



mineral resources

Department:
Mineral Resources
REPUBLIC OF SOUTH AFRICA

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

IMPORTANT NOTICE

Kindly note that:

1. As from 8 December 2014, this document serves as the application form, and incorporates the requisite documents that are to be submitted together with the application for the necessary environmental authorisations in terms of the said Acts.
2. This application form is applicable while the Mineral and Petroleum Resources Development Amendment Act of 2008 is in effect, as the form may require amendment should the Act be further amended.
3. Applicants are required to apply for the necessary water use licence and any other authorisations nor licences to the relevant competent authorities as required by the relevant legislation. Upon acceptance of an application for a right or permit in terms of the MPRDA, applicants will be required to provide evidence to the Regional Manager that a water use licence has been applied for.
4. The Regional Manager will respond to the application and provide the reference and correspondence details of the Competent Authority, and in the event that the application for a right or permit is accepted, together with the date by which the relevant environmental reports must be submitted. Notwithstanding anything that may appear to be stated to the contrary in the acceptance letter, the timeframes are in fact aligned and the prescribed timeframes for the submission of documents as regulated by the NEMA regulations must be strictly adhered to.
5. The application must be typed within the spaces provided in the form. The sizes of the spaces provided are not necessarily indicative of the amount of information to be provided. Spaces are provided in tabular format and will extend automatically when each space is filled with typing.
6. The failure to submit complete information as required in this application form may result in the refusal of the application for an environmental authorisation and consequently of the right or permit applied for.
7. This application must be submitted through the SAMRAD online application system of the Department of Mineral Resources under "Other documents to upload".
8. Unless protected by law, all information filled in on this application form will become public information on receipt by the competent authority. Any interested and affected party should and shall be provided with the information contained in this application on request, during any stage of the application process.
9. Please note that an application fee is payable in terms of the National Environmental Management Act and the National Waste Management Act, which fees must be paid upon lodgement of the application. Should the said application fees not be paid as prescribed the application for a right or permit in terms of the Mineral and Petroleum Resources Development Act cannot be considered to have been made in the prescribed manner and the said application for a right or permit will have to be rejected. In this regard the type of applications must be identified in the table below.

PLEASE STATE TYPE OF AUTHORISATIONS BEING APPLIED FOR.

APPLICATION TYPE	APPLICABLE FEE	Mark with an X where applicable
NEMA S&EIR application on its own	R10 000.00	
NEMA BAR application on its own	R 2 000.00	X
NEMWA S&EIR application on its own	R10 000.00	
NEMWA BAR application on its own	R 2 000.00	
NEMA S&EIR application combined with NEMWA S&EIR application	R 15 000.00	
NEMA BAR application combined with NEMWA BAR application	R 3 000.00	
NEMA S&EIR application combined with NEMWA BAR application	R 11 000.00	

1. CONSULTATION BASIC ASSESSMENT AND/ OR SCOPING REPORT

2. DETAILS OF THE APPLICANT

Project applicant:	Sunshine Mineral Reserves PTY LTD		
Registration no (if any):			
Trading name (if any):	Sunshine Mineral Reserves PTY LTD		
Responsible Person, (e.g. Director, CEO, etc).:	Director: Charles Morris Watts Mining Manager: Charles Morris Watts		
Contact person:	Director: Charles Morris Watts Mining Manager: Charles Morris Watts		
Physical address:	No 4 San Briano, Cnr Cheyney and Dennis Rd, Lonehill, 2191		
Postal address:	P.O.Box 784393, Sandton, 2146		
Postal code:	Sandton 2146	Cell:	082 317 7303
Telephone:	082 454 8725	Fax:	086 613 8700
E-mail:	cmwatts@worldonline.co.za		

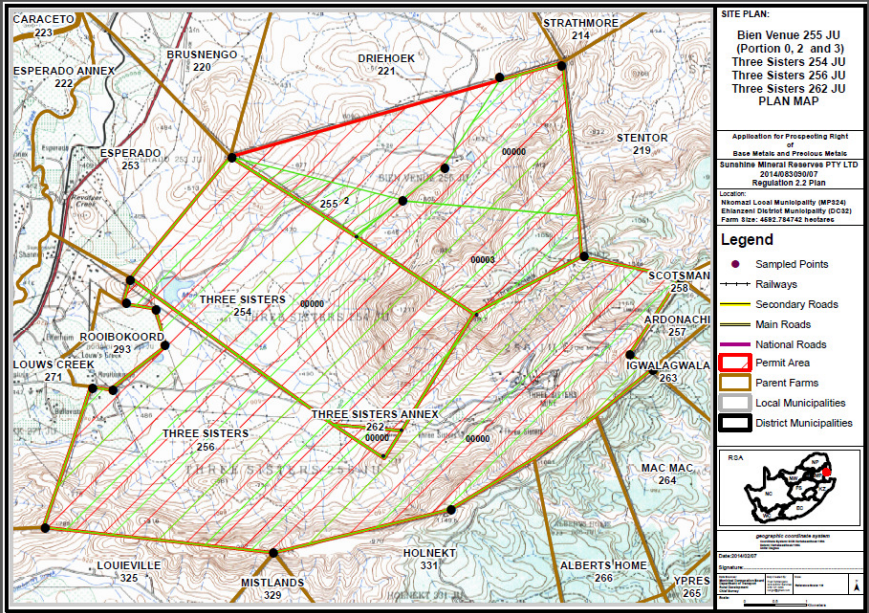
3. ENVIRONMENTAL ASSESSMENT PRACTITIONER (EAP) INFORMATION

EAP:	Tshitangano Frederick		
Professional affiliation/registration:	GISSA		
Contact person (if different from EAP):	Tshitangano Frederick		
Company:	Muthetshesesi Projects		
Physical address:	206 Blue Berry, Faerie Glen, 0043		
Postal address:	P. O. BOX 563, WINGATE PARK, 0153		
Postal code:	0153	Cell:	0781210233
Telephone:	0710 851 4062	Fax:	086 601 1495
E-mail:	tungut@gmail.com &muthetshesesi@gmail.com		

If an EAP has not been appointed please ensure that an independent EAP is appointed as stipulated by the NEMA Regulations, prior to the commencement of the process.

The declaration of independence and the Curriculum Vitae (indicating the experience with environmental impact assessment and relevant application processes) of the EAP must also be attached as **Appendix 1**.

4. PROJECT DESCRIPTION

Farm Name:	Bien Venue 255 JU, (Portion 0 and 3), Three Sisters 254 JU, Three Sisters 256 JU, Three Sisters 262 JU, PLAN MAP
Application area (Ha)	Farm Size: 4992.784742 hectares
Magisterial district:	Nkomazi Local Municipality (MP324) Ehlanzeni District Municipality (DC32)
Distance and direction from nearest town	2 km from Revolver Creek & Louw's Creek Town going East.
21 digit Surveyor General Code for each farm portion	TOJU0000000002550000, TOJU0000000002550002 TOJU0000000002550003, TOJU0000000002560000, TOJU0000000002620000, TOJU0000000002540000
Locality map	Attach a locality map at a scale not smaller than 1:250000 and attach as Appendix 2 
Description of the	

<p>overall activity. (Indicate Mining Right, Mining Permit, Prospecting right, Bulk Sampling, Production Right, Exploration Right, Reconnaissance permit, Technical co-operation permit, Additional listed activity)</p>	<p>Prospecting rights to Drilling of boreholes and core samples storage area for core logging. This will include Setting up the camp and offices on site and creating access roads.</p>
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5. ACTIVITIES TO BE AUTHORISED

(Please provide copies of Environmental Authorisations obtained for the same property as **Appendix 3**).

(For an application for authorisation that involves more than one listed activity that, together, make up one development proposal, all the listed activities pertaining to this application must be indicated. Please note that any authorisation that may result from this application will only cover activities specifically applied for).(Attach a proposed site plan, drawn to a scale acceptable to the competent Authority, showing the location of all the activities to be applied for, as **Appendix 4**)

NAME OF ACTIVITY (E.g. For prospecting - drill site, site camp, ablution facility, accommodation, equipment storage, sample storage, site office, access route etc...etc...etc E.g. for mining .- excavations, blasting, stockpiles, discard dumps or dams, Loading, hauling and transport, Water supply dams and boreholes, accommodation, offices, ablution, stores, workshops, processing plant, storm water control, berms, roads, pipelines, power lines, conveyors, etc...etc...etc.)	Aerial extent of the Activity Ha or m²	LISTED ACTIVITY (Mark with an X where applicable or affected).	APPLICABLE LISTING NOTICE <i>(GNR 544, GNR 545 or GNR 546)</i>	WASTE MANAGEMENT AUTHORISATION (Indicate whether an authorisation is required in terms of the Waste Management Act). (Mark with an X)
Prospecting	2000 m²	Listed 20 X	GNR544	Not required

6. PUBLIC PARTICIPATION

(Provide details of the public participation process proposed for the application as required by Regulation.

Details of the Public Participation process to be followed.

6.1.1. IDENTIFICATION OF INTERESTED AND AFFECTED PARTIES TO BE CONSULTED

IDENTIFICATION CRITERIA	Mark with an X where applicable	
	YES	NO
Will the landowner be specifically consulted?	X	
Will the lawful occupier on the property other than the Landowner be consulted?	X	
Will a tribal authority or host community that may be affected be consulted?	X	
Will recipients of land claims in respect of the area be consulted?	X	
Will the landowners or lawful occupiers of neighbouring properties been identified?	X	
Will the local municipality be consulted?	X	
Will the Authority responsible for power lines within 100 metres of the area be consulted?	X	
Will Authorities responsible for public roads or railway lines within 100 metres of the area applied for be consulted?	X	
Will authorities responsible for any other infrastructure within 100 metres of the area applied for be consulted? (Specify)	X	
Will the Provincial Department responsible for the environment be consulted?	X	
Will all of the parties identified above be provided with a description of the proposed mining /prospecting operation as referred above?	X	
Will all the parties identified above be requested in writing to provide information as to how their interests (whether it be socio-economic, cultural, heritage or environmental) will be affected by the proposed mining project?	X	
Other, Specify		

6.1.2.DETAILS OF THE ENGAGEMENT PROCESS TO BE FOLLOWED

<p>Steps to be taken to notify interested and affected parties(Describe the process to be undertaken to consult interested and affected parties including public meetings and one on one consultations. NB the affected parties must be specifically consulted regardless of whether or not they attended public meetings. Photographs of notice boards, and copies of advertisements and notices notifying potentially interested and affected parties of the proposed application must be attached as Appendix)</p>	<p>PROVIDE DESCRIPTION HERE</p> <p>The full consultation process will be followed when consulting Affected and interested parties. This will include Public meeting, one on one meeting, notice of sites, notice on the local news papers. Proof of all meetings, photos ect will be submitted with final consultation report.</p>
<p>Information to be provided to Interested and Affected Parties.</p>	<p>Compulsory</p> <ul style="list-style-type: none"> • The site plan. • List of activities to be authorised • Scale and extent of activities to be authorised • Typical impacts of activities to be authorised (e.g.surface disturbance, dust, noise, drainage, fly rock etc.) • The duration of the activity. • Sufficient detail of the intended operation to enable them to assess what impact the activities will have on them or on the use of their land) <p>Other, specify:</p>
<p>Information to be required from Interested and Affected Parties.</p>	<p>Compulsory</p> <ul style="list-style-type: none"> • To provide information on how they consider that the proposed activities will impact on them or their socio-economic conditions • To provide written responses stating their suggestions to mitigate the anticipated impacts of each activity • To provide information on current land uses and their location within the area under consideration • To provide information on the location of environmental features on site to make proposals as to how and to what standard the impacts on site can be remedied. requested to make written proposals • To mitigate the potential impacts on their socio economic conditions to make proposals as to how the potential impacts on their infrastructure can be managed, avoided or remedied). <p>Other, Specify</p>

7. Description of the assessment process to be undertaken

ITEM	DESCRIPTION
<p>Environmental attributes. Describe how the Environmental attributes associated with the development footprint will be determined.</p>	<p>Potential spills from imported materials such as fuel, lubricants and chemicals to the drill site, the generation of drilling mud and ablution facilities and drilling of boreholes through overlying strata and aquifers into underlying commodity could, if the borehole is not properly sealed and cased afterwards, generate flow conduits for the dewatering of shallow aquifers and can also lead to new pathways for the transport of contaminants.</p> <p>The proposed sitting location of the drill rig can have an impact on the surface and groundwater resources of the area and should therefore be taken into consideration during the site selection. It should be insured that during the site selection that the drill rig is not situated near any boreholes or water wells as it may increase the chances of contamination of important groundwater resources.</p> <p>During the drilling process several biodegradable substances will be applied as a water lubricant slurry mixture to assist with the drilling process. This slurry mixture will be pumped to separate holding ponds or sumps. The possibility of overflowing of this slurry mixture from the sump area exists, however the lubricants intended to be used during the drilling process can be classified as being biodegradable and therefore the impact of potential overflowing of the sump areas can be regarded as being of MEDIUM <u>negative</u> significance. Improper containment of lubricants, fuel and other potential damaging substances can further pose a treat to surface and groundwater resources. Groundwater aquifers can be penetrated during the drilling process which can lead to sediments entering the aquifer and creating offset turbidity. However, it is proposed that casing be set and cemented through aquifers to eliminate the potential of groundwater pollution and disturbance to the aquifer. It is anticipated that the impact of offset turbidity of aquifers, in the unlikely event of this occurring, will have a MEDIUM <u>negative</u> impact due to the majority of the people within the region relying on groundwater as the main source of water supply.</p> <p>Adequate casing, plugging and rehabilitation of the well area is of critical importance. Should the borehole not be cased adequately it could lead to potential contamination of groundwater aquifers due to migration of borehole fluids into permeable zones. It is anticipated that the impact of improper casing, plugging and rehabilitation of the borehole site will have a MEDIUM <u>negative</u> impact.</p>

Identification of impacts and risks. (Describe the process that will be used to identify impacts and risks.

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

Assessment of the significance of the potential impacts

Criteria of assigning significance to potential impacts

Environmental Impact Assessment (EIA) Criteria

The impacts were identified and, as far as possible, quantified according to the following criteria:

Extent: A description of whether the impact would occur on a scale limited to the immediate areas of development activity; limited to within 5 km of the development; would affect the region as a whole, including the adjacent rivers; or would occur at a national or international scale.

Duration: A prediction of whether the duration of the impact would be short term (0 to 5 years); medium term (5 to 15 years); long term (> 15 years, with the impact ceasing after the drilling have occurred; or should be considered as permanent.

Intensity: A description of whether the intensity (magnitude/size) of the impact would be high, medium, low or negligible (no impact). International standards were used as a measure of the level of impact, where appropriate.

Probability of occurrence: A description of the probability of the impact actually occurring as either improbable (low likelihood); probable (distinct possibility); highly probable (most likely); or definite (impact would occur regardless of prevention measures).

Significance: The significance of impacts of the proposed project was assessed both with and without mitigation action. The significance of the identified impacts on components of the affected environment (and where relevant, with respect to potential legal infringement) was described as:

Low where the impact would not have an influence on, or be required to be significantly accommodated in, the project design;

Medium where it could have an influence on the environment which would require modification of the project design or alternative mitigation;

	<p><u>High</u> where it could (or should) block the project regardless of any possible mitigation.</p> <p>Nature of Impact and Impact Source: where will the impact come from and what can cause it</p> <p>Degree of confidence in predictions: A statement of the degree of confidence in the predictions, based on the availability of information and specialist knowledge. In terms of this:</p> <ul style="list-style-type: none"> • health and safety • unique characteristics in a geographical area, such as historical and cultural resources, wetlands, scenic rivers, critical areas for nature conservation • human environmental quality at highly controversial levels • Uncertain, unique or unknown risks on the human environment • Precedent for future projects with significant impacts
<p>Consideration of alternatives. Describe how alternatives, and in particular the alternatives to the proposed site layout and possible alternative methods or technology to be applied will be determined.</p>	<p>The will be no alternative sites for this application. All environmental areas which are sensitive will be buffered and marked NO GO area.</p>
<p>Process to assess and rank impacts. Describe the process to be undertaken to identify, assess and rank the impacts and risks each individual activity.</p>	<p>Extent: A description of whether the impact would occur on a scale limited to the immediate areas of development activity; limited to within 5 km of the development; would affect the region as a whole, including the adjacent rivers; or would occur at a national or international scale.</p> <p>Duration: A prediction of whether the duration of the impact would be short term (0 to 5 years); medium term (5 to 15 years); long term (> 15 years, with the impact ceasing after the drilling have occurred; or should be considered as permanent.</p> <p>Intensity: A description of whether the intensity (magnitude/size) of the impact would be high, medium, low or negligible (no impact). International standards were used as a measure of the level of impact, where appropriate.</p> <p>Probability of occurrence: A description of the probability of the impact actually occurring as either improbable (low likelihood); probable (distinct possibility); highly probable (most likely); or definite (impact would occur regardless of prevention measures).</p> <p>Significance: The significance of impacts of the proposed project was assessed both with and without mitigation action. The</p>

	<p>significance of the identified impacts on components of the affected environment (and where relevant, with respect to potential legal infringement) was described as:</p> <p><u>Low</u> where the impact would not have an influence on, or be required to be significantly accommodated in, the project design;</p> <p><u>Medium</u> where it could have an influence on the environment which would require modification of the project design or alternative mitigation;</p> <p><u>High</u> where it could (or should) block the project regardless of any possible mitigation.</p>
<p>Contribution of specialist reports Describe how specialist reports, if required, will be taken into consideration and inform the impact identification, assessment and remediation process.</p>	<p>Some of the areas which are reach in Biodiversity and lots of wetlands will require specialist studies that will help mitigated the impact on the environment and people around. This report should however form party of the final reports to be submitted for approval and must be done by independent consultant.</p>
<p>Determination of impact management objectives and outcomes. Describe how impact management objectives will be determined for each activity to address the potential impact at source, and how the impact management outcomes will be aligned with standards.</p>	<p>Due to the compacting of the soil by vehicles or other means it will be necessary to scarify (rip) such affected areas, including haul and access roads, which will no longer be used as such. This is to allow for the penetration of roots and the re-growth of the natural vegetation. All rehabilitation will start as soon as operational of that section is completed.</p> <p>Vegetation clearing should be limited to areas to be occupied by the development footprint. We encourage the contractor to use previously used access roads that it's normally used within the farm.</p> <p>Prospecting must at all times take cognisance of the created buffers to ensure conservation of floral species.</p> <p>Where possible large trees should be left intact.</p> <p>The environmental consultants are to be informed if any endangered species are observed during construction; relevant specialists should be called.</p> <p>Only indigenous plant species should be planted in areas where rehabilitation is required.</p> <p>Prevent the establishment and spread of alien invasive species and weeds in all the phases of the project.</p> <p>Due to the compacting of the soil by vehicles or other means it will be necessary to scarify (rip) such affected areas, including haul and access roads, which will no longer be used as such. This is to allow for the penetration of roots and the re-growth of the natural vegetation. All rehabilitation will start as soon as operational of that section is completed.</p> <p>Vegetation clearing should be limited to areas to be occupied by the development footprint. We encourage the contractor to use previously used access roads that it's normally used within the</p>

farm.
Prospecting and drilling must at all time take cognisance of the created buffers to ensure conservation of floral species.
Where possible large trees should be left intact.
The environmental consultants are to be informed if any endangered species are observed during construction; relevant specialists should be called.
Only indigenous plant species should be planted in areas where rehabilitation is required.
Prevent the establishment and spread of alien invasive species and weeds during the phases of the project

Most animals will move away from the activities, but will move back as soon as rehabilitation is done and the activities seized. Staff should however be prevented from catching, chasing or killing any animals.

Where contaminants are transported along prospecting roads, emergency containment and mitigation measures must be developed to minimize impacts should accidental spills occur (i.e. include spill kits in transporting vehicles). All water usage must be compliant with the requirements of the NWA.
All water and spillage will be drained from the containment area into primary and secondary fully lined sumps
Sump areas should be lined with PVC to prevent seepage.
Sump areas should be surrounded by a berm or earth wall of at least 50 cm which can withstand heavy rainfall.
No polluted water must be discharged into the surrounding environment.
Sump areas should be constructed in such a way that clean water (storm water) is diverted away from these areas.
All clean water should be diverted away from the site

8. OTHER AUTHORISATIONS REQUIRED

LEGISLATION	Mark with an X where applicable			
	AUTHORISATION REQUIRED		APPLICATION SUBMITTED	
		NO	YES	NO
SEMA's		NO		NO
National Environmental Management: Air Quality Act		NO		NO
National Environmental Management: Biodiversity Act		NO		NO
National Environmental Management: Integrated Coastal Management Act		NO		NO
National Environmental Management: Protected Areas Act		NO		NO
National Environmental Management: Waste Act		NO		NO
National legislation		NO		NO
Mineral Petroleum Development Resources Act		NO		NO
National Water Act		NO		NO
National Heritage Resources Act		NO		NO
Others: Please specify		NO		NO

Please provide proof of submission of applications in **Appendix 5**.

In the event that an authorization in terms of the National Environmental Waste Management Act is required for any of the activities applied for please state so clearly in order for such an authorisation to be considered as part of this application.

9. DRAFT EMPr

For consultation purposes, provide a high level approach to the management of the potential environmental impacts of each of the activities applied for.

ACTIVITIES	PHASE (of operation in which activity will take place).	SIZE AND SCALE (of Disturbance)	TYPICAL MITIGATION MEASURES	COMPLIANCE WITH STANDARDS
(E.g. For prospecting - drill site, site camp, ablution facility, accommodation, equipment storage, sample storage, site office, access route etc...etc...etc E.g. for mining,- excavations, blasting, stockpiles, discard dumps or dams, Loading, hauling and transport, Water supply dams and boreholes, accommodation, offices, ablution, stores, workshops, processing plant, storm water control, berms, roads, pipelines, power lines, conveyors, etc...etc...etc.)	State; Planning and design, Pre-Construction' Construction, Operational, Rehabilitation, Closure, Post closure.	(volumes, tonnages and hectares or m ²)	(Eg, storm water control, dust control, noise control, access control, rehabilitation etc....., etc.....)	(A description of how each of the recommendations herein will comply with any prescribed environmental management standards or practices that have been identified by Competent Authorities)
Drilling	prospecting	2000 m ²	Noise control	Regulated by law
Site camp	prospecting	100 m ²	storm water control	Regulated by law

Ablution facilities	prospecting	10 m2	rehabilitation	Regulated by law
Accommodation	prospecting	30 m2	rehabilitation	Regulated by law
Equipment storage	prospecting	50 m2	rehabilitation	Regulated by law
Sample storage	prospecting	40 m2	rehabilitation	Regulated by law
Site offices	prospecting	40 m2	rehabilitation	Regulated by law

10. CLOSURE PLAN

<p>In the space provided under each heading below, please provide a high level description of the plan for closure and the information that will be provided in the draft EMPr accompanying draft basic assessment report or environmental impact reports going forward.</p>	
<p>Baseline environment Describe how the baseline environment will be determined with the input of interested and affected parties and due cognizance of the current land uses and or existing biophysical environment</p>	<p>The community, affected, interested parties' play a big role is supply under laying environmental issues about heritage and cultural sites. information from all this group will be form party of the final report as it help to understand the sites and surrounding environment and the current land cover and land use.</p>
<p>Closure objectives Describe the closure objectives and the extent to which they will be aligned to the baseline environment</p>	<p>Prospecting activities are to be undertaken in a manner which facilitates site rehabilitation and the restoration of existing land capabilities. The primary objectives for rehabilitation include</p> <ol style="list-style-type: none"> the facilitation of the re-establishment of the land use and capability to as close as reasonably to the original conditions, removal of all infrastructure and material introduced to site, removal of all wastes and their and their related disposal, d) and promotion of the rapid re-establishment of natural vegetation and the restoration of site ecology. <p>The disturbed areas shall be rehabilitated to ensure that:</p> <ul style="list-style-type: none"> ○ The biodiversity habitat is encouraged by the new land use after the prospecting; ○ Future public health and safety are not compromised;

- The site is reversed to almost its original state;
- Environmental and resources are not subject to physical and chemical deterioration;
- The after-use of the site is beneficial and sustainable in the long term;
- Any adverse socio-economic impacts are minimized; and
- All socio-economic benefits are maximized.

The rehabilitation plan shall entail removal of all generated waste, infrastructures and materials, re-vegetation of disturbed and cleared areas, rehabilitation of access roads, ensuring the growth of the existing grasses and plants species and cleaning of spillages etc.

Additional measures that will need to be put in place to allow for the successful implementation of the action plan are listed on relevant sections.

The various actions that need to be implemented, to ensure that the environmental objectives are met, are detailed in the EMP. The actions are aimed at mitigating environmental impacts and implementing rehabilitation plan

Emergency procedures indicate the actions to be taken in the case of an environmental emergency. These refer to an event that could result in a pollution incidents or damage to biophysical or social environment. Fire fighting equipment including fire-extinguishers and fire beaters are to be kept on site (at the camp site and drilling areas). The fire management plan or procedure will be drawn and erected at the site camp and drilling machine. Any plan that will be drawn and

	<p>implemented on site is the spillage of fuel, oil, lubricant or any chemical substances. Spill kits are to be purchased and be kept on site in close proximity to fuel/lubricant storage areas.</p> <p>Amongst the more pronounced post-closure drilling impacts on record are landscape scarring in the form of un rehabilitated rock dump, as well as continuing environmental damage from polluted land, wind-blown dusts, papers, waste and the solid waste. During the site establishment and the drilling process/ prospecting 25 litres waste bins will be taken along to the site by the contractor. Waste will be removed and taken to the nearest permitted landfill site once a week. No baring of waste material (cans, papers, plastic, bottle, etc) will be allowed on site as it has an environmental impact and could cause plants not to grow.</p> <p>Burning of waste will also be prohibited in order to minimise air pollution. Suitable covered receptacles will be available at all times and conveniently placed for the disposal of waste. All used oils, grease or hydraulic fluids shall be placed therein and these receptacles will be removed from the site on a regular basis for disposal at a registered or licensed disposal facility.</p> <ul style="list-style-type: none"> • All spills should be cleaned up immediately to the satisfaction of the Petroleum Agency by removing the spillage together with the polluted soil and by disposing of them at a recognised facility.
<p>Rehabilitation Plan Describe the scale and aerial extent of the prospecting or mining listed activities to be authorised, including the anticipated prospecting or mining area at the time of closure, and confirm that a site rehabilitation plan</p>	<p>Adequate casing, plugging and rehabilitation of the well area is of critical importance. Should the borehole not be cased adequately it could lead to potential contamination of</p>

drawn to a suitable scale will be provided in the draft EMPr to be submitted together with the draft EIR or Basic Assessment Report as the case may be.

groundwater aquifers due to migration of borehole fluids into permeable zones. It is anticipated that the impact of improper casing, plugging and rehabilitation of the borehole site will have a MEDIUM negative impact.

Prospecting activities are to be undertaken in a manner which facilitates site rehabilitation and the restoration of existing land capabilities. The primary objectives for rehabilitation include

- a) the facilitation of the re-establishment of the land use and capability to as close as reasonably to the original conditions,
- b) removal of all infrastructure and material introduced to site,
- c) removal of all wastes and their and their related disposal, d)

and promotion of the rapid re-establishment of natural vegetation and the restoration of site ecology.

The disturbed areas shall be rehabilitated to ensure that:

- The biodiversity habitat is encouraged by the new land use after the prospecting;
- The wetland area is not compromised or destructed;
- Future public health and safety are not compromised;
- The site is reversed to almost its original state;
- Environmental and resources are not subject to physical and chemical deterioration;
- The after-use of the site is beneficial and sustainable in the long term;
- Any adverse socio-economic impacts are minimized; and
- All socio-economic benefits are maximized.

The rehabilitation plan shall entail removal of all generated waste, infrastructures and materials, re-vegetation of disturbed and cleared areas, rehabilitation of access roads, ensuring the growth of the existing grasses and plants species and cleaning of spillages etc.

Rehabilitation Cost

Describe how the rehabilitation cost will be determined and provide a preliminary estimate thereof

CALCULATION OF THE QUANTUM							
Applicant:	Sunshine Mineral Reserves PTY LTD			Ref No.:			
Evaluator:	NF Tshitangano			Date:	27-Jan-16		
No.	Description	Unit	A Quantity	B Master Rate	C Multiplicati on factor	D Weightin g factor 1	E=A*B*C*D Amount (Rands)
1	Dismantling of processing plant and related structures (including overland conveyors and powerlines)	m3	0	12.29	1	1	0
2 (A)	Demolition of steel buildings and structures	m2	0	171.18	1	1	0
2(B)	Demolition of reinforced concrete buildings and structures	m2	0	252.26	1	1	0
3	Rehabilitation of access roads	m2	0	30.63	1	1	0
4 (A)	Demolition and rehabilitation of electrified railway lines	m	0	297.3	1	1	0
4 (A)	Demolition and rehabilitation of non-electrified railway lines	m	0	162.16	1	1	0
5	Demolition of housing and/or administration facilities	m2	0	342.34	1	1	0
6	Opencast rehabilitation including final voids and ramps	ha	0	174238	1	1	0
7	Sealing of shafts adits and inclines	m3	0	91.89	1	1	0
8 (A)	Rehabilitation of overburden and spoils	ha	0	119642.23	1	1	0
8 (B)	Rehabilitation of	ha	0	149012.22	1	1	0

			processing waste deposits and evaporation							
			ponds (non-polluting potential)							
	8 (C)		Rehabilitation of processing waste deposits and evaporation	ha	0	432802.15	1	1	0	
			ponds (polluting potential)							
	9		Rehabilitation of subsided areas	ha	0	100182.35	1	1	0	
	10		General surface rehabilitation	ha	0.4	94776.82	1	1	37910.728	
	11		River diversions	ha	0	94776.82	1	1	0	
	12		Fencing	m	0	108.11	1	1	0	
	13		Water management	ha	0	36036.81	1	1	0	
	14		2 to 3 years of maintenance and aftercare	ha	0	12612.88	1	1	0	
	15 (A)		Specialist study	Sum	0			1	0	
	15 (B)		Specialist study	Sum				1	0	
							Sub Total 1		37910.728	
	1		Preliminary and General		4549.28736		weighting factor 2		4549.28736	
							1			
	2		Contingencies		3791.0728				3791.0728	
							Subtotal 2		46251.09	
							VAT (14%)		6475.15	
							Grand Total		R52 726	
Decommissioning										
Considering that rehabilitation must take place upon cessation of an activity, describe when each of activities applied for will be rehabilitated in terms of either the cessation of the individual activity or the cessation of the overall prospecting or mining activity.	<p>Construction Phase (Planning phase):</p> <p>Desktop study target generation should be generated through investigation of available geological maps and reports. With field evaluation the general soundness and appearance of the stone are defined. The first step in field evaluation is to identify the possible targets. Often the weathered outside surface of the rock is in no way indicative of the colour of the inside, and it is necessary to use a hammer to expose a fresh surface of the rock. Detailed mapping will be undertaken. During the detailed mapping several samples of the rock for cutting and polishing should be collected along the traverses.</p> <p>Operational Phase (Prospecting phase):</p> <p>If the outcome of the field evaluation and geophysical investigations is positive, the next step will be to drill the formation in order to demarcate the ore deposits as well as to</p>									

provide information on the vertical extent of the formation and possible defects with depth, which has implication on the recovery. Generally diamond drilling is preferable, as the core can be evaluated not only for colour consistency, but also for defects such as joints, veins and banding which may influence the recovery of marketable blocks.

Should the results of the drilling prove positive, the next phase is to undertake drilling to remove several blocks in order to test market acceptance. The number of blocks required will depend on the marketing strategy and whether or not the Sunshine Mineral Reserves PTY LTD has access to a plant which can crush the materials extracted. Many operators confuse the stage of drilling with the stage of test mining. It should be emphasised that the aim of drilling is to get sufficient representative sample blocks of the ore in order to test the market reaction to the material, and that it is not necessary to open a full blown open pit for this purposes.

Front end loaders are commonly fitted with a quick coupler attachment which allows for the fast interchanging of the bucket with a fork or boom attachment. The fork attachment is used for handling of rock blocks. Planning and developing the pit on one or more levels, with a saw-toothed face shape on each level, allows for sufficient access for all preparation activities for loosening benches without interferences from benches being extracted and allows for continuous production and blending of recoveries and qualities. When possible, it is best to start from one end of the hill, but where this is not possible, key cuts can be made in the middle of the formation.

Decommissioning after prospecting:

Decommissioning will occur at the end of prospecting and this will be done according to an approved closure plan. Importantly during decommissioning is the safety of the Site after it has been decommissioned and closed. The removal of temporary site camp, drill rig, general waste and waste rocks, processing equipments, transportation equipment, utilities and other surface structures will generally be accomplished. The second major issue to be addressed during reclamation of a prospecting site is the restoration of the land surface,

	especially the area that the core was stored at, the water quality and waste disposal areas so that long term water pollution, soil erosion, dust generation, or vegetation problems do not occur. The restoration of native plants is often very important part of this process, as the plants help build a stable soil structure and naturalised the area.
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Director: Charles Morris Watts

Signature of the applicant / Signature on behalf of the applicant:

Sunshine Mineral Reserves PTY LTD

Name of company (if applicable):

2016/01/27

Date:

**APPENDIX 4
DECLARATION OF THE EAP**

I, **NF Tshitangano**, declare that –

General declaration:

- I act as the independent environmental practitioner in this application
- I will perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the applicant
- I declare that there are no circumstances that may compromise my objectivity in performing such work;
- I have expertise in conducting environmental impact assessments, including knowledge of the Act, Regulations and any guidelines that have relevance to the proposed activity;
- I will comply with the Act, Regulations and all other applicable legislation;
- I will take into account, to the extent possible, the matters listed in regulation 8 of the Regulations when preparing the application and any report relating to the application;
- I have no, and will not engage in, conflicting interests in the undertaking of the activity;
- I undertake to disclose to the applicant and the competent authority all material information in my possession that reasonably has or may have the potential of influencing - any decision to be taken with respect to the application by the competent authority; and - the objectivity of any report, plan or document to be prepared by myself for submission to the competent authority;
- I will ensure that information containing all relevant facts in respect of the application is distributed or made available to interested and affected parties and the public and that participation by interested and affected parties is facilitated in such a manner that all interested and affected parties will be provided with a reasonable opportunity to participate and to provide comments on documents that are produced to support the application;
- I will ensure that the comments of all interested and affected parties are considered and recorded in reports that are submitted to the competent authority in respect of the application, provided that comments that are made by interested and affected parties in respect of a final report that will be submitted to the competent authority may be attached to the report without further amendment to the report;
- I will keep a register of all interested and affected parties that participated in a public participation process; and
- I will provide the competent authority with access to all information at my disposal regarding the application, whether such information is favourable to the applicant or not
- all the particulars furnished by me in this form are true and correct;
- will perform all other obligations as expected from an environmental assessment practitioner in terms of the Regulations; and
- I realise that a false declaration is an offence in terms of regulation 71 of the Regulations and is punishable in terms of section 24F of the Act.

Disclosure of Vested Interest (delete whichever is not applicable)

- I do not have and will not have any vested interest (either business, financial, personal or other) in the proposed activity proceeding other than remuneration for work performed in terms of the Regulations;

NF Tshitangano

Signature of the environmental assessment practitioner:

Muthetshesi project

Name of company:

2016/01/27

Date: