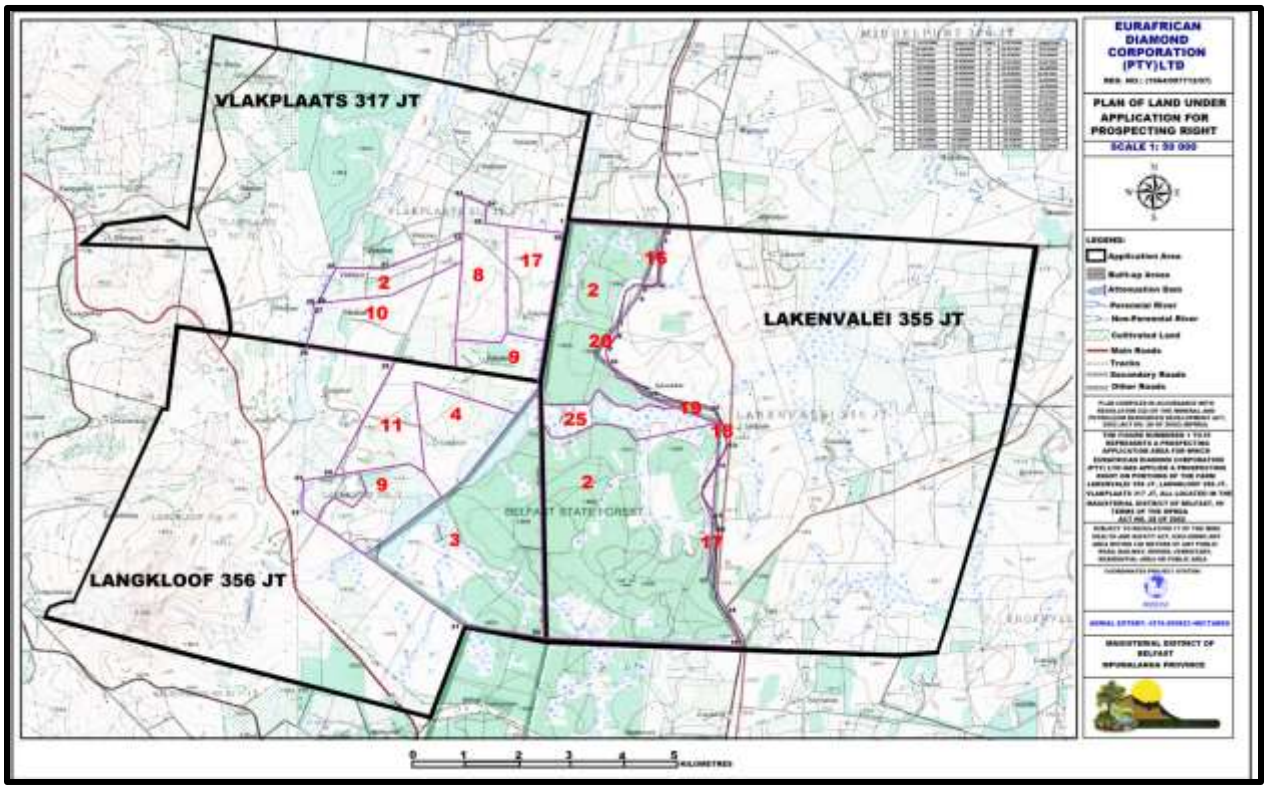


Figure 3-11: Land Use Map and Site Photographic Images for the Project Area

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

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

The potential environmental and social impacts include:

- Noise caused by the drilling rig travelling to and being established on each site, the diesel engine driving the drill, vehicles going to and from the drilling site and the voices of the drilling crew;
- Dust generated by the drilling operation and vehicles travelling gravel roads;
- Disturbance of soil from drill pad preparation and compaction;
- Disturbance of flora and fauna
- Disturbance or damage to cultural and heritage resources such as graves or historical features;
- Potential contamination of soil, surface water and groundwater with hydrocarbons (oil, diesel, grease, etc);
- Friction between local residents/landowners and prospecting personnel;
- If drilling is undertaken close to any residence, lodge, guest house or game farm, receptors may experience the noise, the visual appearance, the associated traffic and the presence of the drilling crew on the property as intrusive;
- It is not anticipated that the prospecting activities will have any lasting material effects on existing land uses on the prospecting areas or any other areas in their vicinity.

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

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

Please refer to Impact Assessment Methodology described below in Section I.

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

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

The majority of the prospecting activities are non-invasive and hence will have no environmental or social impact. The planned invasive activities involves development of trenches and drilling of a maximum of 7 core boreholes per target area will have a minimal environmental and social impact as each drill site will be confined to an area of approximately 0.01 hectares (total area for planned invasive activities 0.53 ha). This needs to be viewed in the context of the entire Prospecting Right application area under application which covers approximately 4376.005923 ha.

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

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).

Please refer to Impact Assessment Methodology described below in Section I.

ix) Motivation where no alternative sites were considered.

The proposed prospecting right area is targeted as it is known for diamondiferous deposits. The proposed prospecting license area is therefore regarded as the preferred site and alternative site have not been considered.

x) Statement motivating the alternative development location within the overall site.
(Provide a statement motivating the final site layout that is proposed)

The prospecting phase is dependent on the results of the preceding phase. The location and layout of drill sites will be determined based on information derived from the non-invasive desktop and geophysical surveys. Proposed drill sites will be selected so as to avoid known heritage sites, water courses, dwellings and infrastructure where possible.

I) Full description of the process undertaken to identify, assess and rank the impacts and risks the activity will impose on the preferred site (In respect of the final site layout plan) through the life of the activity.
(Including (i) a description of all environmental issues and risks that were identified during the environmental impact assessment process and (ii) an assessment of the significance of each issue and risk and an indication of the extent to which the issue and risk could be avoided or addressed by the adoption of mitigation measures.)

The impact assessment methodology is adopted from the Department of Environmental Affairs (DEA) Environmental Risk Assessment (ERA) approach. The ERA method assesses the significance of potential impacts in terms of Occurrence (Probability and Duration) and Severity (Magnitude/Intensity and Scale). The combined effect of these two aspects defines the Significance of each potential impact, as expressed below:

Significance Rating (SR) = (Magnitude + Duration + Scale) x Probability

Ratings for the other variables in the Significance Rating formula are determined from the tabulation below.

Table 3—9: Impact Rating Methodology

Probability (P)	**Duration (D)**
5 – Definite / don't know	5 – Permanent
4 – High probable	4–Long-term (ceases with operational life)
3 – Medium probability	3 – Medium-term (6 – 15 years)

Probability (P)	Duration (D)
2 – low probability	2 – Short-term (0 – 5 years)
1 – Improbable	1 – Immediate
0 – None	
Scale (S)	**Magnitude (M)**
5 – International	10 – Very high / Don't know
4 – National	8 – High
3 – Regional	6 – Moderate
2 – Local	4 – Low
1 – Site	2 – Minor
0 – None	

The significance of the impact is then categorised as Low, Medium or High depending on the Total Score for the Significance Rating. The categorisation is described in tabulation below.

Table 3—10: Impact Categorisation

Rating (SR)	Category
SR>60	High (A)
SR 30-60	Medium (B)
SR<30	Low (C)

The approach for identifying potential impacts is as follows:

- Review of the Project Description to understand operations, processes and activities, as well as services and infrastructure throughout the entire project lifecycle (i.e. Planning, Construction and Operation, Decommissioning);
- Study environmental context and possible exposure pathways;
- Identify possible impacts on water resources and other pertinent environmental media using Environmental Risk Assessment (ERA) approach;
- Determine significance of each impact

j) Assessment of each identified potentially significant impact and risk

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

Table 3—11: Impact Assessment and Management Type

NAME OF ACTIVITY	POTENTIAL IMPACTS (INCLUDING CUMULATIVE)	ASPECTS AFFECTED	PHASE	SIGNIFICANCE	MITIGATION TYPE
Site establishment activities: • Vegetation clearance • Topsoil stripping and stockpiling • Drill pad compaction • Erection of office, toilets, water tanker, fuel tanker, core storage. • Vehicle movements • Waste management	Cultural and heritage	Destruction or loss of cultural and heritage resources	Construction phase	**18 L**	All Eurafrican Diamond Corporation personnel including contractors will be made aware of all the locations of identified heritage resources or features, the necessity of avoiding them. A safe distance of at least 50 metres will be maintained between the identified heritage resource and prospecting activities; Where necessary, directional drilling will be practised to assess ore reserves situated below identified heritage resources. A heritage impact assessment

NAME OF ACTIVITY	POTENTIAL IMPACTS (INCLUDING CUMULATIVE)	ASPECTS AFFECTED	PHASE	SIGNIFICANCE	MITIGATION TYPE
					study by qualified archaeologist is will be carried out prior to any site activities on undisturbed land or access routes. If any heritage resources are discovered as a result of the prospecting activities, such activities will cease with immediate effect and a qualified archaeologist will be commissioned to assess their significance and determine appropriate mitigation measures.
	Noise	Noise generation	Construction phase	**30 M**	Construction/setup, operational and decommissioning activities will be limited to daylight hours on Mondays to Saturdays and no activities on Sundays and public holidays; Separation of distance of minimum 500 m to be maintained between drill sites and dwellings

NAME OF ACTIVITY	POTENTIAL IMPACTS (INCLUDING CUMULATIVE)	ASPECTS AFFECTED	PHASE	SIGNIFICANCE	MITIGATION TYPE
					(homesteads); Noise abatement equipment, such as mufflers on diesel engines, will be maintained in good condition;
	Visual	Visual intrusion	Construction phase	**27 (L)**	The drilling rig and other visually prominent items on the site will be located in consultation with the landowner; Make use of existing vegetation as far as possible to screen the prospecting operations from view; and If necessary, the operations can be screened from view by erecting a shade cloth barrier.
	Dust fall	Dust fall and nuisance from activities	Construction phase	**36 (M)**	Dust suppression will be applied to ensure that no visible dust is raised by any of the prospecting operations;

NAME OF ACTIVITY	POTENTIAL IMPACTS (INCLUDING CUMULATIVE)	ASPECTS AFFECTED	PHASE	SIGNIFICANCE	MITIGATION TYPE
					A minimum distance of 500 m will be maintained between drill sites and dwellings; Low vehicle speeds will be enforced on unpaved (gravel) surfaces.
	Soil and vegetation	Soil and vegetation disturbance from drill pad preparation	Construction phase	**44 (M)**	The soil disturbance and clearance of vegetation at drill pad areas will be limited to the absolute minimum required; An ecology screening survey will be required on undisturbed land and access routes in order to identify any red data / species of concern prior to any site activities being undertaken; Disturbed areas will be revegetated with locally indigenous species as soon as

NAME OF ACTIVITY	POTENTIAL IMPACTS (INCLUDING CUMULATIVE)	ASPECTS AFFECTED	PHASE	SIGNIFICANCE	MITIGATION TYPE
					possible.
	Soil, surface water and groundwater	Soil, surface water and groundwater contamination from hydrocarbons	Construction phase	**27 (L)**	Proper vehicle maintenance; Refuelling will be done with care to minimise the chance of spillages; A spill kit will be available on each site where prospecting activities are in progress; Any spillages will be cleaned up immediately; Drilling muds will contained in lined drill sumps and this material will be removed from site and disposed in a licensed disposal facility.
	Social	Friction between local residents/ property	Construction phase	**60 (M)**	All prospecting personnel will be made aware of the local conditions and sensitivities in the

NAME OF ACTIVITY	POTENTIAL IMPACTS (INCLUDING CUMULATIVE)	ASPECTS AFFECTED	PHASE	SIGNIFICANCE	MITIGATION TYPE
		owners and construction personnel			prospecting area and the fact that some of the local residents may not welcome the prospecting activities in the area; There will be a strict requirement to treat local residents with respect and courtesy at all times.
Planned invasive drilling activities: • Drilling • Trenching • Drill maintenance and refuelling • Core sample collection and storage • Vehicle movements • Waste generation and management	Cultural and heritage	Destruction or loss of cultural and heritage resources	Operational phase	**18 L**	All Eurafrican Diamond Corporation personnel including contractors will be made aware of all the locations of identified heritage resources or features, the necessity of avoiding them. A safe distance of at least 50 metres will be maintained between the identified heritage resource and prospecting activities; Where necessary, directional drilling will be practised to assess

NAME OF ACTIVITY	POTENTIAL IMPACTS (INCLUDING CUMULATIVE)	ASPECTS AFFECTED	PHASE	SIGNIFICANCE	MITIGATION TYPE
					ore reserves situated below identified heritage resources. A heritage impact assessment study by qualified archaeologist is will be carried out prior to any site activities on undisturbed land or access routes. If any heritage resources are discovered as a result of the prospecting activities, such activities will cease with immediate effect and a qualified archaeologist will be commissioned to assess their significance and determine appropriate mitigation measures.
	Noise	Noise generation	Operational phase	**48 M**	Operational and decommissioning activities will be limited to daylight hours on Mondays to Saturdays and no activities on Sundays and public holidays; Separation of distance of minimum 500 m to be maintained

NAME OF ACTIVITY	POTENTIAL IMPACTS (INCLUDING CUMULATIVE)	ASPECTS AFFECTED	PHASE	SIGNIFICANCE	MITIGATION TYPE
					between drill sites and dwellings (homesteads); Noise abatement equipment, such as mufflers on diesel engines, will be maintained in good condition;
	Visual	Visual intrusion	Operational phase	**30 (M)**	The drilling rig and other visually prominent items on the site will be located in consultation with the landowner; Make use of existing vegetation as far as possible to screen the prospecting operations from view; The operations will be screened from view by erecting a shade cloth barrier.
	Dust fall	Dust fall and nuisance from activities	Operational phase	**27 (L)**	Dust suppression will be applied to ensure that no visible dust is raised by any of the prospecting operations; A minimum distance of 500 m will

NAME OF ACTIVITY	POTENTIAL IMPACTS (INCLUDING CUMULATIVE)	ASPECTS AFFECTED	PHASE	SIGNIFICANCE	MITIGATION TYPE
					be maintained between drill sites and dwellings; Low vehicle speeds will be enforced on unpaved (gravel) surfaces.
	Soil and vegetation	Soil and vegetation disturbance from drill pad preparation	Operational phase	**55 (M)**	The soil disturbance and clearance of vegetation at drill pad areas will be limited to the absolute minimum required; An ecology screening survey will be required on undisturbed land and access routes in order to identify any red data / species of concern prior to any site activities being undertaken; Disturbed areas will be revegetated with locally indigenous species as soon as possible.
	Soil, surface	Soil, surface	Operational	**24 (L)**	Proper vehicle maintenance;

NAME OF ACTIVITY	POTENTIAL IMPACTS (INCLUDING CUMULATIVE)	ASPECTS AFFECTED	PHASE	SIGNIFICANCE	MITIGATION TYPE
	water and groundwater	water and groundwater contamination from hydrocarbons	phase		Refuelling will be done with care to minimise the chance of spillages; A spill kit will be available on each site where prospecting activities are in progress; Any spillages will be cleaned up immediately; Drilling muds will contained in lined drill sumps and this material will be removed from site and disposed in a licensed disposal facility.
	Social	Friction between local residents/ property owners and construction	Operational phase	**60 (M)**	All prospecting personnel will be made aware of the local conditions and sensitivities in the prospecting area and the fact that some of the local residents may not welcome the prospecting

NAME OF ACTIVITY	POTENTIAL IMPACTS (INCLUDING CUMULATIVE)	ASPECTS AFFECTED	PHASE	SIGNIFICANCE	MITIGATION TYPE
		personnel			activities in the area; There will be a strict requirement to treat local residents with respect and courtesy at all times.
ASSESSMENT OF POTENTIAL CUMULATIVE IMPACTS					
	Noise	Noise generation	Construction and operational phase	**40 (M)**	As above
	Visual	Visual intrusion	Construction and operational phase	**30 (M)**	As above
	Dust fall	Dust fall and nuisance from activities	Construction and operational phase	**27 (L)**	As above
	Soil, surface water and groundwater	Soil, surface water and groundwater contamination from hydrocarbons	Construction and operational phase	**30 (M)**	As above

k) Summary of specialist reports.

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

LIST OF STUDIES UNDERTAKEN	RECOMMENDATIONS OF SPECIALIST REPORTS	SPECIALIST RECOMMENDATIONS THAT HAVE BEEN INCLUDED IN THE EIA REPORT (Mark with an X where applicable)	REFERENCE TO APPLICABLE SECTION OF REPORT WHERE SPECIALIST RECOMMENDATIONS HAVE BEEN INCLUDED.
No specialist studies have been undertaken. A desktop analysis has been followed that informs the compilation of this assessment.	**N/A**	**N/A**	**N/A**

Attach copies of Specialist Reports as appendices: **N/A**

l) Environmental impact statement

(i) Summary of the key findings of the environmental impact assessment;

The majority of the prospecting activities are non-invasive and hence will have no environmental or social impact. Planned invasive activities entail development of trenches and drilling of a maximum of 7 exploration boreholes which will have a minimal environmental and social impact as each drill site will be confined to an area of approximately 0.01 hectares. This needs to be viewed in the context of the entire Prospecting Right application area which covers approximately 4376.005923 hectares.

The assessed impact ratings for both construction and operational phase are as follows:

Environment and socio-economic Aspects	Construction Phase	Operational Phase
Cultural and heritage	**18 (L)**	**18 (L)**
Noise	**30 (M)**	**48 (M)**
Visual	**27 (L)**	**30 (M)**
Dust fall	**36 (M)**	**27 (L)**
Disturbance of soil and vegetation	**44 (M)**	**55 (M)**
Contamination of soil, surface water(rivers), and groundwater	**27 (L)**	**24 (L)**
Friction between local residents and Eurafrican Diamond Corporation (including its contractors	**60 (M)**	**60 (M)**

All of the identified impacts will occur for a limited time and the extent of the impacts will be localised. All of the identified impacts can be suitably mitigated with the overall residual impact ratings being **Low**.

After exploration activities have been decommissioned, the prospecting area will be rehabilitated to pre-drilling conditions/status and the negative environmental and socio-economic impacts will cease to occur.

(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.

Refer to **Appendix H** for an environmental sensitivity map including the preferred Prospecting Right application area.

(iii) Summary of the positive and negative impacts and risks of the proposed activity and identified alternatives.

- Increased ambient noise levels resulting from the planned invasive drilling activities and increased traffic movement during all prospecting phases;
- Loss or destruction of heritage and cultural resources (features) due to the planned invasive activities such as drilling and camp site preparation
- Increased vehicle movements within the area resulting in possible destruction and disturbance of flora and fauna;
- Poor access control to farms which may impact on cattle and sheep movement and grazing practices;
- Potential visual impacts caused by drilling activities;
- Influx of persons (job seekers) to site as a result of the proposed project and the possible resultant increase in opportunistic crime;
- Potential water (surface and groundwater) and soil pollution impacts resulting from hydrocarbon spillages;

m) 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 the EMPr will be to:

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

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

- Heritage/cultural resources can be managed by avoidance of known resources and though consultation with landowners/stakeholders. Contractor personnel will also be briefed of these sensitivities and consequences of any damage/removal of such features;
- Noise generation can be managed through consultation and restriction of operating hours and by maintaining equipment and applying noise abatement equipment if necessary;
- Visual intrusion can be managed through consultation with landowners/stakeholders and by suitable siting of drill pads and use of screens (natural vegetation or shade cloth etc);
- Dust fall can be managed by application of wet suppression on exposed surfaces and use of water during drilling;
- Soil disturbance and clearance of vegetation at drill pad areas will be limited to the absolute minimum required and disturbed areas will be re-vegetated with locally indigenous species as soon as possible;
- Soil, surface water and groundwater contamination by hydrocarbons can be managed by conducting proper vehicle maintenance, refuelling with care to minimise the chance

of spillages and by having a spill kit available on each site where prospecting activities are in progress;

- Social friction with landowners can be managed by employing strong, experienced personnel with proven skills in public consultation and conflict resolution during stakeholder consultation phases. All prospecting personnel will be made aware of the local conditions and sensitivities in the prospecting area and that they treat local residents with respect and courtesy at all times.

n) Aspects for inclusion as conditions of Authorisation.

Any aspects which must be made conditions of the Environmental Authorisation

It is the opinion of the EAP that the following conditions should form part of the authorisation:

- Maintain a buffer of 100m from a water course;
- Maintain a minimum 500m (preferably 1000m) buffer from any infrastructure or dwelling;
- Conduct a heritage survey of the identified drill sites and access routes once these are known and prior to any activities being undertaken at these sites;
- Conduct an ecology survey of any identified drill sites and access routes that may fall within any critical endangered ecosystems as reflected on the map contained in **Figure 3-7**; and
- Landowners and land occupiers should be engaged (re-consulted) at least 1 month prior to any site activities being undertaken once drill sites are known.

o) Description of any assumptions, uncertainties and gaps in knowledge.

Which relate to the assessment and mitigation measures proposed

The following assumptions, uncertainties and gaps are applicable to this proposed project:

- The interested and affected parties consultation is not yet complete as the proposed project is currently in the draft BAR stage;
- Feedback from the DWS is not yet available
- Feedback from SAHRA is not yet available;

- Details regarding the presence and status of land claims from the Land Claims Commissioner are not yet available
- No Heritage Impact Assessment was undertaken;
- No detailed site layout plan is available due to the nature of the prospecting activities which are dependent on the results of the planned non-invasive activities (e.g. geo-physical survey);

p) Reasoned opinion as to whether the proposed activity should or should not be authorised.

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

It is the opinion of the EAP that the activity may be authorized.

Eurafrican Diamond Corporation intends to investigate a cluster of small kimberlite pipes within the Lakenvlei Formation, Nederhorst Formation, Vryheid Formation and Vermont Formation. Approximately 7 exploration boreholes and 4 trenches will be developed. Prospecting will be carried out in 4 phases over a period of 4 years (48 months), comprising of invasive and non-invasive planned activities, including pre-feasibility assessments

The site is therefore regarded as the preferred site and alternative sites are not considered.
The option of not approving the activities will result in a significant loss to valuable information regarding the mineral status (in terms of diamonds) present on these properties. In addition to this, should economical reserves be present and the applicant will not have the opportunity to prospect, the opportunity to utilize these reserves.

ii) Conditions that must be included in the authorisation

Any aspects which must be made conditions of the Environmental Authorisation

It is the opinion of the EAP that the following conditions should form part of the authorisation:

- Maintain a buffer of 100m from a water course;
- Maintain a minimum 500m (preferably 1000m) buffer from any infrastructure or dwelling;
- Conduct a heritage survey of the identified drill sites and access routes once these are known and prior to any activities being undertaken at these sites;

- Conduct an ecology survey of any identified drill sites and access routes that may fall within any critical endangered ecosystems as reflected on the map contained in **Figure 3-7**; and
- Landowners and land occupiers should be engaged (re-consulted) at least 1 month prior to any site activities being undertaken once drill sites are known.

q) Period for which the Environmental Authorisation is required.

The Prospecting Right has been applied for a period of four (4) years, The Environmental Authorisation should therefore be granted for 4 years.

r) Undertaking

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

An undertaking is provided at the end of this report.

s) Financial Provision

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

A financial provision of approximately **R63 850.5415 (VAT inclusive)** has been budgeted for rehabilitation of negative environmental impacts associated with the planned prospecting programme as shown in the tabulation below.

Table 3—12: Budgetary Costing for the Financial Provision for Rehabilitation of Negative Environmental Impacts

CALCULATION OF THE QUANTUM							
Applicant:	Eurafrican Diamond Corporation (Pty) Ltd				Ref No.:	MP30/5/1/1/2/15424PR	
Evaluators:	Sakal and Tebo (Pty) Ltd				Date:	January 2019	
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	11,57	1	1	0
2 (A)	Demolition of steel buildings and structures	m2	0	161,17	1	1	0
2(B)	Demolition of reinforced concrete buildings and structures	m2	0	237,51	1	1	0
3	Rehabilitation of access roads	m2		28,84	1	1	0
4 (A)	Demolition and rehabilitation of electrified railway lines	m	0	279,92	1	1	0
4 (A)	Demolition and rehabilitation of non-electrified railway lines	m	0	152,68	1	1	0
5	Demolition of housing and/or administration facilities	m2	0	322,33	1	1	0
6	Opencast rehabilitation including final voids and ramps	ha	0	164050,47	1	1	0
7	Sealing of shafts adits and inclines	m3	0	86,52	1	1	0
8 (A)	Rehabilitation of overburden and spoils	ha	0	112646,86	1	1	0
8 (B)	Rehabilitation of processing waste deposits and evaporation ponds (non-polluting potential)	ha	0	140299,62	1	1	0
8 (C)	Rehabilitation of processing waste deposits and evaporation ponds (polluting potential)	ha	0	407496,61	1	1	0
9	Rehabilitation of subsided areas	ha	0	94324,78	1	1	0
10	General surface rehabilitation	ha	0,52	89235,31	1	1	45510,0081
11	River diversions	ha	0	89235,31	1	1	0
12	Fencing	m	0	101,79	1	1	0
13	Water management	ha	0	33929,78	1	1	0
14	2 to 3 years of maintenance and aftercare	ha	0	11875,42	1	1	0
15 (A)	Specialist study	Sum	0			1	0
15 (B)	Specialist study	Sum				1	0
					Sub Total 1		45510,0081

1	Preliminary and General		5461,200972		**weighting factor 2**	1	5461,200972	
2	Contingencies		4551,00081				4551,00081	
					Subtotal 2		55522,21	
					VAT (15%)		8328,3315	
					Grand Total		**63850,5415**	

i) Explain how the aforesaid amount was derived.

The drilling contractor will be responsible for rehabilitating the drill pad once the drilling activities have been completed at each exploration hole. This is typically a contractual arrangement between Eurafrican Diamond Corporation and the drilling contractor employed to implement drilling activities which include construction / set-up of drill pad, operational drilling activities and the rehabilitation of the drill site after drilling has ceased.

The financial guarantee was calculated using the DMR official **Financial Quantum Calculator**.

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

(Confirm that the amount, is anticipated to be an operating cost and is provided for as such in the Mining work programme, Financial and Technical Competence Report or Prospecting Work Programme as the case may be).

The amount required to finance the prospecting activities will amount to **R545 000.00** (five hundred forty five thousand rands and zero cents). Financing will be sourced from the capital expenditure as planned by the Eurafrican Diamond Corporation. This capital will come from the treasury of the company.

It should be noted that the current expenditure provided for in the Prospecting Works Programme (PWP) does not include the calculated financial provision as included in this draft Basic Assessment Repot, as these values were not available at the time of the submission of the PWP.

ACTIVITY	YEAR 1 Expenditure (R')	YEAR 2 Expenditure (R')	YEAR 3 Expenditure (R')	YEAR 4 Expenditure (R')	YEAR 5 Expenditure (R')
Phase 1 (Months 0 to 12)					
Literature surveys	R 7 000.00				
Desk top studies	R 20 000.00				
Geophysical or geotechnical work	R 24 000.00				

ACTIVITY	YEAR 1 Expenditure (R')	YEAR 2 Expenditure (R')	YEAR 3 Expenditure (R')	YEAR 4 Expenditure (R')	YEAR 5 Expenditure (R')
Research and target identification	R 10 000.00				
Phase 2 (Months 13 to 24)					
Invasive work such as trenching, pitting, drilling and excavations		R 85 000.00			
Sampling work		R 10 000.00			
Laboratory work		R 40 000.00			
Analytical and modelling work		R 10 000.00			
Infill work		R 30 000.00			
Phase 3 (Months 25 to 36)					
Invasive work (drilling)			R 35 000.00		
Laboratory analysis			R 20 000.00		
Phase 4 (Months 37 to 48)					
EIA and EMP for Mining Right application				R 254 000.00	
Annual Total	**R 61 000.00**	**R 175 000.00**	**R 55 000**	**R 254 000**	**R 0.000**
			Total Budget		**R545, 000.00**

t) Specific Information required by the competent Authority

i) 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 the results of Investigation, assessment, and evaluation of the impact of the mining, bulk sampling or alluvial diamond prospecting on any directly affected person including the landowner, lawful occupier, or, where applicable, potential beneficiaries of any land restitution claim, attach the investigation report as an **Appendix** .

A full consultation process is being implemented during the environmental authorisation process. The purpose of the consultation is to provide affected persons the opportunity to raise any potential concerns. As part of the consultation process the land claims commissioner will be contacted to identify if there are any claims on land covered by this application.

Concerns raised will be captured and addressed within the public participation section of this report once finalised and submitted to the authorities. As the final positioning of the drill sites cannot be confirmed without completion of phase 1 of the prospecting programme, a recommendation has been made to ensure that the directly affected landowners are re-consulted a minimum of 1 month prior to implementing invasive activities (drilling). The purpose of the re-consultation is to ensure that socio-economic impacts on directly affected persons can be raised and where possible addressed.

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

Due to the fact that the positioning of the drill sites will only be determined after phase 1 of the prospecting works programme, and in order to ensure that there is no impact on unknown heritage sites, a recommendation has been made to undertake a heritage survey of the drill

sites once these are known in order to identify any cultural or heritage resources of significance. Mitigation measures proposed in this report include that no drill site will be located within 50 m of any identified heritage site (which may occur during the prospecting programme). Furthermore, from desktop studies undertaken, no heritage states have been identified to occur in the area; however these need to be confirmed by site surveys.

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

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

The proposed prospecting activities (including the drilling) requested as part of this authorisation is the only current viable manner in which a mineral resource can be identified and used to generate a SAMREC compliant resource which is a minimum requirement to determine whether it is economically viable to invest in mining activities in the area.

PART B

ENVIRONMENTAL MANAGEMENT PROGRAMME REPORT

1. Draft Environmental Management Programme

a) Details of the EAP

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

The requirements for the provision of the details and expertise of the EAP are included in Part A as section 1(a)

b) Description of the Aspect 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).

Refer to Part A, Section 1(h) of this Basic Assessment Report.

c) Composite Map

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

This has already been covered. Refer to Part A as well as **Appendix D** of this document.

d) Description of impact management objectives including management statements

The main management objectives for the invasive drilling activities are:

- To leave site in a safe state for humans and animals.
- To ensure that the water resources (surface and ground) are not affected by both prospecting and rehabilitation activities.
- To ensure that identified features and infrastructure are left intact after the operations have ceased.
- To promote indigenous vegetation growth suitable for animals that graze over the disturbed areas on the site.

- To ensure removal of all surface infrastructures from the site.
- To ensure cleaning and rehabilitation of all access roads and pathways to fit the current land use.
- To ensure that top-soiling of disturbed surfaces.
- To leave the rehabilitated ground in a state blending with the surrounding environment.
- Ensuring that sensitive environments are left undisturbed and the status quo remains or, if feasible, they are even better off than prior to the operations

i. Determination of closure objectives

(ensure that the closure objectives are informed by the type of environment described)

After prospecting is complete at each drill site, will be rehabilitated to be safe, stable, re-vegetated, non-polluting, non-eroded and in a state that is suitable for agreed post-closure land use.

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

Process water supply for the operation will sourced from water service providers and will be carted onto the site in a tanker. A 2000 ℓ water cart will be adequate for the size of this operation. The water will be used for dust suppression of access roads. Dust suppression will be conducted as and when necessary.

iii. Has a water use licence has been applied for?

None of the proposed planned prospecting activities falls within the ambit of section 21 water uses in terms of the National Water Act, 1998 (Act No. 36 of 1998). Therefore, a water use licence application is not required for this proposed prospecting programme.

iv. Impacts to be mitigated in their respective phases

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

Table 1—1: Impacts to be Mitigated

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 mining**,- excavations, blasting, stockpiles, discard dumps or dams, Loading, hauling and transport, Water supply dams and boreholes, accommodation, offices, ablution, stores, workshops, processing plant, storm water control, berms, roads, pipelines, power lines,	**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 m²)	**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 to Rehabilitation, therefore state either:-.. Upon cessation of the individual activity or. Upon the cessation of mining, bulk sampling or alluvial diamond prospecting as the case may be.
Phase 1: Data Collection and Geophysical Survey					
Data Collection	Planning	Not applicable	No mitigation proposed	Not applicable	12 months
Geophysical Survey	Planning	Not applicable	No mitigation proposed. However, Access control procedures must be agreed on with farm owners and all	Not applicable	

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 mining**,- excavations, blasting, stockpiles, discard dumps or dams, Loading, hauling and transport, Water supply dams and boreholes, accommodation, offices, ablution, stores, workshops, processing plant, storm water control, berms, roads, pipelines, power lines,	**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 m²)	**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 to Rehabilitation, therefore state either:-.. Upon cessation of the individual activity or. Upon the cessation of mining, bulk sampling or alluvial diamond prospecting as the case may be.
			project personnel		
Phase 2: Planned Invasive Activities (Core Drilling)					
Site Access	Construction	Temporary Roads: 1500 m^2	Use existing gravel roads in all instances as far as is practicable. Where track clearing is necessary, raised blade clearing will be conducted to minimise disturbance	The prospecting activities must be under taken in line with the approved Prospecting Works Programme.	Concurrently with of prospecting activities (24 months)

ACTIVITIES	PHASE	SIZE AND SCALE OF DISTURBANCE	MITIGATION MEASURES	COMPLIANCE WITH STANDARDS	TIME PERIOD FOR IMPLEMENTATION
(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 boreholes, accommodation, offices, ablution, stores, workshops, processing plant, storm water control, berms, roads, pipelines, power lines,	(of operation in which activity will take place. State; Planning and design, Pre-Construction' Construction, Operational, Rehabilitation, Closure, Post closure).	(volumes, tonnages and hectares or m²)	(describe how each of the recommendations in herein will remedy the cause of pollution or degradation and migration of pollutants)	(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)	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 to Rehabilitation, therefore state either:-.. Upon cessation of the individual activity or. Upon the cessation of mining, bulk sampling or alluvial diamond prospecting as the case may be.
			and aid rehabilitation efforts and significant vegetation such as trees and large shrubs will be avoided. Site activities will be conducted during daytime hours 07h00–17h30 to avoid night time noise disturbances and night time collisions with fauna.	The financial provision required for rehabilitation must be guaranteed before commencement of prospecting activities.	

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 mining**,- excavations, blasting, stockpiles, discard dumps or dams, Loading, hauling and transport, Water supply dams and boreholes, accommodation, offices, ablution, stores, workshops, processing plant, storm water control, berms, roads, pipelines, power lines,	**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 m²)	**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 to Rehabilitation, therefore state either:-.. Upon cessation of the individual activity or. Upon the cessation of mining, bulk sampling or alluvial diamond prospecting as the case may be.
			Vehicle speed will be reduced, particularly in highly vegetated areas is one way to avoid deaths by vehicle impacts. Access control procedures must be agreed on with farm owners and all project personnel.	All prospecting activities will be located outside 100 m from watercourses on site (rivers, streams, attenuation dams,	

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 mining**,- excavations, blasting, stockpiles, discard dumps or dams, Loading, hauling and transport, Water supply dams and boreholes, accommodation, offices, ablution, stores, workshops, processing plant, storm water control, berms, roads, pipelines, power lines,	**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 m²)	**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 to Rehabilitation, therefore state either:-.. Upon cessation of the individual activity or. Upon the cessation of mining, bulk sampling or alluvial diamond prospecting as the case may be.
				and boreholes) All prospecting activities will be located outside 500 m from wetlands on site.	
Site establishment	Construction	Approximately	If practicable, raised blade clearing	The prospecting	Concurrently with

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 mining**,- excavations, blasting, stockpiles, discard dumps or dams, Loading, hauling and transport, Water supply dams and boreholes, accommodation, offices, ablution, stores, workshops, processing plant, storm water control, berms, roads, pipelines, power lines,	**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 m²)	**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 to Rehabilitation, therefore state either:-.. Upon cessation of the individual activity or. Upon the cessation of mining, bulk sampling or alluvial diamond prospecting as the case may be.
		0.16 Ha (footprint)	will be conducted for the entire site (camp) to minimise disturbance and aid rehabilitation efforts. A fire emergency response procedure will be developed to contain and minimise the destruction of flora and fauna habitat which may result from fire.	activities must be under taken in line with the approved Prospecting Works Programme. The prospecting programme must be carried out	completion of prospecting activities (24 months)

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 mining**,- excavations, blasting, stockpiles, discard dumps or dams, Loading, hauling and transport, Water supply dams and boreholes, accommodation, offices, ablution, stores, workshops, processing plant, storm water control, berms, roads, pipelines, power lines,	**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 m²)	**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 to Rehabilitation, therefore state either:-.. Upon cessation of the individual activity or. Upon the cessation of mining, bulk sampling or alluvial diamond prospecting as the case may be.
			Where practicable topsoil will be stripped to a depth of less than 10 cm. Vegetation removed through lower blade clearing will be mixed with topsoil to increase organic content and to preserve the seed bank in order to aid rehabilitation efforts.	recognizing and considering the conditions of the environmental authorisation.	

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 mining**,- excavations, blasting, stockpiles, discard dumps or dams, Loading, hauling and transport, Water supply dams and boreholes, accommodation, offices, ablution, stores, workshops, processing plant, storm water control, berms, roads, pipelines, power lines,	**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 m²)	**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 to Rehabilitation, therefore state either:-.. Upon cessation of the individual activity or. Upon the cessation of mining, bulk sampling or alluvial diamond prospecting as the case may be.
			Topsoil will be stockpiled to a maximum height of 1.5 m Dust suppression will be conducted as and when required to minimize the use of water. All operations vehicle will be kept in good conditions, maintained, and		

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 mining**,- excavations, blasting, stockpiles, discard dumps or dams, Loading, hauling and transport, Water supply dams and boreholes, accommodation, offices, ablution, stores, workshops, processing plant, storm water control, berms, roads, pipelines, power lines,	**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 m²)	**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 to Rehabilitation, therefore state either:-.. Upon cessation of the individual activity or. Upon the cessation of mining, bulk sampling or alluvial diamond prospecting as the case may be.
			fitted with modern exhaust systems. Prohibition of burning of material on site. All personnel will be equipped with personal protection equipment to comply with Mine Health and Safety Act, 1996.		

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 mining**,- excavations, blasting, stockpiles, discard dumps or dams, Loading, hauling and transport, Water supply dams and boreholes, accommodation, offices, ablution, stores, workshops, processing plant, storm water control, berms, roads, pipelines, power lines,	**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 m²)	**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 to Rehabilitation, therefore state either:-.. Upon cessation of the individual activity or. Upon the cessation of mining, bulk sampling or alluvial diamond prospecting as the case may be.
Core drilling and sampling	Operational	Approximately 0.01 Ha (footprint)	The removal of vegetation within the borehole sump area will be minimized. Avoid unnecessary encroachment on unplanned areas. Keep 100 m horizontal distance from water bodies. Keep appropriate distance from	The prospecting activities must be undertaken in line with the approved Prospecting Works Programme. The prospecting programme must	Concurrently with completion of prospecting activities (24 months)

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 mining**,- excavations, blasting, stockpiles, discard dumps or dams, Loading, hauling and transport, Water supply dams and boreholes, accommodation, offices, ablution, stores, workshops, processing plant, storm water control, berms, roads, pipelines, power lines,	**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 m²)	**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 to Rehabilitation, therefore state either:-.. Upon cessation of the individual activity or. Upon the cessation of mining, bulk sampling or alluvial diamond prospecting as the case may be.
			sensitive and protected site (100 m to 500 m). Follow approved plans at all times. Where applicable, restore biodiversity after closure by reinstating indigenous species. Constant supervision and protocols.	be carried out recognizing and considering the conditions of the environmental authorisation.	

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 mining**,- excavations, blasting, stockpiles, discard dumps or dams, Loading, hauling and transport, Water supply dams and boreholes, accommodation, offices, ablution, stores, workshops, processing plant, storm water control, berms, roads, pipelines, power lines,	**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 m²)	**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 to Rehabilitation, therefore state either:-.. Upon cessation of the individual activity or. Upon the cessation of mining, bulk sampling or alluvial diamond prospecting as the case may be.
			Keep mine vehicles in good repair order to avoid leakages . Veld fire management plan. Ensure that the topsoil is stockpiled to have a height that will prevent the reduction in the fertility of the topsoil		

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 mining**,- excavations, blasting, stockpiles, discard dumps or dams, Loading, hauling and transport, Water supply dams and boreholes, accommodation, offices, ablution, stores, workshops, processing plant, storm water control, berms, roads, pipelines, power lines,	**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 m²)	**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 to Rehabilitation, therefore state either:-.. Upon cessation of the individual activity or. Upon the cessation of mining, bulk sampling or alluvial diamond prospecting as the case may be.
			To ensure regular communication with interested and affected parties. The prospecting areas must be clearly demarcated. Access control procedures must be agreed on with land/property owners.		

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 mining**,- excavations, blasting, stockpiles, discard dumps or dams, Loading, hauling and transport, Water supply dams and boreholes, accommodation, offices, ablution, stores, workshops, processing plant, storm water control, berms, roads, pipelines, power lines,	**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 m²)	**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 to Rehabilitation, therefore state either:-.. Upon cessation of the individual activity or. Upon the cessation of mining, bulk sampling or alluvial diamond prospecting as the case may be.
Removal of temporary infrastructure	Decommissioning	Temporary roads, site camp, trenches and borehole sump area. 0.52 Ha (footprint)	Drill holes must be permanently capped as soon as practicable. Access control procedures must be agreed on with farm owners and all staff trained. All fuel storage tanks will be emptied prior to removal.	The prospecting activities must be under taken in line with the approved Prospecting Works Programme. The prospecting programme must	Concurrently with completion of prospecting activities (24 months)

ACTIVITIES	PHASE	SIZE AND SCALE OF DISTURBANCE	MITIGATION MEASURES	COMPLIANCE WITH STANDARDS	TIME PERIOD FOR IMPLEMENTATION
(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 boreholes, accommodation, offices, ablution, stores, workshops, processing plant, storm water control, berms, roads, pipelines, power lines,	(of operation in which activity will take place. State; Planning and design, Pre-Construction' Construction, Operational, Rehabilitation, Closure, Post closure).	(volumes, tonnages and hectares or m²)	(describe how each of the recommendations in herein will remedy the cause of pollution or degradation and migration of pollutants)	(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)	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 to Rehabilitation, therefore state either:-.. Upon cessation of the individual activity or. Upon the cessation of mining, bulk sampling or alluvial diamond prospecting as the case may be.
			Drill holes must be permanently capped as soon as is practicable to eliminate the risk of groundwater contamination. Re-vegetation will be conducted through hand seeding exposed areas using indigenous grass species as	be carried out recognizing and considering the conditions of the environmental authorisation.	

ACTIVITIES	PHASE	SIZE AND SCALE OF DISTURBANCE	MITIGATION MEASURES	COMPLIANCE WITH STANDARDS	TIME PERIOD FOR IMPLEMENTATION
(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 boreholes, accommodation, offices, ablution, stores, workshops, processing plant, storm water control, berms, roads, pipelines, power lines,	(of operation in which activity will take place. State; Planning and design, Pre-Construction' Construction, Operational, Rehabilitation, Closure, Post closure).	(volumes, tonnages and hectares or m²)	(describe how each of the recommendations in herein will remedy the cause of pollution or degradation and migration of pollutants)	(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)	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 to Rehabilitation, therefore state either:-.. Upon cessation of the individual activity or. Upon the cessation of mining, bulk sampling or alluvial diamond prospecting as the case may be.
			determined by a suitably qualified ecologist.		

f) 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).

Table 1—2: Impact Management Actions

ACTIVITY whether listed or not listed. (E.g. Excavations, blasting, stockpiles, discard dumps or dams, Loading, hauling and transport, Water supply dams and boreholes, accommodation, offices, ablution, stores, workshops, processing plant, storm water control, berms, roads, pipelines, power lines, conveyors, etc…etc…etc.).	POTENTIAL IMPACT (e.g. dust, noise, drainage surface disturbance, fly rock, surface water contamination, groundwater contamination, air pollution 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) E.g. Modify through alternative method. Control through noise control Control through management and monitoring Remedy through rehabilitation..	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 to Rehabilitation, therefore state either:-.. Upon cessation of the individual activity or. Upon the cessation of mining, bulk sampling or 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 will comply with any prescribed environmental management standards or practices that have been identified by Competent Authorities)
Phase 1: Data Collection and Geophysical Survey				
Data Collection	None identified	No mitigation measures proposed	Not applicable	Remain within the ambit of the Prospecting Works Programme
Geophysical Survey	None identified	No mitigation measures proposed. However, access control procedures must be agreed on with land	Not applicable	Remain within the ambit of the Prospecting Works Programme

ACTIVITY whether listed or not listed. (E.g. Excavations, blasting, stockpiles, discard dumps or dams, Loading, hauling and transport, Water supply dams and boreholes, accommodation, offices, ablution, stores, workshops, processing plant, storm water control, berms, roads, pipelines, power lines, conveyors, etc…etc…etc.).	POTENTIAL IMPACT (e.g. dust, noise, drainage surface disturbance, fly rock, surface water contamination, groundwater contamination, air pollution 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) E.g. Modify through alternative method. Control through noise control Control through management and monitoring Remedy through rehabilitation..	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 to Rehabilitation, therefore state either:-.. Upon cessation of the individual activity or. Upon the cessation of mining, bulk sampling or 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 will comply with any prescribed environmental management standards or practices that have been identified by Competent Authorities)
		owners		
Phase 2: Planned Invasive Activities (Core Drilling)				
Site Access	Destruction and/or disturbance of on-site fauna and flora.	Use existing track and roads in all instances as far as is practicable. Site activities will be conducted during day time hours from 07h00 to 17h30 to avoid night time noise disturbances	Concurrently with the Completion of prospecting activities	Remain within the ambit of the Prospecting Works Programme

ACTIVITY whether listed or not listed. (E.g. Excavations, blasting, stockpiles, discard dumps or dams, Loading, hauling and transport, Water supply dams and boreholes, accommodation, offices, ablution, stores, workshops, processing plant, storm water control, berms, roads, pipelines, power lines, conveyors, etc…etc…etc.).	**POTENTIAL IMPACT** (e.g. dust, noise, drainage surface disturbance, fly rock, surface water contamination, groundwater contamination, air pollution 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) E.g. ⍰ Modify through alternative method. ⍰ Control through noise control ⍰ Control through management and monitoring Remedy through rehabilitation..	**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 to Rehabilitation, therefore state either:-.. Upon cessation of the individual activity or. Upon the cessation of mining, bulk sampling or 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 will comply with any prescribed environmental management standards or practices that have been identified by Competent Authorities)
		Dust suppression will be carried out as and when required		
	Soil compaction	As part of rehabilitation, all compacted areas will be ripped and re-vegetated.	Concurrently with the completion of prospecting activities	Retain topsoil integrity for the reuse in rehabilitation.
	Noise disturbance	Site activities will be conducted during day	Concurrently with the completion of	Remain within the ambit of the

ACTIVITY whether listed or not listed. (E.g. Excavations, blasting, stockpiles, discard dumps or dams, Loading, hauling and transport, Water supply dams and boreholes, accommodation, offices, ablution, stores, workshops, processing plant, storm water control, berms, roads, pipelines, power lines, conveyors, etc…etc…etc.).	**POTENTIAL IMPACT** (e.g. dust, noise, drainage surface disturbance, fly rock, surface water contamination, groundwater contamination, air pollution 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) E.g. Modify through alternative method. Control through noise control Control through management and monitoring Remedy through rehabilitation..	**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 to Rehabilitation, therefore state either:-.. Upon cessation of the individual activity or. Upon the cessation of mining, bulk sampling or 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 will comply with any prescribed environmental management standards or practices that have been identified by Competent Authorities)
		time hours from 07h00 to 17h30 to avoid night time noise disturbances Keep all vehicle in good repair.	prospecting activities	Prospecting Works Programme
	Poor access control	Access control procedures must be agreed on with land owners	Concurrently with the completion of prospecting activities	Remain within the ambit of the Prospecting Works Programme
	Potential destruction of	Prior to the	Concurrently with the	Comply with the

ACTIVITY whether listed or not listed. (E.g. Excavations, blasting, stockpiles, discard dumps or dams, Loading, hauling and transport, Water supply dams and boreholes, accommodation, offices, ablution, stores, workshops, processing plant, storm water control, berms, roads, pipelines, power lines, conveyors, etc…etc…etc.).	POTENTIAL IMPACT (e.g. dust, noise, drainage surface disturbance, fly rock, surface water contamination, groundwater contamination, air pollution 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) E.g. ⍰ Modify through alternative method. ⍰ Control through noise control ⍰ Control through management and monitoring Remedy through rehabilitation..	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 to Rehabilitation, therefore state either:-.. Upon cessation of the individual activity or. Upon the cessation of mining, bulk sampling or 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 will comply with any prescribed environmental management standards or practices that have been identified by Competent Authorities)
	heritage resources.	establishment of new access roads, a heritage impact assessment must be under taken and mitigation and /or management measure for the protection of such resources must be implemented	completion of prospecting activities	requirements by SAHRA. No damage may result on heritage and cultural significant sites.
Site establishment	Destruction and	The removal of	Concurrently with the	Remain within the

ACTIVITY whether listed or not listed. (E.g. Excavations, blasting, stockpiles, discard dumps or dams, Loading, hauling and transport, Water supply dams and boreholes, accommodation, offices, ablution, stores, workshops, processing plant, storm water control, berms, roads, pipelines, power lines, conveyors, etc…etc…etc.).	**POTENTIAL IMPACT** (e.g. dust, noise, drainage surface disturbance, fly rock, surface water contamination, groundwater contamination, air pollution 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) E.g. Modify through alternative method. Control through noise control Control through management and monitoring Remedy through rehabilitation..	**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 to Rehabilitation, therefore state either:-.. Upon cessation of the individual activity or. Upon the cessation of mining, bulk sampling or 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 will comply with any prescribed environmental management standards or practices that have been identified by Competent Authorities)
	disturbance of on-site fauna and flora.	vegetation within the borehole sump area will be minimized.	completion of prospecting activities	ambit of the Prospecting Works Programme
	Soil disturbance and topsoil stockpiling resulting in soil compaction and erosion.	Where practicable topsoil will be stripped to a depth of less than 10 cm. Vegetation removed through lower blade clearing will be mixed	Concurrently with the completion of prospecting activities	Remain within the ambit of the Prospecting Works Programme Retain topsoil integrity for the reuse in rehabilitation.

ACTIVITY whether listed or not listed. (E.g. Excavations, blasting, stockpiles, discard dumps or dams, Loading, hauling and transport, Water supply dams and boreholes, accommodation, offices, ablution, stores, workshops, processing plant, storm water control, berms, roads, pipelines, power lines, conveyors, etc…etc…etc.).	**POTENTIAL IMPACT** (e.g. dust, noise, drainage surface disturbance, fly rock, surface water contamination, groundwater contamination, air pollution 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) E.g. ⍰ Modify through alternative method. ⍰ Control through noise control ⍰ Control through management and monitoring Remedy through rehabilitation..	**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 to Rehabilitation, therefore state either:-.. Upon cessation of the individual activity or. Upon the cessation of mining, bulk sampling or 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 will comply with any prescribed environmental management standards or practices that have been identified by Competent Authorities)
		with topsoil to increase organic content and to preserve the seed bank in order to aid rehabilitation efforts. Topsoil will be stockpiled to a maximum height of 1.5 m		
	Dust emission resulting	Dust suppression will be	Concurrently with the	Remain within the

ACTIVITY whether listed or not listed. (E.g. Excavations, blasting, stockpiles, discard dumps or dams, Loading, hauling and transport, Water supply dams and boreholes, accommodation, offices, ablution, stores, workshops, processing plant, storm water control, berms, roads, pipelines, power lines, conveyors, etc…etc…etc.).	**POTENTIAL IMPACT** (e.g. dust, noise, drainage surface disturbance, fly rock, surface water contamination, groundwater contamination, air pollution 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) E.g. Modify through alternative method. Control through noise control Control through management and monitoring Remedy through rehabilitation..	**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 to Rehabilitation, therefore state either:-.. Upon cessation of the individual activity or. Upon the cessation of mining, bulk sampling or 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 will comply with any prescribed environmental management standards or practices that have been identified by Competent Authorities)
	from site clearing of vegetation and stockpiling of topsoil	conducted as and when required. To minimize the use of water on site, dust suppression will be carried out within the demarcated prospecting site	completion of prospecting activities	designated area demarcated for prospecting activities.
	Influx of persons (job	Casual labour will not		Prospecting will be

ACTIVITY whether listed or not listed. (E.g. Excavations, blasting, stockpiles, discard dumps or dams, Loading, hauling and transport, Water supply dams and boreholes, accommodation, offices, ablution, stores, workshops, processing plant, storm water control, berms, roads, pipelines, power lines, conveyors, etc…etc…etc.).	**POTENTIAL IMPACT** (e.g. dust, noise, drainage surface disturbance, fly rock, surface water contamination, groundwater contamination, air pollution 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) E.g. Modify through alternative method. Control through noise control Control through management and monitoring Remedy through rehabilitation..	**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 to Rehabilitation, therefore state either:-.. Upon cessation of the individual activity or. Upon the cessation of mining, bulk sampling or 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 will comply with any prescribed environmental management standards or practices that have been identified by Competent Authorities)
	seekers) to site as a result of increased activity resulting in increased incidents of theft and opportunistic crime.	be recruited at the site to eliminate the incentive for persons travelling to site seeking employment. The landowner (all private and state land owners) will be notified of unauthorized persons encountered		carried out in a manner to prevent crime at the site

ACTIVITY whether listed or not listed. (E.g. Excavations, blasting, stockpiles, discard dumps or dams, Loading, hauling and transport, Water supply dams and boreholes, accommodation, offices, ablution, stores, workshops, processing plant, storm water control, berms, roads, pipelines, power lines, conveyors, etc…etc…etc.).	POTENTIAL IMPACT (e.g. dust, noise, drainage surface disturbance, fly rock, surface water contamination, groundwater contamination, air pollution 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) E.g. ⍰ Modify through alternative method. ⍰ Control through noise control ⍰ Control through management and monitoring Remedy through rehabilitation..	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 to Rehabilitation, therefore state either:-.. Upon cessation of the individual activity or. Upon the cessation of mining, bulk sampling or 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 will comply with any prescribed environmental management standards or practices that have been identified by Competent Authorities)
		on site.		
	Potential destruction of heritage resources.	Prior to the establishment of new access roads, a heritage impact assessment must be under taken and mitigation and /or management measure for the protection of such	Concurrently with the completion of prospecting activities	Comply with the requirements by SAHRA. No damage may result on heritage and cultural significant sites.

ACTIVITY whether listed or not listed. (E.g. Excavations, blasting, stockpiles, discard dumps or dams, Loading, hauling and transport, Water supply dams and boreholes, accommodation, offices, ablution, stores, workshops, processing plant, storm water control, berms, roads, pipelines, power lines, conveyors, etc…etc…etc.).	**POTENTIAL IMPACT** (e.g. dust, noise, drainage surface disturbance, fly rock, surface water contamination, groundwater contamination, air pollution 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) E.g. Modify through alternative method. Control through noise control Control through management and monitoring Remedy through rehabilitation..	**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 to Rehabilitation, therefore state either:-.. Upon cessation of the individual activity or. Upon the cessation of mining, bulk sampling or 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 will comply with any prescribed environmental management standards or practices that have been identified by Competent Authorities)
		resources must be implemented		
Core drilling and sampling	Potential water and soil pollution resulting from hydrocarbon spills and drill maintenance activities.	Vehicle maintenance will be undertaken off-site. Keep mine vehicles in good repair order to avoid leakages In the event that vehicle	Concurrently with the Completion of prospecting activities	Remain within the ambit of the Prospecting Works Programme

ACTIVITY whether listed or not listed. (E.g. Excavations, blasting, stockpiles, discard dumps or dams, Loading, hauling and transport, Water supply dams and boreholes, accommodation, offices, ablution, stores, workshops, processing plant, storm water control, berms, roads, pipelines, power lines, conveyors, etc…etc…etc.).	POTENTIAL IMPACT (e.g. dust, noise, drainage surface disturbance, fly rock, surface water contamination, groundwater contamination, air pollution 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) E.g. ⍰ Modify through alternative method. ⍰ Control through noise control ⍰ Control through management and monitoring Remedy through rehabilitation..	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 to Rehabilitation, therefore state either:-.. Upon cessation of the individual activity or. Upon the cessation of mining, bulk sampling or 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 will comply with any prescribed environmental management standards or practices that have been identified by Competent Authorities)
		maintenance is undertaken on-site (i .e. such as breakdown maintenance), drip trays will be used to prevent spills and leaks onto the soil. Regular inspect ions of all vehicles must be carried out to ensure that all leaks are		

ACTIVITY whether listed or not listed. (E.g. Excavations, blasting, stockpiles, discard dumps or dams, Loading, hauling and transport, Water supply dams and boreholes, accommodation, offices, ablution, stores, workshops, processing plant, storm water control, berms, roads, pipelines, power lines, conveyors, etc…etc…etc.).	**POTENTIAL IMPACT** (e.g. dust, noise, drainage surface disturbance, fly rock, surface water contamination, groundwater contamination, air pollution 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) E.g. ⍰ Modify through alternative method. ⍰ Control through noise control ⍰ Control through management and monitoring Remedy through rehabilitation..	**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 to Rehabilitation, therefore state either:-.. Upon cessation of the individual activity or. Upon the cessation of mining, bulk sampling or 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 will comply with any prescribed environmental management standards or practices that have been identified by Competent Authorities)
		identified early and repaired.		
	Dust emissions from drilling and general site activities	Dust suppression will be conducted as and when required. To minimize the use of water on site, dust suppression will be carried out within the demarcated	Concurrently with the completion of prospecting activities	Remain within the designated area demarcated for prospecting activities.

ACTIVITY whether listed or not listed. (E.g. Excavations, blasting, stockpiles, discard dumps or dams, Loading, hauling and transport, Water supply dams and boreholes, accommodation, offices, ablution, stores, workshops, processing plant, storm water control, berms, roads, pipelines, power lines, conveyors, etc…etc…etc.).	**POTENTIAL IMPACT** (e.g. dust, noise, drainage surface disturbance, fly rock, surface water contamination, groundwater contamination, air pollution 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) E.g. ⍰ Modify through alternative method. ⍰ Control through noise control ⍰ Control through management and monitoring Remedy through rehabilitation..	**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 to Rehabilitation, therefore state either:-.. Upon cessation of the individual activity or. Upon the cessation of mining, bulk sampling or 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 will comply with any prescribed environmental management standards or practices that have been identified by Competent Authorities)
		prospecting site		
	Vehicle traffic and drill noise impact affecting wildlife game farm animals.	Site activities will be conducted during day time hours from 07h00 to 17h30 to avoid night time noise disturbances	Concurrently with the Completion of prospecting activities	Remain within the ambit of the Prospecting Works Programme
	Poor access control	Access control procedures must be agreed on with land	Concurrently with the completion of prospecting activities	Remain within the ambit of the Prospecting Works

ACTIVITY whether listed or not listed. (E.g. Excavations, blasting, stockpiles, discard dumps or dams, Loading, hauling and transport, Water supply dams and boreholes, accommodation, offices, ablution, stores, workshops, processing plant, storm water control, berms, roads, pipelines, power lines, conveyors, etc…etc…etc.).	**POTENTIAL IMPACT** (e.g. dust, noise, drainage surface disturbance, fly rock, surface water contamination, groundwater contamination, air pollution 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) E.g. ⍰ Modify through alternative method. ⍰ Control through noise control ⍰ Control through management and monitoring Remedy through rehabilitation..	**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 to Rehabilitation, therefore state either:-.. Upon cessation of the individual activity or. Upon the cessation of mining, bulk sampling or 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 will comply with any prescribed environmental management standards or practices that have been identified by Competent Authorities)
		owners		Programme
	Influx of persons (job seekers) to site as a result of increased activity resulting in increased incidents of theft and opportunistic crime.	Casual labour will not be recruited at the site to eliminate the incentive for persons travelling to site seeking employment. The landowner (all private and state land owners) will be notified		Prospecting will be carried out in a manner to prevent crime at the site

ACTIVITY whether listed or not listed. (E.g. Excavations, blasting, stockpiles, discard dumps or dams, Loading, hauling and transport, Water supply dams and boreholes, accommodation, offices, ablution, stores, workshops, processing plant, storm water control, berms, roads, pipelines, power lines, conveyors, etc…etc…etc.).	**POTENTIAL IMPACT** (e.g. dust, noise, drainage surface disturbance, fly rock, surface water contamination, groundwater contamination, air pollution 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) E.g. Modify through alternative method. Control through noise control Control through management and monitoring Remedy through rehabilitation..	**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 to Rehabilitation, therefore state either:-.. Upon cessation of the individual activity or. Upon the cessation of mining, bulk sampling or 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 will comply with any prescribed environmental management standards or practices that have been identified by Competent Authorities)
		of unauthorized persons encountered on site.		
Removal of temporary infrastructure	Loss of fauna on site	Drill holes must be permanently capped as soon as practicable. Access control procedures must be agreed on with farm owners and all staff	Concurrently with the completion of prospecting activities	Remain within the ambit of the Prospecting Works Programme

ACTIVITY whether listed or not listed. (E.g. Excavations, blasting, stockpiles, discard dumps or dams, Loading, hauling and transport, Water supply dams and boreholes, accommodation, offices, ablution, stores, workshops, processing plant, storm water control, berms, roads, pipelines, power lines, conveyors, etc…etc…etc.).	POTENTIAL IMPACT (e.g. dust, noise, drainage surface disturbance, fly rock, surface water contamination, groundwater contamination, air pollution 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) E.g. ⍰ Modify through alternative method. ⍰ Control through noise control ⍰ Control through management and monitoring Remedy through rehabilitation..	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 to Rehabilitation, therefore state either:-.. Upon cessation of the individual activity or. Upon the cessation of mining, bulk sampling or 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 will comply with any prescribed environmental management standards or practices that have been identified by Competent Authorities)
		trained. All fuel storage tanks will be emptied prior to removal. Drill holes must be permanently capped as soon as is practicable to eliminate the risk of groundwater contamination.		

ACTIVITY whether listed or not listed. (E.g. Excavations, blasting, stockpiles, discard dumps or dams, Loading, hauling and transport, Water supply dams and boreholes, accommodation, offices, ablution, stores, workshops, processing plant, storm water control, berms, roads, pipelines, power lines, conveyors, etc…etc…etc.).	**POTENTIAL IMPACT** (e.g. dust, noise, drainage surface disturbance, fly rock, surface water contamination, groundwater contamination, air pollution 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) E.g. ⍰ Modify through alternative method. ⍰ Control through noise control ⍰ Control through management and monitoring Remedy through rehabilitation..	**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 to Rehabilitation, therefore state either:-.. Upon cessation of the individual activity or. Upon the cessation of mining, bulk sampling or 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 will comply with any prescribed environmental management standards or practices that have been identified by Competent Authorities)
		Re-vegetation will be conducted through hand seeding exposed areas using indigenous grass species as determined by a suitably qualified ecologist.		
	Dust emissions from	Dust suppression will be	Concurrently with the	Remain within the

ACTIVITY whether listed or not listed. (E.g. Excavations, blasting, stockpiles, discard dumps or dams, Loading, hauling and transport, Water supply dams and boreholes, accommodation, offices, ablution, stores, workshops, processing plant, storm water control, berms, roads, pipelines, power lines, conveyors, etc…etc…etc.).	**POTENTIAL IMPACT** (e.g. dust, noise, drainage surface disturbance, fly rock, surface water contamination, groundwater contamination, air pollution 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) E.g. Modify through alternative method. Control through noise control Control through management and monitoring Remedy through rehabilitation..	**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 to Rehabilitation, therefore state either:-.. Upon cessation of the individual activity or. Upon the cessation of mining, bulk sampling or 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 will comply with any prescribed environmental management standards or practices that have been identified by Competent Authorities)
	decommissioning activities	conducted as and when required. To minimize the use of water on site, dust suppression will be carried out within the demarcated prospecting site	completion of prospecting activities	designated area demarcated for prospecting activities.
	Poor access control resulting in impacts on	Access control procedures must be	Concurrently with the completion of	Remain within the ambit of the

ACTIVITY whether listed or not listed. (E.g. Excavations, blasting, stockpiles, discard dumps or dams, Loading, hauling and transport, Water supply dams and boreholes, accommodation, offices, ablution, stores, workshops, processing plant, storm water control, berms, roads, pipelines, power lines, conveyors, etc…etc…etc.).	**POTENTIAL IMPACT** (e.g. dust, noise, drainage surface disturbance, fly rock, surface water contamination, groundwater contamination, air pollution 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) E.g. Modify through alternative method. Control through noise control Control through management and monitoring Remedy through rehabilitation..	**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 to Rehabilitation, therefore state either:-.. Upon cessation of the individual activity or. Upon the cessation of mining, bulk sampling or 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 will comply with any prescribed environmental management standards or practices that have been identified by Competent Authorities)
	Cattle movement, and grazing activities.	agreed on with farm owners and all staff trained.	prospecting activities	Prospecting Works Programme
	Potential water and soil pollution resulting from hydrocarbon spills.	Drill holes must be permanently capped as soon as practicable. Access control procedures must be agreed on with farm	Concurrently with the completion of prospecting activities	Remain within the ambit of the Prospecting Works Programme

ACTIVITY whether listed or not listed. (E.g. Excavations, blasting, stockpiles, discard dumps or dams, Loading, hauling and transport, Water supply dams and boreholes, accommodation, offices, ablution, stores, workshops, processing plant, storm water control, berms, roads, pipelines, power lines, conveyors, etc…etc…etc.).	POTENTIAL IMPACT (e.g. dust, noise, drainage surface disturbance, fly rock, surface water contamination, groundwater contamination, air pollution 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) E.g. ⍰ Modify through alternative method. ⍰ Control through noise control ⍰ Control through management and monitoring Remedy through rehabilitation..	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 to Rehabilitation, therefore state either:-.. Upon cessation of the individual activity or. Upon the cessation of mining, bulk sampling or 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 will comply with any prescribed environmental management standards or practices that have been identified by Competent Authorities)
		owners and all staff trained. All fuel storage tanks will be emptied prior to removal. Drill holes must be permanently capped as soon as is practicable to eliminate the risk of		

ACTIVITY whether listed or not listed. (E.g. Excavations, blasting, stockpiles, discard dumps or dams, Loading, hauling and transport, Water supply dams and boreholes, accommodation, offices, ablution, stores, workshops, processing plant, storm water control, berms, roads, pipelines, power lines, conveyors, etc…etc…etc.).	POTENTIAL IMPACT (e.g. dust, noise, drainage surface disturbance, fly rock, surface water contamination, groundwater contamination, air pollution 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) E.g. ⍰ Modify through alternative method. ⍰ Control through noise control ⍰ Control through management and monitoring Remedy through rehabilitation..	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 to Rehabilitation, therefore state either:-.. Upon cessation of the individual activity or. Upon the cessation of mining, bulk sampling or 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 will comply with any prescribed environmental management standards or practices that have been identified by Competent Authorities)
		groundwater contamination. Re-vegetation will be conducted through hand seeding exposed areas using indigenous grass species as determined by a suitably qualified ecologist		

a) Financial Provision

(1) 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.

To ensure that the rehabilitation plan is aligned with the closure objective, a high level risk assessment of the prospecting components has been undertaken to establish the potential risks associated therewith. The closure objectives are to:

- To leave site in a safe state for humans and animals.
- To ensure that the water resources (surface and ground) are not affected by both prospecting and rehabilitation activities.
- To ensure that identified features and infrastructure are left intact after the operations have ceased.
- To promote indigenous vegetation growth suitable for animals that graze over the disturbed areas on the site.
- To ensure removal of all surface infrastructures from the site.
- To ensure cleaning and rehabilitation of all access roads and pathways to fit the current land use.
- To ensure that top-soiling of disturbed surfaces.
- To leave the rehabilitated ground in a state blending with the surrounding environment.
- Ensuring that sensitive environments are left undisturbed and the status quo remains or, if feasible, they are even better off than prior to the operations

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

It is confirmed that the objectives have been compiled in taking into cognizance the inputs of the landowners and I & APs. The following consulting methodology was adopted:

- A newspaper advert was published on the local newspaper "**Middelburg Observer Newspaper**", giving notice to I & APs of the applicant`s intention to prospect the area as well as inviting all affected parties to a meeting where the applicant would provide full details of the project. The Middelburg Observer Newspaper is distributed in areas including the towns of Middelburg, Belfast, Hendrina, Komati, Kragstasie, Wonderfontein, Arnot, Pullenshope, Witbank, Groblersdal, Marble Hall, Loskop, and Stofberg.
- Site notices written in English (A3 sized) were placed in strategic areas such Police Station, Post Office, Restaurant, Filling Stations, Schools, Public Clinics, and Libraries.
- E-mail and telephonic communication with I & APs;
- Comment and registration sheet: I & APs were requested to provide written comments, concerns and inputs that would be consolidated into the BAR;
- Questionnaires: Property owners in particular were provided with an environmental aspect questionnaire to complete to assist in identifying features on their respective farms that may require protection or special attention;
- Two public meetings with interested and affected parties was held as follows:
  Venue: Date: **2nd February 2019 (Saturday)** Time: **11:00-13:00 PM**
- A register of I & APs was kept and as such the following information was distributed to them:
  - Background Information Document (BID). The BID is comprised of the following information:
    - The description of the land concerned;
    - The location of the project;
    - The minerals applied for;
    - Timeframes for submission of reports to the DMR;
    - Request to target audience to register as I & APs;
    - Contact details of the applicant and EAP
  - Prospecting Works Programme

- The draft Basic Assessment Report and Environmental Management Plan (BAR & EMPr) for the proposed project was made available from the **18th of January 2019 to the 18th of February 2019** for public review and comment as following venues:
    - **eMakhazeni Local Community Library**: Scheeper Street, Belfast, 1100 (-25.692649° south and 30.035176° east)

Property Owners (Land Owners)

Deed searches of ownership of properties affected by the proposed project pointed to obvious difficulties in reaching each and every landowner due to the vast size of the area applied for and the fact that the land is subdivided into numerous plots. This made it onerous to track landowners individually; therefore a different methodology was devised whereby site notices were placed at the main entrances to the targeted farms. Through farmer's unions and community organisations, information would then be disseminated to the various land owners and other parties in the area.

Other Interested and Affected Parties

It is important that I & APs represent all relevant sectors of the society and various relevant organs of state who work together to make better decisions. A stakeholder database has been compiled for this project. The I & APs currently identified for the proposed project include the following categories (for full list of I & APs refer to **Appendix C**):

- Land owners and adjacent land owners
- eMakhazeni Local Municipality
- Relevant authority including the following:
    - Department of Water and Sanitation
    - Nkangala District Municipality
    - Department of Public Works, Roads and Transport
    - Mpumalanga Department of Agriculture, Rural Development, Land and Environmental Affairs

  - Department of Economic Development and Tourism
  - Department of Rural Development and Land Reform (Mpumalanga Regional Land Claims Commissioner)
  - South African Heritage Resources Agency
  - Eskom
- Organisations including:
  - Mpumalanga Tourism and Parks Agency
  - Mpumalanga Economic Growth and Agency

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

Due to the nature of the activities, the impacts will be very limited and of short duration. The management plan is provided in such a manner as to ensure concurrent rehabilitation. After planned invasive activities have been completed in one area, the Eurafrican Diamond Corporation will ensure the site is reverted back to its original state by carrying out the following:

- Removing all infrastructures, including the drill rig, the temporary office, the mobile diesel tank, the mobile water tank and the chemical toilet.
- Capping the boreholes as per legal requirements.
- Ensure that no material (plastics, papers, pipes, etc) is left behind on the drill site.
- The whole drill site will be inspected for any signs of hydrocarbon pollution. Any identified soil which has been polluted as a result of the drilling activities will be removed and disposed of in a registered landfill site.
- Any area compacted as a result of the drill rig will be ripped and any ruts created by accessing or leaving the site for the drilling activity will be filled in to ensure that no future erosion shall occur on site.
- Property owners will be requested to inspect the rehabilitated area.

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

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

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

The quantum of financial provision for the rehabilitation of negative environmental impact was determined in accordance with the National Environmental Management Act, 1998 (Act No. 107 of 1998): Regulation (GNR 940) pertaining to the financial provision for the rehabilitation, closure and post closure of prospecting exploration, mining or production operations (DEA, 2014).

A total amount of **R63 850.5415** will be set aside for rehabilitation purposes as estimated in line with the prospecting work programme.

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

Refer to section (s) (ii) of part A and section (j) (1) (e) of part B of this report.

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

High level monitoring:

- Bi-annual performance assessment must be conducted in line with the MPRDA (Regulation 55).
- Establish a structured system of internal and external communication of incidents.

- Any changes to the approved EMP which have an impact on interested and affected parties to be communicated to them and the EMP amended accordingly.
- Complaints register to be established and kept up to date.
- Interested and affected parties concerns to be incorporated into the project implementation.

Operational Level monitoring:

- On a regular basis all registers, procedures and records are checked against the prescripts of the EMP. Corrective action must be taken in cases of transgress where necessary.
- Internal audits to be conducted by an environmentalist when deemed necessary.
- Employees assigned to specific tasks.
- Should the mitigation measure not be in line with the prescripts, amendments will be made and the employees will be made aware of the changes and encouraged to adhere to such.
- On commencement of the project, all site personnel will be inducted at the site and will be taken through the EMP and other relevant legal requirements to familiarize them with same.
- Simplified signalling will be placed on site to sensitize the workers of the legal requirements attached to this EMP.

Noise:

- The Occupational Health and Safety Act, 1993 (Act No. 85 of 1993) – Section 7.
- The Mine Health and Safety Act, 1996 (Act No. 39 of 1996) as amended.
- The Road Traffic Act, 1997 (Act No. 93 of 1997);
- The National Environmental Management: Air Quality Act, 2004 (Act No. 39 of 2004) – Section 34. and
- Regulations of the Mineral and Petroleum Resources
- Development Act, 2002 (Act No. 28 of 2002) – Regulation 66.

Air quality:

- The National Environment Management: Air Quality Act, 2004 (Act No.39 of 2004) (All Sections of this Act, except Section 21,22,36 to 49, 51 (1)(e), 51(1)(f), 51(3), 60 and 61 have taken effect on 11 September 2005);
- The Atmospheric Pollution Prevention Act, 1965 (Act No. 45 of 1965) (This Act will be repealed by the national Environment management: Air Quality Act, 2004 (Act No. 39 of 2004);
- Regulations to the Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002) – Regulation 64.
- The Mining Health and Safety Act, 1996 (Act No. 29 of 1996) as amended; and
- The Occupational Diseases in Mines and Works Act, 1973 (Act No 78 of 1973)

m) Environmental Awareness Plan

Eurafrican Diamond Corporation Environmental Awareness Training will be part of its Induction process and environmental Management System (EMS). The induction includes:

- Awareness training for contractors and employees;
- Job specific training – training for personnel performing tasks which could cause potentially significant environmental impacts;
- Comprehensive training – on emergency response, spill management, etc;
- Training verification and record keeping.

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

- Communication channels will be made and will cascade from the Site Manager through to the general workers.
- On a regular basis, all aspects of the operation will be checked against the prescripts of the EMP and its supporting procedures and, if established that certain of the aspects are

not addressed or impacts on the environment are not mitigated properly, it will be immediately communicated to the operational team by management.

- Should the mitigation measure not be in line with the prescripts, amendments will be made and the employees will be made aware of the changes and encouraged to adhere to such.
- All site personnel will be inducted at the site and will be taken through the EMP and other relevant legal requirements to familiarize them with same.
- Simplified signage will be placed on site to sensitize the workers of the legal requirements attached to this EMP.

All personnel will undergo environmental awareness training programme as shown in the tabulation below.

Type of training	Training Targets	Standards
• Induction programme – legal aspects • Specific environmental aspects: waste, water, hydro carbons, dust, material handling rehabilitation • Competency • Health and safety – dust management, emergency preparedness, first aid. • Fauna and flora protection	• Management • Supervisors • Operators • Visitors • Contractors	• Records • Standard operating procedures • Signage • Personal Protection Equipment

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

Environmental risks and how to manage them are dealt with in the induction course referred to in section (m) (i) above. If an incident of environmental pollution or damage does occur it is analysed and appropriate prevention and mitigation measures are developed. These measures are added to the EMP and conveyed to the relevant personnel.

All unplanned incidents with the potential to cause pollution or environmental degradation or conflict with local residents will be reported to Department of Mineral Resources within 24 hours.

Hydrocarbon Spills: Hydrocarbon spills that are considered to be emergency incidents are largescale spills (cover a surface area >1m2), resulting from situations such as; a leaking diesel bowser, an oil drum that is knocked over, large spillages from equipment, etc. Activities that are involved in the clean-up of such instances include:

- The containment of the spill,
- The removal of all contaminated material, and the disposal (at a licenced hazardous disposal facility) or bioremediation (at a licenced facility) of this material.

Fire: There is the potential for fire to occur in the following locations of the drill site:

- Veld fires across vegetated areas; and
- Vehicles and equipment.

Veld fires: Any person who observes the fire must report it to the fire brigade immediately and then to their supervisor. If possible, additional personnel may be sent to contain the fire, but only if the lives of the personnel will not be endangered.

Vehicles and Equipment: Fire extinguishers will be available at the site where drilling activities will take place and in the vehicles.

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

No specific information was required by the Competent Authority to date.

2) 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 the specialist reports where relevant;** X **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:

Sakal and Tebo (Pty) Ltd
Name of company:

Date: