mineral resources

Department:
Mineral Resources
REPUBLIC OF SOUTH AFRICA

NAME OF APPLICANT:
Great Karoo Prospecting (Pty) Ltd

MINING PERMIT APPLICATION:
EC30/5/1/3/2/10135MP

ENVIRONMENTAL MANAGEMENT PLAN

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

District	**Nqeleni**
Erven	**Masamini 63 Remainder**
Mineral(s)	**Aggregate**

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.

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1 INTRODUCTION, SCOPE, PURPOSE AND USE OF DOCUMENT

This document aims to provide a simplified national standard for applicants for prospecting rights and mining permits to comply with the relevant legislation and environmental regulations as apply to their respective applications in terms of the Mineral and Petroleum Resources Development Act, 2002 (Act 28 of 2002)(MPRDA). Applicants in this sector of the mining industry typically disturb smaller surface areas of land, whether drilling boreholes, small trenches, or mining on a small area, less than 1,5 hectares of land, under a mining permit as contemplated in Section 27 of the Mineral and Petroleum Resources Development Act, 2002 (Act 28 of 2002)

1.1 SCOPE

This document is intended for use by applicants for mining permits and prospecting rights.
Typically, operations in this sector of the mining industry:

- Use little or no chemicals to extract mineral from ore,
- Work on portions of land of 1,5 hectares in size or smaller,
- Disturb the topography of an area somewhat but have no significant impact on the geology

1.2 PURPOSE

This document aims to:

- Provide a national standard for the submission of Environmental Management Plans for the types of applications mentioned above.
- Ensure compliance with Regulation 52 of the MPRDA.
- Assist applicants by providing the information that the Department of Minerals and Energy (DME) requires in a simple language and in a structured, prescribed format, as contemplated in Regulation 52 (2) of the (MPRDA).
- Assist regional offices of the DME to obtain enough information about a proposed prospecting/ reconnaissance or mining permit operation to assess the possible environmental impacts from that operation and to determine corrective action even before such right is granted and the operation commences.

This document aims both to provide the DME regional offices with enough information about applicants for mining permits and applicants with guidance on environmental management matters pertaining to the mitigation of environmental impacts arising from their operations. Given this dual focus and the generic nature of the document, it might not be sufficient for all types of operations under various circumstances.
The document may therefore be altered or added to as the particular circumstances of the application in question may require.

1.3 USE OF THE DOCUMENT:

This document is designed for use by non-professionals and newcomers to the environmental management industry and it incorporates a very simple Environmental Impact Assessment (EIA). The EIA is contained in Section C of this document and was designed specifically with the target sectors of the mining industry (described in A.2 above) in mind.

The aim is ultimately to (a) gather information from applicants themselves; (b) to assess the impact of the operation based on that information and then (c) to guide the applicant to mitigate environmental impacts to limit damage to the environment.

The next section of the document gathers demographic information about the applicant. Section C gathers the information that will be used in the Environmental Impact Assessment. The applicant must complete the relevant sections of this document, but the regional office of the DME will do the scoring of these for the impact assessment rating in Section D.

Section F (the Environmental Management Plan) of the document is prescriptive and gives guidance to the miner or prospector on how to limit the damage of the operation on the environment. This part may be added to by the regional manager, who has the prerogative to decide whether this Environmental Management Plan will adequately address the environmental impacts expected from the operation or whether additional requirements for proper environmental management need to be set. Where these additional requirements are set, they will appear in Section G of this document. The Environmental Management Plan (Section F) of the document is legally binding once approved and, in the undertaking contained in Section H, the applicant effectively agrees to implement all the measures outlined in this Environmental Management Plan.

1.4 LEGISLATION/ REGULATIONS

The relevant sections of Mineral and Petroleum Resources Development Act and its supporting Regulations are *summarised below* for the information of applicants. The onus is on the applicant to familiarise him/herself with the provisions of the full version of the Mineral and Petroleum Resources Development Act and its Regulations.

Section of Act	Legislated Activity/ Instruction/ Responsibility or failure to comply	Penalty in terms of Section 99
5(4)	No person may prospect, mine, or undertake reconnaissance operations or any other activity without an approved EMP, right, permit or permission or without notifying land owner	R 100 000 or two years imprisonment or both
19	Holder of a Prospecting right must: lodge right with Mining Titles Office within 30 days; commence with prospecting within 120 days, comply with terms and conditions of prospecting right, continuously and actively conduct prospecting operations; comply with requirements of approved EMP, pay prospecting fees and royalties	R 100 000 or two years imprisonment or both
20(2)	Holder of prospecting right must obtain Minister's permission to remove any mineral or bulk samples	R 100 000 or two years imprisonment or both
26(3)	A person who intends to beneficiate any mineral mined in SA outside the borders of SA may only do so after notifying the Minister in writing and after consultation with the Minister.	R 500 000 for each day of contravention
28	Holder of a mining right or permit must keep records of operations and financial records AND must submit to the DG: monthly returns, annual financial report and a report detailing compliance with social & labour plan and charter	R 100 000 or two years imprisonment or both
29	Minister may direct owner of land or holder/applicant of permit/right to submit data or information	R 10 000
38(1)(c)	Holder of permission/permit/right MUST manage environmental impacts according to EMP and as ongoing part of the operations	R 500 000 or ten years imprisonment or both.
42(1)	Residue stockpiles must be managed in prescribed manner on a site demarcated in the EMP	A fine or imprisonment of up to six months or both
42(2)	No person may temporarily or permanently deposit residue on any other site than that demarcated and indicated in the EMP	A fine or imprisonment of up to six months or both
44	When any permit/right/permission lapses, the holder may not remove or demolish buildings, which may not be demolished in terms of any other law, which has been identified by the Minister or which is to be retained by agreement with the landowner.	Penalty that may be imposed by Magistrate's Court for similar offence

Section of Act	Legislated Activity/ Instruction/ Responsibility or failure to comply	Penalty in terms of Section 99
92	Authorised persons may enter mining sites and require holder of permit to produce documents/ reports/ or any material deemed necessary for inspection	Penalty as may be imposed for perjury
94	No person may obstruct or hinder an authorised person in the performance of their duties or powers under the Act.	Penalty as may be imposed for perjury
95	Holder of a permit/right may not subject employees to occupational detriment on account of employee disclosing evidence or information to authorised person (official)	Penalty as may be imposed for perjury
All sections	Inaccurate, incorrect or misleading information	A fine or imprisonment of up to six months or both
All sections	Failure to comply with any directive, notice, suspension, order, instruction, or condition issued	A fine or imprisonment of up to six months or both

1.5 OTHER RELEVANT LEGISLATION

Compliance with the provisions of the Mineral and Petroleum Resources Development Act, 2002 (Act 28 of 2002) and its Regulations does not necessarily guarantee that the applicant is in compliance with other Regulations and legislation. Other legislation that may be immediately applicable includes, but are not limited to:

- National Monuments Act, 1969 (Act 28 of 1969).
- National Parks Act, 1976 (Act 57 of 1976)
- Environmental Conservation Act, 1989 (Act 73 of 1989)
- National Environmental Management Act, 1998 (Act No. 107 of 1998)
- Atmospheric Pollution Prevention Act, 1965 (Act 45 of 1965)
- The National Water Act, 1998 (Act 36 of 1998)
- Mine Safety and Health Act, 1996 (Act 29 of 1996)
- The Conservation of Agricultural Resources Act, 1983 (Act 43 of 1983).

1.6 WORD DEFINITIONS

In this document, unless otherwise indicated, the following words will have the meanings as indicated here:

Act (The Act) Mineral and Petroleum Resources Development Act, 2002 (Act 28 of 2002)

Borehole A hole drilled for the purposes of prospecting i.e. extracting a sample of soil or rock chips by pneumatic, reverse air circulation percussion drilling, or any other type of probe entering the surface of the soil.

CARA The Conservation of Agricultural Resources Act

EIA An Environmental Impact Assessment as contemplated in Section 38(1) (b)of the Act

EMP an Environmental Management Plan as contemplated in Section 39 of the Act

Fauna All living biological creatures, usually capable of motion, including insects and predominantly of protein-based consistency.

Flora All living plants, grasses, shrubs, trees, etc., usually incapable of easy natural motion and capable of photosynthesis.

Fence A physical barrier in the form of posts and barbed wire and/or "Silex" or any other concrete construction, ("palisade"- type fencing included), constructed with the purpose of keeping humans and animals within or out of defined boundaries.

House any residential dwelling of any type, style or description that is used as a residence by any human being

NDA National Department of Agriculture

NWA National Water Act, Act 36 of 1998

Pit Any open excavation

"Porrel" The term used for the sludge created at alluvial diamond diggings where the alluvial gravels are washed and the diamonds separated in a water-and-sand medium.

Topsoil The layer of soil covering the earth which-

(a) provides a suitable environment for the germination of seed;

(b) allows the penetration of water;

(c) is a source of micro-organisms, plant nutrients and in some cases seed; and

(d) is not of a depth of more than 0,5 metres or such depth as the Minister may prescribe for a specific prospecting or exploration area or mining area.

Trench A type of excavation usually made by digging in a line towards a mechanical excavator and not pivoting the boom – a large, U-shaped hole in the ground, with vertical sides and about 6 – 8 metres in length. Also a prospecting trench.

Vegetation Any and all forms of plants, see also Fauna

DWAF The Department of Water Affairs and Forestry – both national office and their various regional offices, which are divided across the country on the basis of water catchment areas.

MPRDA the Mineral and Petroleum Resources Development Act, 2002 (Act 28 of 2002)

EMPlan An Environmental Management Plan as contemplated in Regulation 52 of the Mineral and Petroleum Resources Development Act, 2002 (Act 28 of 2002) – this document.

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

ITEM	COMPANY CONTACT DETAILS
Applicant name	Great Karoo Prospecting (Pty) Ltd
Name	Gerardo Cirillo
Tel no	021 976 1110
Fax no:	021 975 3083
Cellular no	082 696 1963
E-mail address	gcirillo@haw-inglis.co.za

ITEM	CONSULTANT CONTACT DETAILS (If applicable)
Name	Site Plan Consulting
Contact Person	Craig Donald
Tel no	021 854 4260
Fax no:	021 854 4321
Cellular no	084 511 1520
E-mail address	Craig@siteplan.co.za
Postal address	PO Box 28, Strand, 7139

ITEM	FURTHER DETAILS
Magisterial district	**Caledon**
Name of the property on which prospecting operations will be conducted	Portions of 2 Land parcels as follows: - Erf 2862 Remainder - Erf 4031

3 LOCALITY

See Figure 1 overleaf

The 4.8ha Mining Permit area is located as follows:

Figure 1: Locality Plan

The detail application coordinates are as per diagram below:

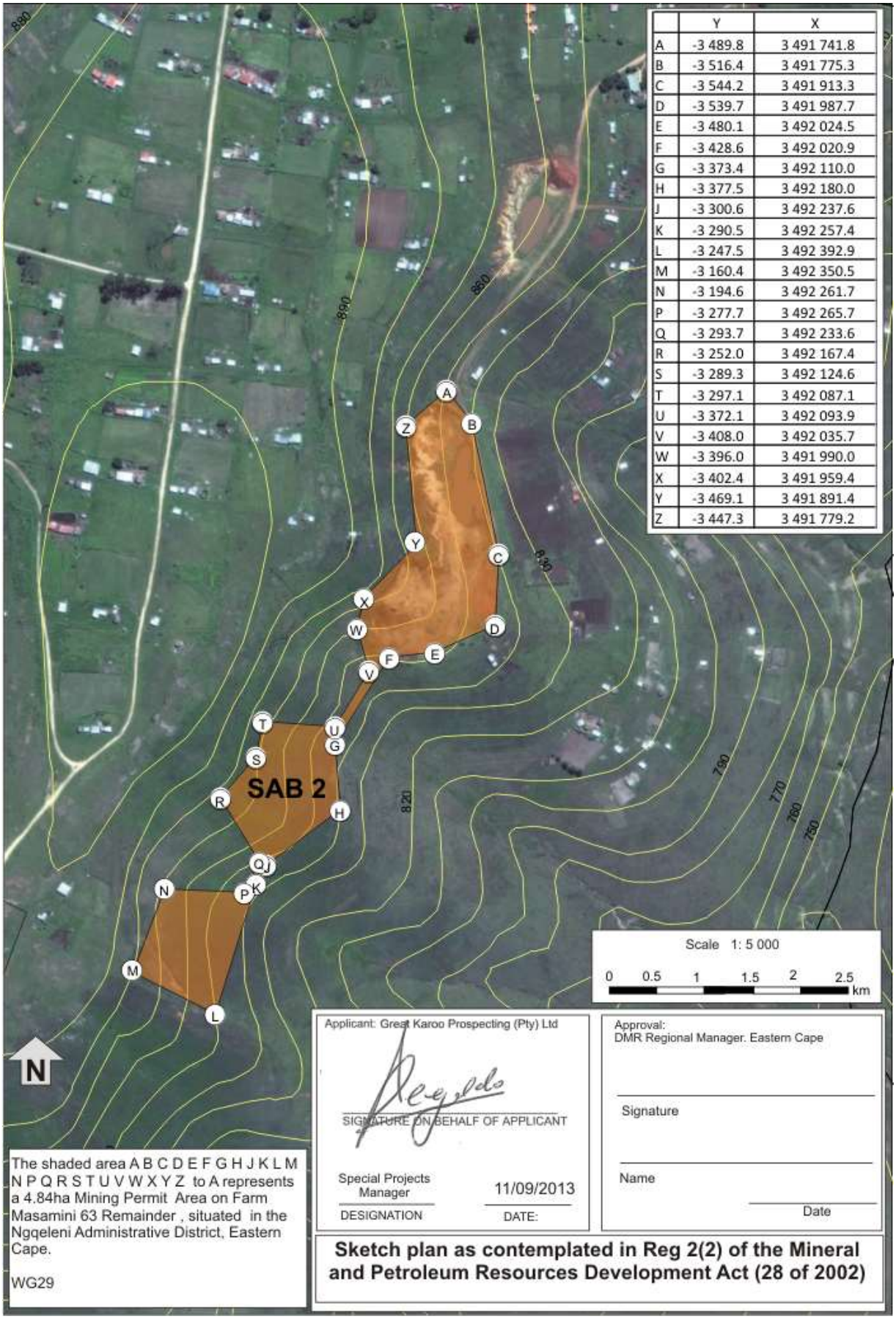


Figure 2: Copy of the sketch plan contemplated in Reg 2(2) of the Mineral and Petroleum Resources Development Act

4 BRIEF PROJECT DESCRIPTION

Refer Part 6 for more detailed description of the proposed project.

This mining permit application has been made by Great Karoo Prospecting (Pty) Ltd on portion of Farm 63 (Remainder), Nqeleni. The commodity to be mined is Aggregate to be used as fill in the construction / upgrade of the Libode interchange on R61 which passes just south of the town.

Mining Permit application is made in terms of Section 27 of the Mineral and Petroleum Resources Development Act and is restricted in extent to 5ha and must be economically mined within a period of 2 years. Mining permits are renewable for a period of 1 year at a time to a maximum of 3 times (i.e. max lifespan of 5 years).

Within the 4.84ha application area, three excavation sections have been identified (viz Sections 2a, 2b and 2c). The photograph below shows the existing excavation 2a whilst Sections 2b and 2c have not yet been mined.

Photo 1: Existing Borrow pit at SAB2

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

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

5.1.1 Surrounding Land Use

The following land uses surround the proposed Mining Permit area – Refer figures 1 and 2:

- Section 2a is an existing pit (as per photo 1).
- Section 2b and 2c are not developed and are relatively steep slopes
- There is sparse residential (small holding type residential area) to the north and south of the proposed mining permit area
- The R61 is located approximately 800m north on existing good quality access road
- The Mount Nicolas Boarding School is located 1km NW of the site and the town of Libode another 1km beyond that.

Photo 2: View of SAB2 from across the valley to the east.

5.1.2 Topography

The mining permit area is located in an east facing slope of one of the undulating hills making up the Libode region. The cover photo shows the slope of the land and the contours presented in Figure 3 show the average natural slope to be about 1:7.

Note however that Section 2a pit already exists with steep sided western face up to 7.5m in height. Such face will not be affected.

5.1.3 Visual Impact

The existing Section 2a excavation is visible to all virtually all residences on the opposite west facing slope across the valley (in the order of 80 residences). Furthermore the existing excavation is also visible to all eastward bound traffic on the R61 for a distance of about 1km.

5.1.4 Soil

Section 2a: No topsoil is available in this previously mined excavation.

Section 2b and 2c: Although full details of topsoil depth are unknown at this stage it is most likely that approximately 30cm topsoil will be available for removal, storage and replacement after mining. Note that whatever the topsoil depth is eventually recorded as being, that all topsoil will be removed for utilisation in post mining rehabilitation.

5.1.5 Land Capability

Section 2a's grazing potential has been completely disturbed by the existing unrehabilitated mining which has occurred here. The land in sections 2b and 2c must be classified as wilderness area at this stage but the possibility does exist that the veld has been overgrazed.

5.1.6 Natural Vegetation

The site straddles 2 vegetation types being:

1) Bhisho Thornveld above the ridge line – least threatened
2) Ngongoni Veld below the ridgeline on the valley slopes – classified as vulnerable.

Furthermore the site is located in an area classified as CBA2 (Corridor) in terms of the Eastern Cape Biodiversity Conservation Plan (ECBCP). Such area is defined as being in near natural conditions and has the following specified aim:

> "Maintain biodiversity in near natural state with minimal loss of ecosystem integrity. No transformation of natural habitat should be permitted"[1].

That same handbook does also stipulate that BCA2 land use should be restricted to conservation, game farming and communal livestock. It does not mention mining but it is assumed that mining would be an undesirable land use in terms of their mandate.

[1] Eastern Cape Biodiversity Conservation Plan Handbook, Compiled by Amanda Younge Hayes and written by Derek Berliner, Philip Desmet and Richard Hayes. Department of Water Affairs and Forestry Project No 2005-012,King William's Town. August 2007.

Important to remember that the ECBCP has no legal status but merely serves as a guide in land use decisions and as to when specialist intervention may be required.

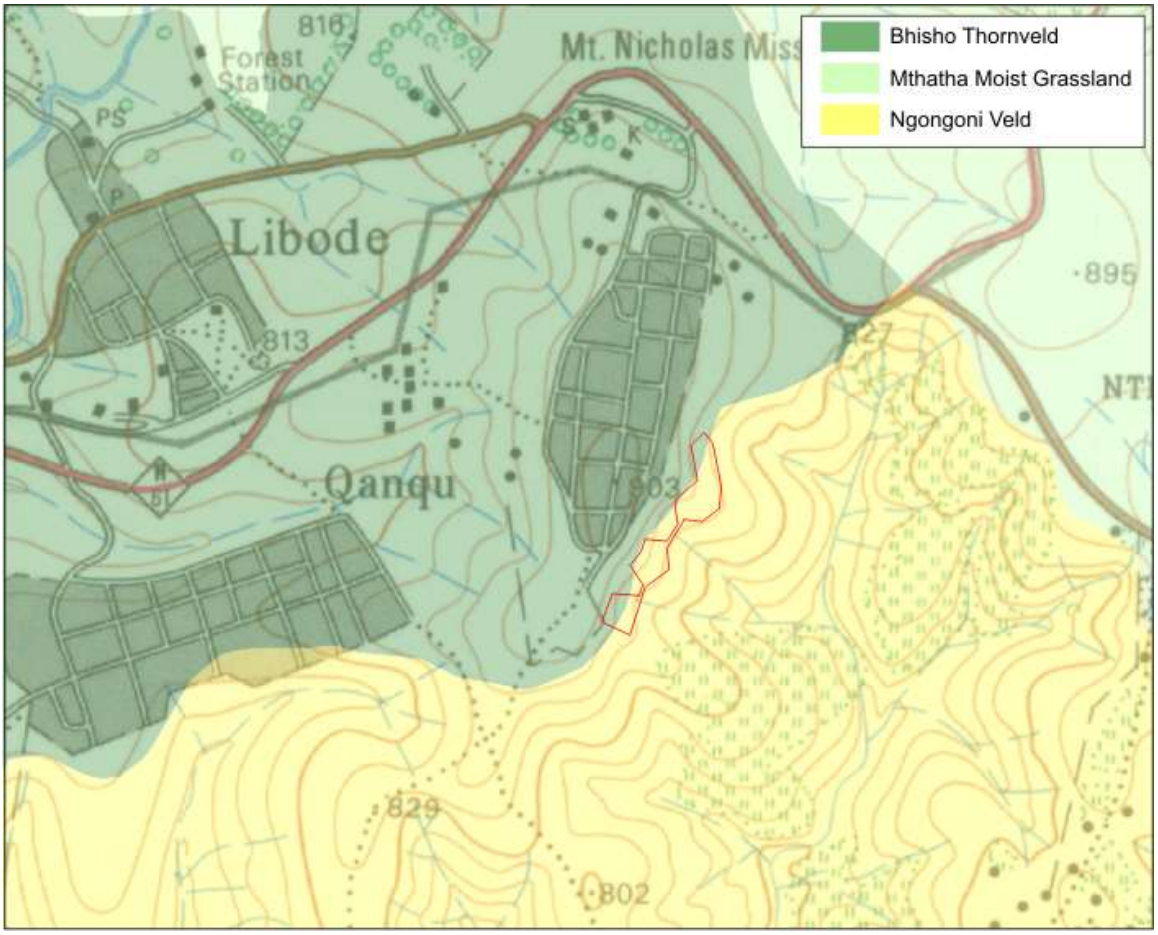


Figure 3: Vegetation classification

5.1.7 Animal Life

Notwithstanding the use of the site for cattle grazing, there will be buck, porcupines, smaller rodents, birds and insects on site. The proposed activities are of small scale and impact in this regards will be negligible.

5.1.8 Surface Water

The operation will have no impact on the surface water regime in the area.

5.1.9 Ground Water

No impact as a result of these shallow excavations in this terrain and rock type.

5.1.10 Air Quality (Dust)

The operation does not require any drilling and blasting and there will be no processing on site. As a result, the only potential dust sources will be:

- Dust generation during earthmoving activities. This does not generate large volumes of dust and only occurs when such operations are underway. The impact

will be negligible and no attenuation measures are feasible (except through water gun spray of affected area if really necessary)

- Dust generation by dispatch vehicles along unsurfaced roads. Once again volumes are so low that such impact is negligible and no wetting of unsurfaced roads is foreseen or prescribed.

5.1.11 Noise

Work must be restricted to normal working ours given the relative proximity of surrounding residences.

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

The 3 aspects which were thought to require protection, remediation, management or avoidance were the *impact on soil, vegetation and topography*:

5.2.1 Soil:

Generally the most important aspect of the proposed attenuation measures is the proper handling of topsoil. Without effective topsoil management, the disturbed areas will not be able effectively to revegetate, visual impact will remain and the agricultural capability of the land will not return and all impacts are thus multiplied.

For Section 2a there will be no impact on topsoil. Whilst for Sections 2b and 2c the impact on topsoil is temporary and insignificant (provided the topsoil is reused in rehabilitation). The impact will occur at the commencement of mining when such topsoil is removed along with vegetation to berms outside of the eventual excavation area.

The potential does also exist for:

- Oil / fuel leaks onto pan surface through the mobile plant.
- The spillage of fuel during transfer from fuel bowser to equipment in the field

Activity	***Spatial extent***	***Significance***	***Duration***	***Probability***	***Post-closure impact***
Section 2a topsoil removal	None	None	None	Definite	None
Section 2b and 2c topsoil removal	14 500m²	Insignificant: Potentially significant if not returned	Maximum life of mine	Definite	None
Oil leaks/ spillages	Site of occurrence	Insignificant	On occurrence until cleanup	Possible	None (if cleared)

Topsoil management plan must consist of the following steps:

1) Removal of all topsoil along with vegetation content (after alien vegetation removal if required) from the proposed excavation area to outside eventual excavation extent
2) Topsoil to be placed in berms not exceeding 2m in height along the final perimeter of the proposed excavation. The height restriction is more of an attempt to maintain a viable seedbank than prevent any visual impact or otherwise

3) As soon as mining has been completed in an excavation or section of excavation, such excavation shall be shaped to have all sharp edges rounded and no slope steeper than 1:1.
4) Topsoil is then to be placed and spread over the shaped area to minimum depth of 20cm or as resource allows.

In addition:

- No access to the surrounding veld is to be permitted.
- Implement Oil/Fuel Leak Management as per future EMPlan.
- Staff will undergo induction training regarding environmental impacts

5.2.2 Vegetation

The proposed Sections 2b and 2c excavation will disturb about 1.5ha of Ngongoni Veld. The impact of grazing this close to residential area is expected to be significant but is unknown at this stage.

The proposed excavation in Section 2a will have no impact on vegetation. However the impact on vegetation must be considered moderate and temporary in Sections 2b and 2c because of the vulnerable classification attributed to this grassveld.

However, there can be no doubt that if topsoil is removed, stockpiled for relatively short period and then replaced to original thickness then that impact will only be temporary.

Attenuation Measures

The proper handling of topsoil is essential to limit / nullify the impact on vegetation. Such handling must include the following aspects:

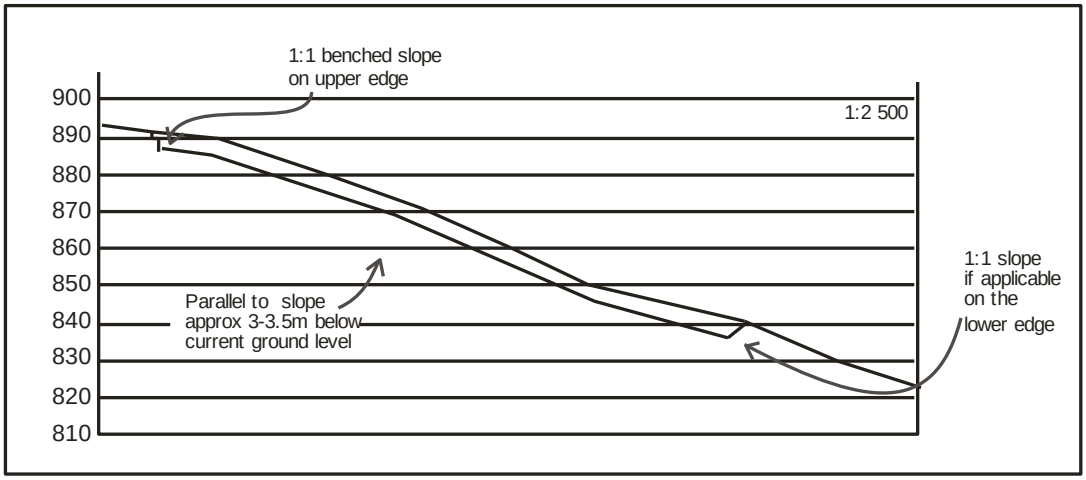
1) Topsoil removed to full depth along with vegetation content to berms outside of proposed excavation area.
2) Such topsoil berms are to be limited to 2m in height. That restriction in height serves to retain a viable seedbank.
3) The stockpiled topsoil must be used in the rehabilitation of the mined out and shaped area as soon as possible.
4) The revegetation will be allowed to take place naturally and if no successful natural revegetation occurs, then the following steps must be undertaken:
    a. During seeding season, cut grassveld from surrounding areas and spread over denuded area.
    b. If that does not yield results in the next growing season, then the services of specialist rehabilitation expert must be sought.

Other measures include:

- Stick to roads and do not drive over veld unnecessarily
- Prevent access to the natural veld unless required.

5.2.3 Topography

In the case of Sections 2b and 2c, the proposal is to merely slipe off max 3.5m so that the effect is to reduce the natural ground level by 3.5m as shown in diagram below:



However, in the case of Section 2a, the proposal is to clear up the current floor and lower such floor by 3- 3.5m but retaining existing access route and extending such route to Sections 2b and 2c.

The impact is quantified as permanent (unless further earthworks are required in the development of the site for other purposes) and insignificant to moderate when considering the current state of disturbance and avoidance of existing model of disturbance in Sections 2b and 2c.

Proposed attenuation measures

The following attenuation measures are proposed to limit impact on topography:

1) Excavation depth is limited to maximum of 3.5m
2) No final slope is to exceed 1:1
3) The floor of the excavation (and pit slopes) are to be smoothed and all sharp edges are to be rounded to mimic natural contours.

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

Refer Figures 1 and 2.

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

Yes. A public participation process was completed and part of that process was the preparation of the “Background Information Document” (BID). Such document is included in full as Annexure A.

The BID document was made available to all parties as basis for comment – Refer part 11 of this EMP for full description of the public participation process and Annexure A for copy of the BID.

Attention is drawn to part 5 of the BID which provided description of current environment and further to part 6 Question 1 which specifically requested of respondents to comment on the provided status of the environment:

"Do you agree with the provided description of the status of existing biophysical environment (as described in para 5.2 to 5.12)?

6 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.

6.1 Description of the proposed mining operation.

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

Mining method

The operation is an open cast surface mine and is comparable to any gravel mining operation in that it will take place through the following steps:

1. Alien vegetation removal (if any)
2. Topsoil removal with remnant vegetation to berm outside of excavation area
3. Bulldozer ripping of material
4. Dozing of material to berms which will be loaded by front-end loader to dispatch trucks
5. Material is transported directly for use off site (in other words, no crushing or screening of material on site)
6. Excavation is shaped so that no slope exceeds 1:1 to meet contours as specified in Figure 4 below
7. Topsoil is spread over shaped area and allowed to revegetate naturally
8. Alien vegetation control continues on rehabilitated disturbed areas for full life of mine and after care period.

Proposed Mine Layout

The factors which determine any excavation layout plan are mining method, current site layout / contours, surrounding land use, proposed final use and most importantly geology. In this case, the geology allows for almost unlimited removal depth of the material BUT such depth is to be controlled by other factors so that final depth of max 3.5m is envisaged in any one of these pits.

The other informant is post mining land use i.e. vacant land near to residential areas which means that the site must be returned in a safe and suitable condition[2]. Provision is made for such suitable return of the land through ensuring land that is shaped to ensure safety and danger to particularly children and / or stock. The following figure show current and proposed site layout for Sections 2a, 2b and 2c excavations:

[2] This would of course also be the case if the excavation was located far from residences.

Figure 4: Proposed Mine Plan

6.1.2 Plan of the main activities with dimensions

Refer figure 4 above. Excavation dimensions as follows:

- Section 2a: 11 263m²
- Section 2b: 28 452m²
- Section 2c: 7 448m²
- TOTAL disturbance: 47 163m² (4.7ha)

6.1.3 Description of construction, operational, and decommissioning phases.

6.1.3.1 Construction / Establishment Phase:

There is no construction phase. There is no need to develop, upgrade or construct any roads. The applicant will merely establish dozer and front end loader on site. There will be a requirement to provide chemical toilet at the Section being worked.

6.1.3.2 Operational Phase:

The operation is an open cast surface mine and rehabilitation is integral to the proposed mining method through the following steps:

1. *Demarcation*:

   The perimeter of the sites to be mined must be clearly demarcated with visible posts at a maximum of 30m apart. No-go areas must be clearly demarcated and no access allowed into these areas during mining.

2. Alien vegetation removal:

   All alien vegetation must be removed (if applicable). Note that during the study period, no alien vegetation was noted.

3. Topsoil removal with remnant vegetation to berm outside of excavation area:

   Successful rehabilitation is dependent on careful management of topsoil. Some 70-80% of all plant species found on site can return is topsoil is conserved and replaced following mining. Available topsoil should be spread across the site following mining. Germination of alien vegetation will require treatment as part of the post-mining alien clearing plan.

4. Bulldozer ripping of material.

5. Dozing of material to berms which will be loaded by front-end loader to dispatch trucks.

6. Material is transported off site.

7. Excavation is shaped as per diagram in figure 4 and para 5.2.3:

   Once mining of an area is completed the slopes must be graded and the floor of the mine ripped and topsoil returned by thinly spreading over the site. It is important that once mining is completed, the entire mine floor should be covered evenly with topsoil (even if this means a patchy spread, but across the entire floor).

8. Topsoil is spread over shaped area and allowed to revegetate naturally

   Once topsoil has been returned the whole floor should be lightly scarified.

9. Alien vegetation control continues on rehabilitated disturbed areas for full life of mine and after care period.

6.1.3.3 Decommissioning Phase:

Note that these excavations are so small as to not warrant a strip mining method of operation (i.e. the complete excavation can be mined and then rehabilitation can occur after mining).

It is proposed that one excavation be developed at a time. As soon as the first excavation development has been completed then it will be rehabilitated and work can begin on the second excavation during such rehabilitation. The shaping and topsoiling of such small areas cannot take longer than 3-5 days. The revegetation of such excavation can then occur whilst mining continues on the 2nd excavation.

The last excavation's decommissioning rehabilitation will take place after such excavation is complete and will consist of shaping, topsoiling and revegetation.

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

The following activities **may** result in listed activities triggering environmental authorisation. Note that even though total excavation to measure 4.7ha, only 3.5ha is on undisturbed area (i.e. undisturbed through earlier mining). In addition, even though the site is located close to houses, the property description is that of a farm (not Erf) and outside the "edge of built up areas and not within an urban edge[3]" as such is assumed to be outside an urban area:

Listing Notice 1 - GN 544:

- 20: Any activity requiring a mining permit – Currently under MPRDA
- 23: The transformation of undeveloped, vacant or derelict land to…(ii) residential, industrial, or institutional use where the total area to be disturbed in greater than 1ha but less than 20ha[4]
- 24: The transformation of land bigger than 1000m² to residential, industrial, retail, commercial or institutional use where such land was zoned open space, conservation or had equivalent zoning – Unlikely to apply but zoning must be checked prior to any NEMA environmental authorisation application.

Listing Notice 2 – GN 545:

- None

[3] In accordance with definition in GN R544
[4] It is debatable whether a simple excavation results in any of the uses listed.

Listing Notice 3 – GN 546 for the Eastern Cape:

- 4: Construction of road wider than 4m… (subject to other conditions): No access road between section 2a and 2b/2c sites to be wider than 4m.
- 12: The clearance of 300m² or more of vegetation where 75% or more of vegetation cover constitutes indigenous vegetation… within any critically endangered or endangered ecosystem listed in terms of Section 52 of NEMBA OR within Critical Biodiversity area. This area is located within area classified as CBA2.
- 13: Clearance of 1ha or more where 75% of vegetation constitutes indigenous vegetation… in CBA (and others).

6.2 Identification of potential impacts

6.2.1 Potential impacts per activity and listed activities.

The table below shows the following activities that take place as well as the impacts that such activity would generate. Note the impacts are not quantified in this table:

1. ESTABLISHMENT ACTIVITIES	
1.1.	Provide chemical toilets for staff
1.1.1.	Groundwater
1.2.	Conduct Environmental Induction training to contractor staff
1.2.1.	EMS (Positive)
1.3.	Access to each new section: Track will be required between Section 2a and 2b/2c (600m)
1.3.1.	Noise
1.3.2.	Air quality
1.3.3.	Hydrocarbon
2. OPERATIONAL PHASE ACTIVITIES	
2.1.	Demarcation: Demarcate Section excavation area
2.1.1.	Land Capability (+ve)
2.1.2.	Vegetation (+ve)
2.2.	Search and rescue and Geophyte collection (if applicable) in Sections 2b and 2c
2.2.1.	Vegetation (+ve)
2.3.	Topsoil removal (along with vegetation) to perimeter stockpile ahead of mining (in case of Section 2b and 2c).
2.3.1.	Topsoil
2.3.2.	Vegetation
2.3.3.	Land Capability
2.3.4.	Animal Life
2.3.5.	Noise
2.3.6.	Air quality
2.3.7.	Visual
2.3.8.	Heritage
2.3.9.	Hydrocarbon
2.4.	Bulldozer ripping of material and loading to dispatch vehicles
2.4.1.	Geology
2.4.2.	Topography
2.4.3.	Land Capability

2.4.4.	Noise
2.4.5.	Air quality
2.4.6.	Hydrocarbon
2.5.	Use of access/delivery road to the site by delivery vehicles
2.5.1.	Animal Life
2.5.2.	Noise
2.5.3.	Air quality
2.5.4.	Hydrocarbon
2.5.5.	Traffic / Access
3. OPERATIONAL PHASE MONITORING AND REHABILITATION ACTIVITIES	
3.1.	Levelling of floor (if required)
3.1.1.	Topography (Positive)
3.1.2.	Noise
3.1.3.	Air quality
3.1.4.	Hydrocarbon
3.2.	Shaping of final pit edges.
3.2.1.	Topography (Positive)
3.2.2.	Noise
3.2.3.	Air quality
3.2.4.	Hydrocarbon
3.3.	Topsoiling of shaped areas from previously stockpiled topsoil. Light scarification of topsoil.
3.3.1.	Topsoil (Positive)
3.3.2.	Vegetation
3.3.3.	Noise
3.3.4.	Air quality
3.3.5.	Hydrocarbon
3.4.	Plant geophytes collected earlier and allow topsoiled area to revegetate naturally (if applicable).
3.4.1.	Vegetation (Positive)
3.4.2.	Land Capability (Positive)
3.4.3.	Animal Life (Positive)
3.5.	Conduct EPA (at commencement and cessation of activities)
3.5.1.	EMS (Positive)
3.6.	Enforce no-go area access.
3.6.1.	Vegetation (Positive)
3.6.2.	Land Capability (Positive)
3.7.	Decontaminate any oil / fuel leaks.
3.7.1.	Hydrocarbon (Positive)
3.8.	Continue alien vegetation removal programme (if applicable)
3.8.1.	Vegetation (Positive)
3.8.2.	Land Capability (Positive)
4. DECOMMISSIONING PHASE ACTIVITIES	
Complete rehabilitation of the excavations through:	
4.1.	Finalise sloping of final pit edges as per para 5.2.3
4.1.1.	Topography (Positive)
4.1.2.	Noise
4.1.3.	Air quality
4.1.4.	Hydrocarbon
4.2.	Topsoil shaped area
4.2.1.	Topsoil (Positive)
4.2.2.	Noise

4.2.3.	Air quality
4.2.4.	Hydrocarbon
4.3.	Allow to revegetate naturally
4.3.1.	Vegetation (Positive)
4.3.2.	Land Capability (Positive)
4.3.3.	Animal Life (Positive)
5. AFTERCARE PERIOD	
5.1.	Remove alien vegetation for at least 3 seasons of growth
5.1.1.	Vegetation (Positive)
5.1.2.	Land Capability (Positive)
5.2.	Monitor revegetation success and take steps to rectify if there are shortcomings
5.2.1.	Vegetation (Positive)
5.2.2.	Land Capability (Positive)

6.2.2 Potential cumulative impacts.

Definition: "The impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency or person undertakes such other actions"

This operation is of such small scale and short duration that there is no possibility of any meaningful cumulative impact occurring.

6.2.3 Potential impact on heritage resources

This EMP will be lodged onto SAHRIS (i.e. the electronic heritage assessment portal administered by SAHRA and local Heritage agencies) for their decision on the extent of future studies required.

It is unlikely that any sites of archaeological or heritage significance remains on the sloped site so close to the dwellings which surround Libode.

Note also that the sites were pointed out and beaconed as part of the public participation process and no mention was made of any grave sites (unlikely on these steep slopes in any event).

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

The negative impacts generated by such activity in respect of communities, individuals and competing land uses normally relate to dust, noise and visual impact. However, this operation is of such a small scale and short duration that any such impact will be negligible.

The discussions with the landowner representatives and as presented at the public meeting, the main socio-economic benefit to the community would be the upgrading of approximately 4km of road in the community of Masameni / Marhewi by the applicant for Mining Permit.

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

Yes. A public participation process has been completed and part of that process was the preparation of the "Background Information Document" (BID). The BID document was made available to all parties as basis for comment – Refer Annexure A for copy of BID and part 11 for full description of the public participation process.

Attention is drawn to part 5 of the BID which provided description of expected impact on current environment and further to part 6 Question 2 which specifically requested of respondents to comment on the provided status of the environment:

"Do you agree with the potential impacts on biophysical environment (as described in para 5.3 to 5.12)?

6.2.6 Confirmation of specialist report appended.

No specialist reports have yet been compiled but the following is planned:

- Specialist botanist input is required given the site's location in vegetation classified as vulnerable in CBA2 designated area.
- Specialist HIA may be required after lodging of EMP onto SAHRIS

The specialist botanist assessment will be conducted as soon as possible.

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

7.1 Assessment of the significance of the potential impacts

7.1.1 Criteria of assigning significance to potential impacts

a) The significance level is based on the following criteria:

Significance		*Criteria*
Negative	Significant (S)	• Recommended level always exceeded with associated widespread community action • Disturbance to areas that are pristine, have conservation value, are important resource to humans and will be lost forever • Complete loss of land capability • Destruction of rare or endangered specimens • May affect the viability of the project
	Moderate (M)	• Moderate measurable deterioration and discomfort • Recommended level occasionally violated – still widespread complaints • Partial loss of land capability • Complete change in species variety or prevalence • May be managed • Is insignificant if managed according to EMP provisions
	Minor/ (I) Insignificant[2]	• Minor deterioration. Change not measurable • Recommended level will rarely if ever be violated • Sporadic community complaints • Minor deterioration in land capability • Minor changes in species variety or prevalence
Positive	Minor	• Improvements in local socio-economics
	Significant	• Major improvements in local socio-economics with some regional benefits

b) The duration is classified as

- Permanent (post-closure)
- Life of Mine (LOM)
- Temporary

c) The probability is ranked as

- Definite/Certain
- Possible
- Unlikely

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

Nature of impact	Extent	Duration	Probability	Significance
1. ESTABLISHMENT ACTIVITIES				
1.1. Provide chemical toilets for staff				
1.1.1. Groundwater	Local (at point of leak)	Until detection / rectification	Unlikely	Insignificant
1.2. Conduct Environmental Induction training to contractor staff				
1.2.1. EMS (Positive)	All staff members	Life of mine	Definite	Positive.
1.3. Access to each new section: Track will be required between Section 2a and 2b/c				
1.3.1. Noise	Noise from earthmoving activities	±1 week	Definite	Insignificant
1.3.2. Air quality	Dust from earthmoving activities	±1 week	Definite	Insignificant
1.3.3. Hydrocarbon	Potential for oil / fuel leaks	±1 week	Unlikely	Insignificant
2. OPERATIONAL PHASE ACTIVITIES				
2.1. Demarcation: Demarcate excavation section area				
2.1.1. Land Capability	Section 2a : in floor Section 2b: 2.84ha Section 2c: 0.75ha	Life of excavation	Definite	Positive
2.1.2. Vegetation	As above. Prevents inadvertent disturbance of areas outside of excavation area	Life of excavation	Definite	Positive: Insignificant
2.2. Search and rescue and Geophyte collection (if applicable, depends on botanist findings)				
2.2.1. Vegetation	Within demarcated disturbance areas	Conducted prior to topsoil removal. Life of excavation.	Definite in Section 2b and 2c None in 2a	Unknown. Depends on outcome of botanical survey
2.3. Topsoil removal along with remaining vegetation to perimeter stockpile ahead of mining in case of Section 2b and 2c.				
2.3.1. Topsoil	Remove all topsoil from Section 2b and 2c excavation area to max depth. Section 2b: 2.84ha Section 2c: 0.75ha	Life of excavation	Definite	Insignificant if topsoil is replaced. *Significant if not replaced*
2.3.2. Vegetation	All vegetation (excluding geophytes and aliens which have been removed at this stage)	Life of excavation, until topsoil returned	Definite	Assume Insignificant[5] – dependant on botanist study
2.3.3. Land Capability	Only Sections 2b 2c excavation area would not be available for grazing	Life of mine	Definite	Insignificant
2.3.4. Animal Life	Animal life (as it is) will be chased from advance areas	Life of mine but only on execution	Most Likely	Insignificant
2.3.5. Noise	Noise from earthmoving equipment. Impact localised. Working hours only.	On execution	Definite	Insignificant.
2.3.6. Air quality	Dust from earthmoving equipment. Impact localised. Working hours only	On execution	Definite	Insignificant.
2.3.7. Visual	The operation will be visible from surrounding communities and portions of the R61	Life of Mine	Possible	Insignificant

[5] Although untested, it is unlikely that the impact on vegetation will be significant, given the small scale of the operation, the retention and replacement of topsoil (which is removed along with vegetation) and the short time frame of activities

Nature of impact	Extent	Duration	Probability	Significance
2.3.8. Heritage	There may be artefacts of archaeological interest.	Permanent	Unlikely.	Insignificant
2.3.9. Hydrocarbon	Potential for oil / fuel leaks from mechanical equipment. Impact localised.	From event until clean up	Possible	Insignificant
2.4. Bulldozer ripping of material and loading to dispatch vehicles – restricted to normal working hours only				
2.4.1. Geology	±88 000m³ material will be removed from site	Permanent	Definite	Insignificant
2.4.2. Topography	Topography will be lowered by average 3.5m	Permanent	Definite	Insignificant / moderate
2.4.3. Noise	Noise from earthmoving equipment. Impact localised.	On execution	Definite	Insignificant.
2.4.4. Air quality	Dust from earthmoving equipment.	On execution	Definite	Insignificant, if any
2.4.5. Hydrocarbon	Potential for oil / fuel leaks from mechanical equipment. Impact localised.	From event until clean up	Possible	Insignificant
2.5. Use of access/delivery road to the site for delivery vehicles				
2.5.1. Animal Life	Possibility of road kill	Life of mine when driving on access routes	Possible	Insignificant
2.5.2. Noise	Noise from delivery vehicles.	On execution	Definite	Moderate
2.5.3. Air quality	Potential for dust generation affecting nearby residents along access roads	On execution	Definite	Moderate
2.5.4. Hydrocarbon	Potential for oil / fuel leaks from mechanical equipment. Impact localised.	From event until clean up	Possible	Insignificant
2.5.5. Traffic / Access and Safety	Access onto R61 for transport to site. Only existing main access point will be used. Dead slow through community streets	Life of mine.	Definite	Insignificant. Dead slow through community streets
3. OPERATIONAL PHASE MONITORING AND REHABILITATION ACTIVITIES				
3.1. Levelling of floor (if required).				
3.1.1. Topography	All mined out areas	Permanent	Definite	Insignificant
3.1.2. Noise	Noise from earthmoving equipment. Impact localised.	On execution	Definite	Insignificant.
3.1.3. Air quality	Dust from earthmoving equipment. Impact localised	On execution	Definite	Insignificant, If any
3.1.4. Hydrocarbon	Potential for oil / fuel leaks from mechanical equipment. Impact localised.	From event until clean up	Possible	Insignificant
3.2. Shaping of final pit edges				
3.2.1. Topography	All final pit slopes	Permanent	Definite	Insignificant / moderate (+ve)
3.2.2. Noise	Noise from earthmoving equipment. Impact localised.	On execution	Definite	Insignificant.
3.2.3. Air quality	Dust from earthmoving equipment. Impact localised	On execution	Possible	Insignificant.
3.2.4. Hydrocarbon	Potential for oil / fuel leaks from mechanical equipment. Impact localised.	From event until clean up	Possible	Insignificant
3.3. Topsoiling of shaped areas from previously stockpiled topsoil. Light scarification of topsoil.				
3.3.1. Topsoil	All areas where topsoil was removed	Permanent	Definite	Insignificant / Moderate (Positive)
3.3.2. Noise	Noise from earthmoving equipment. Impact localised.	On execution (Less than 1 week)	Definite	Insignificant.

Nature of impact	Extent	Duration	Probability	Significance
3.3.3. Air quality	Dust from earthmoving equipment. Impact localised	On execution (less than 1 week)	Probable	Insignificant.
3.3.4. Hydrocarbon	Potential for oil / fuel leaks from mechanical equipment. Impact localised.	From event until clean up	Possible	Insignificant
3.4. Plant geophytes collected earlier (if applicable) and allow topsoiled area to revegetate naturally.				
3.4.1. Vegetation	All topsoiled mined out areas.	Permanent	Definite	Insignificant (Positive)
3.4.2. Land Capability	All revegetated areas will return to improved pre-mining land capability.	Permanent	Definite	Insignificant (Positive)
3.4.3. Animal Life	Animal Life can return to vegetated areas	Permanent	Definite	Insignificant (Positive)
3.5. Conduct EPA (bi-annually)				
3.5.1. EMS (Positive)	Entire site. Confirm EMP prescriptions are complied with.	Annually and at cessation of activities	Definite	Moderate (Positive)
3.6. Enforce no-go area access.				
3.6.1. Vegetation (Positive)	All areas outside of proposed excavation areas	Life of Mine	Definite	Insignificant
3.6.2. Land Capability	All areas outside of proposed excavation areas	Life of Mine	Definite	Insignificant (Positive)
3.7. Decontaminate any oil / fuel leaks.				
3.7.1. Hydrocarbon	Potential for oil / fuel leaks from mechanical equipment. Impact localised.	From event until clean up	Possible	Insignificant (Positive)
3.8. Continue alien vegetation removal programme (if applicable)				
3.8.1. Vegetation	Disturbed areas	Life of mine and aftercare	Definite	Insignificant (Positive)
3.8.2. Land Capability	Disturbed areas	Life of mine and aftercare	Definite	Insignificant (Positive)
4. DECOMMISSIONING PHASE ACTIVITIES				
Complete rehabilitation of the excavations through:				
4.1. Finalise sloping of final pit edges				
4.1.1. Topography	All final pit slopes	Permanent	Definite	Insignificant / Moderate (prevents erosion)
4.1.2. Noise	Noise from earthmoving equipment. Impact localised.	On execution. Not more than 1 week	Definite	Insignificant.
4.1.3. Air quality	Dust from earthmoving equipment. Impact localised	On execution. Not more than 1 week.	Definite	Insignificant (if any).
4.1.4. Hydrocarbon	Potential for oil / fuel leaks from mechanical equipment. Impact localised.	From event until clean up	Possible	Insignificant
4.2. Topsoiling of shaped areas from previously stockpiled topsoil. Light scarification of topsoil.				
4.2.1. Topsoil (Positive)	All mined out areas (Section 2b and 2c)	Permanent	Definite	Insignificant / Moderate
4.2.2. Noise	Noise from earthmoving equipment. Impact localised.	On execution (Less than 1 week)	Definite	Insignificant.
4.2.3. Air quality	Dust from earthmoving equipment. Impact localised	On execution (less than 1 week)	Probable	Insignificant.
4.2.4. Hydrocarbon	Potential for oil / fuel leaks from mechanical equipment. Impact localised.	From event until clean up	Possible	Insignificant
4.3. Allow to revegetate naturally				
4.3.1. Vegetation (Positive)	All topsoiled areas.	Permanent	Definite	Insignificant

Nature of impact	Extent	Duration	Probability	Significance
4.3.2. Land Capability (Positive)	All seeded areas will return to pre-mining land capability	Permanent	Definite	Insignificant
4.3.3. Animal Life (Positive)	Animal Life can return to vegetated areas	Permanent	Definite	Insignificant
5. AFTERCARE PERIOD				
5.1. Remove alien vegetation each year for at least 3 seasons of growth				
5.1.1. Vegetation (Positive)	Mining disturbance area	Life of mine and aftercare	Definite	Insignificant
5.1.2. Land Capability (Positive)	Mining disturbance area	Life of mine and aftercare	Definite	Insignificant
5.2. Monitor revegetation success and rectify if there are shortcomings				
5.2.1. Vegetation (Positive)	Mining disturbance area	Life of mine and aftercare	Definite	Insignificant
5.2.2. Land Capability (Positive)	Mining disturbance area	Life of mine and aftercare	Definite	Insignificant

7.1.3 Assessment of potential cumulative impacts.

No cumulative impacts given short time and proposed mitigation measures to be implemented.

7.2 Proposed mitigation measures to minimise adverse impacts.

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

The proposed mining method as defined in para 6.1.3.2 contains a full description of the proposed mining and integrated rehabilitation method including possible geophyte collection of vegetation species as well as topsoil handling, excavation shaping, topsoil replacement, alien vegetation handling and revegetation.

The two aspects which are of critical importance are:

1) Topography (but more specifically the shaping of the post mining excavation). There cannot be a situation where high unrehabilitated faces remain post mining. Refer para 6.1.3.1. and 6.1.3.2 for proposed mitigation measures.
2) Topsoil – The proper handling of topsoil is essential. Several other aspects of the environment are related to topsoil and if topsoil is not replaced correctly then impacts such as lack of vegetation recovery, denuded areas leading to dust generation, visual impacts and more can accrue. The mitigation measures are considered integral to the mining method and are described in para 6.1.3.2.

7.2.2 Concomitant list of appropriate technical or management options

Mitigation measures are aimed at eliminating, offsetting, or reducing adverse environmental impacts and could have a range of objectives, such as:

- **Avoidance**: Avoiding projects or activities that could result in adverse impacts; avoiding certain types of resources or areas considered to be environmentally sensitive. This approach is most effective when applied in the earliest stages of project planning.
- **Prevention**: Measures aimed at preventing the occurrence of negative environmental impacts and/or preventing such an occurrence having harmful environmental and social impacts.
- **Preservation:** Preventing any future actions that might adversely affect an environmental resource. This is typically achieved by extending legal protection to selected resources beyond the immediate needs of the project.
- **Minimisation**: Limiting or reducing the degree, extent, magnitude or duration of adverse impacts. This can be achieved by scaling down, relocating, or redesigning elements of a project.
- **Rehabilitation**: Repairing or enhancing affected resources, such as natural habitats or water sources, particularly when previous development has resulted in significant resource degradation.
- **Restoration**: Restoring affected resources to an earlier (and possibly more stable and productive) state, typically a 'pristine' condition.
- **Compensation**: Creation, enhancement, or protection of the same type of resource at another suitable and acceptable location, compensating for lost resources. It should be noted that compensation may be a suitable mitigation measure for certain impacts of certain projects, but is often not a sustainable measure to implement. (CSIR, 2005)

In addition to the abovementioned management strategies, monitoring of potential impact inducing activities is also a management option in that early detection of these particular impacts often allows for remediation of the problem.

Nature of impact	Extent	Technical / Management option chosen	Refer para for more detail
1. ESTABLISHMENT ACTIVITIES			
1.1. Provide chemical toilets for staff			
1.1.1. Groundwater	Local (at point of leak)	Monitoring and rehabilitation	Refer para 9.1
1.2. Conduct Environmental Induction training to contractor staff			
1.2.1. EMS (Positive)	All staff members	Training Intervention	See Part 12 and Annexure D
1.3. Access to each new section: Track will be required between Section 2a and 2b/c (600m) – less than 4m wide			
1.3.1. Noise	Noise from earthmoving activities	Monitoring: Equipment	Refer para 9.1
1.3.2. Air quality	Dust from earthmoving activities	None required	NA
1.3.3. Hydrocarbon	Potential for oil / fuel leaks	Monitoring: Hydrocarbons	Refer Para 7.2.4.2
2. OPERATIONAL PHASE ACTIVITIES			
2.1. Demarcation: Demarcate excavation section area			
2.1.1. Land Capability	Prevents inadvertent disturbance of areas outside of excavation area	This is in itself a management option chosen to ensure that excavations are located in accordance with the plans in this EMP. Also serves to demarcate no go areas	Refer Para 6.1.3.1 and Para 6.1.3.2.
2.1.2. Vegetation	Prevents inadvertent disturbance of areas outside of excavation area		
2.2. Search and rescue and Geophyte collection (if applicable)			

Nature of impact	Extent	Technical / Management option chosen	Refer para for more detail
2.2.1. Vegetation	Within demarcated disturbance areas	Rehabilitation	Refer mining method Para 6.1.3.2.
2.3. Topsoil removal along with remaining vegetation to perimeter stockpile ahead of mining.			
2.3.1. Topsoil	Remove all topsoil Section 2b and 2c excavation area to max depth	Rehabilitation	Refer mining method Para 6.1.3.2.
2.3.2. Vegetation	All vegetation (excluding geophytes which have been removed at this stage)	Rehabilitation[6]	Refer mining method Para 6.1.3.2.
2.3.3. Land Capability	Only Sections 2b 2c excavation area would not be available for grazing	Scheduling	Refer mining method Para 6.1.3.2.
2.3.4. Animal Life	Animal life (as it is) will be chased from advance areas	Rehabilitation	Refer mining method Para 6.1.3.2.
2.3.5. Noise	Noise from earthmoving equipment. Impact localised. Working hours only.	Monitoring: Equipment	Refer Para 7.2.5 and 9.1.
2.3.6. Air quality	Dust from earthmoving equipment. Impact localised. Working hours only	Visual monitoring … dead slow speeds.	Refer Para 7.2.6
2.3.7. Visual	The operation will be visible from surrounding communities and portions of the R61	Rehabilitation	Refer mining method Para 6.1.3.2.
2.3.8. Heritage	There may be artefacts of archaeological interest	Prevention	
2.3.9. Hydrocarbon	Potential for oil / fuel leaks from mechanical equipment. Impact localised.	Monitoring: Hydrocarbons	Refer Para 7.2.4.2
2.4. Bulldozer ripping of material and loading to dispatch vehicles – restricted to normal working hours only			
2.4.1. Geology	±88 000m³material to be removed from site	None	
2.4.2. Topography	Topography will be lowered by average 3.5m	Rehabilitation	Refer mining method Para 6.1.3.2.
2.4.3. Noise	Noise from earthmoving equipment. Impact localised.	Monitoring: Equipment	Refer Para 7.2.5 and 9.1.
2.4.4. Air quality	Dust from earthmoving equipment.	Visual monitoring.	Refer Para 7.2.6
2.4.5. Hydrocarbon	Potential for oil / fuel leaks from mechanical equipment. Impact localised.	Monitoring: Hydrocarbons	Refer Para 7.2.4.2
2.5. Use of access/delivery road to the site to transport material to processing plant off-site			
2.5.1. Animal Life	Possibility of road kill	Avoidance. Dead slow on roads through communities	None
2.5.2. Noise	Noise from delivery vehicles.	Monitoring: Equipment	Refer Para 9.1.
2.5.3. Air quality	Potential for dust generation	Visual monitoring … dead slow speeds.	Refer para 7.2.6
2.5.4. Hydrocarbon	Potential for oil / fuel leaks from mechanical equipment. Impact localised.	Monitoring: Hydrocarbons	Refer Para 7.2.4.2
2.5.5. Traffic / Access and safety	Access onto N2 for transport to plant off site. Only existing main access point will be used.	Prevention. Dead slow on roads through communities	
3. OPERATIONAL PHASE MONITORING AND REHABILITATION ACTIVITIES			
3.1. Levelling of floor (if required)			
3.1.1. Topography (Positive)	All mined out areas	This is in itself a management option	
3.1.2. Noise	Noise from earthmoving equipment. Impact localised.	Monitoring: Equipment	Refer Para 7.2.4 and 9.1.
3.1.3. Air quality	Dust from earthmoving equipment. Impact localised	Visual monitoring	Refer para 7.2.6

[6] Additional measures may be prescribed by specialist botanist

Nature of impact	Extent	Technical / Management option chosen	Refer para for more detail
3.1.4. Hydrocarbon	Potential for oil / fuel leaks from mechanical equipment. Impact localised.	Monitoring: Hydrocarbons	Refer Para 7.2.4.2
3.2. Shaping of final pit edges			
3.2.1. Topography (Positive)	All final pit slopes	This is in itself a management option	
3.2.2. Noise	Noise from earthmoving equipment. Impact localised.	Monitoring: Equipment	Refer Para 9.1.
3.2.3. Air quality	Dust from earthmoving equipment. Impact localised	Visual monitoring	Refer para 7.2.6
3.2.4. Hydrocarbon	Potential for oil / fuel leaks from mechanical equipment. Impact localised.	Monitoring: Hydrocarbons	Refer Para 7.2.4.2
3.3. Topsoiling of shaped areas from previously stockpiled topsoil. Light scarification of topsoil.			
3.3.1. Topsoil	First section to be mined (other section as part of decommissioning rehabilitation.	This is in itself a management option	
3.3.2. Noise	Noise from earthmoving equipment. Impact localised.	Monitoring: Equipment	Refer Para 9.1.
3.3.3. Air quality	Dust from earthmoving equipment. Impact localised	Visual monitoring	Refer para 7.2.6
3.3.4. Hydrocarbon	Potential for oil / fuel leaks from mechanical equipment. Impact localised.	Monitoring: Hydrocarbons	Refer Para 7.2.4.2
3.4. Plant geophytes collected earlier (if applicable) and allow topsoiled area to revegetate naturally.			
3.4.1. Vegetation	All topsoiled mined out areas.	Rehabilitation / Restoration	Refer Para 6.1.3.2.
3.4.2. Land Capability	All revegetated areas will return to improved pre-mining land capability.	Rehabilitation / Restoration	Refer Para 6.1.3.2.
3.4.3. Animal Life	Animal Life can return to vegetated areas	Rehabilitation / Restoration	Refer Para 6.1.3.2.
3.5. Conduct EPA (bi-annually)			
3.5.1. EMS (Positive)	Entire site. Confirm EMP prescriptions are complied with.	Prevention	This is in itself a management option
3.6. Enforce no-go area access.			
3.6.1. Vegetation (Positive)	All areas outside of proposed excavation areas	Prevention	Refer Para 6.1.3.2.
3.6.2. Land Capability	All areas outside of proposed excavation areas	Prevention	Refer Para 6.1.3.2.
3.7. Decontaminate any oil / fuel leaks.			
3.7.1. Hydrocarbon	Potential for oil / fuel leaks from mechanical equipment. Impact localised.	Monitoring: Hydrocarbons	Refer Para 7.2.4.2
3.8. Continue alien vegetation removal programme (if applicable)			
3.8.1. Vegetation	Disturbed areas	Restoration	Refer Para 6.1.3.2.
3.8.2. Land Capability	Disturbed areas	Restoration	Refer Para 6.1.3.2.
4. **DECOMMISSIONING PHASE ACTIVITIES**			
Complete rehabilitation of the excavations through:			
4.1. Finalise sloping of final pit edges			
4.1.1. Topography (Positive)	All final pit slopes	This is in itself a management option	
4.1.2. Noise	Noise from earthmoving equipment. Impact localised.	Monitoring: Equipment	Refer Para 9.1.
4.1.3. Air quality	Dust from earthmoving equipment. Impact localised	Visual monitoring	Refer para 7.2.6
4.1.4. Hydrocarbon	Potential for oil / fuel leaks from mechanical equipment. Impact localised.	Monitoring: Hydrocarbons	Refer Para 7.2.4.2
4.2. Topsoiling of shaped areas from previously stockpiled topsoil. Light scarification of topsoil.			
4.2.1. Topsoil (Positive)	Last section to be mined (other section as part of operational rehabilitation.	This is in itself a management option	

Nature of impact	Extent	Technical / Management option chosen	Refer para for more detail
4.2.2. Noise	Noise from earthmoving equipment. Impact localised.	Monitoring: Equipment	Refer Para 9.1.
4.2.3. Air quality	Dust from earthmoving equipment. Impact localised	Visual monitoring	Refer para 7.2.6
4.2.4. Hydrocarbon	Potential for oil / fuel leaks from mechanical equipment. Impact localised.	Monitoring: Hydrocarbons	Refer Para 7.2.4.2
4.3. Allow to revegetate naturally			
4.3.1. Vegetation (Positive)	All topsoiled areas.	Rehabilitation	Refer para 6.1.3.2.
4.3.2. Land Capability (Positive)	All seeded areas will return to pre-mining land capability	Rehabilitation	Refer para 6.1.3.2.
4.3.3. Animal Life (Positive)	Animal Life can return to vegetated areas	Rehabilitation	Refer para 6.1.3.2.
5. AFTERCARE PERIOD			
5.1. Remove alien vegetation each year for at least 3 seasons of growth			
5.1.1. Vegetation (Positive)	Mining disturbance area	Restoration	Refer para 6.1.3.2.
5.1.2. Land Capability (Positive)	Mining disturbance area	Restoration	Refer para 6.1.3.2.
5.2. Monitor revegetation success and rectify if there are shortcomings			
5.2.1. Vegetation (Positive)	Mining disturbance area	Rehabilitation	Refer para 6.1.3.2.
5.2.2. Land Capability (Positive)	Mining disturbance area	Rehabilitation	Refer para 6.1.3.2.

7.2.3 Review the significance of the identified impacts

(After bringing the proposed mitigation measures into consideration).

The impacts are so insignificant to begin with (provided topsoil management and shaping (of topography) takes place), that after all management options have been implemented, the impact is negligible.

7.2.4 Disposal of waste material:

7.2.4.1 Domestic Waste

No waste will be disposed of (buried) on site. Domestic waste will merely consist of lunch wrappers, cool drink bottles and cans, etc. These will be retained by the operators on their person or vehicle until the end of the day when the minor volumes will be disposed of in a refuse bin off site.

Induction training will ensure that all staff is made aware of the impact of littering.

7.2.4.2 Industrial Waste

There will be no fuel tank located on site. So, during dispensing of fuel to field vehicles via bowser, the dispensing vehicle is to be fitted with suitable pumps and funnel extensions to reduce the risk of spillage in the transfer of fuels.

On-site repairs: No workshop will be required and all scheduled mobile plant servicing will take place off site.

Emergency repairs on site:
In the event of a breakdown repair being required in the field, the staff should be trained in use of drip trays and suitable funnels (not to drain oil into the sand) for filling and draining of lubricants and the staff shall be provided with such equipment to prevent oil contamination.

In addition:

- Used/replaced filters, hoses, belts, cloths, etc. are to be taken off site and disposed of in terms of the legislated hazardous and chemical waste systems. Used filters are not to be buried at the site of repair.
- In the event of soil contamination, the soils are to be treated with a suitable decontaminant such as the OT8 product range or Spillsorb or similar product.

All staff involved in mobile plant operation and maintenance are to be made aware of these oil and lubricant procedures. Staff will require instruction in the:

- Harmful effects of oil / fuel on the environment
- Neutralization of oil leaks, and
- Use of OT8 / Spillsorb products.

General Provisions

- All operators are to check their equipment for leaks and report such leaks on a daily basis.
- No used oils are to be used as dust suppressants
- All staff to be instructed to report oil spills immediately and be trained in fire-fighting and the use of biodegradable solvents such as OT8 or Spillsorb or similar products in the clean-up operation

7.2.5 Noise:

Physical mining activities will result in low noise levels (no blasting, topographical barriers), associated mainly with occasional vehicular and earthmoving activity on site. In total, noise generation at the actual mining site will be much localised, temporary and negligible.

However, the impact will be much larger when the delivery vehicles transport the material to the R61 through the local community. Care must be taken to ensure:

- Trucks travel at slow speeds
- No hooting

- It is important that daily monitoring of the state of vehicle and equipment silencers takes place by operators – refer Annexure D (Environmental Awareness training). Any shortcoming must be rectified by management.

Should noise ever become an issue then the only possible attenuation measures to be put in place include the following

- Staff/ Operator awareness of possible noise impact through induction training
- Noise generation will be restricted to the hours of 07h00 – 17h00
- Ensure that vehicle comply with regulatory traffic noise emission standards

7.2.6 Air Quality (Dust)

As for noise, the impact of dust is not expected to rise above insignificant at the mining site but care must be taken to limit dust generation on the unsurfaced roads which run through the community area.

Dust generation is directly proportional to speed travelled and delivery vehicle drivers must be cautioned to drive dead slow along the community's unsurfaced roads. Should dust become excessive, then water cart wetting of delivery road must take place.

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

8.1 Plans for quantum calculation purposes.

The amount that is necessary for the rehabilitation of damage caused by the operation, both sudden closure during the normal operation of the project and at final, planned closure must be calculated based on the information supplied in this document.

This amount will reflect how much it will cost the Department to rehabilitate the area disturbed in case of liquidation or abscondence. Such fund is normally reviewed annually.

In this case, the calculation is based on the requirement to rehabilitate, the new excavation within Section 2a and the two new excavations (Section 2b and 2c).

8.2 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 as follows:

- Section 2a: To retain a shaped excavation within previously disturbed area. No topsoil is available.
- Section 2b and 2c: To complete the mining, shape the excavations and replace topsoil. The disturbed areas will revegetate to match surrounding vegetation.

8.3 Quantum calculations.

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

Refer Annexure C for Rehabilitation fund quantum calculation in accordance with DMR guideline.

		Units	Quantity	Master rates	Multiplication Factor	Weighting Factor 1	Amount in Rands
1	Dismantling of processing plant	m^3	0	R10.87	1.0	1.1	R 0.00
2a	Demolition of steel buildings and structures	m^2	0	R151.41	1.0	1.1	R 0.00
2b	Demolition of reinforced concrete structures	m^2	0	R223.14	1.0	1.1	R 0.00
3	Rehabilitation of access roads	m^2	1 800	R27.10	1.0	1.1	R 53 648.35
4a	Demolition and rehabilitation of electrified railway lines	m	0	R262.98	1.0	1.1	R 0.00
4b	Demolition and rehabilitation of no-electrified rail lines	m	0	R143.44	1.0	1.1	R 0.00
5	Demolition of housing and facilities	m^2	0	R302.83	1.0	1.1	R 0.00

		Units	Quantity	Master rates	Multiplication Factor	Weighting Factor 1	Amount in Rands
6	Opencast rehabilitation including final voids and ramps	ha	3.5	R158 745.56	0.52	1.1	R 317 808.60
7	Sealing of shafts and adits	m^3	0	R81.29	1.0	1.1	R 0.00
8a	Rehab of overburden and spoils	ha	0	R105 830.37	1.0	1.1	R 0.00
8b	Processing waste deposits and evaporation ponds (salt)	ha	0	R131 809.81	1.0	1.1	R 0.00
8c	Processing waste deposits and evaporation ponds (Acid), Metal)	ha	0	R382 838.18	1.0	1.1	R 0.00
9	Rehabilitation of subsided areas	ha	0	R88 617.00	1.0	1.1	R 0.00
10	General surface rehab and grassing	ha	0	R83 835.50	1.0	1.1	R 0.00
11	River diversions	ha	0	R83 835.50	1.0	1.1	R 0.00
12	Fencing	m	0	R95.63	1.0	1.1	R 0.00
13	Water Management	ha	0	R31 876.62	1.00	1.1	R 0.00
14	2-3 years of maintenance and after care	ha	3.5	R1 115.68	1.0	1.1	R 4 295.37
Sum of items above							R 375 752.32
Sub Total 1: Multiply by Weighting factor 2						1.0	R 375 752.32
1	Preliminary and General (6% of cost)						R 22 545.14
2	Contingencies (10% of cost)						R 37 575.23
SubTotal 2 (Subtotal 1 plus management and contingencies)							R 435 872.70
Vat ((14% of sub total 2)							R 61 022.18
Grand Total							**R 496 894.87**

The table above reflects the final calculation used in deriving the Rehabilitation Fund Guarantee. The provision for rehabilitation of the site will be supplied by means of a bank guarantee to be supplied to the Department of Mineral Resources. The purpose of such a fund provision is to provide for rehabilitation of the site by State nominated contractors should the applicant for any reason be unable to complete the rehabilitation activities or complete them insufficiently.

8.4 Undertaking to provide financial provision

The required amount of R496 000 or alternate amount adjudicated by DMR will be provided by the applicant by way of Bank Guarantee.

The applicant commits to the provision of such guarantee through the lodging and signing of this document.

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

The applicant will ensure the following activities / functions take place to ensure implementation of this EMPlan's prescriptions:

- Copies of the EMPlan will be made available to the site manager.
- The applicant will ensure that the site manager/operator is fully au fait with the prescriptions of this EMPlan.
- The site manager will be responsible for ensuring that labour / operators are aware of their environmental responsibilities related to their activities.
- The site manager will continuously (whilst on site) conduct monitoring of activities taking place on site ensuring that all activities comply with the prescriptions of the EMPlan.
- Any shortcomings must be remedied immediately and if required the site manager must explain the required actions and reasons for them to the applicable person

In addition it is required that Environmental Performance Assessments (in terms of Regulation 55) must be conducted at the following milestones:

- After the first week of establishment, and
- After cessation of activities

9.1 List of identified impacts requiring monitoring programmes.

The following monitoring must take place during the course of this project:

Aspect to be monitored	***Where***	***When***	***By Whom***	***Action to be taken if there are shortcomings***
Groundwater / Surface Water	Ensure chemical toilet in good working order. No leaks	Every day	Operators and management	Clear up and repair
Demarcation: Posts and fence	On excavation edge and also within view of each other. To be implemented by surveyor or GPS prior to excavation at each of the 2 new excavations	At Performance Assessment after establishment phase prior to any development	EPA compiler	Replace or add posts as required
Noise	Equipment noise: Check that silencers are operational each day	Every day	Operator	Report to management
Noise: Only if complaint received –	At source of complaint. Measure noise – Note: does not refer to noise survey of staff (OHS)	As required	Specialist Noise Measurement Consultants	Environmental consultants to investigate and recommend additional measures
Dust	Dust to be visually monitored	If dust levels are too high along delivery route, then wetting of road must take place	Manager	ECO or consultants to investigate and recommend additional measures
Alien vegetation clearing	Excavation sites	Prior to site development	Manager	Clear
Geophyte removal (if applicable)	Excavation sites	Prior to product removal	Botanist	Clear geophytes

Aspect to be monitored	*Where*	*When*	*By Whom*	*Action to be taken if there are shortcomings*
Topsoil removal: Method	At place of removal	When topsoil removal is programmed to take place.	Mine Manager	Conduct staff training. Implement fines or some sort of consequence for offending individual.
Topsoil replacement: Method and location	At place of replacement	On completion	Mine Manager	Conduct staff training. Implement fines or some sort of consequence for offending individual.
Oil / fuel leaks	Vehicles to be checked regularly. Diesel bowser parking area	To be monitored constantly (especially during refuelling)	Operator	Clean up using effective and env friendly products
Topography: Rehabilitated	Ensure all floors levelled and no and hoc dumps on floors	• Prior to rehabilitation of any floor section • During mining of final edge slope • At completion of shaping of each section	Quarry manager	Level floor. Backfill slopes exceeding min slope. Backfill to be avoided as it will cost.
Success of operational revegetation	Any areas which may have been rehabilitated during the operational phase	Once annually by Quarry Manager. If shortcoming then manager must contact expert	By Specialist botanist	Specialist botanist or landowner recommends supplementary revegetation method.
Alien vegetation: Post mining	Excavation sections	Formally once every 6 months.	Quarry manager but also by staff members trained during induction environmental training	Conduct alien vegetation clearing.
Environmental education and awareness	All quarry staff	At commencement of every contract period	Mine Manager or environmental consultants	Retrain
Domestic waste management	Entire permit area	Continuously	All staff members	Pick up and place in bins or keep in vehicle
Traffic speeds on delivery road	On delivery road	Continuously	All staff members	Report contractor to management
Emergency action plan readiness	All quarry staff	At induction (or as required)	Quarry Manger	Retrain

9.2 Functional requirements for monitoring programmes.

Fortunately, this monitoring programme is a very simple operation and no specific functional requirements are deemed necessary, however the final Environmental Performance Assessment must be conducted by independent party.

There is no need for measuring levels of dust, noise or water quality levels given the extreme small scale of this operation.

9.3 Roles and responsibilities for the execution of monitoring programmes.

Refer table above. The manager will be responsible for carrying out the interim monitoring whilst the final Performance Assessment must be conducted by independent party.

9.4 Committed time frames for monitoring and reporting.

Refer table in Para 9.1.

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

10.1 Rehabilitation plan

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

Refer figure 4. The final extent of excavations is as follows:

- Section 2a: Within existing pit
- Section 2b: 28 452m²
- Section 2c: 7 448m²
- TOTAL disturbance: 3.5ha

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

Regulations 56 to 62 outline the entire process of mine closure, as a guide to applicants on the process to be followed for mine closure, and also to address the legal responsibility of the applicant with regard to the proper closure of his operation.

In terms of Section 37 of the Mineral and Petroleum Resources Development Act, 2002 (Act 28 of 2002), the holder of a right is liable for any and all environmental damage or degradation emanating from his/her operation, until a closure certificate is issued in terms of Section 43 of the Mineral and Petroleum Resources Development Act, 2002 (Act 28 of 2002).

The closure objective is to return the site to its current land use and land capability rating. The site (Sections 2b and 2c) will be returned to its original wilderness rating whilst Section 2a will retain the existing land use with additional excavation in floor serving as small water catchment facility.

10.3 Confirmation of consultation

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

Yes. A public participation process was completed and part of that process was the preparation of the “Background Information Document” (BID). Such document was included in all correspondence with Interested and Affected Parties and was available to all who wished to comment. Full copy of such BID is included as Annexure A to this report.

Refer part 11 for full description of the public participation process.

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

Note that during initial public participation, a Background Information Document (BID) was distributed for comment. That BID was also attached to the Consultation report to the DMR. The BID is attached as Annexure A.

It is important to note whilst reviewing this document that the consultation with the landowner, community, community representatives and others was conducted by local specialist.

The details of such specialist are as follows:

Company:	Umhlaba Consulting
Contact Person:	Siyabu Manona
Email:	siyabulela@umhlabagroup.co.za

Furthermore, the consultation was conducted for both the MPRDA and Land Use application processes.

11.1 Identification of interested and affected parties.

11.1.1 Name the community or communities identified, or explain why no such community was identified.

The proposed Mining Permit area is located on farm Masamini 63 Remainder, Nqeleni Administrative District. The land is owned by the State administered by the Department of Public Works (National).

So the community is the Libode Community represented by Chief B Ndamase. Contact details: PO Box 137 Libode, Cell: 0820846897

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

The State is the landowner.

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

The Dept. of and Affairs and Rural Development has been identified as possible affected party and have been consulted in the matter, specifically with respect to land claim issues.

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

The Land Claims Commissioner has been contacted in this matter. On 11 Nov 2013, Umhlaba Consulting representative (Mr. S Manona) approached Mrs Maqaqa of the Land Claims Commission, also coordinator for OR Tambo Municipality to ascertain if there were any land claims on the land in question. Mrs. Maqaqa promised to look into the matter but indicated that many rural

land claims are not mapped and would often be difficult to determine with precision.

11.1.5 Name the Traditional Authority identified

The community (tribal land) is represented by headman/ Chief B. Mdamase- refer para 11.1.1 for contact details.

11.1.6 List the landowners identified by the applicant.

The farm is owned by the State.

11.1.7 List the lawful occupiers of the land concerned.

The community of Masameni occupy the land (small holdings).

11.1.8 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.

It has been agreed that the applicant will upgrade 4km of roads in Masameni/ Marhewi. The applicant will need to further engage with the community leadership on the selection of the 4 Km road to be build. There was consensus that the bulk of the road should be in Marewini Village, though there may be some key points in Masamini Village. There was a proposal that the applicant include some of the critical points which are unpassable when raining which are also within the administrative areas, as part of the current deal.

Refer Annexure B for copy of *initial* agreement between applicant and community as well as final resolution concluded by the community[7].

11.1.9 Name the Local Municipality identified by the applicant

Nyandeni Local Municipality.

11.1.10 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.

Meeting (Friday 22nd Nov) has been held with the planning section of the Local Municipality responsible for the environment – Ms. Sanelisiwe Ntshanga. A copy of the Background Information Document (BID) was supplied to her. See copy of BID in Annexure A hereto.

11.1.11 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.

Refer annexure B which contains a copy of the community resolution and attendance register. All community members were notified through

[7] Under normal circumstances, the resolution should be provided with a cover page by the departmental official (on a letter head). The official Mr Bennie Ntubane could not provide the report because their server is down. He indicated to me that he will pull the report by end of next week (13/12/2013), subject to the server being functional.

newspaper advert (page 18 of Daily Dispatch of Monday 25 November 2013) and through posters displayed at various sites visited by the community.

11.2 The details of the engagement process.

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

A Background Information Document was supplied to each and every Interested and Affected Party. Every single person who wished to know more about the operation or comment thereon had access to the Background Information Document.

In addition the project was explained and described on site to the surrounding community at a public meeting – refer Annexure B for attendance register.

11.2.2 List of which parties identified in 11.1 above that were in fact consulted, and which were not consulted.

All of the parties identified in para 11.1 were consulted.

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

There have been no conflicting views in terms of existing status of all aspects of the environment as described in the BID provided to all parties.

11.2.4 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 mining operation.

None

11.2.5 Other concerns raised by the aforesaid parties.

None

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

Yes. Refer Annexure B.

11.2.7 Information regarding objections received.

None.

11.3 The manner in which the issues raised were addressed.

At a well-attended public meeting and through signing of resolution – Refer annexure B.

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

12.1 Employee communication process

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

All staff (including contractor staff) will undergo environmental induction training prior to work being conducted on the site.

The content of such course is as recommended in Annexure D.

12.2 Description of solutions to risks

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

The only risks which is evident relates to possible (but unlikely) Hydrocarbon spill or Hydrocarbon pollution from another source.

The fuel handling procedure is as contained in Para 7.2.4.

12.3 Environmental awareness training.

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

The short lived nature of the mining at this site does not preclude the applicant / contractor from providing adequate environmental awareness training. Annexure D shows what would serve as minimum content for such environmental awareness training.

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

Herewith I, the person whose name and identity number is stated below, confirm that I am the person authorised to act as representative of the applicant in terms of the resolution submitted with the application, and confirm that the above report comprises EIA and EMP compiled in accordance with the guideline on the Departments official website and the directive in terms of sections 29 and 39 (5) in that regard, and the applicant undertakes to execute the Environmental management plan as proposed.	
Full Names and Surname	**Gerardo Cirillo**
Identity Number	**7809015281089**

-END-

Annexure A:

Copy of Background Information Document

BACKGROUND INFORMATION DOCUMENT (BID):

MINING PERMIT APPLICATION

Farm 63 Remainder, Ngqeleni
Eastern Cape

Site Plan Report #: BID R1/2723/SAB2

DMR Ref: WC30/5/1/2/2/10135MP

Nov 2013

CONTENT

List of figures:

Foreword

This mining permit application has been made by Great Karoo Prospecting (Pty) Ltd on portion of Farm 63 (Remainder), Nqeleni. The commodity to be mined is Aggregate to be used as fill in the construction / upgrade of the Libode interchange on R61 which passes just south of the town.

Mining Permit application is made in terms of Section 27 of the Mineral and Petroleum Resources Development Act and is restricted in extent to 5ha and must be economically mined within a period of 2 years. Mining permits are renewable for a period of 1 year at a time to a maximum of 3 times (i.e. max lifespan of 5 years).

Within the 4.84ha application area, three excavation sections have been identified (viz Sections 2a, 2b and 2c). The cover photograph shows the existing excavation 2a whilst Sections 2b and 2c have not yet been mined.

1 Purpose of document:

The aim of this document is to serve as background to allow informed public participation / comment in a recently lodged **Mining Permit** application.

Locality

The 4.8ha Mining Permit area is located as follows:

Figure 1: Locality Plan

The detail application coordinates are as per diagram below:

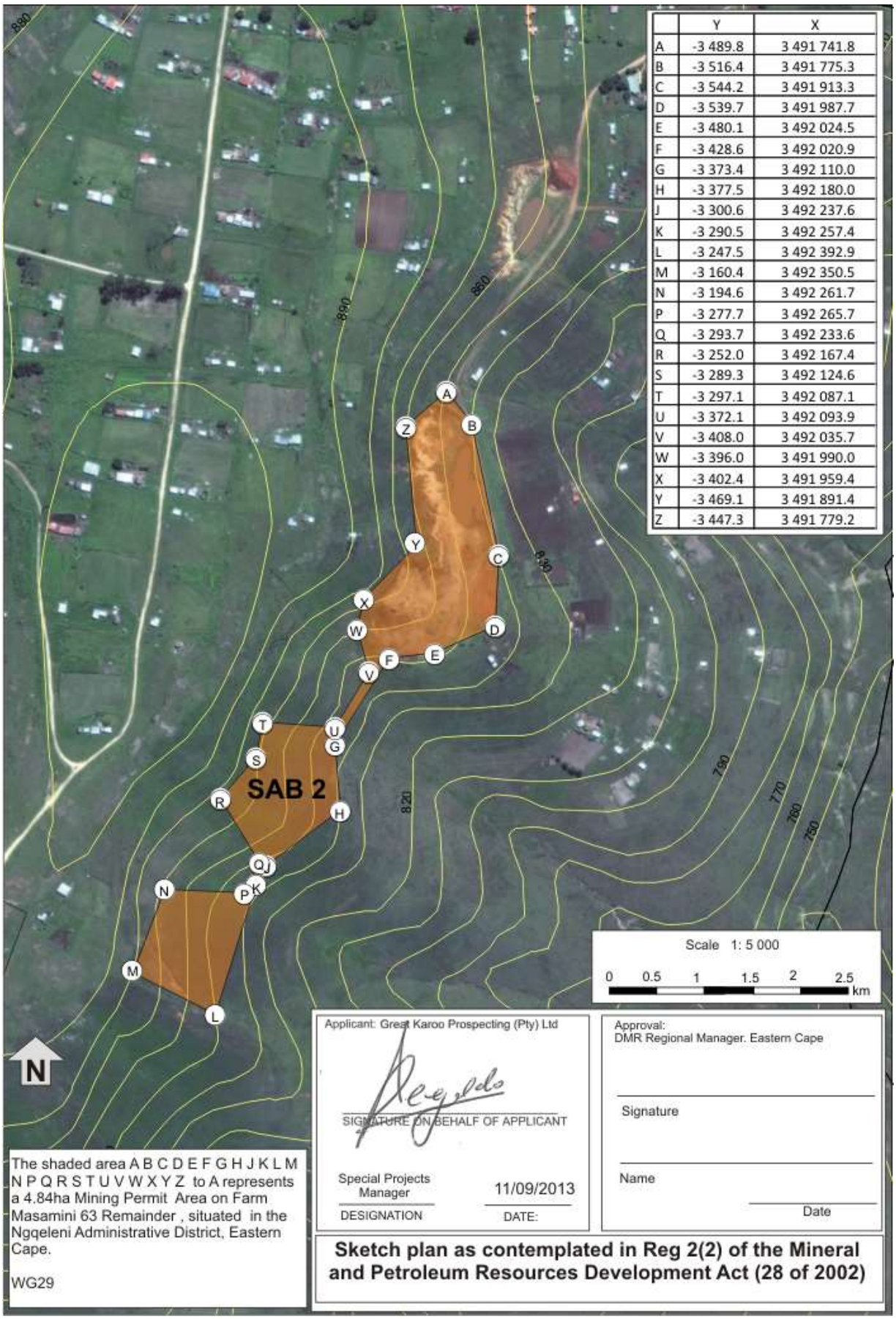


Figure 2: Copy of the sketch plan contemplated in Reg 2(2) of the Mineral and Petroleum Resources Development Act

2 Structure of this document:

The remainder of this document consists of the following sections:

1. General information regarding the application process with specific reference to where public participation takes place in the process.
2. Brief project description
3. Brief description of existing environment, anticipated impacts and impact attenuation (reduction) measures
4. Specific requests of I&AP's
5. Way forward and Request to register as I&AP

3 Prospecting Right Application Process:

The process to be followed by an applicant for a Mining Permit is legislated in terms of the MPRDA.

1. The first step in the process is the lodging of the application by the applicant. The actual lodging is conducted without consultation so that the applicant's rights as first applicant are protected.
2. Within 14 days the DMR either accepts the application and instructs the applicant to continue with the process, or rejects the application. This application was accepted (on 18 October 2013) and the process continues as follows:
    a. The applicant prepares a (BID) Background Information Documentation (this document) which accompanies all written and personal communication. This document is initially sent to all identified I&AP's which include the landowner, Land Claims Commissioner, Municipality and NGO's tasked with environmental issues in the area.
    b. Broader public participation will also take place and this takes the form of at the very least a poster to be displayed at various key points around Libode or a newspaper advert.
    c. The initial contact with the Interested and Affected Parties (I&APs) serves to notify & consult with the landowner/legal occupier and other affected parties. Furthermore the applicant is to identify any additional I&AP's and to request I&APs to register as such (through newspaper advert for instance). This registration is important in that it ensures that those who register are kept informed of the status of the application and are provided with relevant documentation.
    d. The Minerals Petroleum Resources Development 2002, Act 28 of 2002 (MPRDA) does not require a separate scoping report for a mining permit application, but documentation indicating the planned and as well as proof of any or all public participation completed and response received must be submitted to the Department Mineral Resources (DMR). This Information must reach the DMR within 30 working days of the applicant being notified that the application has been accepted (i.e. 29 November 2013).

e. The applicant has a further 30 working days (i.e. 60 working days in total) to prepare and lodge the EMPlan to the DMR (17 January 2013). All comments are included in Environmental Management Plan (EMPlan) to be compiled.

f. The DMR are responsible for distribution of the EMPlan to State Departments whom have 60 days to provide comment on the report to the DMR

g. The standard practice (given the short time period of only 60 days before lodging of the EMPlan) is to also provide all registered I&AP's with opportunity to comment on the EMPlan during the State Department commenting period.

h. The DMR assesses all comments and provides the applicant with their considered decision 60 days after receipt of all comments. (i.e. 120 days after EMPlan is lodged).

4 Brief Project Description

4.1 Mining method

The operation is an open cast surface mine and is comparable to any gravel mining operation in that it will take place through the following steps:

1. Alien vegetation removal (if any)
2. Topsoil removal with remnant vegetation to berm outside of excavation area
3. Bulldozer ripping of material
4. Dozing of material to berms which will be loaded by front-end loader to dispatch trucks
5. Material is transported directly for use off site (in other words, no crushing or screening of material on site)
6. Excavation is shaped so that no slope exceeds 1:1 to meet contours as specified in Figure 3 below
7. Topsoil is spread over shaped area and allowed to revegetate naturally
8. Alien vegetation control continues on rehabilitated disturbed areas for full life of mine and after care period.

4.2 Proposed Mine Layout

The factors which determine any excavation layout plan are mining method, current site layout / contours, surrounding land use, proposed final use and most importantly geology. In this case, the geology allows for almost unlimited removal depth of the material BUT such depth is to be controlled by other factors so that final depth of max 3.5m is envisaged in any one of these pits.

The other informant is post mining land use i.e. vacant land near to residential areas which means that the site must be returned in a safe and suitable condition[1]. Provision is made for such suitable return of the land through ensuring land that is shaped to ensure safety and danger to particularly children and / or stock. The following figure show current and proposed site layout for Sections 2a , 2b and 2c excavations:

[1] This would of course also be the case if the excavation was located far from residences.

Figure 3: Proposed Mine Plan

5 Brief description of existing environment, anticipated impacts and impact attenuation (reduction) measures

5.1 Introduction

The following section is meant to describe existing environment and provisionally (i.e. before any public input) describe the expected impact of the operation. The task of the reader is to critically assess the statements in this chapter especially and then answer the questions posed in Part 6.

5.2 Surrounding and on site Land Uses

The following land uses surround the proposed Mining Permit area – Refer figures 1 and 2:

- Section 2a is an existing pit (as per cover photo).
- Section 2b and 2c are not developed and are relatively steep slopes
- There is sparse residential (small holding type residential area) to the north and south of the proposed mining permit area
- The R61 is located approximately 800m north on existing good quality access road
- The Mount Nicolas Boarding School is located 1km NW of the site and the town of Libode another 1km beyond that.

Photo 1: View of SAB2 from across the valley to the east.

5.3 Topography

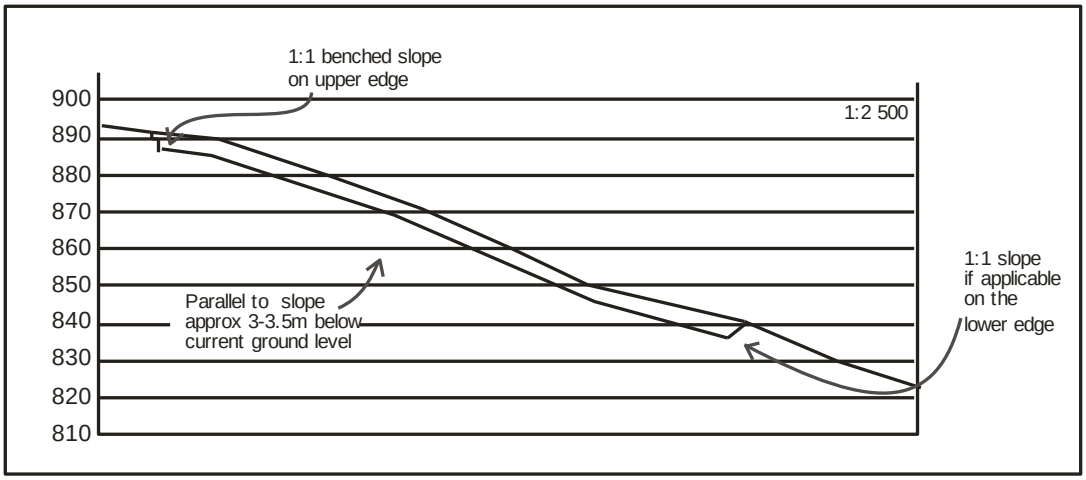
5.3.1 Existing Environment

The mining permit area is located in an east facing slope of one of the undulating hills making up the Libode region. The cover photo shows the slope of the land and the contours presented in Figure 3 show the average natural slope to be about 1:7.

Note however that Section 2a pit already exists with steep sided western face up to 7.5m in height. Such face will not be affected.

5.3.2 Impact of the operation

In the case of Sections 2b and 2c, the proposal is to merely slipe off max 3.5m so that the effect is to reduce the natural ground level by 3.5m as shown in diagram below:



However, in the case of Section 2a, the proposal is to clear up the current floor and lower such floor by 3- 3.5m but retaining existing access route and extending such route to Sections 2b and 2c.

The impact is quantified as permanent (unless further earthworks are required in the development of the site for other purposes) and insignificant to moderate when considering the current state of disturbance and avoidance of existing model of disturbance in Sections 2b and 2c.

5.3.3 Proposed attenuation measures

The following attenuation measures are proposed to limit impact on topography:

1) Excavation depth is limited to maximum of 3.5m
2) No final slope is to exceed 1:1
3) The floor of the excavation (and pit slopes) are to be smoothed and all sharp edges are to be rounded to mimic natural contours..

5.4 Visual Impact

5.4.1 Existing Environment

The existing Section 2a excavation is visible to all virtually all residences on the opposite west facing slope across the valley (in the order of 80 residences). Furthermore the existing excavation is also visible to all eastward bound traffic on the R61 for a distance of about 1km.

5.4.2 Impact of the operation

The proposed mining method *should* only result in temporary impact as the surface is denuded during mining. The current high impact of the Section 2a excavation is to be avoided by using different excavation shaping (i.e. instead of going in with horizontal floor, the proposal is to lower the natural slope by 3.5m and then shaping, topsoiling and allowing to revegetate).

In theory, the post mining impact should be no different from the current impact.

The impact will be insignificant to moderate but temporary.

5.4.3 Proposed attenuation measures

Screening of activities will be impossible given topography and location of pits in the side of the hill slope. However, the proposal is to remove topsoil, mine the area by lowering existing slope, then shaping the pit to mimic natural contours and finally re-topsoil and revegetate affected area to match surrounding vegetation.

In the case of Section 2a, no further work on existing western face and only lowering of existing floor will eliminate any significant visual impact of that development.

5.5 Soil

5.5.1 Existing Environment

Section 2a: No topsoil is available in this previously mined excavation.

Section 2b and 2c: Although full details of topsoil depth are unknown at this stage it is most likely that approximately 30cm topsoil will be available for removal, storage and replacement after mining. Note that whatever the topsoil depth is eventually recorded as being, that all topsoil will be removed for utilisation in post mining rehabilitation.

5.5.2 Impact of the operation

Generally the most important aspect of the proposed attenuation measures is the proper handling of topsoil. Without effective topsoil management, the disturbed areas will not be able effectively to revegetate, visual impact will remain and the agricultural capability of the land will not return and all impacts are thus multiplied.

For Section 2a there will be no impact on topsoil. Whilst for Sections 2b and 2c the impact on topsoil is temporary and insignificant (provided the topsoil is reused in rehabilitation). The impact will occur at the commencement of mining when such topsoil is removed along with vegetation to berms outside of the eventual excavation area.

The potential does also exist for:

- Oil / fuel leaks onto pan surface through the mobile plant.
- The spillage of fuel during transfer from fuel bowser to equipment in the field

Activity	***Spatial extent***	***Significance***	***Duration***	***Probability***	***Post-closure impact***
Section 2a topsoil removal	None	None	None	Definite	None

Activity	*Spatial extent*	*Significance*	*Duration*	*Probability*	*Post-closure impact*
Section 2b and 2c topsoil removal	14 500m²	Insignificant: Potentially significant if not returned	Maximum life of mine	Definite	None
Oil leaks/ spillages	Site of occurrence	Insignificant	On occurrence until cleanup	Possible	None (if cleared)

5.5.3 Proposed attenuation measures

Topsoil management plan will be fully described and quantified in the EMP but will consist of the following steps:

1) Removal of all topsoil along with vegetation content (after alien vegetation removal if required) from the proposed excavation area to outside eventual excavation extent
2) Topsoil to be placed in berms not exceeding 2m in height along the final perimeter of the proposed excavation. The height restriction is more of an attempt to maintain a viable seedbank than prevent any visual impact or otherwise
3) As soon as mining has been completed in a excavation or section of excavation, such excavation shall be shaped to have all sharp edges rounded and no slope steeper than 1:1.
4) Topsoil is then to be placed and spread over the shaped area to minimum depth of 20cm or as resource allows.

In addition:

- No access to the surrounding veld is to be permitted.
- Implement Oil/Fuel Leak Management as per future EMPlan.
- Staff will undergo induction training regarding environmental impacts

5.6 Land Capability

5.6.1 Existing Environment

Section 2a's grazing potential has been completely disturbed by the existing unrehabilitated mining which has occurred here. The land in sections 2b and 2c must be classified as wilderness area at this stage but the possibility does exist that the veld has been overgrazed.

5.6.2 Impact of the operation

The impact of the operation is insignificant in respect of land capability given the proposal to return topsoil and allow revegetation of the site to take place.

5.6.3 Proposed attenuation measures

The attenuation of impact on land capability takes place in union with topsoil replacement / management as per para 5.5.3.

5.7 Natural Vegetation

5.7.1 Existing Environment

The site straddles 2 vegetation types being:

1) Bhisho Thornveld above the ridge line – least threatened

2) Ngongoni Veld below the ridgeline on the valley slopes – classified as vulnerable.

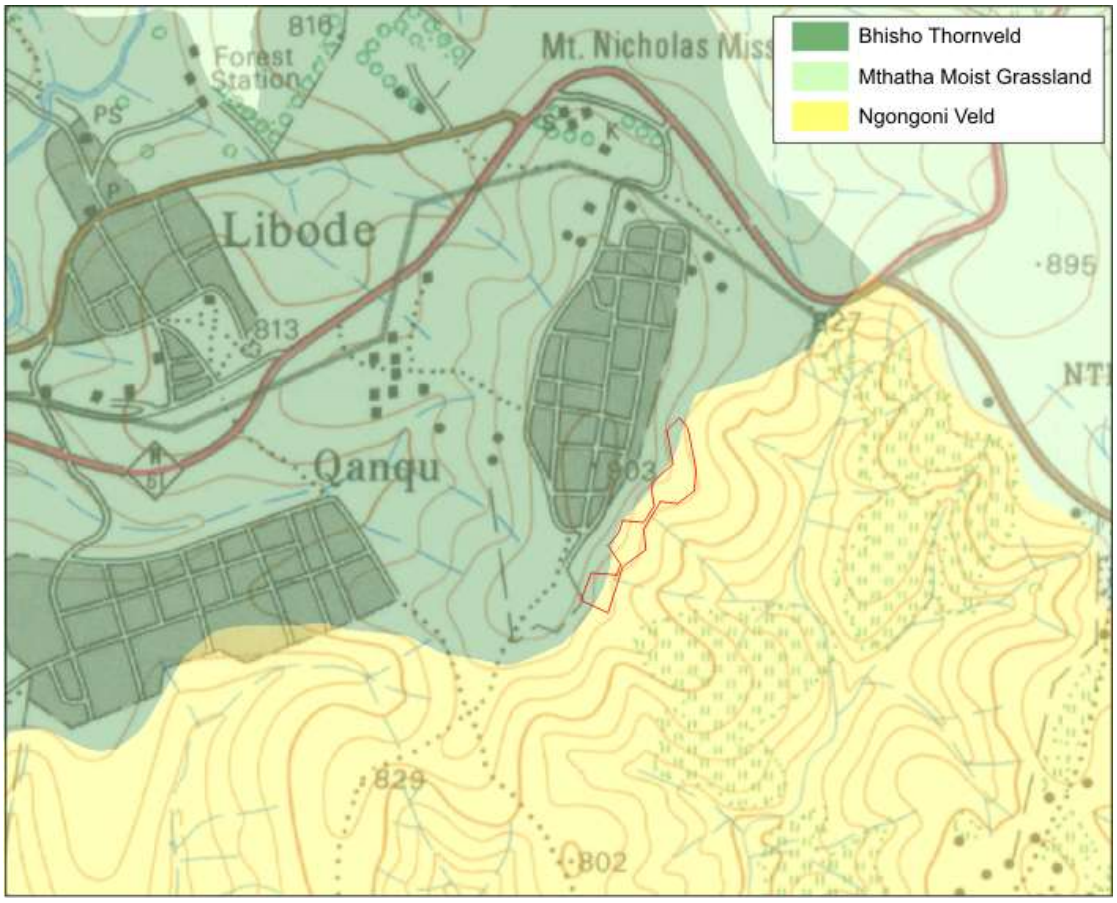


Figure 4: Vegetation classification

5.7.2 Impact of the operation

The proposed Sections 2b and 2c excavation will disturb about 1.5ha of Ngongoni Veld. The impact of grazing this close to residential area is expected to be significant but is unknown at this stage.

The proposed excavation in Section 2a will have no impact on vegetation. However the impact on vegetation must be considered moderate and temporary in Sections 2b and 2c because of the vulnerable classification attributed to this grassveld.

However, there can be no doubt that if topsoil is removed, stockpiled for relatively short period and then replaced to original thickness then that impact will only be temporary.

5.7.3 Attenuation Measures

The proper handling of topsoil is essential to limit / nullify the impact on vegetation. Such handling must include the following aspects:

1) Topsoil removed to full depth along with vegetation content to berms outside of proposed excavation area.
2) Such topsoil berms are to be limited to 2m in height. That restriction in height serves to retain a viable seedbank.

3) The stockpiled topsoil must be used in the rehabilitation of the mined out and shaped area as soon as possible.
4) The revegetation will be allowed to take place naturally and if no successful natural revegetation occurs, then the following steps must be undertaken:
    a. During seeding season, cut grassveld from surrounding areas and spread over denuded area.
    b. If that does not yield results in the next growing season, then the services of specialist rehabilitation expert must be sought.

Other measures include:
- Stick to roads and do not drive over veld unnecessarily
- Prevent access to the natural veld unless required.

5.8 Animal Life

Notwithstanding the use of the site for cattle grazing, there will be buck, porcupines, smaller rodents, birds and insects on site. The proposed activities are of small scale and impact in this regards will be negligible.

5.9 Surface Water

The operation will have no impact on the surface water regime in the area.

5.10 Ground Water

No impact. The operation is to shallow.

5.11 Air Quality (Dust)

The operation does not require any drilling and blasting and there will be no processing on site. As a result, the only potential dust sources will be:
- Dust generation during earthmoving activities. This does not generate large volumes of dust and only occurs when such operations are underway. The impact will be negligible and no attenuation measures are feasible (except through water gun spray of affected area if really necessary)
- Dust generation by dispatch vehicles along unsurfaced roads. Once again volumes are so low that such impact is negligible and no wetting of unsurfaced roads is foreseen or prescribed.

5.12 Noise

Work must be restricted to normal working ours given the relative proximity of surrounding residences..

5.13 Impact on Cultural / Heritage Aspects

The EMP will be lodged to SAHRA when it has been completed and they will assess whether further studies will be required. At this stage it is safe to say that although there may be some evidence of stone age artefacts, it is highly unlikely that any find of any significance is detected in these hills so close to residential areas and subject to previous mining and grazing.

5.14 Socio-economic Situation

5.14.1 Existing situation:

The mine is located on State land and the resource base in the area appears to be agriculture. The town of Libode is located nearby but the immediately surrounding area consists of smallholding type settlements.

5.14.2 Impacts

Potential impacts arise as follows through the proposed activities:

Negative

- Potential impacts on land unit integrity: Poaching, stock loss, roadkill, security.

Positive

- Potential for infrastructure development
- Potential for (very limited) employment opportunity.
- Material availability for Libode interchange on R61

5.14.3 Attenuation measures

It must be noted that the potential for socio-economic upliftment as a result of this permit authorisation is limited, given the short time frame of the proposed activities.

6 Specific requests of I&AP's

It is incumbent on the applicant to provide a report to the DMR in respect of the results of consultation. The DMR have prepared a template which must be filled in by the applicant. The template contains a standard level of reporting and in order to ensure full transparency and meet the requirements of the DMR, the following questions are specifically asked of you as Interested and Affected Party to consider:

1. Do you agree with the provided description of the status of existing biophysical environment (as described in para 5.2 to 5.12)?

2. Do you agree with the potential impacts on biophysical environment identified as a result of the proposed mining (as described in para 5.3 to 5.12)?

3. Do you agree with the provided description of the status of existing heritage /cultural environment (as described in para 5.13)?

4. Do you agree with the potential impacts on heritage / cultural aspects identified as a result of the proposed mining (as described in para 5.13)?

5. Do you agree with the provided description of the status of existing socio economic environment (as described in para 5.14)?

6. Do you agree with the potential impacts on socio-economic aspects identified as a result of the proposed mining (as described in para 5.14)?

7. Do you know of any land developments which may be impacted upon by the proposed project?

8. Do you know of any other parties which should specifically be consulted in respect of this project?

7 Way Forward & Registration as Interested and Affected Party

The application was lodged in October 2013 and as such the following dates are critical both in terms of MPRDA legislation and ensuring full and broad public participation:

1. Lodging of report on results of consultation to the DMR by 29 November 2013. That document merely states what has occurred so far and what the plans are for future consultation.
2. Closing of initial comments by late-November 2013
3. Lodging of EMPlan to the DMR by mid-January 2013
4. Lodging of final comments on EMPlan to DMR by mid-March 2014

In order for your comments to be included in the Report on Consultation, you are hereby required to provide comments in writing by 25 November 2013 to the person at contact details below.

Furthermore, should you wish to be kept abreast of the application progress and be provided with opportunity to scrutinise relevant documentation, then you must register as Interested and Affected Party (also by 25 November 2013) to the following consultant contact details:

Site Plan Consulting
PO Box 28
Strand
7139

Email: craig@siteplan.co.za
Fax: 021 854 4321
Tel: 021 854 4260

Annexure B:

Consultation with Community

Annexure D: Pro forma (Approved at PC of 10 September 1998)

LAND RIGHTS HOLDERS' RESOLUTION[1] IN TERMS OF THE "INTERIM PROCEDURES GOVERNING LAND DEVELOPMENT DECISIONS WHICH REQUIRE THE CONSENT OF THE MINISTER OF RURAL DEVELOPMENT AND LAND REFORM AS NOMINAL OWNER OF THE LAND" WHICH WAS APPROVED BY POLCOM ON 20 NOVEMBER 1997 AND AMENDED ON 14 JANUARY 1998 & ALSO IN TERMS OF SECTION 3(1)(A)(II) OF ACT 112 OF 1991 AS AMENDED BY ACT 34 OF 1996

1. At a meeting of the MASAMENI A/A Land Rights Holders at MASAMENI, district of Ngqeleni province of Eastern Cape on the 04 day of Dec 2013 before CHIEF councillors, Community leaders and representatives, Land Rights Holders present.

2. The **PURPOSE** of the meeting being

To get the Consent of the MASAMENI LAND RIGHTS Holders for the Establishment of a Burrow Pit at Portion of farm 63 Masameni.

3. That the Land Rights Holders were informed of the meeting 21 days/ months prior thereof, through the following **CHANNELS OF COMMUNICATION**

Announcements at Community Gatherings

---

[1] A Land Rights Holders Resolution known previously as a tribal or community resolution

4 by means of (specify the type of MEDIA used)

.....

.....

N/A

.....

.....

5. That the Land Rights Holders consists of approximately 101 members. Of which 30 adult males and 10 adult females who attended the meeting.

6. That 41 of the members who attended the meeting voted in favour of the above resolution and NONE voted against it.

7. That I am satisfied that the majority of the adult members present at the meeting were in favour of the above resolution.

8. **The Land Rights Holders' Statement of Resolution**. The land rights holders/ community have resolved that they support the proposed development of the Burrow Pit on behalf of H&I.

(1) Upgrading about 4 Kilometers of roads at Masameni/Matheusi

(2) To be able to do as soon as they start harvesting (Isabhunge) to be used for the upgrading of R61 & also N2 road from Qudu to Mthatha.

(3) Job opportunities for Local children of Masameni as soon as the Company takes Isabhunge (to soil)

(4) Details of which roads would be discussed between H&I and Community of Matheusini Locality.

9. It was further RESOLVED that

9.1 The following signatories will sign the agreement taken by the community on their behalf to give effect to the decision to alienate/ develop the land

9.1.1 Name: B. Ndamase Capacity Head of Masameni

Signature: B. Ndamase Date: 2013/12/04

9.1.2 Name: B. Mavumbengwe Capacity Ward Councilor

Signature: Date: 2013/12/04

9.1.3 Name: T. HLAZIYA Capacity Community Member

Signature: Date: 2013/12/04

9.2 The following signatories will co-sign the lease agreement on behalf of the community to give effect to the decision to alienate/ develop the land.(The parties to the lease agreement are the community, the investor/ developer and the Minister of Land Affairs)

9.2.1 Name:.....Capacity.....

Signature:.....Date:.....

9.2.2 Name:.....Capacity.....

Signature:.....Date:.....

9.2.3 Name:.....Capacity.....

Signature:.....Date:.....

9.3 The following signatories will sign the agency agreement on behalf of the community. (The agency agreement is a trust contract with the agent who will hold and administer the funds for the benefit of the community, following the decision to alienate/ develop the land).

9.3.1 Name:.....Capacity.....

Signature:.....Date:.....

9.3.2 Name:.....Capacity.....

Signature:.....Date:.....

9.3.3 Name:.....Capacity.....

Signature:.....Date:.....

10. The co-signatories in section 9.1, 9.2 and 9.3 signed on behalf of and with full consent of the Land Rights Holders present or represented in the meeting.

The Masameni A/A

~~Tribal~~ / Local/ ~~Community~~ Authority and the

Masameni Land Rights Holders/ Community and other structures residing on the land **shall be bound in law** by this land rights holders'resolution.

10. This Land Rights Holders constitutes a legal document and to give effect to it, the community have approved that they approve to this resolution document and that the following **SIGNATORIES** sign this Land Rights Holders' Resolution on their behalf:

10.1 Name: V. Simanga Capacity Community Member

Signature: VS Date: 2013/12/04

10.2 Name: V Miswa Capacity Community Member

Signature: VP Date: 2013/12/04

10.3 Name: NoZAZiSo DANA Capacity Community Member

Signature: NDANA Date: 2013/12/04

CERTIFICATE

I, Bennie L. Ntubane, the duely appointed investigating Official from the Department of Land Affairs hereby certify that:-

(i) I have attended the meeting of the Masameni ~~Tribe~~/ ~~Community~~/ Land Rights Holders under the chair/leadership of CHIEF Zamuxolo NDAMASE convened for purposes of considering this resolution.

(ii) the facts set out in the above resolution are to the best of my knowledge, true and correct and this resolution is a true record of the proceedings at the meeting.

(iii) the nature of the rights are.....

Strike out where necessary:

(a) The development will/ will not lead to a change in these rights

(b) Those whose rights are affected have been/ have not been accommodated

(c) There are/ there are no overlapping land rights

(d) New rights & benefits are created/ no new rights & benefits are created

(e) The rights of women have improved/ stays the same/ is worse of because of the development decision

(iv) the signatories affixed their signatures to this document in my presence.

(v) I have to the best of my ability explained the purpose and legal implications of the said resolution to those present and represented at the meeting.

SIGN ONTHE 04 DAY OF December 2013 AT Masameni

OFFICIAL'S SIGNATURE

P/Coordinator

DESIGNATION

NB! SEE ATTACHED ATTENDANCE REGISTER of rights holders attending the meeting

ATTENDANCE REGISTER

Attendance: MASAMENI A/A

Venue: MASAMENI GREAT PLACE ~~Community~~/land Rights Holders

Date: 04/12/2013

No	Name & Surname	Dept/Org/Village	Ward No.	Gender(F/M)	Contact No.
1.	Siyabu Manona	Umhlaba	—	M	0826598583
2.	Pumzile Mfaco	Marewini	30	M	0732665578
3.	Bongo Mavumbengwe	Masameni	30	M	0824787150
4.	Mthwaku Y	Marewini	30	M	0734320002
5.	Tobela Hlazipa	Marewini	30	M.	0722568668
6.	K. Makabeni	Masameni	30	m.	0739[illegible]
7.	O. Zono	Masameni	30	M.	0718149139
8.	L. Mgekani	Masameni	30	M.	0739764150
9.	S. Makahima	Masamini	30	M	0734953824
10.	Z. MAKABENI	MASAMENI	30	M	0733490278
11.	T mfaniq	MASameni	30	MF	0782259056
12.	P. Mngazi	Masameni	30	F	0785897543
13.	N. Mngcibhekiso	Masameni	30	F	0787525985
4.	N. Gubeka	Masameni	30	F	
	V. SimaYGA	Masameni			
	Y Mulwana	Masameni	30	F	0785241765

No	Name & Surname	Dept/Org/Village	Ward No.	Gender(F/M)	Contact No.
16.	N. DANA	MASAMENI	30	F	0789284004
17.	Y. MAKABENI	MASAMENI	30	M	0788175404
18.	L. MAKABENI	MASAMENI	30	M	0780357536
19.	N. MANUMBENIGWE	MASAMENI	30	M	0732010904
20.	L. FAKU	MASAMENI	30	M	073 892 9660
21.	S Sobazile	MaSameni	30	M	0731407347
22.	M. MAKABENI	MASAMENI	30	M	0733153719
23.	M. Makabeni	Masameni	30	M	0603014730
24.	S. Makabeni	Masameni	30	M	073532015 1
25.	Ndodomzi	TYATUZA	30	M	0789016202
26.	V. Faku	MaSameni	30	M	
27.	[illegible]	Makhaleni	30	M	0721189 [illegible]
28.	Mayekiso Xolani	Masameni	30	(F/M)	0734276108
29.	Bongisisisi [illegible]				0717794405 3
30.	M. Mayekiso	MASAMENI	30	M	0718482386
31.	L. Bodlani	Masameni	30	M	0785032901
32.	V. Simanga	Masameni	30	M	0827410884
33.	L Mhlwana	Masameni	30	M	0835318060
34.	Z.T [illegible]	" "	30		-
35.	M.L [illegible]	Masameni	30	M	0714101000
36.	S.O Faku	MASAMENI	30	M	073224965

No	Name & Surname	Dept/Org/Village	Ward No.	Gender(F/M)	Contact No.
37.	Makheni likho	Masameni	30	M	071776292
38.	Pikani Nelisa	Masameni	30	f	073 870 5915
39.	Funeka Mbamase	masameni	30	F	0711224300
40.	Pikani N.V.	Masameni	30	F	0793908913
41.	M. Faku	Masameni	30	M	073 681 1274
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HAW & INGLIS
CIVIL ENGINEERING (PTY) LTD

H&I

SAB 2

1 October 2013

To : Bakhulule Udamas

Address : Masamaneni H/A Libode 5160 Box 137

Contact Numbers: 0781387625

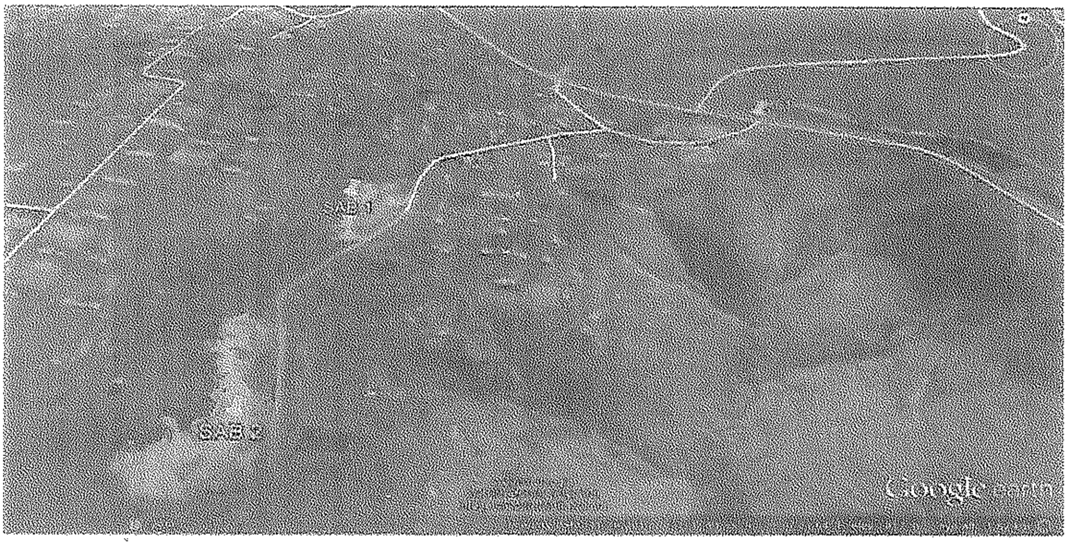
Dear Sir

CONTRACT NO. NRA R.061-080-2012/4 : CONSTRUCTION OF BRIDGES, INTERSECTION WIDENINGS AND THE LIBODE INTERCHANGE ON NATIONAL ROUTE R61 SECTION 8 BETWEEN NQELENI (KM 5.7) AND LIBODE EAST (KM 27.3): PERMISSION TO UTILIZE EXISTING BORROW AREAS FOR THE ABOVE MENTIONED PROJECT

Haw and Inglis Civil Engineering (Pty) Ltd (H&I) would like to confirm our verbal discussions pertaining to the borrowing of road construction material from the borrow pit indicated below (ref SAB 1+2).

The indicated land is tribal land and as the Headman of this specific area, you are duly authorized to grant our company access to the existing borrow area, as well as giving us permission to extend the boundaries in order to obtain material for the above mentioned project.

The area affected is indicated on the inserted Google imagery below:



Page 2/….

Haw and Inglis agrees to the following facilitation and "royalty" fees in lieu of "land rental", should we be awarded this specific contract :

- A facilitation fee of R2,500.00 per borrow pit will be paid to yourself in the event that we submit a successful bid. This fee will be paid upon the award of the above mentioned contract to our company.
- In lieu of a royalty / land rental fee H&I undertakes to re-gravel 4 kms of existing community roads.
- The above work will be done with the start of above mentioned contract when we start using the borrow pits.

It is H & I's responsibility to initiate and affect the following:

- Apply for a Mining permit with associated costs.
- Rehabilitate the "new" borrow area to the satisfaction of the Department of Mineral Resources (DMR) in terms of the approved Environmental Management Programme.
- Provide a guarantee to DMR, if required.

We trust that you find this agreement acceptable to yourself and if so, acknowledge the agreement by signing this document below.

Yours faithfully
HAW & INGLIS CIVIL ENGINEERING (PTY) LTD

J DU RANDT
SITE AGENT

Accepted by:

Name : Bakhulule

Signature : B. ndamase

HEADMAN B. NDAMASE
MASEMENI A/A
BOX 137, LIBODE
CELL: 082 084 6897

Witness:

Name : Tobelo Hlazyo

Signature :

Annexure C:

Rehabilitation Quantum Calculation in terms of DMR Guideline

DETERMINATION OF QUANTUM FOR REHABILITATION OF DISTURBANCES AT LIBODE SAB2.

The following steps are in accordance with the requirements of the DMR issued guideline to determine the rehabilitation fund quantum.

Step 1: Determine Primary Mineral and Saleable mineral by-products
Aggregate

Step 2: Determine the risk class associated with the mineral
Risk class **C** (in accordance with Table B13 in the guideline). There are no by-products impacting on the primary risk class

Step 3: Determine the area Sensitivity.
The area sensitivity must be classified as **Medium** given the requirement to accept the sensitivity of the highest component (i.e. biophysical, social or economic).

Step 4.1: Determine level of information:

Extensive information requires:

Requirement	**Status**
An approved EMP as contemplated in Section 39 of the MPRDA, or an EMP that is in the process of being approved or amended,	None
A detailed Closure Plan, based on the EMP, that covers all aspects of rehabilitation and closure of the mining operation, **and**	None
A detailed breakdown of the costs envisaged for rehabilitation and closure, signed off by a competent person.	None

As a result, the information in place must be seen as **Limited** given that all conditions of the table above have not been met.

Step 4.2: Determine the closure components:
The following components are applicable (from the list presented in the guideline):

Component No	**Main description**	**Applicable to this open cast operation**
1	Dismantling of processing plant and related structures (including overland conveyors and power lines)	No
2(A)	Demolition of steel buildings and structures	No
2(B)	Demolition of reinforced concrete buildings and structures	No
3	Rehabilitation of access roads	Yes
4(A)	Demolition and rehabilitation of electrified railway lines	No
4(B)	Demolition and rehabilitation of non-electrified railway lines	No
5	Demolition of housing and facilities	No
6	Opencast rehabilitation including final voids and ramps	No
7	Sealing of shafts, adits and inclines	No

Component No	Main description	Applicable to this open cast operation
8(A)	Rehabilitation of overburden and spoils	No
8(B)	Rehabilitation of processing waste deposits and evaporation ponds (basic, salt-producing waste)	No
8(C)	Rehabilitation of processing waste deposits and evaporation ponds (acidic, metal-rich waste)	No
9	Rehabilitation of subsided areas	No
10	General surface rehabilitation, including grassing of all denuded areas	Yes
11	River diversions	No
12	Fencing	No
13	Water management (Separating clean and dirty water, managing polluted water and managing the impact on groundwater, including treatment, when required)	No
14	2 to 3 years of maintenance and aftercare	Yes

Step 4.3: Determine the Unit rates for closure components.
Now, using risk class C and High Sensitivity, the unit rates for each applicable component is calculated from Table B.6 in the guideline. Refer table in Step 4.7

Step 4.4: Determine and Apply weighting factor
There are 2 weighting factors applicable:

Weighting Factor 1: The nature of the terrain where the mine is located. This factor is applicable as it is more difficult (and hence more costly) to undertake work related to mine closure in areas that are undulating or rugged. Weighting Factor 1 is applied to each of the closure components.

Weighting Factor 1	Flat	Undulating	Rugged
Nature of terrain / accessibility	1.00	1.10	1.20

Weighting Factor 2: The proximity of the mine to an urban centre. This factor is applicable as there will be increased costs to transport machinery, goods and personnel to more remote mine sites. Weighting Factor 2 is applied to the Preliminary and General items only.

Weighting Factor 2	Urban	Peri-urban (<150km from town)	Remote (>150km from town)
Proximity to urban area where goods and services are to be supplied	1.00	1.05	1.10

The site is located close to Libode.

Step 4.5: Identify areas of disturbance
The following areas are measured from the mine plan. Refer table in Step 4.7.

Step 4.6: Identify closure costs from Specialist Studies
None

Step 4.7: Calculate Closure Costs

		Units	Quantity	Master rates	Multiplication Factor	Weighting Factor 1	Amount in Rands
1	Dismantling of processing plant	m^3	0	R10.87	1.0	1.1	R 0.00
2a	Demolition of steel buildings and structures	m^2	0	R151.41	1.0	1.1	R 0.00
2b	Demolition of reinforced concrete structures	m^2	0	R223.14	1.0	1.1	R 0.00
3	Rehabilitation of access roads	m^2	1 800	R27.10	1.0	1.1	R 53 648.35
4a	Demolition and rehabilitation of electrified railway lines	m	0	R262.98	1.0	1.1	R 0.00
4b	Demolition and rehabilitation of no-electrified rail lines	m	0	R143.44	1.0	1.1	R 0.00
5	Demolition of housing and facilities	m^2	0	R302.83	1.0	1.1	R 0.00
6	Opencast rehabilitation including final voids and ramps	ha	3.5	R158 745.56	0.52	1.1	R 317 808.60
7	Sealing of shafts and adits	m^3	0	R81.29	1.0	1.1	R 0.00
8a	Rehab of overburden and spoils	ha	0	R105 830.37	1.0	1.1	R 0.00
8b	Processing waste deposits and evaporation ponds (salt)	ha	0	R131 809.81	1.0	1.1	R 0.00
8c	Processing waste deposits and evaporation ponds (Acid), Metal)	ha	0	R382 838.18	1.0	1.1	R 0.00
9	Rehabilitation of subsided areas	ha	0	R88 617.00	1.0	1.1	R 0.00
10	General surface rehab and grassing	ha	0	R83 835.50	1.0	1.1	R 0.00
11	River diversions	ha	0	R83 835.50	1.0	1.1	R 0.00
12	Fencing	m	0	R95.63	1.0	1.1	R 0.00
13	Water Management	ha	0	R31 876.62	1.00	1.1	R 0.00
14	2-3 years of maintenance and after care	ha	3.5	R1 115.68	1.0	1.1	R 4 295.37
Sum of items above							R 375 752.32
Sub Total 1: Multiply by Weighting factor 2						1.0	R 375 752.32
1	Preliminary and General (6% of cost)						R 22 545.14
2	Contingencies (10% of cost)						R 37 575.23
SubTotal 2 (Subtotal 1 plus management and contingencies)							R 435 872.70
Vat ((14% of sub total 2)							R 61 022.18
Grand Total							**R 496 894.87**

Annexure D:

Environmental Awareness Training Guideline / Content

Annexure D:
PRELIMINARY ENVIRONMENTAL INDUCTION TRAINING
SAB2 Mining Permit:

December 2013

A. INTRODUCTION

Environmental management is a team effort. All management and staff are responsible for avoiding environmental damage and ensuring good environmental management.

The keys to achieving this are:

- Being aware of the environment and the need to protect it
- Understanding and recognising the things to protect and the do's and don'ts
- Knowing the reporting procedure
- Taking pride in good environmental housekeeping

Legal Requirements

- Requirement of the MPRDA
  - to have an EMP (Environmental Management Plan)
    (show the document, the approved EMP, to all staff in the induction and briefly note the items it covers)

- Additional laws
  - National Water Act – note that it doesn't apply in this case but just use it to raise awareness
    - use of water
    - discharge of sewage
    - control of surface water
    - quality of stormwater discharged from site
    - avoidance of groundwater by oils, sewage or other
    - prevention of impact on groundwater aquifers
  - National Environment Management Act which will be made to apply if you do not work according to the EMP. *If you don't work according to the EMP the mine will be classified as non-conforming and may be withdrawn by the State*

Targets:

- Understanding of what is contained in the EMP
- Buy in by staff of the need for environmental protection (especially as it pertains to site rehabilitation and staying away from vegetation as much as possible)
- Good results in Environmental Performance Assessment

Why do we need Environmental Management?

1. It is an integral part of normal good management (Good Housekeeping) on the prospect site together with
   - Safety
   - Efficiency (Productivity)
   - Planning (specific activities in specific areas)

2. The prospect is part of the larger environment and may have an impact in terms of:
   - *Vegetation*
   - Surrounding residents
   - Noise or dust

3. NO GO areas must be respected:
   - No new roads or tracks unless approved by management – all natural veld is considered no go area for vehicles and no staff member may make ad hoc tracks without consultation with management. Staff to be made aware that penalties apply.
   - They are important to preserve from botanical integrity point of view

4. Integration of the prospect with surrounding land uses / users requires that the following be limited through proper action by the staff:
   - Lack of successful rehabilitation
   - Noise / dust

5. **Who does the damage to the Environment?**

a) Management:

(i) by not being fully informed themselves of the content of the EMP and other decisions/controls

(ii) by not informing the staff of proper procedure and the environmental consequences of incorrect activities

(iii) by not conducting regular monitoring

(iv) by not developing their own personal sensitivity to environmental impact

b) Equipment Operators:

(i) by driving equipment or moving items outside of roadways, movement areas.

(ii) by dumping material in veld

(iii) By not reacting and immediately reporting fuel or oil or hydraulic fluid leaks

c) General Staff:

(i) Use of the veld as a toilet (NOT ALLOWED)

(ii) Littering with lunch wrappings, bottles

(iii) (Unlikely) Causing of fire or failure to report fire or threat of fire as soon as it is seen

6. **What the Staff should be aware of to look out for:**

- Allocated litter storage or dump areas
  - Don't dump anywhere else!!
  - If in doubt ask first!!

- No-go areas
  - Don't enter these areas and don't drive into them

- Recognise NO GO areas and
  - Don't disturb them
  - Don't drive into them
  - Don't use them as toilet areas

- Oil, fuel or hydraulic leaks
  - As soon as you see these, report them to the operator or the foreman/manager

- Report littering

- Recognise (know the difference between) domestic waste and industrial waste and use correct procedures for their disposal

- Know the refuelling and oil change procedure if you are involved in it to know how to avoid pollution

- Recognise the threat of fire

- Immediately report any threat of fire or fire if seen

7. **Fire Reporting Procedure and Oil, Fuel, Hydraulic Leaks**

If you see a fire starting or threat of fire in the veld take the following action (Highly unlikely):

- Make safe what you are doing at the time
- Leave your task and report the fire to the nearest supervisor / manager

If you see an oil or fuel leak in soil, consult site manager who will have the process to be followed specified in the EMP

8. **Other environmental incidents reporting procedure**

These include littering, unnecessary damage to vegetation, etc. Report these at end of shift or lunch time to supervisor / manager

9. **Penalties for Environmental Damage**

- Fines
- Conditions of employment contract