mineral resources

Department:
Mineral Resources
REPUBLIC OF SOUTH AFRICA

NAME OF APPLICANT: Victoblox (Pty) Ltd

REFERENCE NUMBER: GP/30/5/1/1/10111 PR

ENVIRONMENTAL MANAGEMENT PLAN

SUBMITTED
IN TERMS OF SECTION 39 AND OF REGULATION 52 OF THE MINERAL AND PETROLEUM RESOURCES DEVELOPMENT ACT, 2002, (ACT NO. 28 OF 2002) (the Act)

STANDARD DIRECTIVE

Applicants for prospecting rights or mining permits, are herewith, in terms of the provisions of Section 29 (a) and in terms of section 39 (5) of the Mineral and Petroleum Resources Development Act, directed to submit an Environmental Management Plan strictly in accordance with the subject headings herein, and to compile the content according to all the sub items to the said subject headings referred to in the guideline published on the Departments website, within 60 days of notification by the Regional Manager of the acceptance of such application. This document comprises the standard format provided by the Department in terms of Regulation 52 (2), and the standard environmental management plan which was in use prior to the year 2011, will no longer be accepted.

IDENTIFICATION OF THE APPLICATION IN RESPECT OF WHICH THE ENVIRONMENTAL MANAGEMENT PLAN IS SUBMITTED.

ITEM	COMPANY CONTACT DETAILS
Name	Victoblox (Pty) Ltd
Tel no	073 185 9521
Fax no:	086 274 5494
Cellular no	073 185 9521
E-mail address	malwandla@ndzhuku.co.za
Postal address	P.O Box 3491 Halfway House 1685

ITEM	CONSULTANT CONTACT DETAILS (If applicable)
Name	
Tel no	
Fax no:	
Cellular no	
E-mail address	
Postal address	

1 REGULATION 52 (2): Description of the environment likely to be affected by the proposed prospecting or mining operation

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

Climate: The summer (October to March) climate is mild and neither too hot nor humid. The proposed site is located in the summer rainfall region of SA and therefore receives most of its rainfall during this period. While gentle soaking rains do occur, the rainfall in the area is often characterised by intense thunderstorms, which occur mainly in the late afternoon. These thunderstorms, although brief, are often ferocious, and are accompanied by thunder, lightning and occasional hail, and are generally followed by clear skies.

The autumn (April to May) and spring seasons (September) are not fixed and are sometimes short depending on the duration of summer and winter. The winter months (June to August) are characterised by intermittent cold spells, especially during July and August, and occasionally during September. Although snow is not an annual occurrence, there have been years when snowfalls have occurred, mainly during the months of July, August or September.

The area is characterised by northerly and north-westerly winds during winter and spring, and north-north-easterly and north-easterly winds during summer. Although calm conditions occur for less than 2.5% of the time, gentle to light winds (1-5m.s-1) prevail for more than 80% of the time, with stronger and slightly unstable winds being experienced for approximately 15% of the time.

Regional setting: The proposed prospecting area is located in a typical Transvaal Highveld summer rainfall area with cold winters and moderate to hot summers.

Rainfall:. The average year total rainfall was calculated at 668 mm and a precipitation total of >10mm occurred on average 80 days per annum.

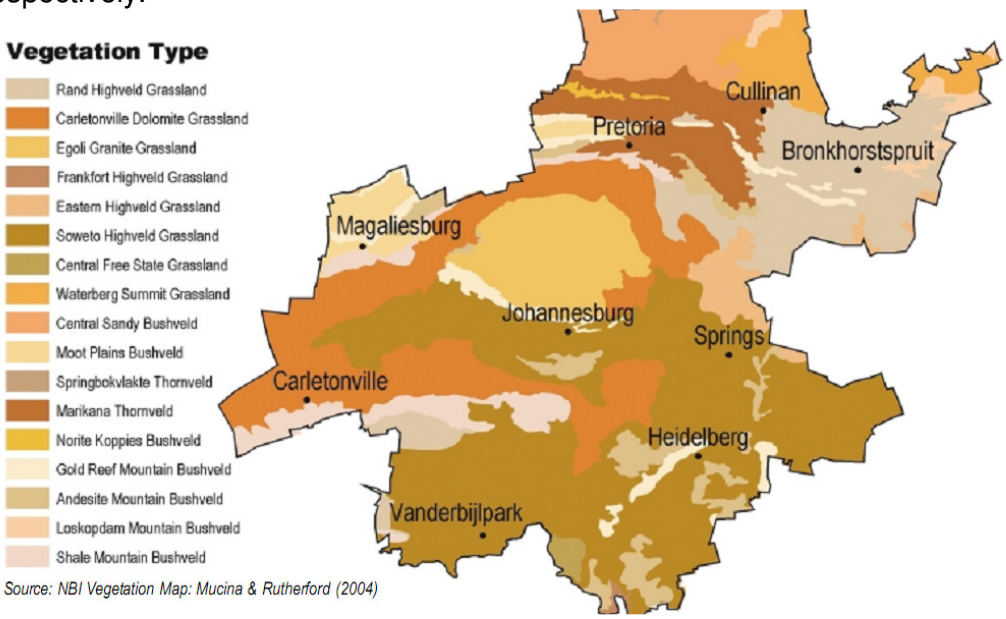
Temperature: Mean annual temperature varies from approximately 19.3°C in the north of the province to 16.0°C in the south. The eastern and central areas, however, experience a lower mean annual temperature of around 15.0°C. There is large variation between summer and winter temperatures, with Gauteng experiencing a daily mean temperature in January and July of 21.2°C and 9.8°C, respectively (Schulze, 1997). Due to the long clear nights, little wind and dry air in Gauteng in winter, the occurrence of frost is common in the province. Gauteng experiences on average 30 days of frost per year (Schulze, 1997). Winter atmospheric conditions cause temperature inversions, which have the effect of keeping polluted air close to the surface, so that winter air quality over the Highveld is generally poor.

Topography: The general physical characteristics of the area are determined by the different geological formations. The general area is almost flat, at an average elevation of around 1180 m.a.s.l., with a very gentle slope to the north-west. The elevation range on the site (the whole prospecting right applied for) is from 1206 m.a.s.l. in the south east to 1160 m.a.s.l. in the north-west. The drainage system is not well defined, with only ephemeral streams present and very small farm dams present.

Land use: The land-use on the proposed prospecting area and the surrounding area are mainly for extensive grazing for cattle and sheep as well as other agricultural activities. The closure objectives will be to return the land to farming use.

Vegetation:. Two of SA's biomes fall within Gauteng, these being the Grassland and Savanna biomes, which comprise 71 % and 29 %,

respectively, of Gauteng's surface area. In SA savannas support more than 5 700 plant species, exceeded only by the Fynbos biome. Nine different vegetation types comprise the Gauteng Savanna, of which the Central Sandy Bushveld and Marikana Thornveld are the most common, comprising 6.3 % and 5.8 % respectively (Figure 2.3). With respect to animal biodiversity, savannas are richer than any other biome. The savanna biome is the core of wildlife, eco-tourism and meat-production industries (Bredenkamp, 2002). However, the large savanna fauna of SA are confined largely to game reserves. The Grassland biome is one of the most threatened in SA, as a large percentage is irreversibly transformed, while only 25 % is formally conserved (Bredenkamp, 2002). Gauteng grasslands consist of eight different vegetation types, of which the Soweto Highveld Grassland, Carleton Dolomite Grassland and Rand Highveld Grassland cover the greatest areas: 32 %, 16 % and 11 %, respectively.



Source: NBI Vegetation Map: Mucina & Rutherford (2004)

Animal life: In its original natural state, the area would have supported a wide variety of game, but due to the land use of commercial farming (grazing) and nearby mining activities, it now only hosts some buck (kudu have been reported), small mammals, reptiles and birds suited to this environment, in addition to cattle and sheep.

Surface water: There is no natural river, dam, wetland, streams, etc within the proposed prospecting area. Surface water will only be required for dust suppression. Storm water will be controlled and managed.

Ground water: Ground water on the farms was not analysed to determine the water quality in the area because of the insignificant impact that the prospecting activities may have on the water quality and quantity. Groundwater is not extensively been used in the area and is primarily used for stock watering and domestic purposes at farmhouses. The ground water quality is in general good and complies with the required water quality guidelines for domestic use.

Air quality: The air quality is essentially unpolluted but is can be disturbed by the movement of heavy earthmoving equipment which can generate dust and cause nuisance and health implication to workers and people living nearby. The prospecting operation will ensure that the dust suppression method is implemented.

Noise: The surrounding areas are characterized by agricultural setting in which some equipment such as tractors and trucks operate. The proposed operation will comply with the provisions of the Mine Health and Safety Act, 1996 (Act 29 of 1996) and its regulation as well as other applicable legislations regarding noise control. Employees will be supplied with ear plugs. All mining vehicles will be equipped with silencers and maintained in a road worthy condition.

Sites of archaeological and cultural interests**:** no sites of archaeological or cultural interest were identified by DEAT (2001) or the South African Heritage Resources Agency: Free State (SAHRA).

Protected Areas: There are no protected areas near the site, nor within 20 km of it. The site is not within any threatened ecosystem as per government notice 1002 of 2011.
Sources: ENPAT database, Free State and Northern Cape. Government Gazette no 34809, 9 December 2011.

1.2 The specific environmental features on the site applied for which may require protection, remediation, management or avoidance.

The environmental features on the site which may require protection, remediation, management or avoidance include the following:

- Drainage lines
- Protected flora and fauna species (if identified); and
- Heritage/cultural resources

1.3 Map showing the spatial locality of all environmental, cultural/heritage and current land use features identified on site.

Please refer to the Land Use Map attached as Appendix 1.2 at the end of the EMP.

1.4 Confirmation that the description of the environment has been compiled with the participation of the community, the landowner and interested and affected parties,

We confirm that consultation was done with affected and/or interested parties and they were encouraged to participate in the description of the environment. However, we are still waiting for written comments from some affected and

interested parties (See attached confirmations of consultation).

2 REGULATION 52 (2) (b): Assessment of the potential impacts of the proposed prospecting or mining operation on the environment, socio-economic conditions and cultural heritage.

2.1 Description of the proposed prospecting or mining operation.

2.1.1 The main prospecting activities (e.g. access roads, topsoil storage sites and any other basic prospecting design features)

The project will use existing access roads as far as practicable. If there is a need to establish access roads, they will be constructed in such a way that minimum number of bushes/trees is felled and existing structures such as fence lines shall be followed as far as possible. If required, topsoil will be removed and protected. Topsoil removed will be used during rehabilitation process. If there is a need to erect gate in fence lines the applicant will consult and reach an agreement with the landowner/s and other affected parties before erecting a gate. The opening and closing status of gates shall be clarified with the landowner and other affected parties. The applicant will also negotiate with the landowner/s to use existing toilet facilities and if this is not possible chemical toilet facilities will be provided.

PROSPECTING WORK PROGRAMME

Description of land being applied for:

Farm name: Vlakfontein

Farm number: 130

Registration division IR

Magisterial district: Heidelberg

Subdivision number: 12

Minerals applied for include:

(i) Gold ore
(ii) Surface dump

Prospecting Work Programme

The prospecting work programme will be divided into 2 phases, invasive and non-invasive prospecting:

DESCRIPTION OF PLANNED NON-INVASIVE ACTIVITIES:
(These activities do not disturb the land where prospecting will take place e.g. aerial photography, desktop studies, aeromagnetic surveys, etc)

Desktop analysis (Satellite imagery, available mapping, literature review, etc). This phase has already been initiated through a literature review of geological articles and previous prospecting which took place on site. The synthesis of this information and the use of the information gained from this prospecting cycle will provide the full picture of the deposit as required by the applicants.

Geophysical Electromagnetic Survey is conducted through the passing of an electric field through two points in the veld. The aim of such survey is to determine any anomalies which may be present in the underlying geology. This phase merely requires the carrying of the two machines into the veld and the passing of the electric current through the underlying substrate/ore body. No samples are taken and no digging is required.

The information gained from **the Electromagnetic Survey** may result in a possible review of proposed drill positions. If this does prove to be the case, then such minor amendment to both the Prospecting Work Programme and Environmental Management Plan will be lodged with the DMR to cater for such changes. Note however that even though the positions of the drill holes may alter slightly, the method and environmental impact attenuation measures will not require adjustment - just the positions of the drill holes.

(i) DESCRIPTION OF PLANNED INVASIVE ACTIVITIES:
(These activities result in land disturbances e.g. sampling, drilling, bulk sampling, etc)

The geological model. The first actual prospecting will consist of hand collected rock samples in the stream channels or the target areas for geochemical sampling. The sample need only be about 0.5kg and will be sent for geochemical analysis. Although the taking of such samples can be deemed to be an invasive prospecting method, the required sample is so small and given that it is a collection of loose samples (i.e. not requiring mechanical release from the ore body) and that it will be collected on foot, the impact is so minor as invasive. The samples will be sent for analysis in terms of Gold ore.

Drilling method:
Drilling will be conducted by contractor using 48mm core drill to yield samples to varying depths. The samples will be logged by geologist and transported to Geo-Science lab for full analysis.

Note that at each drill site it may be required to drill a series of fanned holes (i.e. holes at different angles from the same position). Drilling will be conducted vertically and inclined. This will result in less environmental damage given that fewer sites will be disturbed.

Approximately 2 groundwater boreholes are furthermore proposed to be drilled by means of percussion drilling. This is required to test the yield and quality of the groundwater in the study area, and to obtain baseline groundwater information.
Drilling layout:
Phase 2 is initiated by the convening of the appropriate persons to conduct the following tasks:
• Locate the positions of the core drill holes.
• Locate and mark access routes to the drill sites. Existing roads will be used wherever possible.

Cost breakdown of activities to be carried out throughout the prospecting programme

ACTIVITY	YEAR 1 Expenditure (R')	YEAR 2 Expenditure (R')	YEAR 3 Expenditure (R')	YEAR 4 Expenditure (R')	YEAR 5 Expenditure (R')
Desktop Studies and Literature review	R10 000	-	-	-	-
Environmental Management Plan	R12 000	R12 000			
Educate and train staff conducting drilling on environmental issues	R5 000				
Site establishment (including monthly rent)	R34 000	R 24000	R 24 000	-	-
Geo-chemical sampling	R50 000				
Electro-magnetic survey geographical prospecting	R50 000				
Locate and mark access routes and drill sites	R15 000				
Drilling conducted using 48 mm core drill to varying depths	R100 000			-	-
Analysis of Results			R 50 000		
Process materials at pilot plant				R20 000	
Final Analysis of results to determine future options					R45 000
Reports submitted to DMR	R5 000	R5 000	R5 000	R5 000	R5 000
Annual Total	**R281 000**	**R41 000**	**R81 000**	**R25 000**	**R50 000**
				Total Budget	**R476 000.00**

The Total cost for the prospecting activities will be **R476.000.00**

2.1.2 Plan of the main activities with dimensions

The planned prospecting work is summarised in the Table below:

Type of prospecting activities planned	Dimensions
Trenches	A total of four trenches are planned. However, this might change as the number is controlled by anomalies identified from geophysical, geochemical and geological mapping. But in general will not be more than 2 m in depth and 1 m width.
Boreholes	A total of 1850 m of drilling is planned. An average depth is 370 m. Drill rigs producing core of NQ diameter will be utilised.
Access roads	Decision not yet made. Plan is to make use of existing access roads, however this is subject to approval by the landowner/s and other affected parties and if access roads have to be constructed they will be similar to existing roads in width (generally less than 4 m). Length will be determined by condition of existing access roads.
Ablution facilities	Chemical toilet facilities will be utilised if use of existing facilities is not possible (number of toilets will be controlled by the project phase and number of employees and contractors on-site).

2.1.3 Description of construction, operational, and decommissioning phases.

Construction phase

Prospecting activities are temporary in nature, i.e prospecting activities do not take a very long period as compared to mining. Permanent structures will not be required for the proposed prospecting. There will be no permanent storage of grease oil, diesel or hydraulic fluid within the prospecting premises. The land owner will be consulted regarding the storage of the above should there be a need to store on his premises or else a camp or contactor's site will be used.

A caravan or mobile container, chemical portable toilet and the storage area will be established with consultation of the land owner. Temporary fencing will be established around this area to prevent easy access. Existing farm **access roads** will be used but should there be a need to construct new roads, that will be done with the consultation of the land owner or legal occupier.

Decommissioning phase
Concurrent rehabilitation will be practiced. This will ensure that there is no abundant overburden and topsoil which have to be removed at the closure phase. Nevertheless, the iron prospecting activities do not involve in generation of stockpiles of overburden and topsoil. As temporary structures will be utilised for this prospecting activities, minor or no decommissioning will be required as well as minor rehabilitation will be required.

2.1.4 Listed activities (in terms of the NEMA EIA regulations)

The prospecting activities will not involve in any construction or development which will trigger registration and approval of such activities before they can be commenced with as required in terms of NEMA 2006 and 2010 EIA Regulations. Should there be a case wherein such listed activities are required, the EMP will be amended and submitted to the DMR for approval. The relevant processes for EIA in terms of the National Environmental Management Act, 1998 (Act 107 of 1998) will be followed before such activities can commence.

2.2 Identification of potential impacts
(Refer to the guideline)

2.2.1 Potential impacts per activity and listed activities.

Potential Environmental Impacts & Sources	Measures to prevent, mitigate, minimise or manage the impacts
Impact: Air pollution (dust, gaseous emissions) **Source :** Establishment of camp site, movement of vehicles and drill rigs,	➢ Dust suppression measures will be implemented and the area will be sprayed with water. ➢ Speed limits will be erected to reduce generation of dust. ➢ All the equipment and vehicles will be equipped with the manufactures stock standard exhaust systems which will minimise the amount of emissions from their engines. ➢ Burning of waste will not be allowed on site.
Impact: Water pollution (surface water, groundwater and wetlands) **Source:** Spillages from drill	❖ Prospecting activities will not be conducted within 100m radius from a dam, river, stream, wetland or any water body and the following will be ensured: ➢ Control and manage storm water ➢ Prevent soil erosion and keep the water channel clean

rigs	➢ Monitor the ground water
Impact: Land degradation, land-use and capability **Source:** Poor waste management	➢ Completed boreholes will be rehabilitated and re-vegetated. ➢ Areas which do not form part of drilling site will not be disturbed ➢ Prospecting will be conducted in an environmental sustainable manner. ➢ One of the prospecting objective is to turn the area into other land use/s after closure. ➢ Waste material will be properly managed
Impact: Ecological degradation **Source:** Uncontrolled vehicle movement and poor rehabilitation	➢ Most of the biodiversity will be restored after closure. ➢ Indigenous species will be used to re-vegetate the area. ➢ No animals will be killed and collection of firewood will not be allowed. ➢ Movement of vehicles will be restricted to designated area
Impact: Land pollution **Source:** Lack of proper waste management	➢ It is anticipated that domestic waste of small quantity will be generated by workers. Such waste materials will be kept in waste bins which will be disposed of on a regular basis at the registered waste disposal. The same will apply to the waste from the offices. ➢ Any spillages which may occur will be investigated and immediate action will be taken. In the event of significant spills (>35 litres) of any hazardous substance, this will be recorded and reported to the environmental personnel, Department of Water Affairs, DMR and any other relevant authorities. ➢ Scraps will be kept in designated areas prior delivery to the scrap yard.
Impact: Aesthetic Pollution	➢ The visual impact will be of temporary nature. ➢ The surrounding trees will also serves as the screen to the prospecting area.
Impact: Noise **Source:** Vehicle movements and Drill rigs	➢ The operation will comply with the provisions of the Mine Health and Safety Act, 1996 (Act 29 of 1996) and its regulation as well as other applicable legislations regarding noise control. ➢ Employees will be supplied with ear plugs. All prospecting vehicles are equipped with silencers and maintained in a road worthy condition.

2.2.2 Potential cumulative impacts.

Clearing of vegetation (in preparation of trenching and drilling activities) if not well managed can cause soil erosion. This can lead to recurring loss of habitat in areas that are disturbed and re-disturbed over an extended periods. Soil erosion will wash chemicals in soils (mainly from fertilisers) into nearby water bodies. This has the potential to cause water pollution and might also negatively affect the organisms in the affected water bodies. Contaminated sediments may also lower the pH of soils to the extent that vegetation and suitable habitat are lost.

The ongoing development of employment opportunities and enhancement of local labour skills base as successive projects come on stream.

2.2.3 Potential impact on heritage resources

The area in question is of no significant heritage resources and no impacts regarding heritage resources are expected as indicated by the farm employees and other surrounding neighbours. However, should the consultation with the land owner as well as with the interested and affected parties indicates that there are some heritage resources which can be affected by the proposed prospecting activities, the area which has such resources can be excluded from the proposed prospecting area. The necessary processes as required by the South African Heritage Resources Agency will be followed as stipulated in terms of the provisions of the National Heritage Resources Act, 1999 (Act 25 of 1999).

Victoblox (Pty) Ltd understand the issues around National and Cultural Heritage Sites. According to National Heritage Resources Act, 1999 (Act No. 25 of 1999), National Heritage Sites include sites of archaeological and paleontological significance or burial sites and public monuments and memorials. The following are the standards on the protection of national heritage resources:

- The prospective miner must before commencing mining activity, ascertain whether the designated site does not include a heritage site.
- National heritage sites must not be destroyed, damaged, excavated, altered, or defaced without a permit.
- Demolishing of building older than 60 yrs is subjected to approval - National Heritage Resources Act, 1999 (Act No 25 of 1999).

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

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

Although drilling will be limited in spatial extent, this proposed prospecting will somewhat reduce the grazing available to famers. Vehicle movement will also disturb some other farming activities.

Noise pollution and visual impact are the most common potential impacts that can affect the communities, individual or competing land users in close proximity. However, mitigation measures to minimise such impacts are in place as already discussed above. It should also be noted that dust and noise impacts will be minimal because they are in most cases localised to the drill sites and access tracks and this is for a shorter period. The prospecting activities will be conducted in a manner that will ensure that the above-mentioned are not negatively affected by the proposed prospecting activities.

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

We confirm that consultations were done with affected and/or interested parties and they were encouraged to participate in the compilation of the list of potential impacts. However, we are still waiting for written comments from some affected and interested parties (See attached confirmations of consultations on **Appendix 2** at the end of the EMP).

2.2.6 Confirmation of specialist report appended.

(Refer to guideline)

There is no specialist report appended as the proposed prospecting activities will not result in major negative impacts. Sensitive areas were also not identified in close vicinity to the proposed prospecting area. Migration of prospecting activities to mining activities will involve different specialist studies as mining activities have significant impacts as compared to prospecting activities. Should the proposed prospecting activities give an indication that the area has potential for mining activities ,i.e it will be economic viable to mine the mineral applied for over the land in question, a mining right application which will require a lot of specialist studies will be lodged.

3 REGULATION 52 (2) (c): Summary of the assessment of the significance of the potential impacts and the proposed mitigation measures to minimise adverse impacts.

3.1 Assessment of the significance of the potential impacts

3.1.1 Criteria of assigning significance to potential impacts

The assigning of the significance to potential impacts is integration of the severity (magnitude of the potential impacts), type of the impact, extent to which the impact will occur, probability of the impact (the likelihood of the impact occurring) and the duration of the impact. This is the best judgement of whether the impact is important or not within the broad context , once the mitigation is taken into account.

By using the combination of these criteria, impacts have been assigned a rating of high (H), medium/moderate (M), low (L), very low (VL) or no impact. A significance rating is assigned twice to the impact. Firstly, to indicate significance without mitigation or optimization and secondly, to indicate significance after mitigation or optimization. This is done to highlight the importance of mitigation or optimization of potential impacts.

CATEGORY	**DESCRIPTION/DEFINATION**
High	Impacts will be of high significance if one of the following apply: The extent is national to international; The duration is long term to permanent; The severity will be high; Probability is definite
Moderate	Impacts will be of moderate significance if one of the following apply: The extent is local to regional; The duration is medium to long term; The severity is major; The probability is highly probable
Low	Impacts will be of low significance if one of the following apply: The extent is local; The duration is temporary to permanent; The severity is low; The probability is probable
Very Low	Impacts will be of high significance if one of the following apply:

	The extent is site-specific The duration is temporary to permanent; The severity is very low The probability is improbable
No impacts	A potential concern of impact which, upon evaluation, is found to have no impact

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

Main Activity	Impact	Significant Assessment
Movements of vehicles & machineries	Noise, dust, leakages of oils & diesel,	Very Low
Establishment of site camp	Noise, dust, leakages of oils & diesel,	Low
Drilling	Water pollution	Very low
Vehicle maintenance	Spillages	Low
Road construction	Noise, dust, leakages of oils & diesel,	Low
Drilling	Ecological degradation	Modarate

3.1.3 Assessment of potential cumulative impacts.

Based on the nature of the prospecting activities, there are no cumulative impacts anticipated. Poor management of access roads and rehabilitation activities can create cumulative impacts on vegetation of the proposed prospecting area if not properly managed.

3.2 Proposed mitigation measures to minimise adverse impacts.

3.2.1 List of actions, activities, or processes that have sufficiently significant impacts to require mitigation.

Prospecting activities such as transporting or dispatching activities, on site supporting activities, drilling, excavating, fencing, construction of roads, etc can have negative environmental impacts if not managed properly. They can result in:

Air pollution (dust, gaseous emissions)

- Dust suppression measures will be implemented and the area will be sprayed with water.
- Speed limits will be erected to reduce generation of dust.
- All the equipment and vehicles will be equipped with the manufactures stock standard exhaust systems which will minimise the amount of emissions from their engines.
- Burning of waste will not be allowed on site.

Water pollution (surface water, groundwater and wetlands)

- ❖ Prospecting activities will not be conducted within 100m radius from a dam, river, stream, wetland or any water body and the following will be ensured:
- Control and manage storm water
- Prevent soil erosion and keep the water channel clean
- Monitor the ground water

Land degradation, land-use and capability

- Completed trenches or excavations will be rehabilitated and re-vegetated.
- Areas which do not have gravel will not be disturbed
- Prospecting will be conducted in an environmental sustainable manner.
- One of the prospecting objective is to turn the area into other land use/s after closure

Ecological degradation

- Most of the biodiversity will be restored after closure.
- Indigenous sp will be used to re-vegetate the area.
- No animals will be killed and collection of firewood will not be allowed

Land pollution

- It is anticipated that domestic waste of small quantity will be generated by workers. Such waste materials will be kept in waste bins which will be disposed of on a regular basis at the registered waste disposal site. The same will apply to the waste from the offices.
- Any spillages which may occur will be investigated and immediate action will be taken. In the event of significant spills (>35 litres) of any hazardous substance, this will be recorded and reported to the environmental personnel, Department of Water Affairs, DMR and any other relevant authorities.
- Scraps will be kept in designated areas prior delivery to the scrap yard.

Noise

- The operation will comply with the provisions of the Mine Health and Safety Act, 1996 (Act 29 of 1996) and its regulation as well as other applicable legislations regarding noise control.
- Employees will be supplied with ear plugs. All prospecting vehicles are equipped with silencers and maintained in a road worthy condition.

3.2.2 Concomitant list of appropriate technical or management options

(Chosen to modify, remedy, control or stop any action, activity, or process which will cause significant impacts on the environment, socio-economic conditions and historical and cultural aspects as identified. Attach detail of each technical or management option as appendices)

See Appendix 4

3.2.3 Review the significance of the identified impacts

(After bringing the proposed mitigation measures into consideration).

The identified potential impacts which range from air pollution, dust, noise pollution, spillages, aesthetic impacts, invasion of alien species, land degradation, water pollution and land pollution will be properly managed. None of this impacts will be significant since the proposed prospecting activities will be of small scale, mitigation measures will be adhered to and concurrent rehabilitation will be practiced.

4 REGULATION 52 (2) (d): Financial provision. The applicant is required to-

4.1 Plans for quantum calculation purposes.

(Show the location and aerial extent of the aforesaid main mining actions, activities, or processes, for each of the construction operational and closure phases of the operation).

This EMP was prepared and submitted for prospecting activities and not for mining permit. For prospecting activities it is not more practical to provide the requested information as prospecting is undertaken through a phased approach. The required plans can only be provided during the course of prospecting activities or for a EMPR for a mining right application.

4.2 Alignment of rehabilitation with the closure objectives

(Describe and ensure that the rehabilitation plan is compatible with the closure objectives determined in accordance with the baseline study as prescribed).

The closure objectives are;

- To leave the site in a safe state for humans and animals,

- Ensure that the water resource and underground water is not affected by rehabilitation activities
- To consolidate and remove the stockpile material remaining on the site and hence restoring the original topography of the site.
- To promote indigenous vegetation growth suitable for animals that graze over the disturbed areas on the site.
- To remove all category 1 invader vegetation and demarcate the Eucalyptus sp. on the site.
- To leave the prospecting area at a potential stage for any other land use including the pre-prospecting land-use.

4.3 Quantum calculations.

(Provide a calculation of the quantum of the financial provision required to manage and rehabilitate the environment, in accordance with the guideline prescribed in terms of regulation54 (1) in respect of each of the phases referred to).

Table 4.1: Financial provision for environmental rehabilitation

Item	Cost (in Rands)
Transportation/establishment of all equipment	2000
Cost of decommission and associated infrastructure	5000
Labour cost	6000
Cost of profiling disturbed areas	4000
Cost of replacing top soil*	0
Cost of re-vegetation	2000
Aftercare and maintenance	4000
Total	**23000**

4.4 Undertaking to provide financial provision

(Indicate that the required amount will be provided should the right be granted).

It is hereby undertaken that the financial provision for rehabilitation purposes as required in terms of section 41 of the Mineral and Petroleum Resources Development Act, 2002 (Act 28 of 202) as read with regulations 53 and 54 of the Regulations to the said Act will be submitted to the Department of Mineral Resources; Gauteng Regional Office once a prospecting right has been granted by the minister or the delegates of the minister. Victoblox (Pty) Ltd is committed to has set aside an amount of **R23 000.00** for rehabilitation of the proposed prospecting activities.

5 REGULATION 52 (2) (e): Planned monitoring and performance assessment of the environmental management plan.

5.1 List of identified impacts requiring monitoring programmes.

Environmental Impact	Components affected and risk factor
Air pollution (dust, gaseous emissions)	➢ Gaseous and dust emissions have adverse impact on **human health**. ➢ Long term **atmospheric impacts,** e.g. can change microphysical properties of clouds, change local climates, act as condensation nuclei. ➢ **Reduction in visibility**
Water pollution (surface water, groundwater and wetlands)	➢ **Contamination** of surface and underground water-adverse impacts on human health. ➢ **Soil erosion** and **storm-water** management. ➢ Disturbance on **surface run-off** patterns.
Land degradation, land-use and capability	➢ **Soil erosion**-loss of top soil, **siltation**. ➢ Soil contamination-loss of vegetation cover and soil fauna. ➢ Soil **compaction**
Ecological degradation	➢ Loss of plant and animal species, wetlands affected. ➢ Impact on soils, water quality and aquatic life.
Invasion of alien plants	➢ Loss of indigenous plant species and loss of water
Aesthetic pollution	➢ Can be through open pits, improper disposal of waste. Hazardous waste (chemical and radioactive) can have adverse impacts on human health due to high radiation and corrosive hazard. ➢ Coating of houses etc with dust
Noise	➢ Can be nuisance noise (disturbing noise) or 'industrial' noise, which can have negative impacts on health, also depending on proximity to residential areas.
Fire	➢ Loss of life (animal and human) and biodiversity

5.2 Functional requirements for monitoring programmes.

Every year, a qualified environmental consultant will be employed to undertake an environmental performance of the prospecting activities. As part of the terms of reference to the consultant, the consultant will inform the employees of his/her findings and provide tips of reducing some of the environmental impacts noted. The employees will be requested to sign a register of proof of training.

Regulation 55 of the Mineral and Petroleum Resources Development Act, 2002 (Act 28 of 2002) clearly describes the process and

procedure as well as requirements for monitoring and auditing of the performance of this plan to adequately address environmental impacts from the operation. The following information must be provided. The monitoring and performance assessment of the prospecting activities will be conducted as prescribed in terms of regulation 55 of the Mineral and petroleum Resources Development Act, 2002 (Act 28 of 2002). Section 38 of the said Act is also relevant as far as monitoring of impacts is concerned. This Section requires the holder of a prospecting right and mining right or permit to rehabilitate the land to its natural state or predetermined condition.

The holder is also responsible for any environmental damage or pollution as a result of his operations, both inside and outside the prospecting right area. This Section places the responsibility for any environmental damage squarely with the holder of the right. The holder therefore has the obligation to control such damage before it becomes unmanageable. The continuous monitoring of key environmental indicators throughout the life of the mine operation will ensure that these impacts are recognised before they get out of hand.

Appropriate monitoring and performance assessments specifically for the Environmental Management Plan, will be conducted taking into account all the environmental features. Monitoring and performance assessment of approved EMP will be applicable to the whole life cycle of the prospecting operation.

5.3 Roles and responsibilities for the execution of monitoring programmes.

Mitigation: Action/mitigation	Responsibility	Timeframe
Soil pollution from spillages: Drill pans will be in place under all stationary machinery. Servicing of vehicles and other equipment will be done regularly to avoid spillages. No equipment shall be extensively repaired in any place other than in the maintenance yard. Rehabilitation of disturbed areas should be undertaken as soon as possible and properly monitored. Disposal of contaminated soils will be done at approved sites.	Victoblox (Pty) Ltd/ Supervision Consultant on behalf of Victoblox (Pty) Ltd	Full duration of the project
Noise impacts to people: Make use of personal hearing devices (i.e. noise clippers). Drilling activities will also utilise machines producing less noise (i.e. noise level equivalent to that produced by agricultural tractor). Drilling will also be done during the day and this will not be done throughout the life of the project, thereby making the impacts temporary. If there is a need to drill at night, arrangements will be done will all affected parties and drilling will also be far from residential areas to ensure that no or minor impacts are caused by such activities.	Victoblox (Pty) Ltd/ Supervision Consultant on behalf of Victoblox (Pty) Ltd	Drilling phase and when working close to equipment generating high noise levels (i.e. core cutting machine).
Dust emission: Control speed of vehicles entering and leaving the project area.	Victoblox (Pty) Ltd/ Supervision Consultant on behalf of Victoblox (Pty) Ltd	Full duration of the project
Soil erosion: Rehabilitation of disturbed areas will be undertaken as soon as possible and properly monitored. Rehabilitation will involve the replacement of suitable and adequate topsoil and the encouragement of indigenous	Victoblox (Pty) Ltd/ Supervision Consultant on behalf of Victoblox (Pty) Ltd	Full duration of the project
Generation of domestic waste: Dust bins will be provided for domestic waste. These bins will be emptied at approved disposal sites.	Victoblox (Pty) Ltd/ Supervision Consultant on behalf of Victoblox (Pty)	Full duration of the project
Surface water contamination: Erosion will be avoided to ensure that washing of chemicals from soils into the nearby water bodies does not occur. Water samples will be taken from these water bodies for analyse in order to ensure that the water is still in condition similar to that before prospecting. If there are some changes, corrective action will be taken.	Victoblox (Pty) Ltd/ Supervision Consultant on behalf of Victoblox (Pty) Ltd	Full duration of the project
Impacts on cultural/heritage resources: Prospecting activities have potential to cause serious impacts on heritage/cultural resources. Before any trenching or drilling is conducted the applicant will appoint a specialist to do phase 1 heritage scoping assessment which involves identification of archaeological sites and assessing their significance and; phase 2 which involves recording, sampling and sating sites that are to be destroyed. This will enable identification of available resources and the appointed specialist will give advice on how the identified resources should be protected.	Victoblox (Pty) Ltd/ Supervision Consultant on behalf of Victoblox (Pty) Ltd	Full duration of the project

5.4 Committed time frames for monitoring and reporting.

Monthly meetings are ideal to facilitate awareness of job-specific environmental dangers and to educate employees as to how they can live a more sustainable lifestyle outside work. The method and medium of communication during the monthly meetings will be determined by the team leader facilitating the meeting. The topics discussed in monthly meeting will be recorded in a log book, with all employees present signing an attendance register.
The team leader who is to undertake the monthly meeting will be provided with the necessary training so that he/she can effectively inform the other employees about the topics listed below.

The topics for discussion have been identified as both topics specific to the prospect but also topics that the employees can take home and use in their personnel life. **Eleven topics have been chosen so that ONE topic can be taught every month of the year (except December).** The topics include:

- **Dust** generation related impacts (particularly health related impacts)
  - Which prospecting activities causes dust
  - How the dust generation from these activities can be reduced such as reducing drop heights.
  - The need for enforcing a speed limit.

- **Noise** generation and related impacts (particularly health related).
  - The importance of wearing hearing protection in noisy areas
  - How noise can impact on surrounding land owners and the need to restrain from creating unnecessary noise (especially at night).

- **Waste** minimisation and recycling.
  - Training on the difference between domestic waste and industrial waste
  - The importance on separating waste into the demarcated receptacles
  - The importance of disposing of industrial waste correctly
  - Good housekeeping tips and making use of bins provided
  - Why it is important to minimise waste
  - What can be recycle
  - Why it is important to recycle

- **Alien vegetation** identification and removal, and the importance of indigenous vegetation.
  - Which are the common alien vegetation plants
  - Why alien vegetation must be eradicate
  - The benefits of indigenous vegetation

- **Hydrocarbon spillages-** The problem associated with spills
  - What hydrocarbon spillages
  - Why they are regarded as bad

- **Practical training** regarding the clean-up a major and minor hydrocarbon spills.
- One meeting will be dedicated to showing the employees how to deal with a hydrocarbon spill. They will take the absorbent provided on the site and spread it over a hydrocarbon spill. The absorbent and polluted soil will be dug up and placed in the contained area for bioremediation. The bioremediation substance will be used to assist in of the soil remediation process.

- **Fire**
- Trained on what procedure to follow in the event of a fire including who to contact in the case of an emergency
- Trained on how to use fire extinguishers
- Informed on the importance of fire breaks
- Taught about the different fire containment techniques for different fire
- Taught on what first aid is required for smoke inhalation and for burns.
- Provided with tips to ensure that fires don't ever pose a threat.

- **Environmental Management Plan training**
- One meeting will be dedicated to discuss the environmental management plan and which management aspects are relevant to individual employees.

- **Concurrent Rehabilitation**
- Why concurrent rehabilitation is necessary
- What activities are required for concurrent rehabilitation of a prospecting operation
- The benefits of concurrent rehabilitation
- Water and electricity consumption and conservation
- Why is it important to conserve water and electricity
- Practical tips on how an individual/ household can save water and electricity

- **Environmental Reporting**
- What is an environmental incident such as excessive tailpipe emissions
- When should you report an environmental incident
- How should you respond to an environmental incident

In addition to a once a month dedicated meeting, environmental topics will be discussed at a meeting if the environmental incident occurred during the previous day. Such incident may include a fuel spill or a complaint from the surrounding landowner. During the meeting, the following topics will be discussed (this is not an exhaustive list):

- How and why the incident occurred?
- How the incident was dealt with (if applicable)?
- Evaluation of the response taken by staff?

- ❖ Can the response be improved?
- ❖ What preventative measures should be implemented?
- ❖ What can be done to prevent the likelihood of the incident recurring?

The outcome of the discussion will be noted and implemented by the employees

6 REGULATION 52 (2) (f): Closure and environmental objectives.

6.1 Rehabilitation plan

(Show the areas and aerial extent of the main prospecting activities, including the anticipated prospected area at the time of closure).

Rehabilitation will be always in mind from the commencement of prospecting activities. It will be ensured that prospecting activities will be conducted concurrently with rehabilitation process. However, the closure pan will accompany the closure application should the prospecting operation fail to yield positive results.

6.2 Closure objectives and their extent of alignment to the pre-mining environment.

The closure objectives are;

- o To leave the site in a safe state for humans and animals,
- o Ensure that the water resource and underground water is not affected by rehabilitation activities
- o To consolidate and remove the stockpile material remaining on the site and hence restoring the original topography of the site.
- o To promote indigenous vegetation growth suitable for animals that graze over the disturbed areas on the site.
- o To remove all category 1 invader vegetation and demarcate the Eucalyptus sp. on the site.

To leave the prospecting area at a potential stage for any other land- use including the pre-prospecting land-use.

SMALL AND LARGE DIAMETER DRILLING

- Any drill holes which have intersected water are to be left open at the request of the landowner, may only be left open if the landowner takes responsibility for completion of the necessary forms and lodging these with DWA in order to obtain their approval.
- These will be capped as described in the drilling procedure.
- The areas around the hole will be cleared of all drilling chips.
- Drill holes not be used in the future are to be grouted with bentonite as described in the drilling procedure so as to reduce the possibility of the formation of any acid leachate and the possibility of the transfer of any pollutants to ground water, where this has been identified as a concern.

- Other drill holes must be closed as per the drilling procedure.
- Remove the lining of the sump.
- Fill the sump with the material originally moved to make the excavation, and which has been stored on a tarpaulin.
- Restore profile of site to fit in with adjacent ground.
- Loosen compacted ground.
- Replace any topsoil that has been removed.
- Replace stored rocks and stones evenly over site to prevent wind and water erosion, trap seeds and aid water retention.
- If quartz or other light coloured pebbles were collected separately (in arid areas), these must be scattered evenly over the area – causing heat to be reflected and thus cooling the surface, creating microhabitats.
- If any soil on the site has been severely compacted, it must be loosened /scarified to allow water and seed penetration. If the gradient is steep, this loosening / scarifying should be done in bands on the contour, leaving some undisturbed sections between the loosened sections.
- If the slope is very steep the advice of a competent person must be obtained regarding rehabilitation measures so as to ensure minimal chance of erosion.
- Determine if the gradient requires berms to be constructed across the site from natural materials (stones, rocks, branches) to reduce the velocity of rain water and catch soil and reduce the chances of erosion.
- If vegetation was removed and stored, scatter this over the pit site as a mulch to hold soil and seeds, and help prevent erosion.
- Check with project geologist if a) seeding is to be done and if b) Eco-T is to be used.
- All equipment, fencing, fuel etc must be removed from site.
- All waste must be removed from site and disposed of at the appropriately licenced facility.
- Portable toilets must be removed and the contents disposed of at an approved facility.
- All tarpaulins must be removed from the site.
- Photograph the site, file information with date and note when first monitoring is due.

REHABILITATION OF FOOTPATHS, ROADS AND TRACKS

- Ensure all equipment, fuel, waste, tarpaulins etc have been removed from site.
- Place a natural barrier at the junction to the footpath/track/road being rehabilitated e.g. rocks to prevent further access.
- Remove any cemented strips on steep / loose slopes but create contour barriers in their place.
- Loosen compacted soil on tracks when track not needed again.

- If on a slope, reduce potential water erosion with contour barriers
- Check with project geologist if a) seeding is to be done and if b) Eco-T is to be used.
- Photograph rehabilitated footpath, track / road and update record.

INVASIVE SPECIES CONTROL

- Newly created access roads, large diameter drilling and/or mechanised excavation sites will be monitored 12 monthly after rehabilitation, until prospecting right closure is obtained, to check for the appearance of invasive alien species.
- Any species present will be recorded and photographed.
- Some of the more common species likely to be encountered are *Acacia dealbata & mearnsii* (Back & Silver Wattle), *Pinus* species, *Eucalyptus* species, *Solanum mauritianum* (Bugweed), *Cestrum (*Inkberry)

6.3 Confirmation of consultation

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

Consultation of the land owners has been done and a copy of this EMP will be made available to the land owner and other interested and affected parties who would like to study such a document.

REGULATION 52 (2) (g): Record of the public participation and the results thereof.

6.4 Identification of interested and affected parties.

(Provide the information referred to in the guideline)

Interested and affected parties were identified as stipulated in the departmental guideline drafted in terms of regulation 16(4)(b) in respect of prospecting tight application as well as other related regulations for mining permit and right. The landowner has also been identified as the interested and affected party, hence the consultation negotiations are still taking place to ensure that a proper consultation process is undertaken and completed.

6.5 The details of the engagement process.

6.5.1 Description of the information provided to the community, landowners, and interested and affected parties.

The land owners were consulted and have not yet provided and comment or objection to the proposed project. The notice in terms of section 16(4)(b) of the Mineral and Petroleum Resources Development Act, 2002 (Act 28 of 2002) has also been given local newspaper for advertisement. Any information that will be provided by the community, landowners, and interested and affected parties will be taken into considerations and forwarded to the DMR offices for considerations.

6.5.2 List of which parties indentified in 7.1 above that were in fact consulted, and which were not consulted.

The list cannot be provided at this stage, but it should be noted that the notice has been placed on advert by the local newspaper and the land owner's consultation is still in process.

6.5.3 List of views raised by consulted parties regarding the existing cultural, socio-economic or biophysical environment.

The consulted parties have not yet raised any issues regarding the above-mentioned factors.

6.5.4 List of views raised by consulted parties on how their existing cultural, socio-economic or biophysical environment potentially will be impacted on by the proposed prospecting or mining operation.

There are no concerns raised at this stage. Any information that will be received regarding this project will be submitted to the DMR offices and depending on the nature if information, a revised EMP can be submitted for consideration and further evaluation.

6.5.5 Other concerns raised by the aforesaid parties.

There are no concerns raised at this stage. Any information that will be received regarding this project will be submitted to the DMR offices and depending on the nature if information, a revised EMP can be submitted for consideration and further evaluation. There are also no objections received to date and

any objections received will be forwarded to the REMDEC for considerations.

6.5.6 Confirmation that minutes and records of the consultations are appended.

The records of consultations have been attached to this EMP as an **Appendix 2**.

6.5.7 Information regarding objections received.

The information (i.e. names and ID numbers of the people who will be conducting prospecting activities of visiting the site will be provided beforehand to the land owners and inform them of the exact dates which they will be visiting the farms (prospecting area). The procedures referred to in this Environmental Management Plan are aimed to minimise the environmental impacts. These include measures to avoid polluting of the local water supply. The use of water from the farms will only be considered should approval be obtained from the department of Water Affairs and only if there is sufficient supply to allow the normal farming activities to continue.

6.6 The manner in which the issues raised were addressed.

There are no issues raised at this stage. Any issues or concerns that will be raised will be addressed in an appropriate manner following all necessary processes.

7 SECTION 39 (3) (c) of the Act: Environmental awareness plan.

All employees will undergo an induction course when they are employed at the prospecting area and an annual refresher thereafter. Environmental awareness forms part of the induction course. The following syllabus of environmental training is to be included within the induction course:

1. Discuss the concepts of sustainability which must include:

   - Definition of sustainable development – “development that meets the needs of the present and the future generation without compromising the ability of future generation to meet their own needs”.
   - An explanation of the “*Triple Bottom Line*” of sustainable development; i.e. balancing environmental, social and economic factors.

- ❖ An example of sustainable developments. These should be selected based on the audience, selecting a development that they can relate to.

2. Discuss the latest specific environmental goals and objectives and the benefits of achieving such goals. As these goals change the induction course must be updated accordingly. Where possible the goals and objectives covered should be selected on the basis of topics that personnel can relate to. These could include, but are not limited to the following:

   - ❖ <u>Concurrent rehabilitation</u>
     - o *Goal:* Rehabilitate mined out areas concurrently (where practical)
     - o *Objective:* To ensure that all mined out areas are concurrently rehabilitated. The close corporation will aim to 100% concurrent in terms of rehabilitation.
     - o *Benefits:*
       - ▪ Reduce the costs of final rehabilitation
       - ▪ Reduces the time to implement final rehabilitation and to obtain a closure certificate.
       - ▪ Improve the ecological status of the site.
       - ▪ The more surface rehabilitated the less chance of dust and erosion from the exposed surfaces.
       - ▪ Increases the aesthetical appeal of the prospecting area.

   - ❖ <u>Waste minimisation</u>

     - o *Goal:* Reduce waste generation and recycle and re-use where possible.
     - o *Objective:* To initiate recycling project where possible.
     - o *Benefits:*
       - ▪ Reduction of waste and promotion of recycling reduces the economic and environmental costs of dealing with waste.
       - ▪ Recycling reduces the need to use non-renewable resources, ensuring that these resources will be available for future generations.

   - ❖ <u>Reducing amounts of hydrocarbon spillage</u>
     - o *Goal:* Reduce the amounts of hydrocarbon spillages and the impact from spillages that occur.
     - o *Objective:* To initiate recycling project where possible.
     - o *Benefits:*
       - ▪ Saving oil reduces the need to use non-renewable resources.
       - ▪ Reduce the potential for soil contamination.
       - ▪ Reduce the potential to pollute the ground water.

3. Concepts surrounding the living of a sustainable lifestyle , that can be implemented both at work and at home should be discussed. This could include, but are not limited to the following:

- ❖ Save water
  - Close or turn the tap off when not using water, e.g wile brushing your teeth
  - Only water gardens or crops when necessary and not during the heat of the day (between 10am and 3pm).

- ❖ Save electricity
  - Use energy efficient light bulbs.
  - Do not leave the lights on when not required
  - During cold weather, close doors and cover windows to keep the heat in the house

- ❖ Waste-Reduce, Re-use and Recycling
  - Recycle where possible
  - Collect used oil for recycling

4. Questions/comments

   After undergoing training the employees will be requested to sign a register of proof of training.

7.1 Employee communication process

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

Environmental awareness of the employees will be provided by implementing the environmental awareness training in the following forums:

- Monthly meetings
- Induction courses (annually)
- Training from an environmental consultant (every two years)

It is important to note that the environmental awareness programme is a living document and should be reviewed regularly to ensure that relevant environmental concerns are discussed and the potential impacts of such concerns are minimised. The syllabus to be taught to employees has been determined through identification of the major environmental concerns raised in the impact assessment of this report.

Monthly meetings: Monthly meetings are ideal to facilitate awareness of job-specific environmental dangers and to educate employees as to how they can live a more sustainable lifestyle outside work.

Induction training: All employees will undergo an induction course when they are employed by the mine and an annual refresher thereafter. Environmental awareness forms part of this induction course. After undergoing training the employees will be requested to sign a register of proof of training.

Environmental training from an environmental consultant: Every two years, a qualified environmental consultant will be employed to undertake an environmental performance of the operation. As part of the terms of reference to the consultant, the consultant will inform the employees of his/her findings and provide tips of reducing some of the environmental impacts noted. The employees will be requested to sign a register of proof of training.

7.2 Description of solutions to risks

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

The above-set measures will be adhered to ensure prevention of risky situations during prospecting operation. Each activity and associated risks is linked in aspects and impacts register to relevant procedures to prevent pollution and other significant impacts. The compliance to the procedures is the duty of all staff and contractors. This is monitored by supervisors and reported to the management team as well as environmental officer.

7.3 Environmental awareness training.

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

The environmental awareness training will comprise of the following:

- General induction to the environmental management system including the aspects and impacts register
- Activity specific induction, based on procedures, including emergency response on spill handling (use of spill kit etc)
- On site confirmation of these procedures, with demonstration of requirements. Periodic awareness section(toolbox talks) on safety, health and environmental topics.
- The table below will also form part of the training sessions.

ASPECT	COMMITMENT AND TRAINING ASSESSMENT
1. Pollution control and Waste Management	Avoidance of waste generation at source, minimisation, re-use or recycling
	Proper waste disposal
2. Air Quality Management and control	Use of machinery such that pollution is kept to a minimum, if possible
3. Fire Prevention	Proper disposal of iron and other flammable stockpile.
	Fire response mechanisms.
4. Noise Management and control	Keeping noise levels to a minimum
5. Blasting, vibration and shock management and control	Time, duration and date of blasting, suitable weather conditions.
6. Water management and pollution control	Proper handling of waste, especially hazardous waste.
7. Disposal of Waste material	Proper disposal of waste, especially hazardous waste.
8. Soil pollution and erosion control	Proper handling of greases, hydraulic fluids etc, minimising spillage into soil, revegetation.

9. Sanitation of surface	Use of sanitation facilities and proper hygienic and aesthetic standards.
10. Granite off cuts and related waste	Recycling, crushing and disposal of granite off-cuts.
	Rehabilitation of land.
11. Management of residue stockpiles and deposits	Characterise stockpile to identify any potentially significant health or safety hazard
	Identify other suitable sites for disposal.
	The design and construction of residue stockpile according to specifications.
	The monitoring of residue stockpiles and deposits continuously to ensure ongoing pollution control, integrity of rehabilitation, health and safety.
	The decommissioning, closure and post closure management of residue deposits as addressed in the closure plan.

8 SECTION 39 (4) (a) (iii) of the Act: Capacity to rehabilitate and manage negative impacts on the environment.

8.1 The annual amount required to manage and rehabilitate the environment.

(Provide a detailed explanation as to how the amount was derived)

Item	Cost (in Rands)
Transportation/establishment of all equipment	2000
Cost of decommission and associated infrastructure	5000
Labour cost	6000
Cost of profiling disturbed areas	4000
Cost of replacing top soil*	0
Cost of re-vegetation	2000
Aftercare and maintenance	4000
Total	**23000**

8.2 Confirmation that the stated amount correctly reflected in the Prospecting Work Programme as required.

It has been stated in the prospecting work programme that an amount of **R23 000.00** will be set aside for rehabilitation purposes. The applicant will provide **R23 000.00** for rehabilitation purposes to ensure that any unanticipated environmental impacts are catered for.

9 REGULATION 52 (2) (h): Undertaking to execute the environmental management plan.

Herewith I, the person whose name and identity number is stated below, confirm that I am the person authorised to act as representative of the applicant in terms of the resolution submitted with the application, and confirm that the above report comprises EIA and EMP compiled in accordance with the guideline on the Departments official website and the directive in terms of sections 29 and 39 (5) in that regard, and the applicant undertakes to execute the Environmental management plan as proposed.	
Full Names and Surname	Malwandla Siweya
Identity Number	7909045757080
Signature	

-END-