

mineral resources

Department:
Mineral Resources
REPUBLIC OF SOUTH AFRICA

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From: Directorate: Mineral Development: Northern Cape **Date:** 24 May 2012
Enquiries: Ms. Linah Tshikororo **E-Mail:** Tshikhawe.Tshikororo@dmr.gov.za
Ref: NC 30/5/1/1/3/2/1/10356 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 PROSPECTING RIGHT ON FARM 431, SITUATED IN THE MAGISTERIAL DISTRICT OF POSTMASBURG, NORTHERN CAPE REGION.

APPLICANT: MATSAPA TRADING 529 CC

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 **24 July 2012** as required by the Act.

Consultation in this regard has also been initiated with other relevant State Departments. In an attempt to expedite the consultation process please contact **Linah Tshikororo** 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**



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Mineral Resources
REPUBLIC OF SOUTH AFRICA

NAME OF APPLICANT: MATSAPA TRADING 529 CC

REFERENCE NUMBER: NC 30/5/1/1/2/10356 PR

Documents received in terms of the Mineral and Petroleum Resources Development Act, 2002 (Act 28 of 2002) NORTHERN CAPE REGION
18 MAY 2012
MINISTRY Signature: <i>W. H. H. E.</i>
DEPARTMENT OF MINERAL RESOURCES

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.

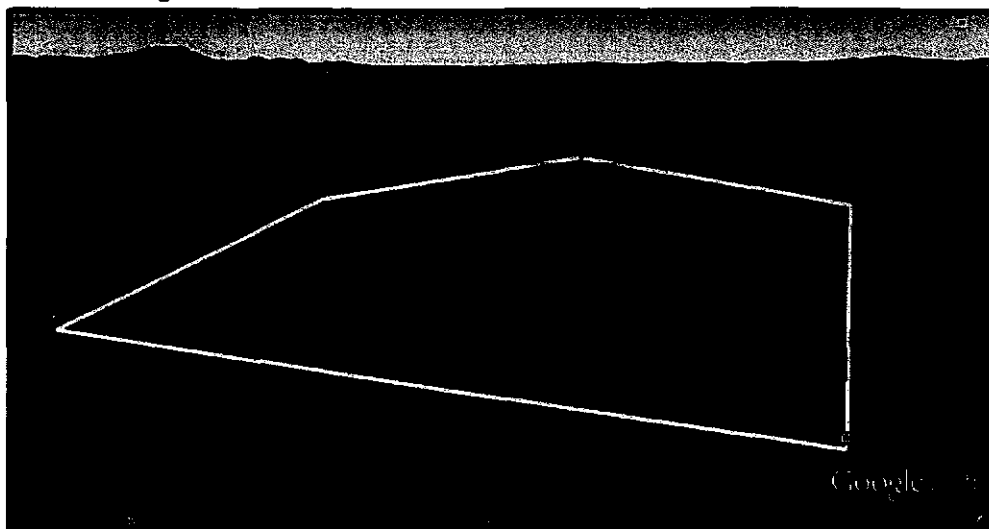
IDENTIFICATION OF THE APPLICATION IN RESPECT OF WHICH THE ENVIRONMENTAL MANAGEMENT PLAN IS SUBMITTED.

ITEM	COMPANY CONTACT DETAILS
Name	Matsapa Trading 529 CC
Tel no	
Fax no:	
Cellular no	072 017 9973
E-mail address	
Postal address	PO Box 1539, KIMBERLEY, 8300

ITEM	CONSULTANT CONTACT DETAILS (If applicable)
Name	Rock Runner Consultants
Tel no	053 831 7634
Fax no	053 832 3256
Cellular no	
E-mail address	admin@rockrunner.co.za
Postal address	PO Box 3226, KIMBERLEY, 8300

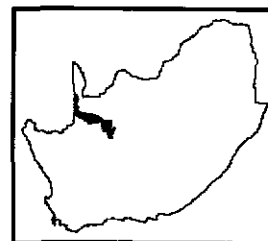
1 REGULATION 52 (2): Description of the environment likely to be affected by the proposed prospecting or mining operation

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



The area as a whole has a relative broken topography with little to no significant environmental features. The farm itself is a little elevated from the rest of the surrounding area with a hill range off centre to the western side of the farm. Few non-perennial streams occur on the area and is the only water resources present on the farm. The soil comprises of calcareous tufa, which sometimes is covered with a layer of granitic gravel.

Vegetation falls within the Karroid Kalahari Bushveld Biome (Biome 29 according Low & Rebello, 1996). A tree layer is almost non-existent and very sparsely scattered individuals of Camel Thorn (*Acacia erioloba*) and Shepherd's Tree (*Boscia albitrunca*) may be



found in areas where an accumulation of sand has occurred. The shrub layer is moderately developed and individuals of Cauliflower bush (*Salsola tuberculata*), Thornkapok (*Eriocephalus spinescens*), Threethorn (*Rhigozum trichotomum*), *Rosenia humilis*, *Aptosimum spinescens* and *Eriocephalus pubescens* are commonly found.

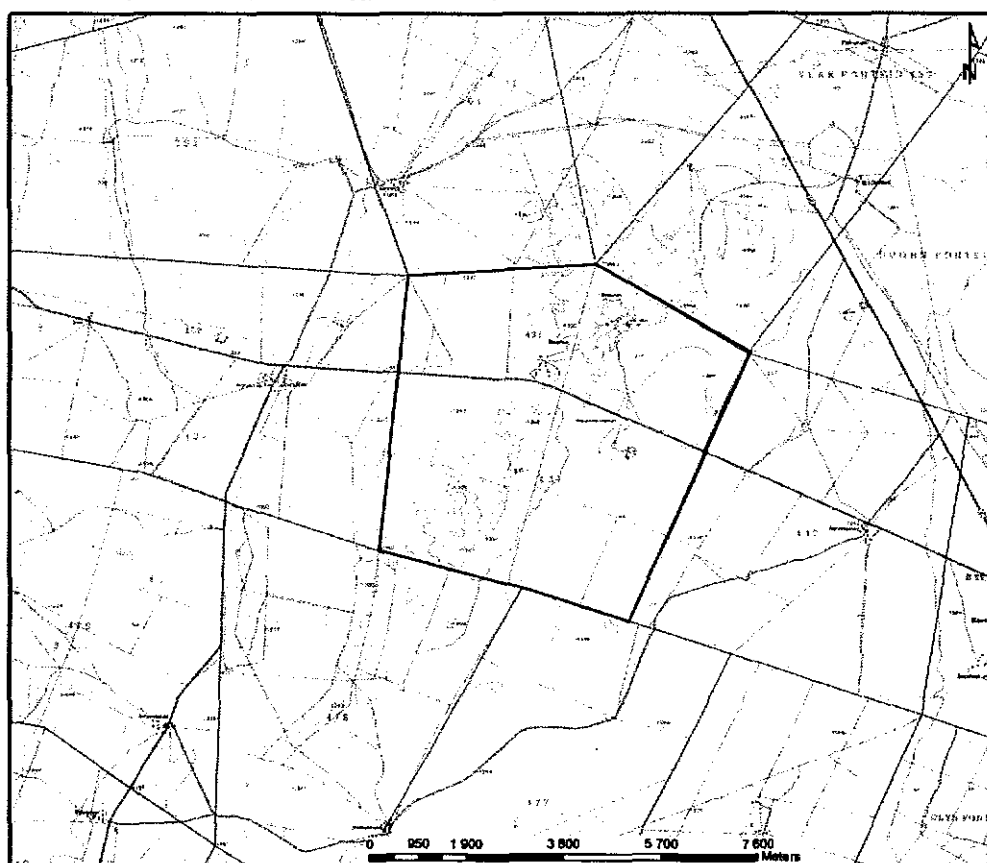
The grass layer is poorly developed and grasses such as Small Bushman Grass (*Stipagrostis obtusa*) and Tall Bushman Grass (*Stipagrostis ciliate*) are the dominant species. Other grasses comprise of Eightday Grass (*Enneapogon desvauxii*), Ring Windgrass (*Eragrostis annulata*), Blue Windgrass (*Eragrostis porosa*)

Eragrostis homomalla, *Targus racemosus* and *Schmidtia kalihariensis*.

- 1.2 The specific environmental features on the site applied for which may require protection, remediation, management or avoidance.
The applicable application area does not have any specific and/or significant environmental features that would require any protection, remediation, management or avoidance.

The non-perennial streams on the farm are only running during the raining season and will be kept clear during this time frame.

- 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 public participation process is still in progress during the compilation of this document and the description of the environment has been identified by trained personnel of Rock Runner Consultants.

The environmental feature description as stated in this document above will be discussed during the public meeting still to be held in the near future.

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)

- Geological investigations

A full geological investigation will be done by using previous verified literature, satellite imagery, geological plans and reports from various mines in the near vicinity.

These findings will be stated within an initial geological report and maps drafted for the purpose thereof.

- Geological mapping

Maps from the first phase will be used together with geological field investigations and surveying to narrow down the target areas.

Possible ore body locations will also be determined by the geological field visits, which will be surveyed and mapped, for the purpose approximate hole placement for the drilling operations.

- Surface sampling

During the surface sampling, geologist again will conduct a detailed field survey and rock samples collected.

These samples will not be removed from the property, but instead photographed and geologically recorded for office use.

After this phase the above data will be digitally captured and mapped. The geological report to be written will give recommendation on future work and drill hole placement with appropriate co-ordinates be stated.

- **Drilling**

During the drilling operations approximately 40 holes with each a maximum depth of 40 m each or till the bedrock is intersected.

These operations will be done by means of Reverse Circulation Drilling and dust collected within plastic tubes for the length of the hole. Geologist on site will use these 'sausages' to log the individual holes, recording information such as hole number, hole location, dust colour, mineral/rock identification and interval depth of different geological structures. Manganese ore dust captured are taken, labelled and sent for laboratory analyzed to obtain a grade value.

After all data is recorded the captured dust is discarded back into the drill hole in their correct and respective order. Data obtained is later digitally captured and mapped for a detailed geological model and report giving the true geological lithology of the area in question and the feasibility of the ore body for future reference and/or mining operations.

- **Bulk Sampling**

Only if the ore body is proofed feasible, one bulk sample will be taken to test the market value thereof. The bulk sample will have a dimension of 50 x 50 x 20 m deep and placed on the outcomes of the drilling phase and the report thereof.

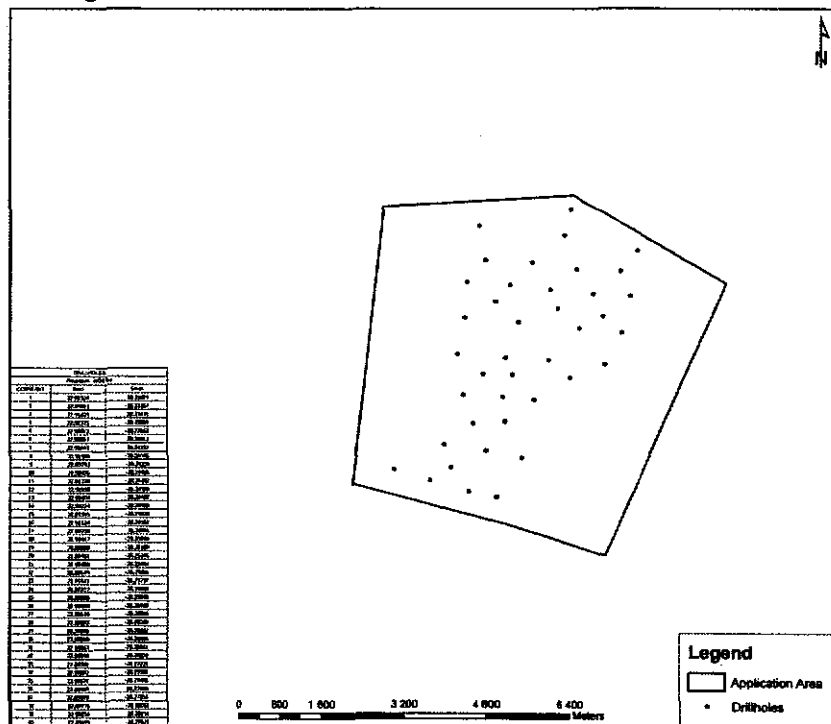
In the process of bulk sampling will be topsoil and overburden removed and stored separately for final rehabilitation purposes and the ore excavated is stored for processing. During the processing of the mineral the washed in a scrubber to remove access soil and finally slowly transported over a conveyor belt. As the ore travel along, hand sorters are used to remove unnecessary materials. The final product is stock piled and sold to the

local and international market to obtain market values for further feasibility studies.

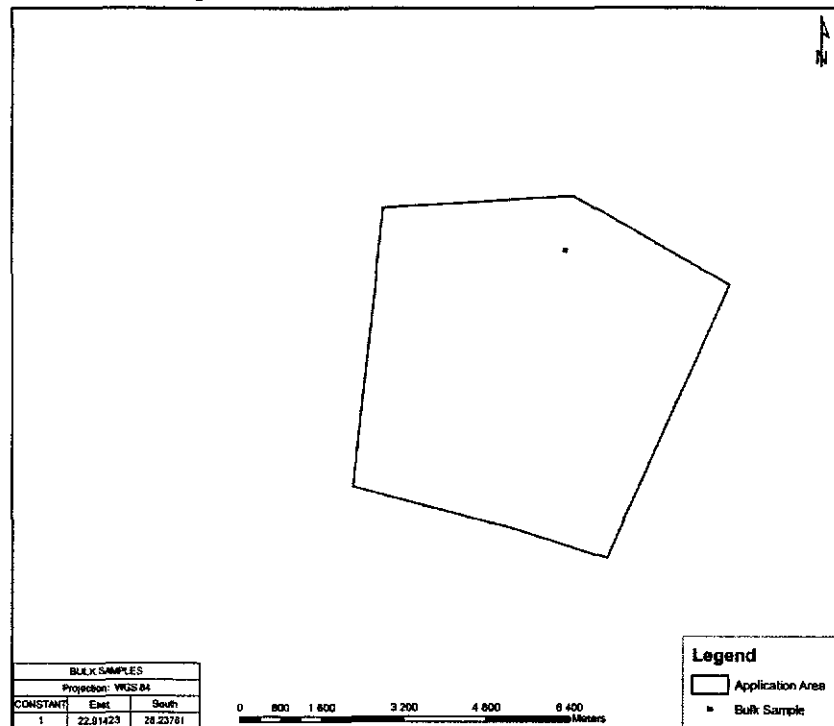
During the rehabilitation process backfilling occur in fully excavated areas till the entire area is backfilled and awaiting final rehabilitation. Once the bulk sampling phase is completed the excavation will be finalized by the sloping of the backfilled excavation and the overburden and topsoil spread in their respective manner. A maintenance plan will be executed to ensure the successful re-growth of indigenous plant species.

2.1.2 Plan of the main activities with dimensions

- Drilling



- Bulk Sampling



2.1.3 Description of construction, operational, and decommissioning phases.

- Construction
 - Construction for the drilling operations is not applicable as the drill rig will move constantly to and from hole locations. Any vegetation clearing of path making for this operation is regarded as unnecessary.
 - Construction for the bulk sampling operations will be done after the geological report on drilling results is finalized and a decision has been made. An area of 70 x 70 m will be cleared for the plant, storage and office sites. This site will also be clearly demarcated and the different structures also.
- Operational
 - Drilling operations will be done by means of Reverse Circulation Drilling and dust collected within plastic tubes for the length of the hole. Geologist on site will use these 'sausages' to log the individual holes, recording information such as hole number, hole location, dust colour, mineral/rock identification and interval depth of different geological structures. Manganese ore dust captured are taken, labelled and sent for laboratory analyzed to obtain a grade value.

After all data is recorded the captured dust is discarded back into the drill hole in their correct and respective order.

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All water used in the operational phase will be recycled as far as possible or treated to break chemicals down in their natural components before returned to the environment.

During the rehabilitation process backfilling occur in fully excavated areas till the entire area is backfilled and awaiting final rehabilitation. Once the bulk sampling phase is completed the excavation will be finalized by the sloping of the backfilled excavation and the overburden and topsoil spread in their respective manner. A maintenance plan will be executed to ensure the successful re-growth of indigenous plant species.

- Decommissioning
On decommissioning of the prospecting operations all rehabilitation on the excavation will be finalized. The plant and all offices and storage structures/building will be removed and the area ripped to minimize the footprint left after such activities. All rehabilitated areas will undergo a care and maintenance period where the areas are regularly inspected for invader/pioneer species. The latter will be removed to give the indigenous plant species a better change for successful re-growth.

During this time regular inspections must be done to monitor the re-establishment of certain environmental features and if the rate thereof is not acceptable intervention may be necessary.

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

- Vegetation clearing – plant site establishment and bulk sampling
- Excavating – during the bulk sampling process
- Water use – water management during mineral processing
- Dust and noise generation – during excavating and hauling activities.
- Rehabilitation – the rehabilitation of affected areas and the recovery thereof.

2.2 Identification of potential impacts

(Refer to the guideline)

2.2.1 Potential impacts per activity and listed activities.

- Geological investigations
 - ✓ The geological investigations itself bears not thread to the environment
 - ✓ The only impact that may result from these activities is the trampling of ground when driving vehicles off-road.
 - ✓ Dust generation will be at a minimum as the activities are mainly done by foot to obtain maximum results.
- Drilling
 - ✓ Vegetation loss – an area of 1 x 1 m is cleared of vegetation, without removing the topsoil, for the drilling purposes.
 - ✓ Noise generation – during the drilling operations will noise be generated. The noise is much localized and surrounding areas would not be impacted and/or disturbed.

- ✓ Dust generation – RC drilling catches dust within plastic tubes for hole logging purposes. Some of the dust do escape into the air, but again is much localized and surrounding areas will not be affected.
- ✓ Litter pollution – the risk of litter pollution is a variable as this will only happen if the mitigation measures as set out later in this report are not adhered to. This may pose a risk to the environment but the impact thereof is medium to low.
- ✓ Soil pollution – any chemical spillage on the ground bears a major risk to the environment and the health thereof. Chemical ground pollution will prohibit plant re-growth and complete rehabilitation of the environment and any possible impact thereof is regarded as high.
- Bulk Sampling
 - ✓ Vegetation loss – a total area of 2 500 m² will be cleared for the excavation of the bulk sample and 4 900 m² for plant site establishment. The impact can be regarded as low to medium, with no long term effects. If rehabilitation of these areas is done correctly full recovery of the environment is possible.
 - ✓ Noise disturbance – during excavation and hauling activities noise is generated by the heavy vehicles. Again the noise will be much localized and should have no impact on the surrounding environment.
 - ✓ Air quality loss – dust will be generated during the excavating and hauling activities. The dust generated may have an impact on the air quality, but with localized effects and should not have an effect on the surrounding environment. For this the impacts can be regarded as low.
 - ✓ Soil pollution – chemical soil pollution is always a possibility during mechanical prospecting operations. Working machinery and storage facility bears a risk for chemical spillage and the impact thereof may be very severe.
 - ✓ Soil compaction – heavy vehicles driving off-road bears a great risk to the trampling of vegetation and the

compaction of the soil. The plant site area will also become compacted during the duration of the prospecting activities. If not rehabilitated vegetation re-growth is unforeseen and poses a medium risk to the environment. The impact thereof will be regarded as medium.

- ✓ Littering pollution – littering during prospecting activities can happen and may have a low to medium impact on the environment depending on the type of littering and the remediation thereof.
- ✓ Water pollution – chemical contaminated water from the mineral processing plant, maintenance yards, scrap yards and storage facilities bears a risk to the environment and the purity of the ground water table. This impact should always be regarded as high and proper mitigation and/or remediation measures should be in place.
- ✓ Rehabilitation – this should almost always have a positive impact on the environment depending on the correctness of the rehabilitation process. Improper rehabilitation could negatively impact the environment in the short term, but long term effects may turn out to be positive.

2.2.2 Potential cumulative impacts.

- Soil erosion may occur when vegetation loss is severe and not re-established within a relatively short period of time. The main impact that may lead to soil erosion is the loss of vegetation, soil pollution and soil compaction.
- Ground water contamination may occur during the raining season when runoff water enters nearby open surface water bodies or water ciphering through to the ground water. When this runoff water comes in contact with chemically polluted soil the change for water contamination is high and the pollution of ground water.

2.2.3 Potential impact on heritage resources

The impacts on any heritage resources could not be identified nor verified as the Archaeological Report on the First Phase Heritage Impact Assessment is still outstanding during the

compilation of this report and this can only be done once the mentioned study is conducted and the report thereof received.

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.)

It is not foreseen that the communities, any individuals and or competing land uses may be directly influenced or impacted by the prospecting operations. Most of the identified impacts are much localized and there is no evidence of nearby residing communities.

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 impacts has not been consulted with the participation of the landowner and/or any interested and affected parties. This is due to the outstanding public participation process and the report on such.

All impacts have been solely identified by trained personnel of Rock Runner Consultants.

2.2.6 Confirmation of specialist report appended.

(Refer to guideline)

No specialist reports are appended to this document as the required specialist study on the possible heritage resources is still outstanding.

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	- Localised - Fairly widespread - Long-term
CONSEQUENCE	- Low consequence - Medium consequence - High consequence
SIGNIFICANCE	- Low overall significance - Medium overall significance - High overall significance

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

LEGEND FOR TABLE

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

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

ACTIVITY	DESCRIPTION	Se	D	SP	C	P	Si
1. CONSTRUCTION PHASE IMPACTS							
Road construction	Loss of vegetation + habitat	L	L	L	L	M	L
Escorn line	Loss of vegetation + habitat	NOT APPLICABLE					
Plant construction	Loss of vegetation + habitat	M	L	L	L	H	L
Pipeline installation	Loss of vegetation + habitat	L	L	L	L	L	L
Offices	Loss of vegetation + habitat	M	L	L	L	H	L
2. OPERATIONAL PHASE IMPACTS							
Prospecting	Geological degradation	L	L	L	L	H	L
Disposal	Topographic change - dump	L	L	L	L	L	L
Prospecting	Topographic change - pit	L	L	L	L	L	L
Prospecting	Soil pollution - accidental spills and leakages	H	L	L	L	L	H
Operation	Soil pollution (w orkshop, store, parking)	H	L	L	L	L	H
Operation	Loss of grazing	L	L	L	L	L	L
Operation	Loss of/ disturbance to plants	L	L	L	L	L	L
Extraction of groundw ater	Depressed w ater table	L	L	L	L	L	L
Operation	Problem plant invasion	L	L	L	L	M	M
Operation	Effect on animals	L	L	L	L	L	L
*Waste w ater disposal	Water regime (regional)	L	L	L	L	M	L
Prospecting	Noise (earth moving equipment and crushers)	L	L	L	L	M	L
Operation	Air quality: Dust - Transport	L	L	L	L	M	L
Operation	Air quality: Dust - Crusher	NOT APPLICABLE					
Mining	Noise - blasting nuisance - regional	NOT APPLICABLE					
Mining	Noise - blasting nuisance -personnel	NOT APPLICABLE					
Prospecting, opertaion	Loss of archaeological items	L	L	L	L	L	L
Operation	Sensitive landscapes	L	L	L	L	L	L
Prospecting	Visual impact	L	L	L	L	L	L
3. DECOMMISSIONING PHASE IMPACTS							
Demolition	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.

All potential cumulative impacts can be regarded as medium to low in significance.

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.

Although there are significant activities that pose a greater risk to the significance of impacts on the environment the entire invasive operation must be monitored and mitigation measures implemented to prevent any environmental degradation.

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)

Mitigation measures are to avoid pollution or degradation of the environment. As all mining/prospecting operations or factors relating to mining/prospecting operation pose a risk/threat to the environment, several mitigation measures should be implemented to minimize the risk thereof:-

- **Workshop**
 - The work shop will be barn-like structure with a cemented floor.
 - All chemical spillage on the floor will be treated to break them down into their natural components before cleaning of the floor.
 - Unusable vehicle and machinery parts will be discarded in a container supplied in the scrap yard.
 - Old diesel and/or oil and related chemicals must be discarded within appropriate marked closed containers and stored in the chemical warehouse till removal thereof.
 - Hands, machinery parts and overalls will be washed in a chemical soap, which can breakdown the oil substance in the water. This used water can be recycled to a storage tank at the ablution block for flushing the toilets where after septical chemicals will be used in the septic tank to neutralize the negative agents.

- Wash-bay
 - The wash-bay need to have a cemented floor at a gradient of 2 degrees, with a channel on the bottom relaying the water which connect to a pipe for further relaying to a specific target site.
 - The remaining 3 sides of the floor must at least have a 30 cm wall preventing unwanted spillage of used water.
 - Recycled water from the plant site can be used for this purpose and if possible returned to the recycle pan.
 - Only bio-degradable detergent must be used for this purpose to ensure possible recyclability.
 - It must be ensured that electrical cords and plugs are safe from any water contact.
- Diesel storage
 - Diesel tanks will stand in a leak proof bay, supporting the tank volume plus 10%, and a 1.5 meter wide cement floor buffer will encircle the area.
 - Vehicles which are filled with fuel, will park on a cement floor, for if any spillage occurs, it can be cleaned.
 - Two fire extinguishers will be present at all times.
 - Floor area must be constructed at a gradient and a run-off sump to capture all contaminated water to be treated by a separator.
- Chemical warehouse
 - Storage facilities will consist of an enclosed room consisting of a lockable entrance and cemented floor.
 - All chemical containers will be stand in waterproof bay supporting the container volume plus 5%.
 - Stored chemicals must be in marked closed containers.

- For remediation purposes a neutralizing agent for each chemical must be available at the entrance of the room at all times.
- Safety ware for workers will always be available for urgent situations.
- Unused chemicals must be separated from used chemicals as well each type of chemical will be grouped to prevent cross contamination and possible hazardous chemical reactions.
- Fire extinguishers for this purpose will be available at all times.
- Chemicals removed from storage will be in approved containers to minimise the possibility of spillage.
- Scrap yard
 - Is a fenced off and clearly marked area, and must be kept clear of all vegetation.
 - Waste types need to be separated into their different group, for example: steel and tin are separated, as well as unusable items which need to be removed.
- Vehicle storage
 - A demarcated fenced off area, away from the operational site will be cleared for vehicle storage and parking.
 - Drip pans will be readily available and no parked heavy vehicle will be without a drip pan.
 - Area must be continuously inspected for spillages and remediated.
- Sanitation
 - Concealed septic tanks must be installed above ground, which can be regularly inspected for leakage.
 - Where showers and basins are installed, the draining water can be gathered in a septic tank, from where the toilets can be flushed.

- Ablution blocks will at all times be sanitized.
- Sanitary bins will be provided within the building, no sanitary material will be allowed within the septic tanks.
- Operational procedures
 - Roads and the amount of roads will be planned and constructed with the minimal impact on the environment.
 - All vehicular traffic is restricted to the roads and to a speed of 20 km per hour for heavy vehicles and 40 km/h for light weight vehicles.
 - Suppression of dust on the roads will occur by the spraying of chemical bounded / fresh/ recycled from plant site water.
 - At excavation sites the only necessary vegetation will be cleared.
 - Littering of any product, including cigarette buds, at any operational site shall be seen as an offence, and will not be tolerated.
 - All related chemicals must be handled to minimise spillage and if any occur, it must be dealt with according the relevant remediation measured.
 - No vehicles repairs and maintenance will occur within the operational area, and are restricted to the workshop.
 - Several sites will be identified and colour coded water tanks will be erected for safe human water consumption.
 - Cleaned and contaminated water will be stored separately at selected demarcated sites for each and clearly marked.
 - Water used in the washing of manganese ore will be partially from the recycle pan.

- All water obtained from the washing of ore will be recycled and stored in the recycle pan for future use.
- Top soils, stock and wastes.
 - Top soils and overburden removed will be separately stored for final rehabilitation purposes.
 - Stockpile dumps will be placed near the transport offices for hauling.
 - Waste dumps will be stored and continuously used for back filling of already excavated and mined-out areas.
 - The dumps will not exceed the prescribed height.
- Rehabilitation
 - Continuous rehabilitation is as important to the environment as that of closure rehabilitation.
 - All chemical spills will be rehabilitated immediately.
 - Rip and rehabilitate all unused roads or access ways.
 - Partially rehabilitated excavations that are dormant will be fenced off and clearly marked.
 - Rehabilitation will be finalised by the planting of indigenous species with regular inspections for removal of pioneer species.
- Safety
 - Employees at the chemical storage area will be supplied with safety clothing and during the cleaning of spillage it is advisable that chemical resistant boots and hand gloves are worn.
 - Fire extinguishers will be kept in good order and serviced regularly and installed at all fire hazardous areas.
 - Vehicles will be equipped with a red flag on a long enough rod to be easily observed by the heavy vehicle drivers, a yellow light at night and a roll bar.

- Hard hats, ear plugs, safety glasses, dust masks, gloves, hard point boots, reflector vests and overalls will be supplied and is compulsory before entering the mine area.
- The mine entrance will be clearly marked with all regulatory signs to indicate a potential dangerous zone.
- Personnel need to be trained on health and safety matters in line with the health and safety act for mining.
- All buildings will consist of appropriate signs indicating function and potential dangers.
- All prospecting areas where driving occurs on a narrow potentially dangerous road will be clearly marked with command / warning signs.
- ❖ Remediation measures on accidental pollution
 - Accidental pollution is the accidental spillage of chemicals, oil, fuel, or leakage of the storage tanks.
 - Chemicals, oil and fuel spillages will be treated with a neutralizing agent.
 - Chemically contaminated soil will be removed and appropriately stored till the removal thereof. Stored top soil will be evenly spread to recover the area.
 - Septic tank leakage will be handled by removal of the soil to be treated and the rehabilitation of the area thereafter.
 - In the outbreak of a fire, the site will be evacuated. A special group of people, who is trained in this regard, will put the fire out and secure the area.

- **Waste Management**

Waste management is very crucial to a successful mine with health and environmental awareness in the front line.

 - ❖ **Scrap metal**
 - ✓ The scrap yard will be fenced off and all scrap metal will be stored separately, while all unused vehicle/machinery parts will be discarded within a provided container
 - ✓ During the course of mining all scrap within the scrap yard will be sold to the local scrap metal agencies, before tendering it to surrounding towns.
 - ✓ At closure of mine the remaining scrap will be sold on a tender basis to all interested agencies.
 - ✓ During closure rehabilitation the scrap yard will be inspected and all chemical spillage will be obviated before the entire area is ripped and rehabilitated.
 - ✓ After rehabilitation of the scrap yard is completed the fence will be removed and the environment left in a natural state.
 - ❖ **Chemical waste**
 - ✓ Chemical and chemical containing waste will be stored in close containers within the Chemical storage room.
 - ✓ Once the area specified for these waste is approximately 80% full, the different agencies dealing with these specific chemicals will be contacted for the safe removal thereof.
 - ❖ **Waste water**

As all waste water will be reused, it is not foreseen that waste water will be of any concern, but the following must be stated for future references:-

 - ✓ All waste water will be treated to be used in other areas requiring the use of water, but not necessarily required clean water.

- ✓ During the mine closure the Department of Water Affairs will be contacted for the authorization and specific regulations on handling waste water.
- ✓ Waste water specialist will be contracted to help manage and cleaning the water for safe return to the environment if possible, otherwise the removal thereof to the recommended agencies.
- ❖ Domestic waste
 - ✓ Containers will be installed and clearly marked for this purpose.
 - ✓ It is preferable that people is aware of the splitting of waste into their different categories, i.e. glass, plastic, paper, tin and other waste.
 - ✓ Contracts with the local municipality/agencies will be signed for the removal of these containers on the appropriate schedule of once as week, but if found necessary twice a week.
- ❖ Human waste
 - ✓ All human waste and related waste will be contained within septic tanks installed for this purpose.
 - ✓ Septic tanks and chemical toilettes will be chemically treated and maintained by a contracting agency.
 - ✓ The local municipality will be contracted on the draining of the septic tank and the removal of its contents to the sewerage plant of their choice.
 - ✓ Sanitation material within the bins provided will be closed in coloured plastics and disposed off with domestic waste.
- ❖ Other relevant waste
 - ✓ Old tyres will be removed and sold to the appropriate agencies.
 - ✓ Old fencing material will be handled as scrap metal

- Training on emergency situations and the control/remediation thereof.
 - A specific group of a number of volunteers will be trained in the 1st two basic levels of first aid as well as fire fighting to handle the following situations, till professional help arrives at site:-
 - ✓ Fire outbreaks
 - ✓ Accidental injury
 - ✓ Injury incurred from animal attacks
 - ✓ Chemical burns
 - ✓ Sudden illnesses, e.g. heart attack
 - All personnel will receive basic training in handling and remediation of chemical spills.

3.2.3 Review the significance of the identified impacts

(After bringing the proposed mitigation measures into consideration).

Bringing all mitigation measure into consideration the significance of the identified impacts can be seen as low to medium, but only when all mitigation measures are adhered to.

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).

Detailed and accurate maps cannot be provided during this stage of the application process as all these are dependable on the outcome of the drilling operation. Only then can a plan be provided with specific and accurate data.

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 create a post-mining state as close as possible to the pre-mining state of the environment. This can be accomplished by the correctness of rehabilitation and proper after-care activities.

All waste dump materials shall be backfilled into the excavation and sloped to the appropriate standard. The overburden and topsoil are spread over the area to ensure a favourable environment for re-establishment of vegetation species.

Unnecessary roads and plant site will be cleared of foreign materials and ripped to loosen the ground for vegetation re-growth. After final rehabilitation is completed a 2 to 3 year after-care plan is initiated to ensure a satisfying vegetation re-growth rate and the successful establishment of indigenous vegetation.

All of this can be accomplished by regular field visits for the watering of the areas as well as for the removal of any invader/pioneer species.

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 regulation 54 (1) in respect of each of the phases referred to).

CALCULATION OF THE QUANTUM						
Applicant:		Matsapa Trading 259 Cc		Location:		Farm 431, Postmasburg
				Date:		May-12
		A	B	C	D	E
	Description	Quantity	Units	Multiplication factor	Weighting factor	Amount (Rands)
		200.00	R 10.27	1	1	R 2 054.00
		150.00	R 143.09	1	1	R 21 463.50
		-	R 210.87	1	1	R -
		4 500.00	R 25.61	1	1	R 115 245.00
		-	R 248.52	1	1	R -
		-	R 135.56	1	1	R -
		50.00	R 286.18	1	1	R 14 309.00
		0.25	R 150 016.59	1	1	R 37 504.15
		-	R 76.82	1	1	R -
		0.25	R 100 011.06	1	1	R 25 002.77
		0.75	R 124 561.97	1	1	R 93 421.48
		-	R 361 787.01	1	1	R -
		-	R 83 744.20	1	1	R -
		0.49	R 79 226.63	1	1	R 38 820.66
		-	R 79 226.63	1	1	R -
		200.00	R 90.37	1	1	R 18 074.00
		0.75	R 30 123.61	1	1	R 22 592.66
		6.42	R 10 543.33	1	1	R 67 688.18
		3.00	R 20 000.00	1	1	R 60 000.00
					1	R -
						R 61 941.06
				weighting factor 2		R 61 941.06
				1		R 61 941.06
				51 617.55		R 51 617.55
						R 60 784.00
						R 68 162.77
						R 747 390.00

4.4 Undertaking to provide financial provision

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

The Directors of Matsapa Trading 259 Cc undertake to provide the financial provision for the amount of **R 358 948.43** in the form of a Bank Guarantee should the Right 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.

All prospecting actions, activities and processes should be monitored against the mitigation measures as stipulated above in Section 3.2.2 of this document on an annual basis.

5.2 Functional requirements for monitoring programmes.

Monitoring programmes and reports should be conducted by independent environmental consultants for accurate and true statements. This should be done on an annual basis, but the mine itself is free to employ a person with environmental qualifications to oversee the execution of the Approved Environmental Report on a daily basis.

5.3 Roles and responsibilities for the execution of monitoring programmes.

It is the responsibility of the mine manager to see that monitoring programmes are kept updated and done timely to be submitted to the DMR. The independent environmental consultant has a sole responsibility toward the environment and to see that the execution of the Environmental Management Plans is done correctly and safely.

The findings of the consultant shall be reported in a written document and copies submitted to the client, DMR and farm owner.

5.4 Committed time frames for monitoring and reporting.

Monitoring assessments should be done on a six monthly basis with recommendations given to the mine. A major survey shall be conducted on an annual basis and the report thereof submitted to the relevant Department of Mineral Resources.

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).

Detailed and accurate maps cannot be provided during this stage of the application process as all these are dependable on the outcome of the drilling operation. Only then can a plan be provided with specific and accurate data.

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

The closure objectives are to create a post-mining state as close as possible to the pre-mining state of the environment. This can be accomplished by the correctness of rehabilitation and proper after-care activities.

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 closure objectives in regard to the environment has not been consulted with the landowner and/or any other interested and affected by the applicant. Such consultations still need to be conducted and should be done in the near future in the form of a public meeting.

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.

The Report on Result on Consultation has not yet been received from the applicant, and thus can be assumed that consultation is still in progress.

ii. Specifically state whether or not the Community is also the landowner.

The Report on Result on Consultation has not yet been received from the applicant, and thus can be assumed that consultation is still in progress.

iii. State whether or not the Department of Land Affairs been identified as an interested and affected party.

The Report on Result on Consultation has not yet been received from the applicant, and thus can be assumed that consultation is still in progress.

iv. State specifically whether or not a land claim is involved.

The Report on Result on Consultation has not yet been received from the applicant, and thus can be assumed that consultation is still in progress.

- v. **Name the Traditional Authority identified.**
The Report on Result on Consultation has not yet been received from the applicant, and thus can be assumed that consultation is still in progress.
- vi. **List the landowners identified by the applicant.**
(Traditional and Title Deed owners)
The Report on Result on Consultation has not yet been received from the applicant, and thus can be assumed that consultation is still in progress.
- vii. **List the lawful occupiers of the land concerned.**
The Report on Result on Consultation has not yet been received from the applicant, and thus can be assumed that consultation is still in progress.
- viii. **Explain whether or not other persons' (including on adjacent and non-adjacent properties) socio-economic conditions will be directly affected by the proposed prospecting or mining operation and if not, explain why not.**
The Report on Result on Consultation has not yet been received from the applicant, and thus can be assumed that consultation is still in progress.
- ix. **Name the Local Municipality.**
The Report on Result on Consultation has not yet been received from the applicant, and thus can be assumed that consultation is still in progress.
- 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.**
The Report on Result on Consultation has not yet been received from the applicant, and thus can be assumed that consultation is still in progress.
- 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 Report on Result on Consultation has not yet been received from the applicant, and thus can be assumed that consultation is still in progress.

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.

The Report on Result on Consultation has not yet been received from the applicant, and thus can be assumed that consultation is still in progress.

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

The Report on Result on Consultation has not yet been received from the applicant, and thus can be assumed that consultation is still in progress.

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

The Report on Result on Consultation has not yet been received from the applicant, and thus can be assumed that consultation is still in progress.

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.

The Report on Result on Consultation has not yet been received from the applicant, and thus can be assumed that consultation is still in progress.

7.2.5 Other concerns raised by the aforesaid parties.

The Report on Result on Consultation has not yet been received from the applicant, and thus can be assumed that consultation is still in progress.

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

The Report on Result on Consultation has not yet been received from the applicant, and thus can be assumed that consultation is still in progress.

7.2.7 Information regarding objections received.

The Report on Result on Consultation has not yet been received from the applicant, and thus can be assumed that consultation is still in progress.

7.3 The manner in which the issues raised were addressed.

The Report on Result on Consultation has not yet been received from the applicant, and thus can be assumed that consultation is still in progress.

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).

Initial employee training will be done on employment of personnel, handling all issues related to General and Conservational Environmental Awareness. Follow up training workshops will be held on an annual basis and when expansion and/or implementation of new equipment are introduced to the mine.

Motivation

- Inspections will be held on a regular basis against do's and don'ts listed in the above section. Immediate penalties can be given to offenders.
- On the discretion of the mine, motivation can be implemented by an all expenses paid braai/function at the end of unbroken fixed environmental contamination fee hours.
- An award can be given at year end function to the employee that contributed to environmental awareness as an Environmental Protagonist.

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).

❖ Everyday awareness

- Littering

As wild animal species still roam the area from time to time, the accidental ingestion of litter is a possibility and highly dangerous as it can and will kill the animal involved. Even when not ingested smaller mammals are always at risk in getting tangled with plastics, rubber etc., this can ensure numerous suffering and eventually death of the animal.

Plastics, rubber, some types of paper and glass are not biodegradable and release poisons into the environment when exposed to harsh weather conditions. Even when buried, they tend to resist weathering. These poisons

released into the environment can be harmful to our plant species, but even if it is not harmful to the plant itself the plant tend to store all absorbed substances in their fruit, roots and root tuber and the last mentioned may be utilized by humans or animals leading to the consuming of harmful chemicals that may pose illness or even death.

No glass, paper, plastics and cigarette buds are to be littered during the duration of the mining operations. Garbage containers will be installed and maintained to prevent litter pollution.

- Open fires

The Northern Cape is generally known as a semi-arid region with less than moderate rainfall per annum. The project area falls within the dryer regions of the province, the Kalahari that is regarded as a semi-desert, and it is also by law prohibited to start open fires ((Sec 25 Government Gazette Vol. 401 No. 19515 of 27 Nov 1998 regarding the National Veld and Forest Fire Act 1998 (Act no. 101 of 1998)).

Due to the hot and dry conditions the region is very susceptible for runaway fires. No open fires will be tolerated during the mining period and as this is regarded by law as a criminal offence related penalties can be issued. The littering of self ignitable substances/objects (e.g. matches) are also not allowed as it will always pose a danger regarding field fires, and if such happen the person responsible for the littering will be charged with arson and related penalties can be issued.

- Sanitation and Personal Hygiene

Sanitation and personal hygiene is a very important subject for environmental and social health. Improper sanitation habits can lead to intestinal parasite infestations within humans and animals, endangering the overall health of the recipients. Unfortunately these infestations do not stay only within the host and will spread rapidly throughout a community or herd.

Human viruses like Tubercle bacillus (TB) and Herpes simplex, both are very contagious, spread vigorously throughout a community not handling good hygiene habits/practices.

- Proper sanitation/ablution blocks will be erected during the commissioning phase of the mine and strict use and cleanliness of these facilities will be enforced during the entire life of mine.
- Employees will further be advised and educated on the importance of consuming clean and fresh water. Several sites will be identified and colour coded water tanks will be erected for safe human water consumption.
- Fauna
Wild animals roaming within the area is a common sight from time to time, but reptiles and smaller rodents permanently inhabit the area. Wild animals are and will always be very dangerous.

Mine employees will be advised to stay clear from any wild animal or reptile and not to try and provoke them in any manner. They will further be educated on dangerous and poisonous reptiles and the actions to be taken when such reptiles are encountered.

- Flora
The vegetation of the Northern Cape regions is very fragile and easily endangered by pioneer species invading the Northern Cape at an alarming rate and due to the slow growth rate of our indigenous species.
 - No indigenous shrubs or trees will be unnecessarily uprooted and utilized for firewood, they would rather be advised to utilize pioneer species and be educated on which plant species are indigenous, endangered or pioneer.
 - If any pioneer species are observed the reporting thereof to the rehabilitating site manager will be highly recommended.
 - Penalties will be given to individuals that damage any endangered species e.g. cutting branches/bark from a Camel / Grey Camel tree.

❖ Work related awareness

- Work shops

All work shop personnel will receive a basic information session regarding the threats of diesel, oil and other related chemicals impose on the environment.

The following must be implemented or enforced:-

- Before cleaning the work shop, make sure all spillages have been treated.
 - When handling related chemicals make sure of non-spillage procedures.
 - Make sure boots are cleaned from chemicals before leaving the workshop into the unprotected environment.
 - Vehicles must be in the workshop before removal of drip pans.
 - When working on equipment outside the workshop, the appropriate measures needs to be implemented to prevent chemical spillage.
 - Related waste/scrap must be dispose off in the appropriate manner.
- Wash bay
- Although washing of vehicles do not pose a risk to the environment several pointers need to adhere to:-
- Be sure that the electrical wires of the washing equipment do not make any contact with water used
 - Plastics or domestic wastes removed from the vehicles need to be discarded in the appropriate manner
 - If any oil or diesel leakage is observed, immediate communication with the workshop and repair of vehicle needs to be done, before it is cleaned or can be cleaned in the workshop.
 - Make sure boots are cleaned from chemicals before leaving the bay into the unprotected environment.
 - When a detergent is used it must be ensured that it is bio-degradable and allocated for this purpose.

- Heavy vehicle operators

All heavy vehicles pose a threat to the environment in several ways. Some awareness must be initiated by the operators to minimize the threat to the environment.

The following must be implemented or enforced:-

- Daily checking for oil/diesel leakages before vehicle is operated.
- Drip pans must be installed during 'off-time'.
- Immediate communication with the workshop when faults are observed.
- Strict adherence to the mine roads and no off-road driving to prevent trampling of vegetation.
- Driving speed must be complied with. Beware of animal, workers and other vehicles.

- Machinery operators

Although the operational mining equipment does not pose any environmental risk employees still need to adhere to some measurements to prevent any spillage.

- Maintenance personnel

All maintenance personnel must receive basic training on work related environmental awareness to minimize/eliminate the possibility of environmental degradation.

Pointers that will be looked at:-

- Electricians may not leave any cables unprotected scattered on the site – animals may get tangled up.
- During fencing/rehabilitation common fence wires may not be left scattered as these rust over time – any cuts to animals and humans (sepsis and tetanus risk) can lead to suffering or great discomfort.
- No metals may be left scattered as it pose the same thread as described directly above.

Matsapa Trading 529
P.O.Box 1539
Kimberley
8300
10 May 2012

Mr. John Francis Turner Daniel
P.O.Box 206
Postmasburg
8420

Dear Sir

**APPLICATION FOR A PROSPECTING RIGHT TO PROSPECT FOR MANGANESE ORE AND
IRON ORE IN RESPECT OF FARM 431, HAY MAGISTERIAL DISTRICT.
REFERENCE NO: (NC) 30/5/1/1/2/10356 PR**

You are cordially notified that Matsapa Trading 529 registration number 2007/100548/23 has applied for a prospecting right to prospect for manganese and Iron ore in the above mentioned farm. You would note a visit was conducted to your property on the 09 May 2012 and this information was communicated to Mrs. Turner Daniel (your wife).

It is expected that all applicants to consult surface right owners or lawful occupiers as an effort to cultivate sound working relationship should the right be granted. Equally we are committed in abiding by all pieces of legislation when the prospecting activity.

A detailed Environment Plan will be availed to you soon for your perusal and comment as another effort of enhancing the referred consultation with the interested or affected party.

You are further advised to consult the Department of Mineral Resources should you have any queries. Their details are as follows:

The Regional Manager
Department of Mineral Resources
Private Bag x 6093
Kimberley
8300

Telephone number: 053 – 807 1700
Fax Number: 053 – 832 5631

Be at ease to consult me at the following details if you seek further clarities
072 017 9973 or fax 0866 135 827.

I trust that this effort will go a long way in cultivation the deserved working relationship.

Kind Regards


.....
Knowledge Kompanisi
Managing Member

**REGISTERED LETTER
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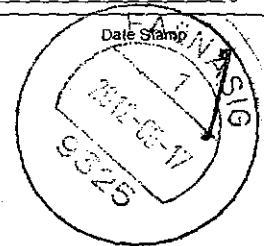
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Addressed to/Geadresseer aan
Mr. John Francis Turner & Danie
P.O. Box 206
Roosmasburg
8420 Postcode
Poskode

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