

mineral resources

Department: Mineral Resources REPUBLIC OF SOUTH AFRICA

Private Bag X6093, Kimberley, 8300, Tel: (053) 807 1700, Fax: (053) 832 8527 First Floor. Liberty Corner, 29-31 Curry Street, Kimberley 8301

From: Directorate: Mineral Regulation: Northern Cape Date: 31 May 2012 Enquiries: Ms. N.P Shandukani E-Mail:Patricia.shandukani@dmr.gov.za Temporal Ref: NC 30/5/1/3/3/2/1/10038 EM

The Director South African Heritage Resources Agency PO Box 4637 CAPE TOWN 8000

Attention: Mrs Nonofho Ndobochani

CONSULTATION IN TERMS OF SECTION 40 OF THE MINERAL AND PETROLEUM RESOURCES DEVELOPMENT ACT 2002, (ACT 28 OF 2002) FOR THE APPROVAL OF AN ENVIRONMENTAL MANAGEMENT PLAN FOR MINING PERMIT IN RESPECT OF DIAMONDS ON PORTION OF THE FARM LONGLANDS NO.350, SITUATED IN THE MAGISTERIAL DISTRICT OF BARKLY WEST, NORTHERN CAPE REGION.

APPLICANT: SHERLEY VERLINDA LENTISHEN WILLIAMS.

Attached herewith, please find a copy of an EMP received from the above-mentioned applicant for your comments.

It would be appreciated if you could forward any comments or requirements your Department may have to this office and to the applicant before the **30th July 2012** as required by the Act, failure of which will lead to the assumption that your Department has no objection(s) or comments with regard to this application and this Department will in that instance proceed with the finalization thereof.

Consultation in this regard has also been initiated with other relevant State Departments. In an attempt to expedite the consultation process please contact **Patricia Shandukani** of this office to make arrangements for a site inspection or for any other enquiries with regard to this application.

Your co-operation will be appreciated.

REGIONAL MANAGER: MINERAL REGULATION NORTHERN CAPE REGION



mineral resources

Department: Mineral Resources REPUBLIC OF SOUTH AFRICA

NAME OF APPLICANT: SHERLEY VERLINDA LENTISHEN WILLIAMS

REFERENCE NUMBER: 10038MP

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)

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

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	LONGLANDS
	BARKLEY WEST
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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.

- 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.



The area is situated on Farm 350 approximately 7.5 kilometres South-east of the town Delportshoop on the northern bank of the Vaal river.

The application area is grassy to the southern side closer to the river. Thorn trees and bushes are dominant on the northern half up the hill.

The area is located in the Nama Karoo biome. The geology underlying the biome is varied, as the distribution of this biome is determined primarily by rainfall. The rain falls in summer, and varies between 100 and 520mm per year. This also determines the predominant soil type - over 80% of the area is covered by a limerich, weakly developed soil over rock. Although less than 5% of rain reaches the rivers, the high erodibility of soils poses a major problem where overgrazing occurs.

The dominant vegetation is grassy. Shrubs that are indigenous to thebiomeincludeThreethorn (*Rhigozum*trichotomum),Bitterbos (Chrysocoma ciliate) and Sweet Thorn (Acacia karroo).

The land is mostly used for grazing for sheep, goats and cattle.

- 1.2 The specific environmental features on the site applied for which may require protection, remediation, management or avoidance. The application area is located close to the Vaal River. Care should be taken not to pollute the river water and a 100m flood line servitude area should be kept.
- 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,

The description of the area has been compiled by in-house trained Geo-Rock personnel.

- 2 REGULATION 52 (2) (b): Assessment of the potential impacts of the proposed prospecting or mining operation on the environment, socioeconomic 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)

Access road will be scraped from an existing dirt track cutting threw the north-east corner of the application area. The road will run along the border of the area to avoid areas planned to be excavated.

An area of about 830 square metres will be cleared for the erection of a plant site and storage sites for earthmoving and mining equipment.

Porrel dams will be constructed at the western end of the plant site. The dams will cover an area of about 600 square metres.



2.1.2 Plan of the main activities with dimensions

A series of trenches will be mined. Three trenches are planned, numbered 1, 2 and 3 in the sketch above. Each

trench will be approximately 25m wide and 55m long. The depth will be determined by the depth of the gravel bed.

Mining will start at trench 1. When the area allocated for trench 1 is mined out mining will move on to trench 2. Rehabilitation will start on trench 1 while trench 2 is being mined. When mining moves on to trench 3 rehabilitation will start on trench 2.

Steps of the mining process.

- Topsoil will be removed over the area set out to be trenched and stored next to the trench.
- Underlying gravel will be excavated and transferred to the plant site.
- The gravels will be fed through a screen to remove large rocks.
- Screened gravel will be conveyed into a pan.
- Heavy material will settle to the bottom of the pan creating a concentrate.
- The concentrate will be extracted and sent to the wash plant.
- At the wash plant the diamonds are extracted.
- Waste gravels from the plant will be dumped on a waste dump for rehabilitation.

2.1.3 Description of construction, operational, and decommissioning phases.

Construction

- An access road will be scraped to gain access to the application area.
- An area will be cleared of vegetation for the plant site.
- A plant site will be erected with a rolling screen, pan and a wash plant.
- A slimes dam will be constructed for waste water from the plant and recovery of water for reuse.
- A fenced off parking area will be erected or storage of earthmoving equipment consisting of a loader, tipper trucks and an excavator.
- Diesel tank fixed on a concrete floor with walls built around it to form a drainage basin, containing the same volume plus 5% of the diesel tank.

- Storage container, for the storage of Tools for machinery, equipment and safety equipment for the workers.
- Mobile site office.
- Chemical toilets for the workers.

Operational

- Topsoil will be removed over the area set out to be trenched and stored next to the trench.
- Underlying gravel will be excavated and transferred to the plant site.
- The gravels will be fed through a screen to remove large rocks.
- Screened gravel will be conveyed into a pan.
- Heavy material will settle to the bottom of the pan creating a concentrate.
- The concentrate will be extracted and sent to the wash plant.
- At the wash plant the diamonds are extracted.
- Waste gravels from the plant will be dumped on a waste dump for rehabilitation

Decommissioning

- After the lifetime of the mine has expired the plant site will be broken down and all manmade features will be removed.
- The slimes dams will be levelled.
- Waste gravels from the waste stockpiles will be dumped into excavations and levelled.
- Topsoil from the topsoil stockpile will be used to cover the rehabilitated area.
- Vegetation will be allowed to re-grow.
- Lastly the storage area for the earthmoving equipment will be broken down, the store for workers equipment will be removed and chemical toilets will be removed.

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

- Scraping of access road to gain access to plant site.
- Clearing vegetation on plant site and mining sites.
- Removing topsoil on areas to be mined and storing it next to excavation.
- Storing waste gravels on waste dump.
- Filling trenches with waste gravels after mining.
- Covering Mined areas with topsoil.
- Allow vegetation to re-grow.

2.2 Identification of potential impacts

(Refer to the guideline)

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2.2.1 Potential impacts per activity and listed activities.

- Potential oil spills from machinery and machinery breakdowns can pollute the environment.
- Dust from Mining operation can influence air quality.
- Noise from mining operation can scare away animals and disturb nearby communities.
- Vegetation loss can lead to invading of alien plant species.
- Soil disturbance due to covering the area with stored soil can give alien species the opportunity to invade the area.
- Rehabilitated land can cause higher drainage of rainwater washing away nutrients in the soil casing the land to become baron.

2.2.2 Potential cumulative impacts.

- Oil spills if left untreated can pollute the environment. Rainwater can wash away spilled oil and pollutants into the river potentially widening the impact of the pollution to plant and animal life an even humans.
- Invader plant species can endanger indigenous plant species by overgrowth.

2.2.3 Potential impact on heritage resources

None have been identified.

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.)

Job opportunities will be created for the community of Longlands by the mining activity.

Dust and noise from the mining activity can cause a disturbance to the community, but due to the active mining operations in the area the added impact will be small.

The mining operation can reduce the grazing area of farm animals and it can pose as a safety hazard to the animals.

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

The list of potential impacts has been compiled by in-house trained Geo-Rock personnel.

- 2.2.6 Confirmation of specialist report appended. (Refer to guideline) No specialist reports where required.
- 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 environmental evaluation is done with the assumption

that all mitigatory measures and rehabilitation plans have been adhered to (Hacking, 1999).

The preceding list of identified impacts is evaluated hereunder in terms of the following criteria:

SEVERITY	 Low negative impact Medium negative impact High negative impact
DURATION	- Short-term - Medium-term - Long-term
SPATIAL SCALE	- Localized - Fairly widespread - Long-term
CONSEQUENCE	Low consequenceMedium consequenceHigh consequence
SIGNIFICANCE	- Low overall significance - Medium overall significance - High overall significance

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Evaluations are done in terms of the impacts being managed to reduce environmental damage.

LEGEND FOR TABLE

- Se = Severity
- D = Duration
- SP= Spatial scale
- C = Consequence
- P = Probability
- L = Low negative impact
- M = Medium negative impact
- H = High negative impact
- pos = Positive impact

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

ACTIVITY	DESCRIPTION	Se	D	SP	С	Р	Si
1. CONSTRUCTION PHASE IMPACTS							
Road construction	Loss of vegetation + habitat	L	м	L	Î.	Н	M
Escom line	Loss of vegetation + habitat	NOT APPLICABLE				L	
Plant construction	Loss of vegetation + habitat	н	L	L	L ^	М	L
Pipeline installation	Loss of vegetation + habitat	NOT APPLICABLE					
Offices	Loss of vegetation + habitat	м	L	L	L.	L	L
2. OPERATIONAL PHASE	IMPACTS	 _				J	
Mining	Geological degradation	м	Н	L	М	Н	м
Disposal	Topographic change - dump	L	Ļ	L	L	L	L
Mining	Topographic change - pit	м	м	L	М	м	М
Operation	Soil pollution - accidental spills and leakages	н	L	L	М	L	м
Operation	Soil pollution (workshop, store, parking)	Н	L	L	м	L	М
Operation	ation Loss of grazing		L	L	ե	М	L
Operation	Loss of/ disturbance to plants	м	L	L	М	Н	м
Extraction of groundwater	Depressed water table	NOT APPLICABLE					
Operation	Problem plant invasion	L	L	Ľ	L	L	<u> </u>
Operation	Effect on animals	М	L	L	Ĺ	М	L
*Waste water disposal	Water regime (regional)			М	м		
Mining	Noise (earth moving equipment and crushers)			L			
Operation	Air quality: Dust - Transport			L			
Operation	Air quality: Dust - Crusher	NOT APPLICABLE					
Mining	Noise - blasting nuisance - regional	NOT APPLICABLE					
Mining	Noise - blasting nuisance -personnel	NOT APPLICABLE					
Mining, operation	Loss of archaeological items	NOT APPLICABLE					
Operation	Sensitive landscapes	NOT APPLICABLE					
Mining	Visual impact	М	L	L	L	Н	L.
3. DECOMMISSIONING PHASE IMPACTS							
Demolition	lition Waste disposal POS						
Rehabilitation	Re-vegetation	POS					
4. RESIDUAL IMPACTS AFTER CLOSURE							
Vacated site Rehabilitation of exposed areas			POS				
Vacated site	Safety risks	POS					

3.1.3 Assessment of potential cumulative impacts.

• Oil spills if left untreated can pollute the environment. Rainwater can wash away spilled oil and pollutants into the river potentially widening the impact of the pollution to plant and animal life an even humans. Proper training will be given to workers to manage oil spills. Drip pans will be placed under any non-operational machinery. Any oil spills that do occur will be dug out and places in specially marked bins.

 Invader plant species can endanger indigenous plant species by overgrowth. When the area has been rehabilitated the surrounding area will be eradicated of invader plant species to minimize the chance of overgrowth.

With mentioned mitigation measure in place the potential of cumulative impacts can be seen as low.

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.
 - Road construction Loss of vegetation + habitat
 - Plant construction Loss of vegetation + habitat
 - Mining Geological degradation
 - Mining Topographic change pit
 - Operation Soil pollution accidental spills and leakages
 - Operation Soil pollution (workshop, store, parking)
 - Operation Loss of grazing
 - Operation Loss of/ disturbance to plants
 - *Waste water disposal Water regime (regional)
 - Mining Noise (earth moving equipment and crushers)
 - Operation Air quality: Dust Transport
 - Mining Visual impact
 - Rehabilitation Re-vegetation
 - Vacated site Rehabilitation of exposed areas
 - Vacated site Safety risks

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)

Road construction - Loss of vegetation + habitat

- Roads will be constructed to gain access to the application area, plant site and mining sites.
- Vegetation will be cleared

 After the decommissioning phase plant life will be allowed to re-grow

Plant construction - Loss of vegetation + habitat

- Vegetation will be cleared from the area allocated for the plant site.
- After rehabilitation the plant site will be demolished and plant life will be allowed to re-grow.

Mining - Geological degradation

- Topsoil on the areas selected for mining will be removed and stored on a stockpile.
- The underlying gravels will be excavated.
- During rehabilitation the waste gravel will be dumped back in the excavations and covered with topsoil.

Mining - Topographic change – pit

- Excavations will be made to the depth of the bottom of the gravels.
- After rehabilitation the topography should resemble the topography of the area before mining activity started.

Operation - Soil pollution - accidental spills and leakages

- Workers will receive training in the handling of hazardous material like oil or grease and how to minimize spills.
- Training will also cover cleaning of spills.

Operation - Soil pollution (workshop, store, parking)

- Drip pans will be placed under non-operational vehicles.
- The workshop will have a non permeable cement floor.

Operation - Loss of grazing

- Vegetation will be cleared over a large part of the area.
- Because the area is only 1.5 ha it constitutes to a small part of the total grazing area.
- After rehabilitation vegetation will be allowed to re-grow.

Operation - Loss of/ disturbance to plants

- Vegetation will be removed over a large part of the area.
- After rehabilitation vegetation will be allowed to re-grow.

*Waste water disposal - Water regime (regional)

- Waste water from the plant will be collected in slimes dams.
- The mud in the mud and water mixture will be allowed to settle and the water will be pumped off to be reused.

Mining - Noise (earth moving equipment and crushers)

- Noise from the earth moving equipment could result in a disturbance to nearby communities.
- Because the area is in the open and sloping away from the community, most of the noise should dissipate and be projected away from the community.

Operation - Air quality: Dust – Transport

- Dust from the transport of material can have a negative effect on the health of people living close by.
- There are few businesses that can be negatively affected.
- Water trucks will be used to spray roads to minimise dust.

Mining – Visual impact

• After rehabilitation the area will return to its former state.

Rehabilitation - Re-vegetation

- The area will be covered with the original topsoil.
- Care should be taken to eradicate any invader species that invaded the area during the mining activity.
- The indigenous vegetation will then be allowed to regrow.

Vacated site - Rehabilitation of exposed areas

• After the site has been vacated the area will be left in the same state that it was found.

Vacated site - Safety risks

• All excavations made during mining will be filled in and all manmade features will be demolished.

3.2.3 Review the significance of the identified impacts

(After bringing the proposed mitigation measures into consideration). After considering all the above mentioned mitigation measures re-evaluation of all impacts could be regarded as low.

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).



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). Part of the rehabilitation process will take place while the mining process is going on. This will greatly reduce the end cost of rehabilitation.

Rehabilitation while mining

- The topsoil from excavated sites will be kept in a stockpile to cover the excavated areas after rehabilitation.
- Waste gravels will be kept in stockpiles and dumped into excavations that are mined out.
- The filled in excavations will then be covered with topsoil from the stockpile.
- Vegetation will be allowed to re-grow and invader species will be eradicated while the mining process is commencing.
- Any oil spills or pollution that might occur will be cleaned up or dug out immediately.

Rehabilitation after mining

- The remaining excavations will be rehabilitated in the same manner as the excavations during the mining process.
- The plant site will be deconstructed and removed from site.
- All manmade structures will be demolished and the rubble removed from site.
- · The slimes dams will be levelled and covered with topsoil.
- The plant site will be compacted from activity from heavy machinery so the site will be ploughed to allow plants to re-grow.
- Lastly the parking area for the earthmoving machinery will be demolished and the machinery and rubble removed from site.

The area will be left in the same state as it was found.

4.3 Quantum calculations.

Applicant:

(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).

CALCULATION OF THE QUANTUM

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4.4 Undertaking to provide financial provision

(indicate that the required amount will be provided should the right be granted). I SHERLEY VERLINDA LENTISHEN WILLIAMS ID Nr. 620820 0221 086 hereby undertake to provide a bank guarantee of R30 000.00 should the Mining permit be granted.

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

5.1 List of identified impacts requiring monitoring programmes.

The project as a whole needs monitoring, but especially the following activities

- Road construction Loss of vegetation + habitat
- Plant construction Loss of vegetation + habitat
- Mining Geological degradation
- Mining Topographic change pit
- Operation Soil pollution accidental spills and leakages
- Operation Soil pollution (workshop, store, parking)
- Operation Loss of grazing
- Operation Loss of/ disturbance to plants
- *Waste water disposal Water regime (regional)
- Mining Noise (earth moving equipment and crushers)
- Operation Air quality: Dust Transport
- Mining Visual impact
- Rehabilitation Re-vegetation
- Vacated site Rehabilitation of exposed areas
- Vacated site Safety risks

5.2 Functional requirements for monitoring programmes.

The applicant will oversee the EMP. An independent consultant will do a 6 month compliance survey and give recommendations to the client. Then an annual compliance report will be submitted to DMR. There will thus be continuous monitoring and 6 monthly survey and end year reports.

5.3 Roles and responsibilities for the execution of monitoring programmes.

The right holder is held liable for the implementation and execution of the EMP.

5.4 Committed time frames for monitoring and reporting.

Continuously for the implementing of EMP and six monthly for compliance to EMP, and recommendations. Annual report for compliance to EMP

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).

Part of the rehabilitation process will take place while the mining process is going on. This will greatly reduce the end cost of rehabilitation.

Rehabilitation while mining

- The topsoil from excavated sites will be kept in a stockpile to cover the excavated areas after rehabilitation.
- Waste gravels will be kept in stockpiles and dumped into excavations that are mined out.
- The filled in excavations will then be covered with topsoil from the stockpile.
- Vegetation will be allowed to re-grow and invader species will be eradicated while the mining process is commencing.
- Any oil spills or pollution that might occur will be cleaned up or dug out immediately.

Rehabilitation after mining

- The remaining excavations will be rehabilitated in the same manner as the excavations during the mining process.
- The plant site will be deconstructed and removed from site.
- All manmade structures will be demolished and the rubble removed from site.
- The slimes dams will be levelled and covered with topsoil.
- The plant site will be compacted from activity from heavy machinery so the site will be ploughed to allow plants to re-grow.
- Lastly the parking area for the earthmoving machinery will be demolished and the machinery and rubble removed from site.

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

The objective is to rehabilitate the area to the same state or better than it was before.

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).

At this point no title deed was received. It is not known who of the interested and affected parties where contacted.

Permission from the Dikgatlong municipality was received to proceed with the application on the area.

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

- 7.1 Identification of interested and affected parties. (Provide the information referred to in the guideline)
 - i. Name the community or communities identified, or explain why no such community was identified. Community of Longlands
 - ii. Specifically state whether or not the Community is also the landowner.

The land owner is Barkley West municipality.

- iii. State whether or not the Department of Land Affairs been identified as an interested and affected party.
 It is not known whether or not the Department of Land Affairs has been identified.
- iv. State specifically whether or not a land claim is involved. It is not known at this point whether a land claim is involved.
- v. Name the Traditional Authority identified. No traditional authority exists
- vi. List the landowners identified by the applicant. (Traditional and Title Deed owners) Barkley West municipality.
- vii. List the lawful occupiers of the land concerned. The application area is inhibited by the community identified.
- viii. Explain whether or not other persons' (including on adjacent and non-adjacent properties) socio-economic

. Jin conditions will be directly affected by the proposed prospecting or mining operation and if not, explain why not. The mining activity will bring job opportunities to the area. The negative impact will be minimal because there is already lots of mining activity nearby.

ix. Name the Local Municipality. Dikgatlong Municipality



x. Name the relevant Government Departments, agencies and institutions responsible for the various aspects of the environment and for infrastructure which may be affected by the proposed project.

1. Department Water Affairs - Water usage and quality.

2. Department Environmental Affairs - All aspects of the environment.

xi. Submit evidence that the landowner or lawful occupier of the land in question, and any other interested and affected parties including all those listed above, were notified The land owner is Barkley west municipality. Permission was received from the Dikgatlong municipality to proceed with the application.

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.

Permission was received from the Dikgatlong municipality to proceed with the application.

- 7.2.2 List of which parties indentified in 7.1 above that were in fact consulted, and which were not consulted. Dikgatlong municipality
- 7.2.3 List of views raised by consulted parties regarding the existing cultural, socio-economic or biophysical environment. None where raised.
- 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. None where raised.

7.2.5 Other concerns raised by the aforesaid parties. No other concerns were raised.

7.2.6 Confirmation that minutes and records of the consultations °. are appended. 1. 199

No public meeting was held

7.2.7 Information regarding objections received. No objections were raised.

7.3 The manner in which the issues raised were addressed. No issues were raised.

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

8.1 Employee communication process

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

An environmental awareness meeting needs to be held with all employees where training will be given in protecting the environment. Issues will be covered like open fire danger, cleaning of oil spills and waste disposal.

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).

Road construction - Loss of vegetation + habitat

- Roads will be constructed to gain access to the application area. plant site and mining sites.
- Vegetation will be cleared
- · After the decommissioning phase plant life will be allowed to regrow if the

Plant construction - Loss of vegetation + habitat

- · Vegetation will be cleared from the area allocated for the plant site.
- After rehabilitation the plant site will be demolished and plant life will be allowed to re-grow.

Mining - Geological degradation

- Topsoil on the areas selected for mining will be removed and stored on a stockpile.
- The underlying gravels will be excavated.

• During rehabilitation the waste gravel will be dumped back in the excavations and covered with topsoil.

Mining - Topographic change - pit

- Excavations will be made to the depth of the bottom of the gravels.
- After rehabilitation the topography should resemble the topography of the area before mining activity started.

Operation - Soil pollution - accidental spills and leakages

- Workers will receive training in the handling of hazardous material like oil or grease and how to minimize spills.
- Training will also cover cleaning of spills.

Operation - Soil pollution (workshop, store, parking)

- Drip pans will be placed under non-operational vehicles.
- The workshop will have a non permeable cement floor.

Operation - Loss of grazing

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- Vegetation will be cleared over a large part of the area.
- Because the area is only 1.5 ha it constitutes to a small part of the total grazing area.
- After rehabilitation vegetation will be allowed to re-grow.

Operation - Loss of/ disturbance to plants

- Vegetation will be removed over a large part of the area.
- After rehabilitation vegetation will be allowed to regrow.

*Waste water disposal - Water regime (regional)

- Waste water from the plant will be collected in slimes dams.
- The mud in the mud and water mixture will be allowed to settle and the water will be pumped off to be reused.

Mining - Noise (earth moving equipment and crushers)

- Noise from the earth moving equipment could result in a disturbance to nearby communities.
- Because the area is in the open and sloping away from the community, most of the noise should dissipate and be projected away from the community.

Operation - Air quality: Dust - Transport

• Dust from the transport of material can have a negative effect on the health of people living close by.

- There are few businesses that can be negatively affected.
- Water trucks will be used to spray roads to minimise dust.

Mining – Visual impact

• After rehabilitation the area will return to its former state.

Rehabilitation - Re-vegetation

- The area will be covered with the original topsoil.
- Care should be taken to eradicate any invader species that invaded the area during the mining activity.
- The indigenous vegetation will then be allowed to regrow.

Vacated site - Rehabilitation of exposed areas

• After the site has been vacated the area will be left in the same state that it was found.

Vacated site - Safety risks

• All excavations made during mining will be filled in and all manmade features will be demolished.

8.3 Environmental awareness training.

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

Awareness training will be given under the following headings.

- Care should be taken when making fires.
- Measures to avoid oil spills
- Cleaning of oil spills
- Protection of natural water bodies
- Dust control
- Waste and hazardous waste disposal

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

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

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

The total amount to rehabilitate is estimated as <u>R 30 000.00</u> The annual amount for rehabilitation is estimated at R 15 000.00 The calculations for this amount can be seen in section 4.3.

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

As this is an application for a mining permit no Prospecting Work Programme was required.

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

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