Muturukanyi Environmental Consultants

REG: 2001/047740/23 TAX 9768075146

Roads Agency Limpopo
Private Bag x9554
Polokwane
0700
Attention Mr. Matodzi Silidi

RE: SUBMISSION OF RISK ASSESSMENT REPORT FOR LP/30/5/1/3/1/311EM

Please receive the environmental closure monitoring for the borrow pits that were used for the upgrading (gravel to tar) of road D3180 from Modjadji-Mokwakwaila-Bambeni-Nkomo.

Hope you shall find it in order.

Received by:

_____

Date and signature

Regards,

_____

Rikhotso S.J
Environmental Assessment Practitioner
Fax: 086 567 6871

Physical add: Nkowankowa (Khomanani str next to the Stadium)
Box 723, LENYENYE, 0750
Contact Person: Rikhotso S.J (Member), Tel: 082 5621 942
Fax: 086 567 6871

Muturukanyi Environmental Consultants

REG: 2001/047740/23 TAX 9768075146

ENVIRONMENTAL RISK ASSESSMENT REPORT IN APPLICATION FOR CLOSURE OF BORROW PITS ALONG ROAD D3180 (MODJADJI-MOKWAKWAILA-BAMBENI-NKOMO) MOPANI DISTRICT MUNICIPALITY

Prepared for

Roads Agency Limpopo

Private Bag x9554

POLOKWANE

0700

Date: 17 February 2009

LP/30/5/1/3/1/311 EM

Physical add: Nkowankowa (Khomanani str next to the Stadium)
Box 723, LENYENYE, 0750
Contact Person: Rikhotso S.J (Member), Tel: 082 562 1942,
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PROJECT TEAM MEMBERS

THE APPLICANT
Roads Agency Limpopo RAL Tower (corner Rabi and Biccard streets) 0700 Tel: 015 291 4236 Fax: 015291 1349 Contact Person: Matodzi Silidi
ENVIRONMENTAL CONSULTANT
Muturukanyi Environmental Consultants P.O Box 723 LENYENYE 0750 Tel: 082 562 1942/ 076 771 5018 Contact Person: S.J Rikhotso M E C Muturukanyi Environmental consultants

Details of the Environmental Assessment Practitioner

Report compiled by:	
company	M E C Muturukanyi Environmental consultants
EAP	**Mr. Stephan. J. Rikhotso**
Qualifications	B.Sc Environmental Management

EXECUTIVE SUMMARY

Muturukanyi Environmental Consultants has been appointed by RAL for the environmental closure for the borrow pits that were used for the upgrading of road D3180 (gravel to tar) from Modjadji-Mokwakwaila-Bambeni-Nkomo. The borrow pits are located along road D3180 within Mopani District Municipality, Limpopo Province.

The principal aim of the Road Agency Limpopo in this regard is to meet the minimum requirement of the Minerals and Petroleum Act, Act no 28 of 2002 and ensure that the rehabilitated borrow pits are rehabilitated to the satisfaction of the lead Agent (DME, Limpopo province). RAL would also like to return the responsibility of the land to its Owners. The information in this report is sufficient to assist the Department of Minerals and Energy in making the Decision before issuing the closure certificate.

Table of content

1. INTRODUCTION

Muturukanyi Environmental Consultants conducted environmental closure for the borrow pits that were used for the upgrading of road D3180 (gravel to tar) from Modjadji-Mokwakwaila-Bambeni-Nkomo, the monitoring for the end use of the area prospected or mined after the closing of operation along road D3180 in Modjadji-Mokwakwaila-Bambeni-Nkomo villages. All borrow pits have been rehabilitated as per Section 39 and Regulation 52(2) (f) of the Mineral and Petroleum Resources Development Act 2002(Act 28 of 2002) MPRDA.

2. BORROW PIT CLOSURE

2.1 Objectives

- To identify the various ways in which a closed borrow pit will affect its immediate surroundings.
- To ensure that the identified impacts can be eliminated or mitigated (minimised) by means of proper design rehabilitation and where necessary with ongoing monitoring.
- To ensure that the rehabilitation leaves the area in a condition as close as possible to that prior to the mining activities.
- The safety and health of humans and animals must be safeguarded from hazards resulting from post mining.
- The disturbed area should be restored to a predetermined and agreed standard of land use which conforms to the concept of sustainable development.

3. LOCATION OF THE BORROW PIT

The project area is located about 80km North West of Tzaneen Town in the Mopani District of Limpopo. The table below outlines the coordinates for the aforementioned borrow pits.

borrow pit number	co-ordinates	
B/P 1	S23° 31' 54.8"	E30° 24' 03.8"
B/P 2	S23° 31' 15.8"	E30° 26' 20.2"
B/P 3	S23° 30' 23.1"	E30° 27' 23.6"
B/P 4	S23° 28' 12.8"	E30° 29' 41.6"
B/P 5	S23° 27' 11.4"	E30° 31' 41.8"

The abovementioned borrow pits have been attached below:

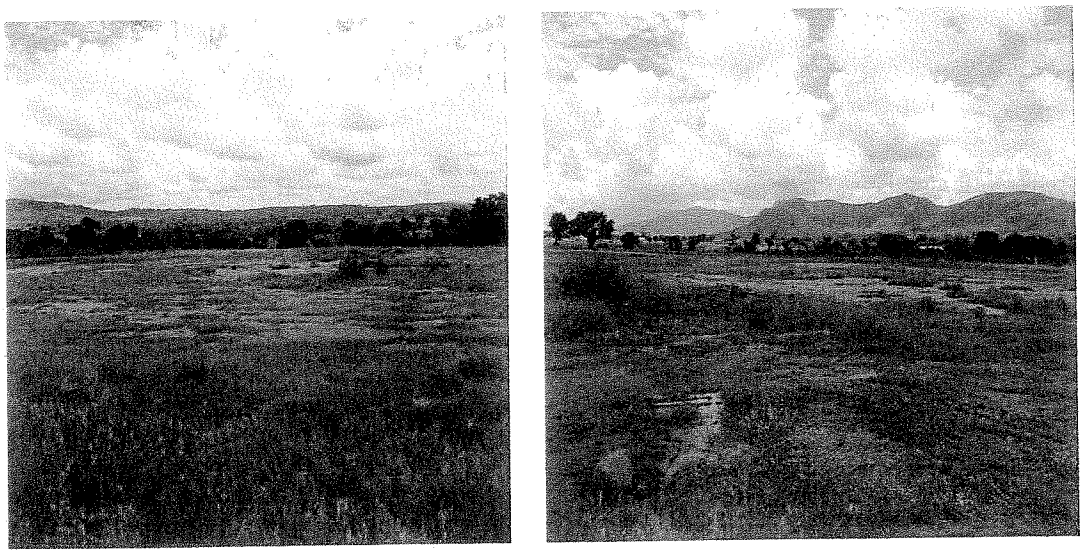


Plate 1: Borrow pit number 1 located at km3 LHS of the road D3180. The picture indicates the condition of the borrow pits after appropriate rehabilitation in accordance with the Environmental Management Plan.

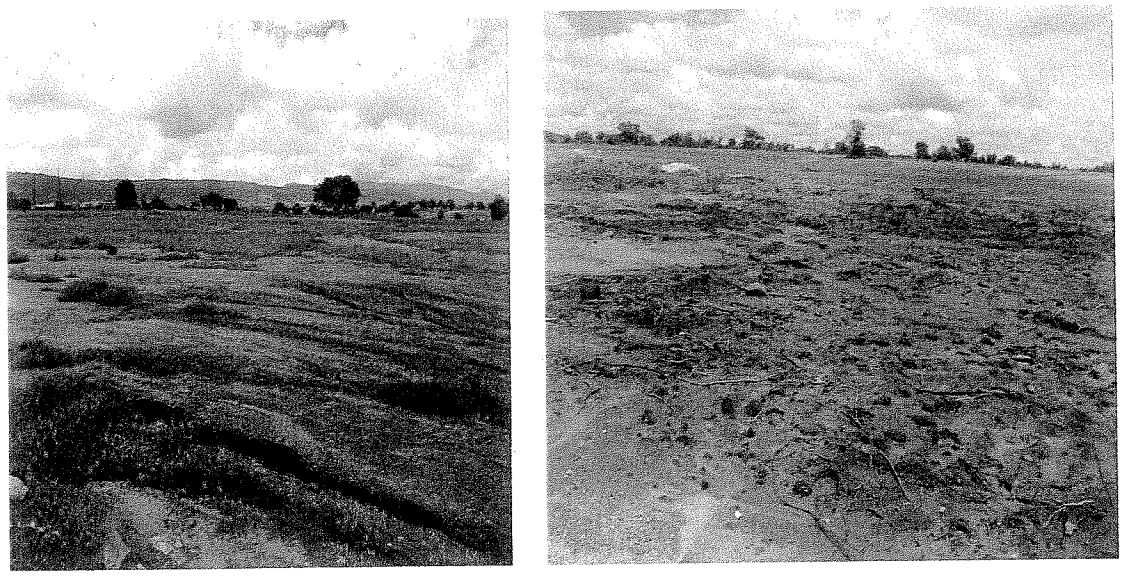


Plate 2: borrow pit number 2 located at km8.5 RHS of the road. The cleared vegetation over the area may result in serious soil erosion.

Plate 3: borrow pit number 3 located at km11.5 RHS of the road. The borrow pit is well rehabilitated. No threat is foreseen to the environment, villages and domestic animals.

Plate 4: The borrow pit has been rehabilitated (bpt4-km17). The incomplete section waits the spoiling of more material to achieve the require slope.

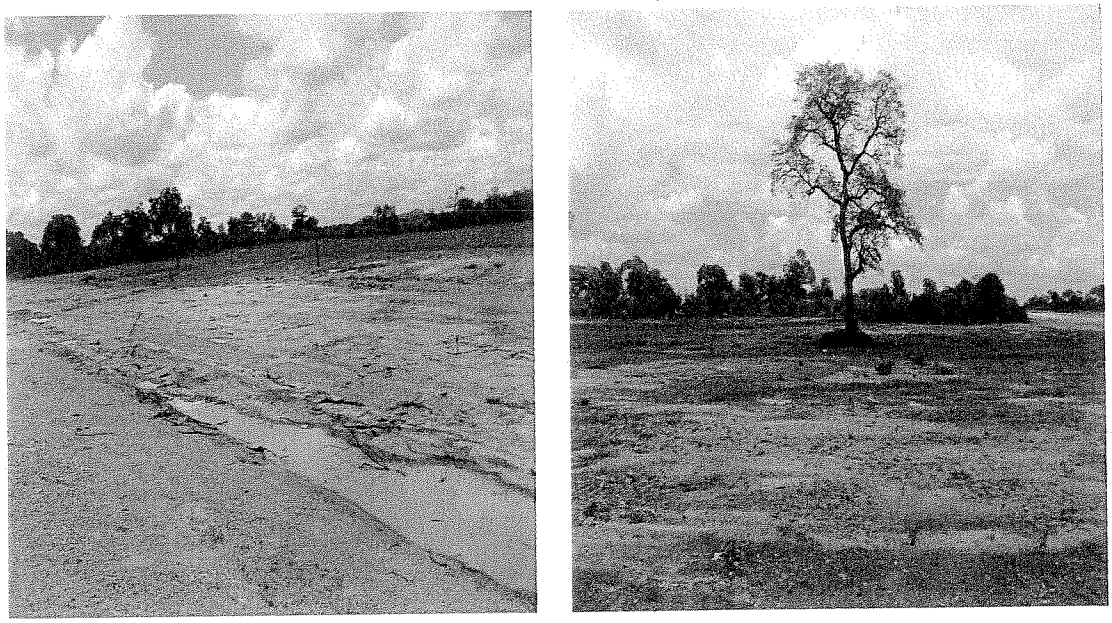


Plate 5: borrow pit number 5 located at km21 has been well rehabilitated as we can see running water on a side drain of the road.

Site inspection

Site inspection for these borrow pits was held on the 10th October 2008 by:

- Mr. S.J Rikhotso from Muturukanyi Environmental Consultants

4. ENVIRONMENTAL RISKS IDENTIFIED

4.1 Potential significant risks

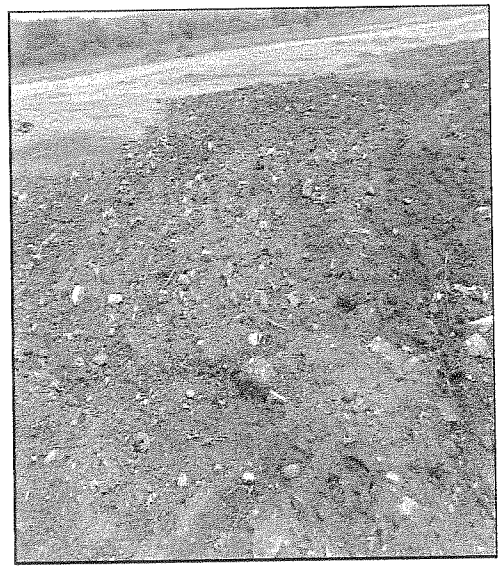
The sites were greatly disturbed and were restored to an acceptable condition, limiting the risk of creating unsafe ponds during the rain season. The rehabilitation method was applied in such a way that it restricts the formation of such ponds. See the illustrations on previous pages.

The excavated site was backfilled with the topsoil which was stockpiled during construction.

Impact evaluation	
Magnitude	Significant but localized
Timing	Immediate
Duration	Medium to long term

4.1.1 Dumping

Illegal dumping is an environmental problem across the country; however, some members of the public tend to take advantage of dumping within an excavated site such as these borrow pits. See pictures below:



4.1.2 Management strategies

The potential impact on the local communities and animals can be mitigated by making sure that the site is stable and double checking that no further excavations take place after the rehabilitation has been done.

4.2 Insignificant risks

4.2.1 Cleared vegetation

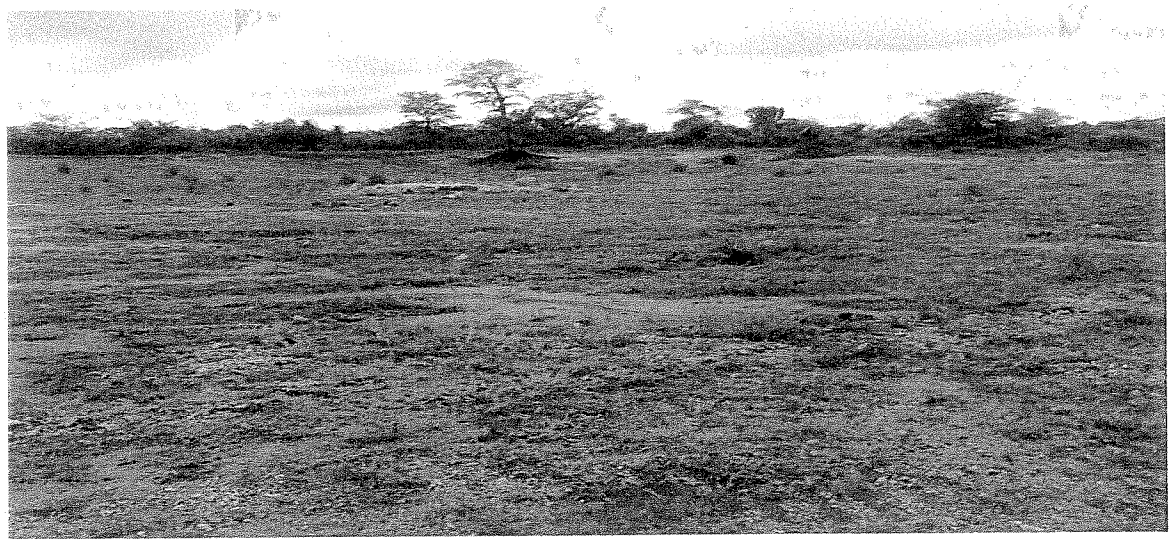
The cleared vegetation did not include any endangered species and a minimum biomass was selected for clearance in order to reduce susceptibility to soil erosion. Vegetation clearing cal also influence drainage patterns which can

create instability. For example, the development of many tributaries which carry away the soil material.

Impact evaluation	
Magnitude	Significant
Timing	Immediately
duration	Short term

4.2.2 Management of vegetation

If rehabilitation is to take place in areas that are classified as grasslands, there is no need for the introduction of seedlings. Note that the natural vegetation has already started growing on site after rehabilitation was done.



The picture above illustrates the growth of vegetation on rehabilitated area.

4.2.3 Visual impact

An additional problem (through it may be considered insignificant) is the change of topographical characteristics. Change in land form is seen as being very important because it can not easily be disguised; it can therefore for a sharp contrast to the surrounding area.

However, these borrow pits involve a small scale excavation of about 25m radius and can therefore not cause a serious impact on the aesthetic value of the land. All the borrow pits site along this road were located on the outskirts of the villages. The borrow pits are clearly visible from the main road. The generation of dust around the borrow pits sites is anticipated after closure as the area is uncovered of the vegetation layer.
However the impact is local and has the short term effect on road users

Impact evaluation	
Magnitude	Insignificant
Timing	Immediate
duration	Short term

4.2.4 Management strategies

In order to reduce the ecological and visible impacts of mining, the following have to be taken in to consideration;

- The creation of optimum conditions for planting new vegetation as well as the reduction of the contrast between material and land form. For instance, growing vegetation to blend in with the environment.

- It is also recommended that topsoil be used to allow vegetation to grow simultaneously.

The following mitigation measures must be considered

- Indigenous vegetation should be used to shape and improve the disturbed areas.
- The site must match the natural topography by ensuring necessary sloping of the borrow pits.
- Ensure extensive communication with interested and affected parties regarding the status of the borrow pits after rehabilitation.

5. PRESENT ENVIRONMENTAL STATE IDENTIFIED

Environmental aspect	Description of impact	Evaluation of impact
1. topography	Disturbance of soil profile and compaction.	Medium
2. Natural vegetation	Less vegetation cover, the area was not densely vegetated.	Medium
3. Geology	Undulating landscapes.	Low
4. Soil	The quality and quantity of soil has been degraded.	Medium
5. Hydrogeology	No impact.	Not applicable
6. Surface water	No impact	Medium
7. Land capability	Land uses will be	Medium

	determined by the nature and structures established.	
8. Air quality	No signs of change to the atmospheric quality.	Not applicable
9. Sensitive landscape	No sensitive impact identified on pre-mining and post mining.	Not applicable
10. Heritage/ Archaeological	No such site significance has been identified	Not applicable

6. MONITORING AND AUDITING PROGRAMME

A monitoring programme for post-closure management or maintenance would not be necessary as the potential risks. Therefore there is no need to carry-out further monitoring and auditing.

7. CONCLUSION

The site has been rehabilitated to a satisfactory condition and in accordance with the Environmental Management Plan as stipulated.