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)

NAME OF APPLICANT: ZAMORI 318 (PTY) LTD

REFERENCE NUMBER: NC 30/5/1/1/2/11410 PR

FARM NAME: PAARDEKLOOF 219 SITUATED IN MAGISTERIAL DISTRICT OF HAY.

MINERALS APPLIED FOR: IRON ORE, MANGANESE ORE, COAL AND DIAMOND

DATE: 10 December 2014

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
Company Name	Zamori 318 (Pty) Ltd
Full Name and Surname	Miss Nokulunga Princess Mkwanazi
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ITEM	CONSULTANT CONTACT DETAILS (If applicable)
Name	Ntokozo Cande
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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.

The demarcated proposed prospecting area is situated within the town of Postmanburg, the proposed area constitutes agricultural area and homestead. The proposed prospecting right area is located on the farms Paardekloof 219 within magisterial district of Hay. The area is also grassland and combination of soil pattern, the classification of which is used to determine the potential agricultural area and homestead. The applicant intends to prevent impacts on the valleys; we have assessed and identify species and habitats that will be potentially impacted by the proposed activities. The area consists of a number of sites, grassing occurs on site. In order to enable to characterization of the environment as well as floral and faunal species that may be impacted by the proposed prospecting activities, faunal and floral group will be investigated

Land Uses

There are existing activities taking place on the area and the area constitutes a complete mix of grass and shrub dominated vegetation types, land uses are both livestock and farming.

Vegetation:

The proposed prospecting area constitutes agricultural land and natural vegetation. The most dominant agricultural activities are crop plantation and stock farming (grazing). The indigenous vegetation has been greatly replaced during crop plantation.

Homestead:

The proposed prospecting area is in close proximity of the farm houses which are utilized for residential purposes. The prospecting activities will not be conducted in close proximity (150m) of the homestead.

Animals:

The dominant animals on the proposed are constitute domestic animals.

Graves, heritage and cultural resources.

During the site investigation no sign of graves were identified situated within the proposed prospecting area, however no prospecting will be conducted within 150 meters from graves/ historic significant since the farmer indicated the existence of such.

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

Topography and Drainage

The applicant intends to prevent impacts on the valleys, and the associated ecological corridors which represent, by avoiding prospecting activities below the 180 contour line. The exciting topography is described as mountainous and majority of infrastructures required for prospecting have an impact on topography in that the infrastructures will be visible from distance.

Proper prospecting plan, which also addresses expansion, waste management and disposal and rehabilitation, must be compiled to insure optimal use of resources. The rehabilitation plan and concurrent rehabilitation need to be done. Consultation with interested and affected parties to be done to ensure no unnecessary structures are kept or demolished.

Measurement method will be taken, audit monthly to ensure adherence to the prospecting development plan. Soil samples must be taken and analysed to unsure that the topsoil is fertilized to enable sustainable re-vegetation, auditing of the rehabilitation and closure documentation.

The post closure and topographical features will comply with the closure agreement from interested and affected parties and the state.

Closure

After prospecting the area will be the same as pre-exploration and the land will be rehabilitate to its original form after prospecting. Drill holes will be sealed with cement immediately after prospecting activities. Rehabilitation will be conducted according to proper standards, to avoid damage such as that illustrated in this slide.

The proposed prospecting method.

The proposed exploration programme will be carried out into two phases. The first phase involves a desktop study in order to identify target sites for exploration drilling. This will include a review of available information, creation of geological and financial model and the identification of target sites for sampling.

The second phase of exploration will require the drilling of a first borehole to a certain depth in (m). Assuming the targeted seams are encountered during, Cores will be raised and sections inserted into sampling canisters. The samples will then be taken to a laboratory for testing and analysis.

Summary of exploration programme to be undertaken.

Desktop study:

This programme aims to assess historical data of the property and surrounding properties. Properties and previous work done on the property and will comprise of the following key activities:

- Historical data
- Previous prospecting activities
- Mining activity
- Challenges relating to exploration and mining
- Depth
- Thickness of the ore body
- Coal and Iron Ore content
- Size of the orebody

Geological Mapping

After conducting a desktop study of the property the next subsequent activity will entail a field mapping the area to determine various rocks and minerals that have an economic potential a detailed mapping programme needs to be undertaken so as to identify the rock and mineral where there is Iron Ore mineralization present.
This might include the following mapping techniques such as:

- Identifying various rock and mineral lithologies.
- Mapping geological structures that might be of economic importance.
- Mapping alteration processes that might be of economic importance such as weathering, leaching, dissolution and enrichment processes

Structural Mapping

The programme will determine the dip of the orebody and the strike of the oreboby. Furthermore structure such as faulting and folding will be mapped out.

Location of Suitable boreholes

From the mapping exercise all areas that need to be drilled will be properly sited on site.

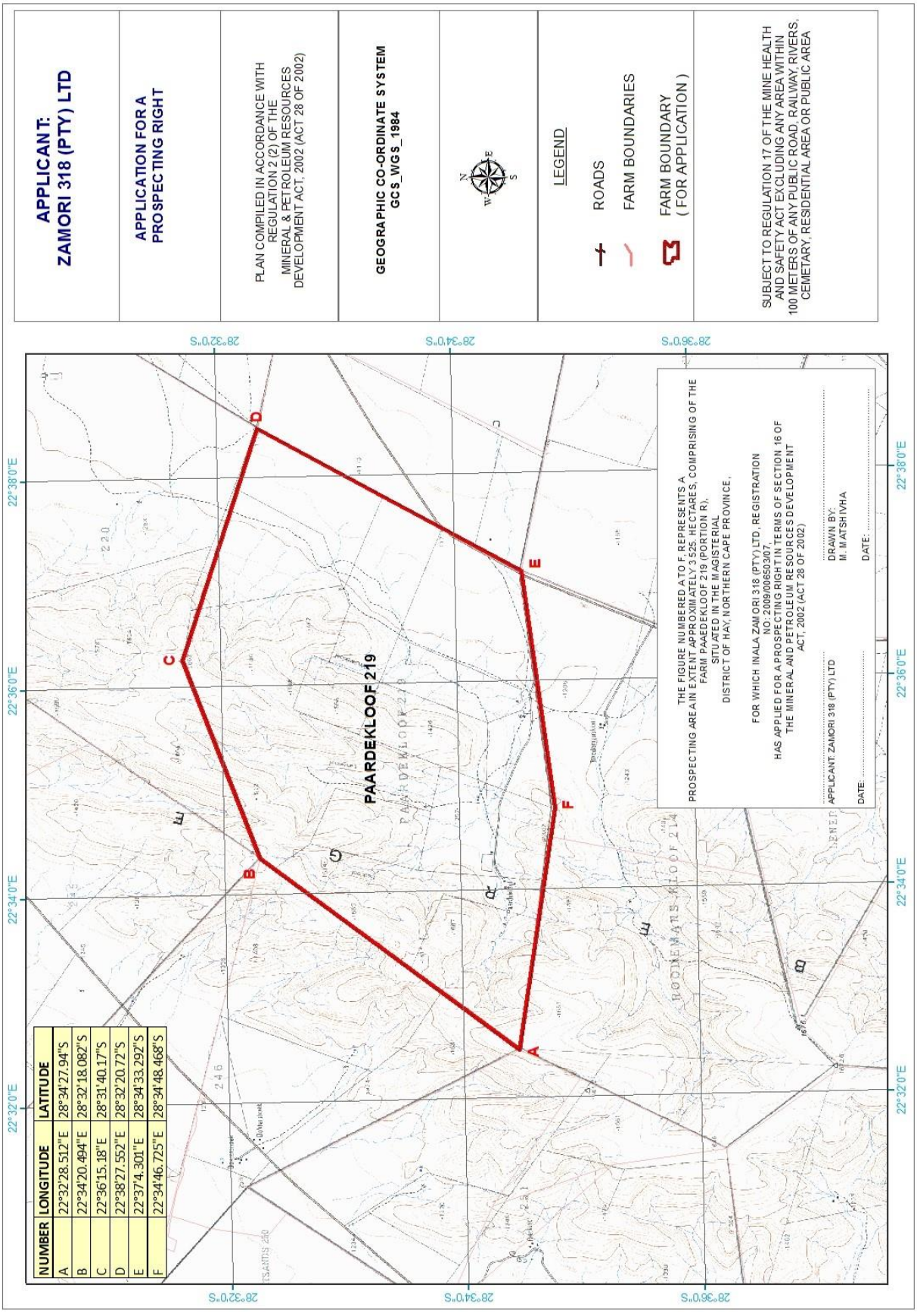
Drilling
As we are targeting shallow and open-castable, drilling will be limited to a depth of 50 metres. Initially only five boreholes will drilled on proposed prospecting area.

The orientation and dip of the drill holes will depend mainly on the strike and dip of the rocks. They will be planned in a manner to ensure that the oreboby is intersected.

Types of equipment's that is going to be used during the operation

Drilling of holes- Standard Diesel powered drilling rig will be used for the holes.
Site visit- Standard 4x4 Bakkie.

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



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,

Discussions were held within the relevant to inform of the proposed prospecting. Any possible concerns in terms of the environment were communicated directly to the proponent. The biodiversity and other information were gathered through the participation of all interested and affected parties.

Regulation 17 (7)- there will be no erection or construction of any building, roads, railways or any structures within a horizontal distance of 100 meters from the working of prospecting activities, or such less distance at such position and subjected to such restrictions and determined by Regulation 17 (7) (a) risk assessment.

- Specific environmental features on the site applied for which may require protection, remediation, management or avoidance.

Environmental features	Type of mitigation
Vegetation	Management
Soil	Management
Groundwater	Management
Public roads	Avoid (100m distance)
Farm roads and Homestead	Avoid (100m distance)

The description of the environment on site is mentioned according to the interested and affected parties.

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)

Activities	The description of activity
Site Establishment - Camps	They would not be any camping in the field the contractor will set outside the site and come and work in the morning.
- Sumps	- Little sumps will be constructed to allow the flow of water from the drilling rod.
- Core storage areas	- The land owner will be consultant at all time if they is any help we need such as storage of core drilling rods.
- Equipment accommodation	- the nearby accommodation will be established in consultation with the landowner.
- Demarcate and /or prepare to drill site	Small amount of soil and vegetation will be clear to allow the clear drilling of boreholes
- Contruction of Access roads/traces	No construction of access road will be conducted

Drilling	The drilling of surface ground
Hydricarbon storage	The storage of petrol or diesel for drilling truck
Ablution	Toilets
Waste disposal	Disposal of food parcels
Water Storage	Storage will be done using cans and plastic storage of about 25 litres capacity.

Topsoil

Topsoil shall be removed from all areas where physical disturbance of the surface will occur. Topsoil is to be replaced by direct return where feasible (i.e. replaced immediately on the area where construction is completed, rather that stockpiling it for extended periods. Topsoil shall be adequately protected from being blown away or being eroded.

Land Capability

Land capability will be negatively impacted on in area where the soils are disturbed. The significant is low, the disturbance of grazing land will be restricted (kept to a minimum) to the planned prospecting site only and useful infrastructure needs to be identified.

Management action is required to ensure the rehabilitation plan is expanded to include mitigation measures. Develop closure documentation to record the rehabilitation plan and post-closure features. Will identify and negotiate with the post-closure land user, which useful post-closure structures must remain. All unsafe area to be safe as designs and approved rehabilitation closure plan.

Surface Water

Surface water is likely to be impacted on during this phases. Despite stringent precautions. This would also be the case during the prospecting activities in most cases however; the nature of pollutants/ spillage would not toxicity just soils (Suspended solids) and vegetative waste.

Ground Water

It is not expected that the river will impact on the groundwater quality. The drilling machine that we will use is a reverse circulation rig that does not contaminate ground water. The prospecting boreholes will reveal all the water table within the prospecting right area. All boreholes drilled will be immediately rehabilitated in the form of filling the hole with cement to 500mm below the surface where the area is utilized for agricultural purposes and/ or with the permission of the borehole can be utilized for agricultural activities.

Air Quality

It is not expected amount of dust will be generated during the construction phase. The impact will be insignificant and will be controlled with water carts where needed. The majority of the processing is undertaken in a wet state with little possibility of dust or air quality impacts.

2.1.2 Plan of the main activities with dimensions

Please refer to the Prospecting Work Programme for a plan depicting all possible activities that will take place as part of the prospecting.

2.1.3 Description of construction, operational, and decommissioning phases.

Phase	Activity	Expertise required	Duration
1	Data collecting Data modelling Boreholes surveying and staking	Mine Surveyor Geologist	6 months
2	**Construction Phase** Site preparation - Core stores area - Sumps **Operational Phase** Drilling 8 borehole **Closure Phase** Final rehabilitation - Scraping the surface - Re-vegetating the disturbed area - Sealing of boreholes Logging &assaying	Drill contractor & geologist	18 months
3	**Post Closure Phase** Pre-feasibility study EMP studies Mining Right Application	Mining engineer Environmentalist Economist	12 months

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

There are no listed activities in terms of any of the NEMA EIA regulations applicable to this application.

2.1 Identification of potential impacts

(Refer to the guideline)

2.2.1 Potential impacts per activity and listed activities.

Activity	Impact
Drilling programmes	Loss of Topsoil Impact on vegetation Dust from roads and land Waste Disposal Noise Water use

Site of geological importance will be avoided.
Sensitive grassland, dusters of indigenous trees and shrubs or similar climbing that may contain a large biodiversity of threatened and endangered species will be avoided. Farmlands actively used for crop farming preferably are avoided especially where the drilling would in it's entirely be in land. Access and farm regarded as preferential drilling sites where the drilling position must be structured in manner that will still allow traffic to continue normally.
Heritage resources, including archaeological or paleontological site may not be disturbed without a permit from the heritage specialist a permit from the heritage specialist.

2.2.2 Potential cumulative impacts

The cumulative impact identified is the increase of the dust and noise which will be minimal since the drilling will drive to the area in the morning and leave in the afternoon. The dust will be surpass by water.

2.2.3 Potential impact on heritage resources

Potential heritage sites will be identified during the planning phase to ensure that such areas are avoided. Each prospecting site will be visited prior to any work starting to identify possible heritage sites. Local knowledge will be used to identify and confirm heritage sites. Where boreholes are sited in proximity to heritage sites and depending on the proximity to the drilling site, appropriate measures such as flagging, pegging or installation of temporary fencing will be undertaken to ensure that the site is not impacted on during prospecting. The prospecting programme will be designed to avoid disturbance of heritage sites.

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.)

There are no impacts on communities, individuals or competing land uses in close proximity to the prospecting areas, due to the limited impact of the drilling machines at any specific point in time. We will make ensure that during the prospecting activities we do not disturb the heritage site trees, vegetation and other sensitive area in the property applied for. The interested and affected parties have identified that access roads should be the site were the drilling of hole will take place. Were the land is used for farming should be avoided. Animals should be kept protected at all times.

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

Landowner (I &AP)	Interest/ Capacity	How did consultation take place?
Mrs Martha Catharina Coetzee	Landowner	Telephonically and letters were sent
Mr. Roelof Jacobus Coetzee	Landowner	Letters were sent

PUBLIC PARTICITATION PROCESS		
Interested and affected parties	**Issues raised**	**Mitigation Measures**
Mrs Martha Catharina Coetzee Mr. Roelof Jacobus Coetzee	No issues were raised yet	-The propose area will be rehabilitated after prospecting activities to its original state, replacement of the top soil will be conducted in accordance with the soil horizon of the area applied for agricultural purpose and will ensure that regulatory requirements associated with the prospecting activities will adhered to at all time. The contractor's workers are fully educated about Environment issues. They must be given an Environmental Awareness tips and skills before each prospecting operation. The propose area will be rehabilitated after prospecting activities to its original state, replacement of the top soil will be conducted in accordance with the soil horizon of the area applied for agricultural purpose

2.2.6 Confirmation of specialist report appended.

(Refer to guideline)

Due to the assessment conducted during the compilation of EMP, the prospecting activities do not pose and environmental threat to surrounding environment and no requirement from specialist report.

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

The undertaking of a screening level environmental risk assessment consist of the identification of all possible environmental risks, including those which appear to be insignificant based on the input from existing data, and the qualitative ranking of the impacts identified.

The significance of the identified impacts on the various environmental components as part of the closure phase will be determined using the approach outlined below. This incorporates two aspects for assessing the potential significance of impacts (terminology from the Department of Environmental Affairs and Tourism Guideline document on EIA Regulations, April 1998), namely occurrence and severity, which are further sub-divided as follows:

Occurrence		Severity	
Probability of occurrence	Duration of occurrence	Magnitude (severity) of impact	Scale / extent of impact

In order to assess each of these factors for each impact, the following four ranking scales will be used:

Probability		Duration	
5	Definite/don't know	5	Permanent
4	Highly probable	4	Long-term
3	Medium probability	3	Medium-term
2	Low probability	2	Short-term
1	Improbable	1	Immediate
0	None		
Scale		**Magnitude**	
5	International	10	Very high/don't know
4	National	8	High
3	Regional	6	Moderate
2	Local	4	Low
1	Site only	2	Minor

Once these factors have been ranked for each impact, the significance of the two aspects, occurrence and severity, will be assessed using the following formula:

SP (Significance points) = (Magnitude + Duration + Scale) x Probability

The maximum value is 100 significance points (SP). Risks are identified as potentially significant (**High,** >60 SP), **Moderate** (30 – 60 SP) or insignificant (**Low,** <30 SP).

In some instances risks can be rated as uncertain or unknown. Risk management strategies will be identified for the potentially significant risks, while the uncertain risks will be re-evaluated after a data collection and analysis programme.

Activity			Impact	
Drilling Programmes			Loss of Topsoil	
Magnitude	Duration	Scale	Probability	Significance
2	1	1	5	Low (30)

Activity			Impact	
Drilling Programmes			Impact on vegetation	
Magnitude	Duration	Scale	Probability	Significance
2	1	1	2	Low(8)

Activity	Impact

Drilling Programmes			Dust from Road and Land	
Magnitude	Duration	Scale	Probability	Significance
2	2	2	3	Low (18)

Activity			Impact	
Drilling Programmes			Waste and Disposal	
Magnitude	Duration	Scale	Probability	Significance
2	2	2	4	Low (24)

Activity			Impact	
Drilling Programmes			Noise	
Magnitude	Duration	Scale	Probability	Significance
2	2	2	4	Low (24)

Activity			Impact	
Drilling Programmes			Water Uses	
Magnitude	Duration	Scale	Probability	Significance
2	2	2	4	Low (24)

Activity			Impact	
Drilling Programmes			Impact on vegetation	
Magnitude	Duration	Scale	Probability	Significance

3.1.2 Assessment of potential cumulative impacts

Activity		Impact	
Drilling Programmes		Dust from Road and Land	
Magnitude	Duration	Scale	Probability
2	2	2	3
Significance			
Low (18)			

Activity		Impact	
Drilling Programmes		Noise from Drilling Programme	
Magnitude	Duration	Scale	Probability
2	2	2	3
Significance			
Low (18)			

Review or assessment of cumulative impact analysis will be done early in the process. Information that will be presented will be commensurate with the impact of the project. Greater detail will be provided for potentially serious impact, in all phases.

3.2 **Proposed mitigation measures to minimise adverse impacts.**

Significant cumulative impact will be indentify that may affect resources of concern and suggest measures that will avoid and minimize adverse effect to the environment.

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

Significant impact	measures	Negative impacts on the environment be mitigated or managed
Dust	low	Vehicle will be instructed to drive at low speeds. Access roads will be swept. Prospect activities will mainly occur during season of low wind gust
Noise pollution	Low	All rigs are fitted with silencers to minimize noise Rigs will not be allowed to operate at night close to communities
Minor Exhaust Smoke	Medium	The machine will be services to void minor smoke
Topsoil disturbance	low	Topsoil is normally not disturbed in the process. Where topsoil is removed it is stored for later replacement i.e. for digging of drill sumps.
Oil spills	Low	Any spillage onto the ground will be dug and disposed of in designated landfill operation
Waste Storage	Low	No impact, there will be no storage on site
Waste Disposal	Low	Nuisance and littering of the surrounding area- Suitable covered drums for various types of waste(e.g. glass, plastic and paper) will be available at all times on site and conveniently waste for these drums will be removed from site on weekly basis for recycling or disposal at a licensed disposal facility
Drilling	Medium	Generation of noise Generation of dust • However all vehicles, diesel generators, compressors and other machinery will be fitted with silencer to minimize the noise generation. • This process/drilling utilizes water in that no dust is expected from drilling.
Ablution Low		Air pollution and possible odour generation by smell. They will be no waste disposal of toilet on site. Chemical toilet will be utilized as that may be the case no measure where identified .
Surface Water	Low	The area is currently not polluted. • Ensure spillages are cleaned. • Training to ensure awareness of the risks and action plans to emergencies.
Land Capability	Meduim	Temporarily loss of land capability Mitigation- The disturbance of grazing land must be restricted(kept to a minimum) to the planned prospecting site only) Management action: Topsoil will be placed in areas where it was removed and the areas will be re-vegetated accordingly. Ensure that the rehabilitation is implemented.

3.2.2 Concomitant list of appropriate technical or management options

The best technical option is rehabilitation and the best management option to rehabilitation is adherences to a couple of important aspects by management to ensure concurrent rehabilitation to take place and the plan is continuously to reflect the latest development.

The following management options will be taking place on site, irrespective of the significance of the ratings above:

Topsoil

Topsoil shall be removed from all areas where physical disturbance of the surface will occur.

The topsoil removed, shall be stored in a bund wall on the high ground side of the prospecting area, see to it that development is kept within the boundaries of the proposed prospecting area.

The topsoil stored in the bund wall shall be adequately protected from being blown away or being eroded. Topsoil will be placed in a area where it was removed and the areas will be re-vegetated accordingly.

Dust control on the access roads

The liberation of dust into the surrounding environment shall be effectively controlled by the use of, inter alia, water spraying and/or other dust-allaying agents

The speed of trucks and other vehicles must be strictly controlled to avoid dangerous conditions, excessive dust or excessive deterioration of the road being used.

Noise

Work will only be performed during daylight hours.

Proper design and maintenance of equipment, including silencers and mufflers. Regular checks on the noise emissions of equipment in operation should be performed.
All equipment to be used during the construction and operational phases is to be kept in good working condition.

This is of particular importance for the exhaust systems of the diesel earthmoving equipment.

Should complaints about the noise be received from the community, the mine needs to assess the situation and make appropriate recommendations to reduce the noise impacts on nearby residents and, where necessary, a noise specialist.

Establishing the drilling site

Drilling sites shall be sited on a practical basis after consultation with the landowner. The area required for long-term drilling sites shall also be determined after consultation with the landowner and kept to a minimum.
Activities shall be restricted to the agreed area.

In order to contain non-biodegradable oil and fuel spills, drip pans or PVC lining shall be provided for mobile dril!s and drip pans or a thin concrete slab and/or with a PVC lining shall be installed before stationary drill rigs (long term) are erected.

In the case of a need for a water supply pipeline to be laid to a site, it shall be done in consultation with the landowner and in such a manner that the surface and
natural vegetation are not unduly disturbed.

The contents of pits and drip pans must be disposed of at a recognized facility.

Any spill should be cleaned up immediately by removing the spill together with the polluted soil and disposing of it at a recognized dumping facility.
On completion of prospecting, the drilling site shall be rehabilitated.

Pits shall be pumped dry and the contents disposed of as described above. Linings must be removed and disposed of in the same manner.

After all foreign matter has been removed from the pits, the excavations shall be backfilled with subsoil, compacted and levelled with previously stored topsoil. No foreign matter such as cement or other rubble shall be introduced into such backfilling.

All boreholes shall be covered and made safe by means of a concrete cap, unless otherwise determined. On cultivated land, where practicable, a concrete cap shall be

installed at least 1metre below the surface. Boreholes shall be backfilled and compacted with appropriate inert material and soil. No foreign matter such as rubble or waste material shall be introduced into the hole.

Where drilling sites (long-term operation) have been denuded of vegetation/grass or where soils have been compacted or crusts formed, the surface shall be ripped or ploughed and if necessary appropriately fertilized to allow vegetation to grow rapidly. If a reasonable assessment indicates that the re-establishment of vegetation is unacceptably slow, it may be required that the soil be analysed and any deleterious effects on the soil arising from the prospecting operation, be corrected and the area be seeded with a seedmix to a certain specification.

Waste disposal

Designated areas will be planned and established for the disposal and temporary storage of all wastes on site.

The necessary bins will be provided for the collection of waste. Domestic waste will be removed form site weekly by an independent waste disposal contractor to a registered or licensed disposal facility.
Any hazardous waste will be stored separately and removed from the site by an independent waste disposal contractor to a registered or licensed disposal facility.

Waste from the drilling operation will be place within the dumping area as indicated on the Plan and removed by subcontractors for further utilization.
Responsible waste management practices will be implemented

Surface Water

From the existing mapping a buffer zone will be placed around the unnamed tributaries crossing the various properties in question. No drilling or any other activity will take place within this buffer zone when identified. The greater challenge about the tributary is the quality and quantities are likely to be impacted upon by human activities.
The surface water resource will only be crossed at designated established crossing areas.

No run-off water from the drilling programme will be allowed to run into the surface water resource.

3.2.3 Review the significance of the identified impacts
(After bringing the proposed mitigation measures into consideration).

All the significance impact identified has a low rating.

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

4.1 Plans for quantum calculation purposes.

Phase	Activity	Expertise required	Duration
1	Data collecting Data modelling Boreholes surveying and staking	Mine Surveyor Geologist	6 months
2	**Construction Phase** Site preparation - Core stores area - Sumps **Operational Phase** Drilling 6 borehole **Closure Phase** Final rehabilitation - Scraping the surface - Re-vegetating the disturbed area - Sealing of boreholes Logging &assaying	Drill contractor & geologist	18 months
3	**Post Closure Phase** Pre-feasibility study EMP studies Mining Right Application	Mining engineer Environmentalist Economist	12 months

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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).

All the boreholes will be backfilled and capped with concrete, monitored in such a way that they will be no impact on the surrounding area.

It is required that all exploration holes be re-habilitated, which is conducted on an ongoing Basis .Boreholes sunk in agricultural lands will have the casings removed, or cut to a minimum depth of 2m below surface, then a plug inserted at a minimum of 5m below surface and filled with concrete to 2m below surface. The remainder of the hole will be filled with topsoil.

Boreholes outside agricultural lands will be rehabilitated similarly and marked with a concrete beacon.

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)

The Guidelines as prescribed by the Department indicates that a rate per hectare is required in terms of the class of mine (C class) as well as the environmental sensitivity of the mine.
In terms of the area where the prospecting will be taking place, the land can be classified

as:
- Biophysical: Low – Medium
- Social: Medium
- Economic: Medium

In accordance with the above, the rate per hectare is therefore prescribed as indicated below:

CALCULATION OF THE QUANTUM

No	Description	Unit	A Quantity	B Master rate	C Multiplication factor	D Weighting factor	E=A*B*C*D Amount
1	Dismantling of processing plant and related structures	m^3	0	R5.34	1	1	R0.00
2(A)	Demolition of steel buildings and structure	m^2	0	R144.10	1	1	R0.00
2(B)	Demolition of reinformced concrete buildings and structures	m^2	0	R112.00	1	1	R0.00
3	Rehabilitation of access roads	m^2	250	R21.10	1	1	R5,275.00
4(A)	Demolition and rehabilitation of electrified railway lines		0	R250.20	1	1	R0.00
4(B)	Demolition and rehabilitation of non-electrified railway lines	m	0	R136.50	1	1	R0.00
5	Demolition of housing and/or administration facilities	m^2	0	R302.83	1	1	R0.00
6	Opencast rehabilitation including final voids and ramps	m^2	0	R75,512.00	1	0.02	R0.00
7	Sealing of shafts, adits and inclines	m^3	0	R77.30	1	1	R0.00
8(A)	Rehabilitation of overburden and spoils	ha	0.1	131 811.24	1	1	R656.00
8(B)	Rehabilitation of processing waste deposits and evaporation ponds (salts)	ha	0	382 842.31	1	0.02	R0.00
8(C)	Rehabilitation of processing waste deposits and evaporation ponds (acidic, metal-rich waste)	ha	0	88 617.95	1	1	
9	Rehabilitation of subsided areas	ha		R4,306.00	1	1	R0.00
10	General surface rehabilitation	ha	0.25	R9,757.00	1	1	R2,439.25
11	River diversions	ha	0	R9,757.00	1	1	R0.00
12	Fencing	m	0	R61.00	1	1	R0.00
13	Water management	ha	0	R3,036.00	1	1	R0.00
14	2 to 3 years of maintenance and aftercare	ha	2	R10,614.00	1	1	R21,228.00
15(A)	Specialist study	sum					
15(B)	Specialist study	sum					
						SUBTOTAL 1	R29,598.25

1	Weighting factor 2		
2	Preliminary and General		
3	Administration and supervisionn costs	6,0% of subtotal 1	
4	Engineering drawings and specifications	2,0% of subtotal 1	
5	Engineering and procurement of specialist work	2,5% of subtotal 1	
6	Development of closure plan	2,5% of subtotal 1	
7	Final groundwater modelling**	2,5% of subtotal 1	
8	Contingency	10,0% of subtotal 1	
		SUBTOTAL 2	R0.00
		VAT (14%)	R4,143.76
		GRAND TOTAL (SUBTOTAL 1 + SUBTOTAL 2 + VAT)	**R33,742.01**

Provision to be made

The calculation of financial as stated above is based on the exploration to be conducted as part of the exploration work programme. The exploration will be conducted with a phased approach. After the desktop study and geological analysis of phase 1 of the exploration work programme, one borehole will be drilled. Upon notice of successful results from the drilling of the first borehole,we will make the decision to commence with the rest of the exploration work programme. The EMP as well as the financial provision for the rehabilitation of the Project area will be adjusted accordingly.Exploration work programme will commence with Phase 1 which does not involve drilling or any other invasive exploration activities. There will be significantly less requirements for rehabilitation in the first year of the exploration programme, and financial provision that should be made is there less.

Operational Phase

Due to the small impact of the boreholes that was drilled, and which was the only direct impact on the properties in question, the quantum can be related directly to number of boreholes drilled, and the related costs thereto for each borehole to be rehabilitated (± R1,500.00 per borehole). With the current estimation of 6 boreholes to be drilled.

4.4 Undertaking to provide financial provision

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

The amount of financial provision will be paid by Zamori 318 (Pty) Ltd
Immediately after the Environmental Management Plan has been approved.

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

5.1 List of identified impacts requiring monitoring programmes.

Check compliance with all conditions of the EMP.	Monthly	Supervisor	Rectify non-compliances immediately
Visual inspection of erosion	Monthly	Supervisor	
Inspection of the storage yard for visible signs of pollution	Weekly	Supervisor	Rectify non-compliances immediately
Inspection of firefighting equipment	Weekly	Supervisor	Rectify non-compliances and replace faulty tools immediately
Upstream and downstream surface water quality if prospecting is near a river	Weekly	Supervisor	Upstream and downstream EC concentrations and pH levels will be taken with handheld monitoring equipment. If the water quality at the downstream sampling point deteriorates, corrective action must be taken
Rain fall	Daily	Supervisor	A portable rain gauge will be erected at each site.
Health and Safety monitoring on prospecting personnel	5 % of work force on 3-monthly basis	Supervisor	Monitoring of exposure to noise and dust during the operational phase.

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5.2 Functional requirements for monitoring programmes.

Audits and assessment will be accomplished by recognised industry consultant.
Daily site inspection and Inadequacies are to be rectified immediately and be reported to line supervisors.

5.3 Roles and responsibilities for the execution of monitoring programmes.

The contractor will be responsible and monitor to ensure that all rehabilitation takes place for all aspects of the operation on a monthly basis. A project manager will be appointed to monitor the operation on a more regular basis and if impact will be immediately mitigated by the Project Manager. During drilling: regular (at least weekly) inspection of the drilling team to ensure that they comply with this EMP, including control of spills, limiting damage to vegetation, and not making fires at the drill sites. An environmental officer will be appointed to monitor compliance.
After drilling: Monitoring of rehabilitation will involve regular (monthly) site inspections by a subcontractor from the local community who will be responsible for removing declared weeds and invader plants from each of the sites**.**

5.4 Committed time frames for monitoring and reporting.

Daily site inspections/visits by site geologist and Drilling Foremen.
Inadequacies are to be rectified immediately and to be reported to line supervisors. Monitoring and reporting of environmental performance will be done on weekly basis.

A performance assessment, monitoring and evaluation report will be submitted annually to the DMR annual to stipulate the status of the environment and the affected environment.

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).

The following will be required at the prospecting site.

INFRASTRURE/ACTIVITY	EACH EXTENT
Drill rig	3m*3m*
Sump	1.5m*1.5m*1.5m
Waste drum	1m*1m
Diesel drum	2m*2m
Generator	2m*2m
Core storing area	1m*10m
Total Affected Area per site	$100m^2$

No accommodation is required for the employees. However the area will not be located within 100m of any structures such as powerlines, railway line, public road, homestead, and sensitive environmental features.

REHABILITATION PLAN		
Activity/Process	Responsible person	Frequent when
Removal off drill rig together with the generator to the next prospecting site/workshop-off site	Site Manager	Immediately after drilling the borehole
Identify and removal of the hydrocarbon spillage	Environmental Practitioner	Immediately after drilling the borehole
Transportation of waste drums to the licensed landfill site	Environmental Practitioner	Immediately after collecting and separated the waste
Filling of boreholes with the cement to the required level (i.e. 500mm below surface elevation)	Environmental Practitioner	Immediately after drilling the borehole
Covering of sumps and core storage area with the soil placed next them	Environmental Practitioner	Immediately after drilling borehole and when the core sample has been taken to laboratory
Irrigated the vegetation and /or cultivate the soil if necessary	Environmental Practitioner	As and when required
Cordon the area to avoid movement of the machinery (compacting the area)	Environmental Practitioner	When the rehabilitation of the site has been completed and only monitoring required to be conducted.

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

Closure and environmental objectives
If the prospecting programme indicates sufficient economical reserves are available, an application for a mining right will be lodged.
All prospecting boreholes will be backfilled and a concrete plug will be installed at a depth of 50mm below surface elevation. Subsoil and a minimum 300mm layer of topsoil will be placed over the concrete plug.
All sumps will be backfilled to surface and covered with a 300m layer of topsoil.
All roads and trace will be scarified and ripped to a depth of 100 mm to allow re-vegetation.
No prospecting infrastructure will be left on site
Once the prospecting activities completed, the area will have a land use and capability comparable to the pre-prospecting land use and capability, and all affected area will have a sustainable vegetation cover.

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).

The interested and affected parties have been confirmed to this matter. Discussions have been held with the relevant landowners to inform them of the proposed prospecting during site visit and telephonic conversation. Any possible concerns in terms of possible impacts were communicated directly to the proponent.

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

7.1 Identification of interested and affected parties.

Landowner and their contact details were identified through a Title Deed search and through the public participation for the properties falling within the proposed prospecting area.

7.2 The details of the engagement process.

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

Notification letters were sent to the identified interested and affected parties.

7.2.2 List of which parties identified in 7.1 above that were in fact consulted, and which were not consulted.

Landowners of the proposed area have been consulted telephonically and notification letters were sent.

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

Information regarding land claims will be obtained prior to the commencement of prospecting. If drilling is to be undertaken in land claim areas, consultation will be undertaken with current farmers as well as land claimants. Local people and businesses with appropriate skills will be identified and included in the project tender process. Silver Falcon Trading 427(Pty) Ltd it is committed to employ local people and businesses during the project, where possible.

Due to the nature of prospecting, employment opportunities will be minimal. The prospecting crew is small (5 people) with specialized skills. Were possible, local people will however be employed during the project. Compensation for damages will be negotiated with farmers during Phase 1 of the prospecting project. This will be based on the merits of each case.

7.2.4 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.

Impact on Biodiversity (vegetation, animals and conservation areas)-

Areas of ecological significance will be avoided and if disturbance is required, it will be undertaken in accordance with legislation. Prospecting activities will be discussed with landowners prior to work.

7.2.5 Other concerns raised by the aforesaid parties.

They require a full descriptive Environment Study and Environmental Management Program. It's a big concern since there region is very sensitive regarding and there are some prospecting activity taking place in around the area.

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

There were no formal meetings held yet date to be confirmed only telephonic discussions and letters were sent.

7.2.7 Information regarding objections received.

There were no objections received so far.

7.3 The manner in which the issues raised were addressed.

The interested and affected parties are to be given an opportunity to raise their concerns and all concerns raised will be addressed constructively.

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

8.1 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 Plan

In terms of section 39(3)(c) of the Mineral Petroleum Resources Development Act 2002 (Act 28 of 2002), the application must compile and implement an environmental awareness plan. The above-mentioned environmental awareness plan must describe the manner in which the application will inform their employees of any environment risk will be addressed to avoid pollution or and degradation of the environment.

This document therefore concerns the detailed of the environment awareness plan for the proposed prospecting operation as required by the Mineral and Petroleum Resources Development Act, 2002 (Act 28 of 2002)

In view of the above, the company has developed an environmental awareness plan for the proposed prospecting operation, which is explained in more detailed below.

Note: the responsible person will revise these environmental awareness procedures plan from time to time. The date of commencement of the revised procedure will always be indicated to prevent confusion.

This Environmental Awareness (Standard Training Procedure) set out the applicants training objectives regarding to environmental. It is a stand-alone procedure, which serves to improve to improve awareness, awareness,

training and competency in the environmental field. It contains no detail on the actual training initiatives but rather serves to ensure that a responsible person is appointed to deal with increase environmental awareness on the area.

Objective and Legal Requirements

Objective

The following are the objectives of the environmental awareness

- To identify the necessary needs for different categories in the area.
- To train all employees on environmental issues on the area

Legal requirements

The following legislation to this environmental awareness plan

- Employment Equity Act, 1998 (Act 55 of 1998)
- National Environment Management Act, 1998 (Act of 77 of 1998)
- Mineral and Petroleum Development Act, 2002 (Act 28 of 2002)

Manner of informing employees of risks to avoid pollution and degradation of the environment.

Induction Programme

An Induction Programme (prospecting guidelines and operation induction) which will include environment awareness programme will be established for generation the minerals prospecting activities. During the training sessions various topics will be discussed such as, but not limited to, Water Pollution Prevention, Good Environmental Housekeeping, etc. through the induction Programme, the contractor, safety officer, or any other responsible appointed person shall ensure that all staff receives training in:

- Administrative requirements and procedures, which will include the Environment Emergency Procedures.
- Resources conservation and environmental reporting and general environment awareness for mine related environmental issues.

All employees (including contractor employees) will undergo induction. The induction includes training and awareness on environmental issues on the prospecting and is compulsory for all new employees. The induction programme will as mentioned above, have an environmental management component. On an annual basis the environmental section of the induction gets updated to ensure that it is up to date. Consideration should be given to:

- Significant environmental impact as identified in the EMP
- Procedures; environmental awareness and emergency procedures
- Trends in incidents
- Discovery of any cumulative impact that may arise or be formed by the proposed prospecting.

Trainee Needs

The identification of environment training and environment awareness needs are derived from an analysis of the type of role different categories of employees play at the site and prospecting operation as a whole. The following categories are considered.

- Senior Manager.
- Middle Manager (Environmental Officers).
- Supervisors.
- Operators of the drilling machine.
- Visitors and contractors.

8.2 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)

General prospecting activity risks table

Risk	Cause	Controls / Mitigation Actions
Veld fires	Smoking and discarding matches in the field	Maintain visual awareness of surroundings; smoking only in designated areas; keep a fire extinguisher on Site
Property damage	Reckless driving; driving over bushes and shrubs; driving over pavements	Follow existing roads and / or tracks; maintain visual awareness of surroundings
Damage to field equipment and tools	Vehicles getting stuck in loose sands	Follow existing roads and / or tracks; maintain visual awareness of surroundings
Stock / agricultural produce theft / hunting by employees	Trespassing of employees onto agricultural land	Staff will not live on site, will be supervised at all times
Erosion of site	Trampling by employees and vehicles	Personnel will be restricted to 25 metre radius of each borehole, away from gullies, wetlands and river banks
Damage to vegetation	Off-road driving to borehole sites	Where off-road driving is necessary, attempts to follow fence lines and animal tracks will be made at every possible opportunity
Erosion of existing roads	More frequent use of roads	Speed limits of 40km/h will be maintained at all times by vehicles, dust suppression monthly
Noise disturbance to residents and indigenous fauna	Drilling operations and vehicle traffic	Drilling times will be minimised and kept to working hours when residents are at work / school (away from sites)

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8.3 Environmental awareness training.

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

NB: In case of emergency the land owner and relevant authority will be contacted. All employees will be given a list of relevant authorities and that of the land owner.

As part of the construction phase for the project, induction training will be conducted on all people involved in the prospecting project including geologists, drilling crew and relevant technical services, prior to the commencement of any work. Training will involve all the relevant components of the EMP including:

- Access, including use of roads, tracks, gates, etc.
- Control measures required to manage excluded and exempted areas.
- The handling, storage and disposal of waste.
- Weed control.
- Fire prevention.
- Sediment and erosion control.
- Control measures to be implemented with regards to the management of water, noise and dust.
- Rehabilitation of borehole sites and access tracks.

Refresher training will be undertaken bi-annually following the Performance Assessment Audit on environmental compliance for the project.

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

ACTIVITY	YEAR 1 Expenditure (R')	YEAR 2 Expenditure (R')	YEAR 3 Expenditure (R')	YEAR 4 Expenditure (R')	YEAR 5 Expenditure (R')
PHASE 1 (Year 1)					
Collection of existing data	11 000				
Literature review and desktop study.	13 000				
Geological and structural mapping	16 000				
Geological and structural interpretation	12 000				
Rock and Soil Sampling	15 000				
Labour (Technical and non technical)	23 000				
Rehabilitation costs	7 000				
Project Management fee	10 000				
Administration	12 000				
Other cost					
PHASE 2 (Year 2)					
Laboratory analysis		25 000			
Percussion drilling (R 400 P/M x 60M x 2 Boreholes)		48 000			
Geophysical survey		35 000			
Technical staff		30 000			

Rehabilitation costs		10 000			
Project Management fee		21 000			
Interpretation of geochemical anomalies		40 000			
Administration fee		15 000			
PHASE 3 (Year 3)					
Percussion drilling (R 400 P/M x 60M x 4 Boreholes)			96 000		
Geological modelling			40 000		
Technical staff			30 000		
Rehabilitation costs			14 000		
Project Management fee			27 000		
Administration			22 000		
Interpretation drill-cores			42 000		
Others			30 000		
PHASE 4 (Year 4)					
Pre-feasibility studies				45 000	
Geological modeling				38 000	
Resource calculation				45 000	
Surveying				25 000	
Technical staff				36 000	
Rehabilitation costs				18 000	
Project Management fee				34 000	

Administration				27 000	
Contingency				35 000	
PHASE 5 (Year 5)					
Bankable feasibility studies					58 000
Environmental studies					57 000
Social impact					52 000
Application for mining authorization					53 000
Technical staff					48 000
Rehabilitation costs					23 000
Project management fee					42 000
Administration					32 000
Contingency					45 000
Annual Total	**R119 000**	**R 224 000**	**R 301 000**	**R303 000**	**R352 000**
				Total Budget	**R1 299 000**

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

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

The amount was derived on the use of calculation of the quantum for financial provision (guideline from the Department of Mineral Resources)

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

Due to the financial capacity of the company and the number of quotation conducted by the company it shows that the whole programme require the amount stated on the prospecting works programme.

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	Miss Nokulunga Princess Mkwanazi
Identity Number	820911 0292 082