

Private Bag X 9467, Polokwane, 0700. 101 Dorp Street, Polokwane, 0699

Tel no: (015) 287 4700; Fax no: (015) 287 4706/ 086 710 1448

Directorate: Mineral Regulation - Limpopo Region

Enquiries: Mapula Mashile

E-mail address: Mapula.Mashile@dmr.gov.za Reference nr: LP 30/5/1/3/3/2/1/ 1687 EM

REGISTERED MAIL
The Provincial Manager
SAHRA- Limpopo
P. O. Box 137
POLOKWANE
0700

Caselo: 2271

Attention: Mr. Donald Lithole/ Victor Netshiavha

CONSULTATION OF ENVIRONMENTAL MANAGEMENT PLAN IN TERMS OF SECTION 40 OF THE MINERAL AND PETROLEUM RESOURCES DEVELOPMENT ACT 2002, (ACT 28 OF 2002) IN RESPECT OF PORTION 13 OF THE FARM FORTKLIPDAM 852 LS, SITUATED IN THE MAGISTERIAL DISTRICT OF MOLEMOLE. APPLICANT: THABA CHUEU MINING (PTY) LTD.

Attached herewith, please find a copy of the Environmental Management Plan received from the above-mentioned applicant, for your comments.

It would be appreciated if you could forward any comments or requirements your Department may have in the case in hand to this office and to the applicant within 30 days of this letter <u>i.e. on or before 22 July 2011</u>, failure of which will lead to the assumption that your Department has no objection(s) or comments with regard to this application and this Department will in that instance proceed with the finalisation thereof.

In an attempt to expedite the consultation process please contact Ms. Mapula Mashile of this office to make arrangements for a site inspection or for any other enquiries with regard to this application.

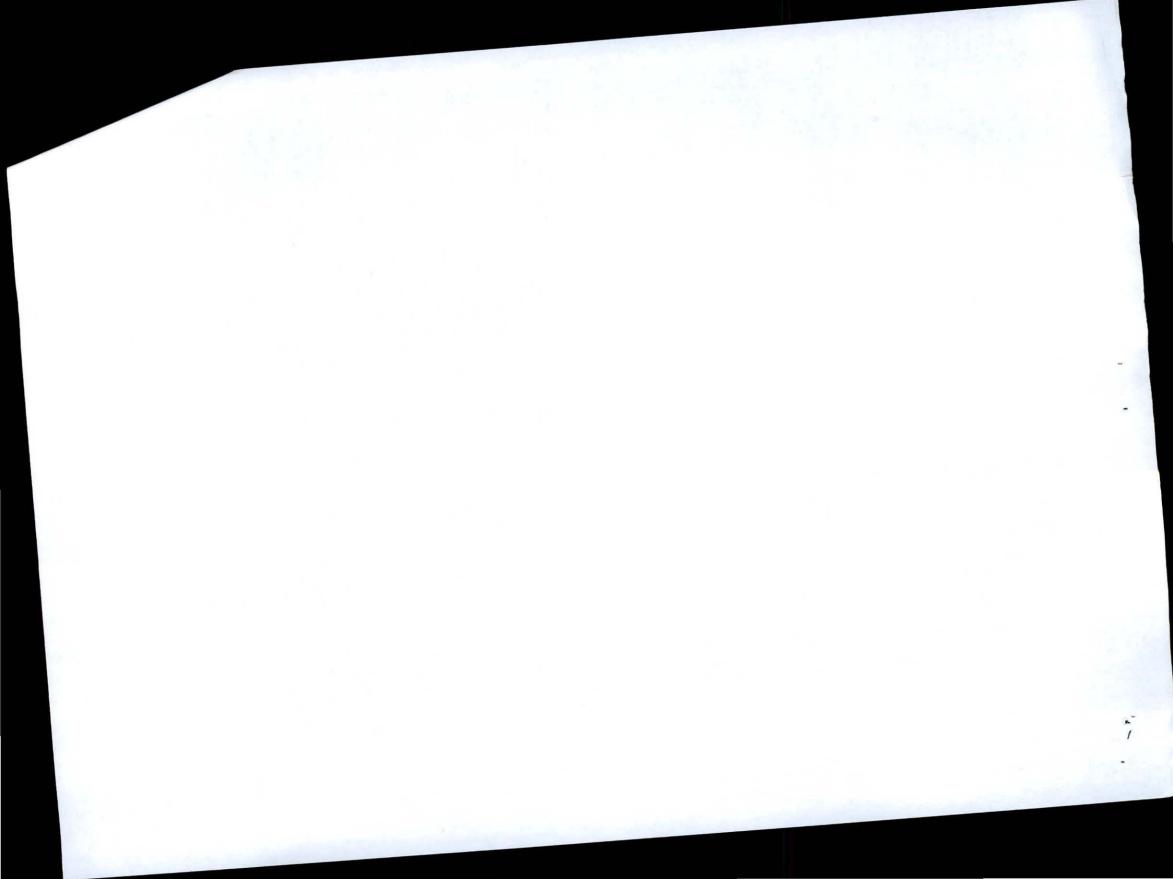
Attached, please find comments from this office sent to the applicant.

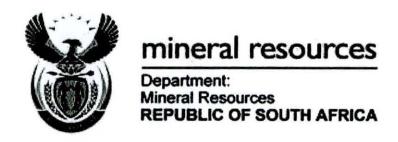
Your co-operation will be appreciated.

THE REGIONAL MANAGER

LIMPOPO REGION - POLOKWANE

**DATE: 22 JUNE 2011** 





Private Bag X 9467, Polokwane, 0700. 101 Dorp Street, Polokwane, 0699 Tel no: (015) 287 4700; Fax no: (015) 287 4729

Directorate: Mineral Regulation - Limpopo Region

Enquiries: Mapula Mashile

E-mail address: Mapula.Mashile@dmr.gov.za Reference nr: LP 30/5/1/3/3/2/1/ 1687 EM

#### REGISTERED MAIL

The Director(s): Thaba Chueu Mining (Pty) Ltd P.O. Box 657 POLOKWANE 0700

Sir/ Madam

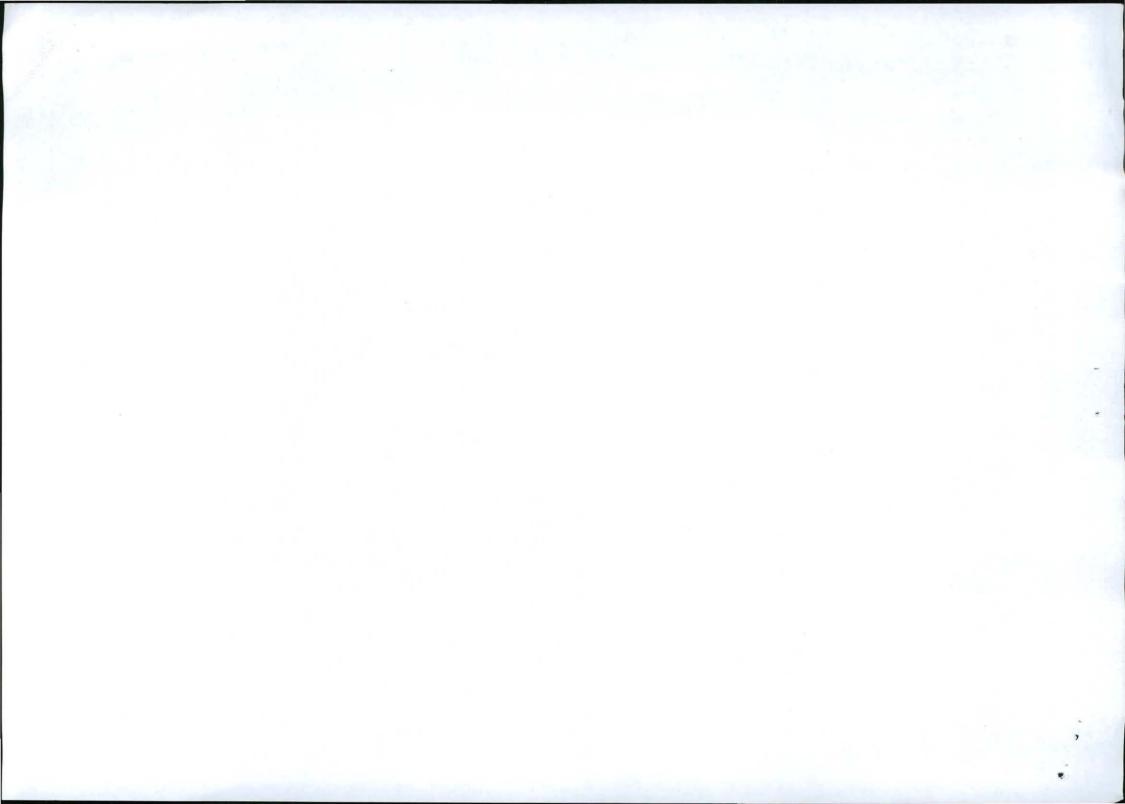
Fax: 015 290 3091

Attention: Moanakoena Gift

COMMENTS ON AN ENVIRONMENTAL MANAGEMENT PLAN (EMP) SUBMITTED IN TERMS OF SECTION 39(2) OF THE MINERAL AND PETROLEUM RESOURCES DEVELOPMENT ACT, 2002 (ACT 28 OF 2002) IN RESPECT OF PORTION 13 OF THE FARM FORTKLIPDAM 852 LS, SITUATED IN THE MAGISTERIAL DISTRICT OF MOLEMOLE.

Your EMP submitted on 13 June 2011 has reference.

- C1.5: Animals that <u>naturally</u> occur within the proposed mining area should be indicated.
- C2.8: An agreement with the water service provider should be submitted (Note:
   Abstraction of water from a borehole for mining purposes is regulated by the
   Department of Water Affairs, hence, an agreement should be submitted in this
   regard).
- C6.6.1: Measures to ensure that the topsoil is protected from erosion and other environmental factors should be indicated.
- C.7: In order to comply with section 41(1) of Mineral and Petroleum Resources
  Development Act, 2002 (Act 28 of 2002), an amount to the value of R62 185.86
  (Sixty two thousand one hundred and eighty five rands and eighty six
  cents) should be provided for rehabilitation purposes. (Note: A bank guarantee



format or a bank account number for cash deposit is available on request from this office).

C.11: In order to comply with Regulation 52(2)(g), proof and results of public participation should be submitted. Note: Full public participation should be conducted (eg. Newspaper advert, meeting (minutes & photos), notices, etc). It is the applicant's responsibility to ensure that a response (in writing) is obtained from interested and affected parties.

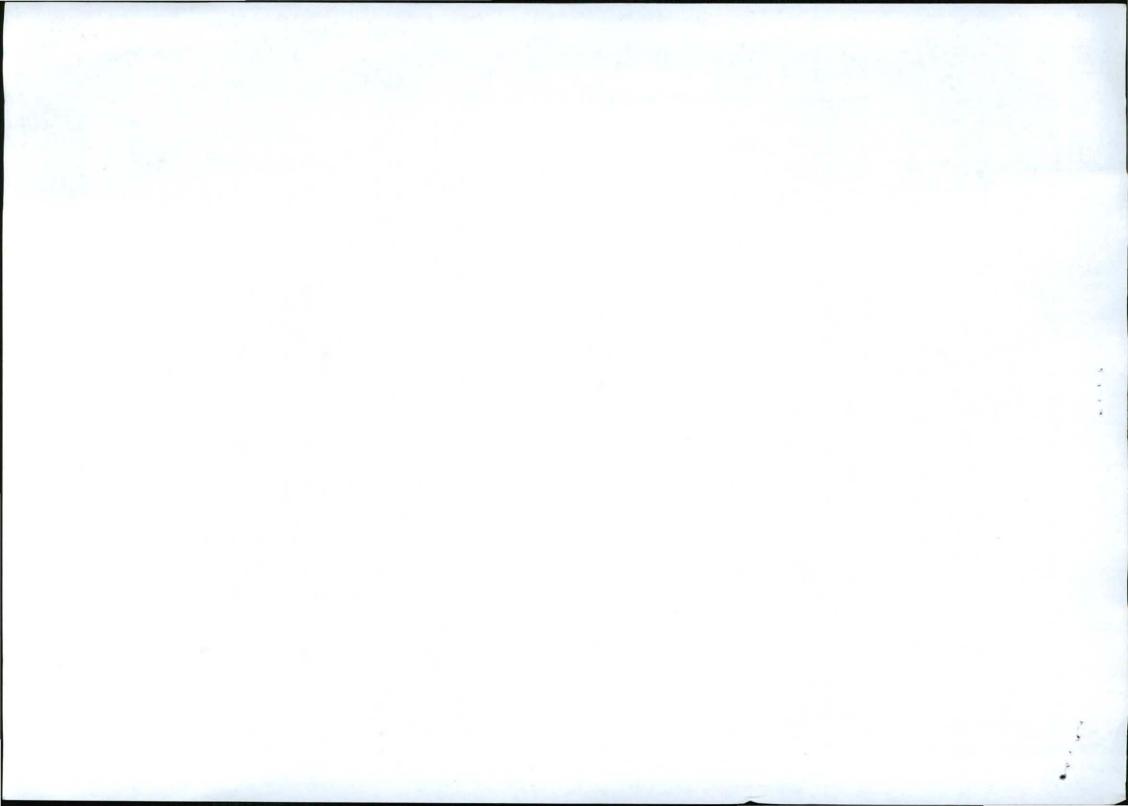
The raised issues should be addressed on or before 15 July 2011.

This Department reserves the right to revise initial comments and request further information from you, based on the revised information received.

Yours faithfully,

REGIONAL MANAGER-: MINERAL REGULATION

LIMPOPO REGION DATE: 22 JUNE 2011



File number: LP 30/5/1/3/2/1687

## **DEPARTMENT OF MINERALS AND ENERGY**

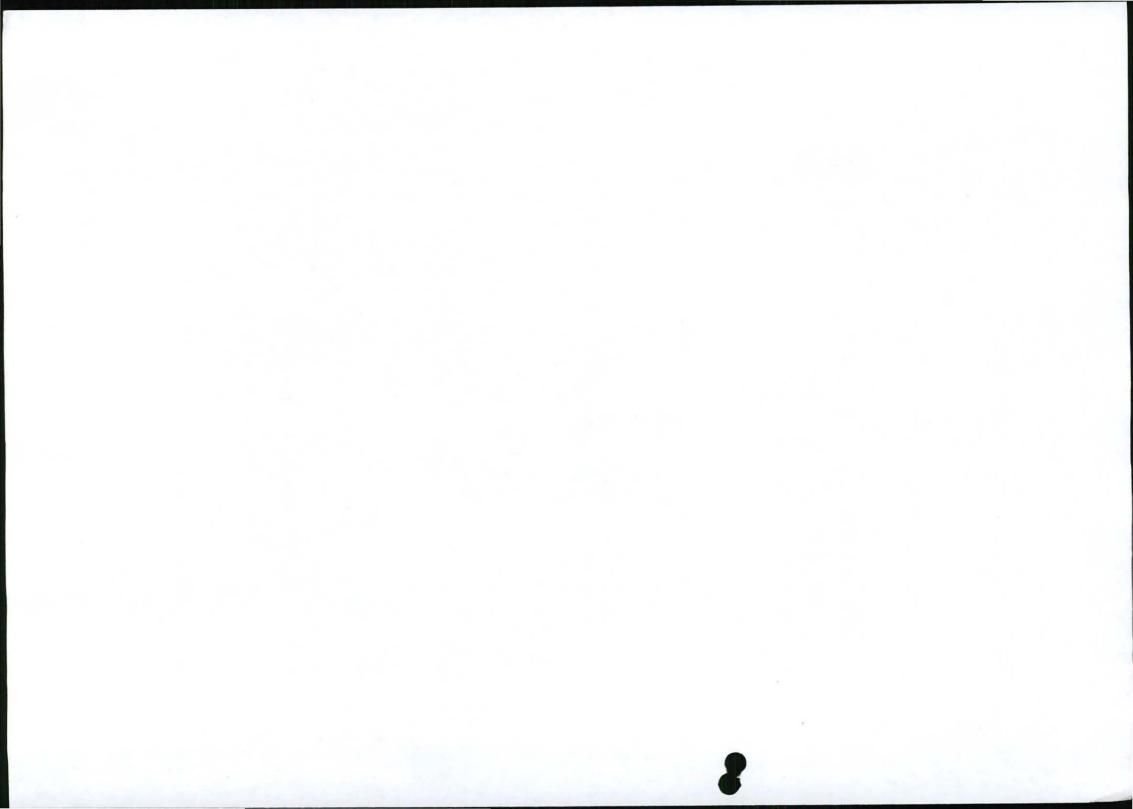
# **ENVIRONMENTAL MANAGEMENT PLAN**

Submitted in support of application for a prospecting rightor mining permit.

Section 39 and Regulation 52 of the Minerals and Petroleum Resources Development Act, 2002 (Act 28 of 2002)

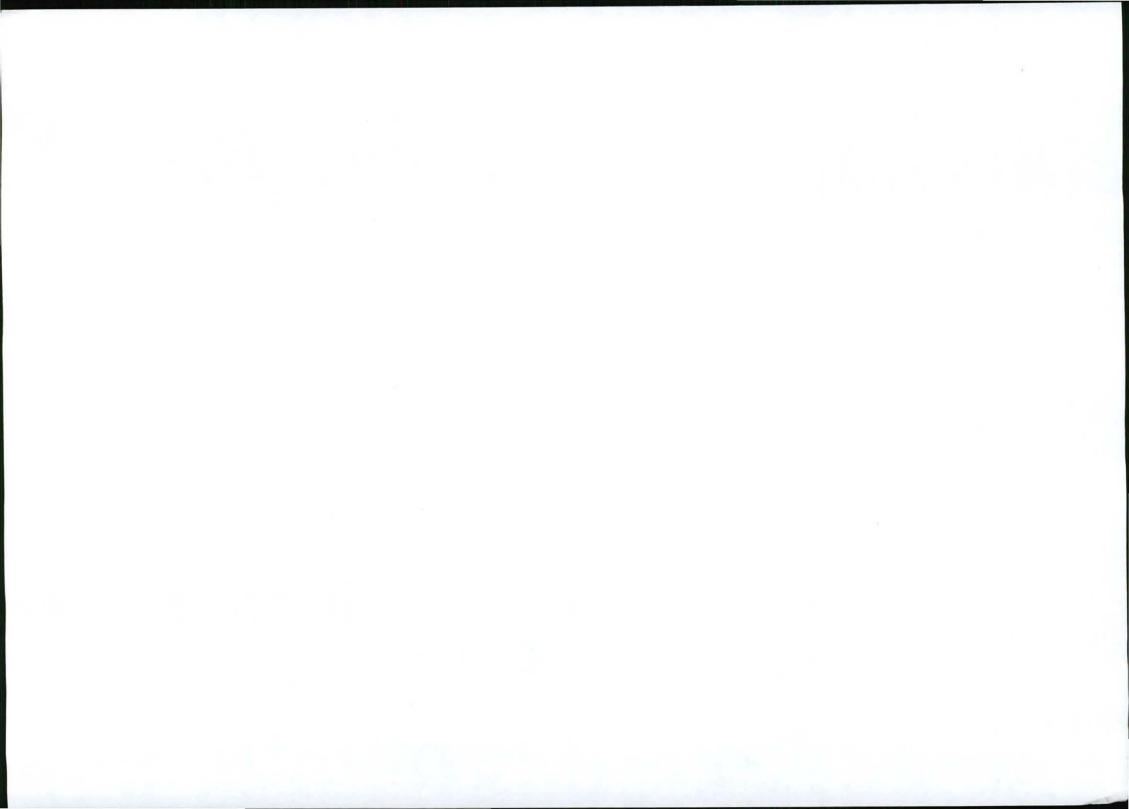


7			
Application for	or a:	Prospecting Right Mining Permit	X
		RECIEVED	agett (1
Applicant:	THAE	BA CHUEU MINING (PTY) LTD	
Farm:	PORTI	ON 13 OF FORT KLIPDAM 852 LS 700	
District:		KWANE REGIONAL MANAGER	7/06/11
Mineral:	AGGR	EGATE (QUARTZ) CONATURE LE MATE	
Date:		- 05 CTTTML	



## Contents

أكاند	on A:	
A.1 A.2 A.3 A.4 A.5 A.6 A.7	Introduction Scope Purpose Use of the document Legislation/ Regulations Other relevant legislation Word definitions	Page 3 Page 3 Page 4 Page 4 Page 5 Page 6
Section	on B:	
B.1	Biographical information about the applicant	Page 7
Section	on C:	
C1-8	Environmental Impact Assessment/ information about the environment Specific Regulatory requirements	Page 8 Page 12
Section	on D:	
D	Scoring of the EIA	Page 18
Section	on E:	
Е	Undertaking by applicant	Page 19
Section	on F:	
F	Environmental Management Plan	Page 20
Sectio	n G:	
G	Specific additional requirements determined by the Regional Manager and agreed to by the Applicant	Page 41
Sectio	n H:	
Н	Undertaking	Page 42
Section	n J:	
J	Approval	Page 43



#### A.1 INTRODUCTION

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)

#### A.2 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

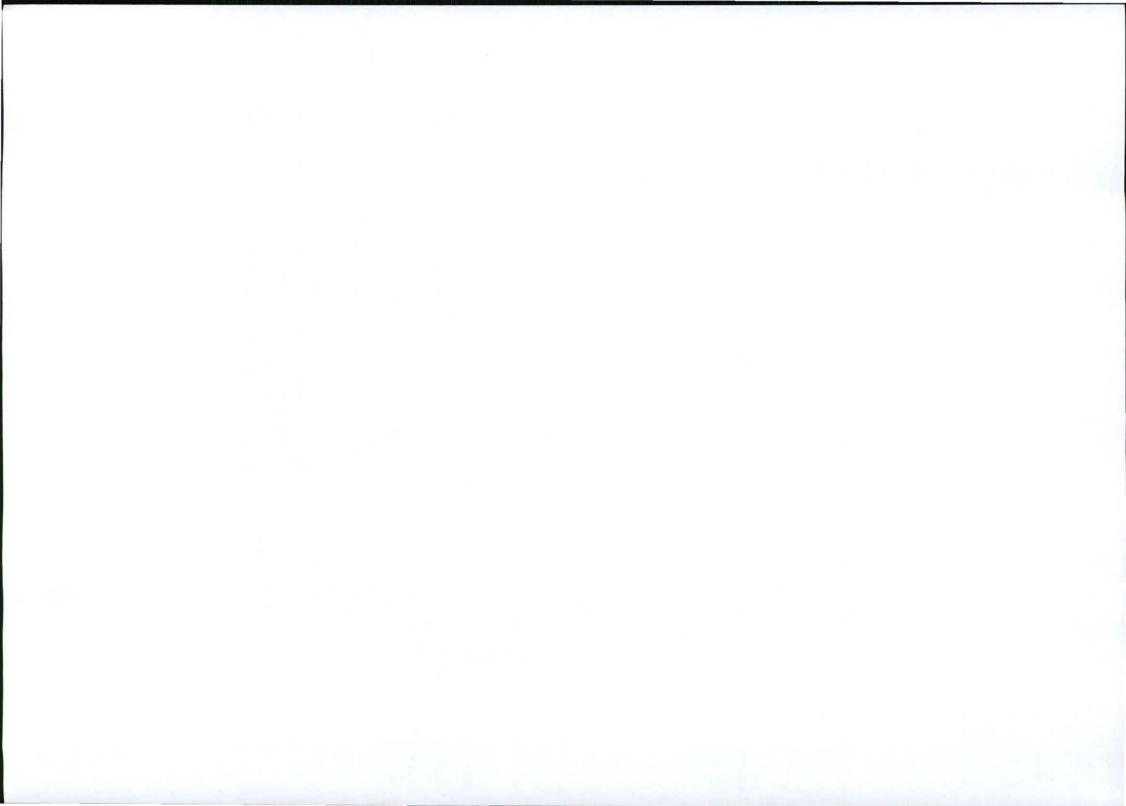
#### A.3 PURPOSE

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.



#### A.4 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.

Section B 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.

#### A.5 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	,
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



Section of Act	Legislated Activity/ Instruction/ Responsibility or failure to comply	Penalty in terms of Section 99
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
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

#### A.6 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).

#### **A.7** WORD DEFINITIONS

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

Act (The Act) Borehole

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

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

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 NWA National Department of Agriculture 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-

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

(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.

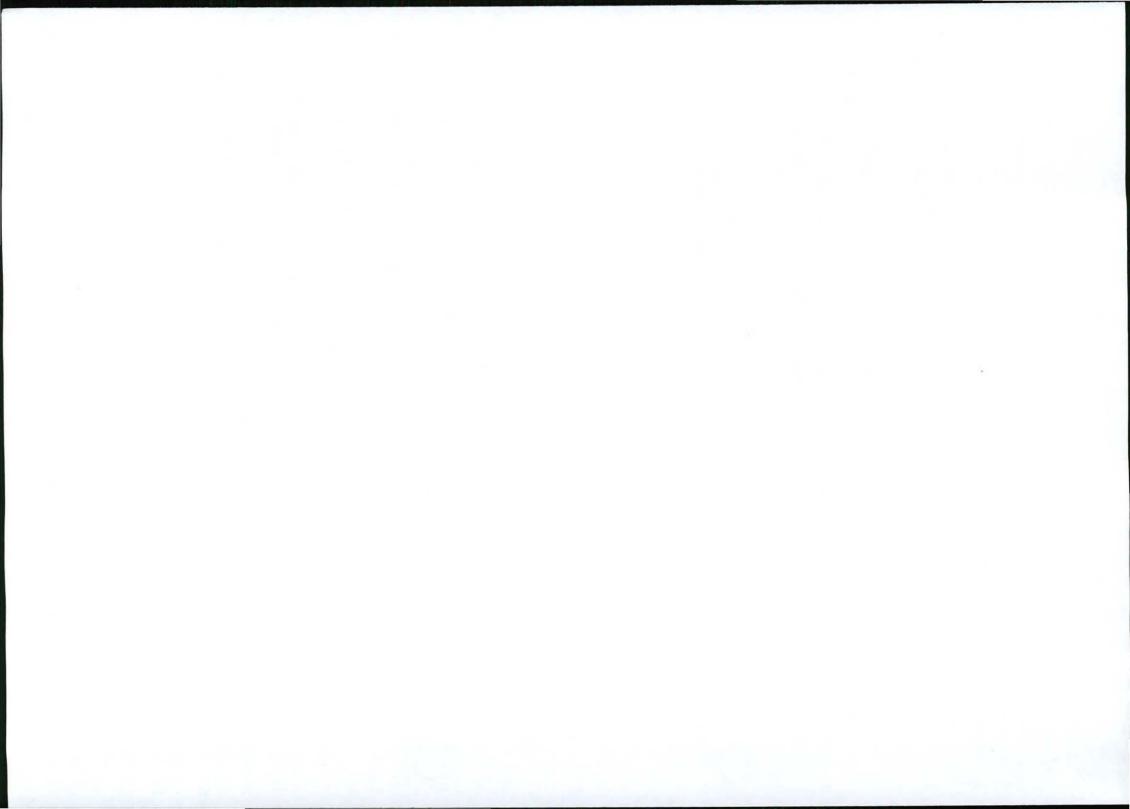
**MPRDA** 

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

**EMPlan** 

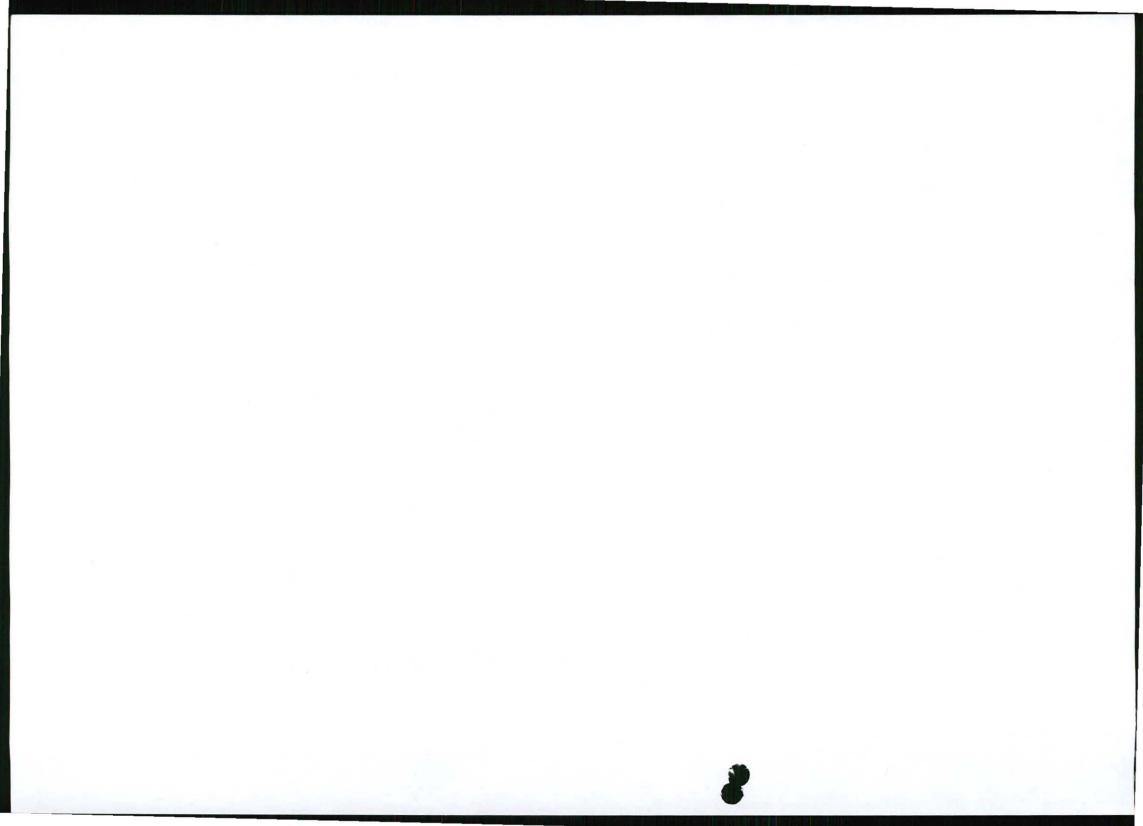
An Environmental Management Plan as contemplated in Regulation 52 of the Mineral and

Petroleum Resources Development Act, 2002 (Act 28 of 2002) - this document.



### B. BIOGRAPHIC DETAILS OF THE APPLICANT:

B 1.1 Full name (and surname) of person or company applying for permit or right	Thaba Chueu Mining (Pty) Ltd
B 1.2 ID number of person or company/ CC registration number	2007/030475/07
B 1.3 Postal address	P O Box 657
D 1101 Ookal additions	Polokwane
	0700
B 1.4 Physical/ residential address	Byersnek Road
,	Polokwane
	0700
B 1.5 Applicant's telephone number	015 290 3000
Fax:	015 290 3090
B 1.6 Applicant's cellular phone number	083 749 5481
B 1.7 Alternative contact's name	Monica Mojapelo
B 1.8 Alternative contact's telephone/cell phone numbers	083 749 5481
B 2.1 Full name of the property on which prospecting operations will be conducted	Portion 13 of Fort Klipdam 852 LS
B 2.2 Name of the subdivision	Portion 13
B 2.3 Approximate center of prospecting area: Latitude	23° 42 min 08 sec East
Longitude	29° 30 min 47 sec South
B 2.4 Magisterial district	Polokwane
B 2.5 Name of the registered owner of the property	Silicon Smelters (Pty) Ltd
B 2.6 His/her Telephone number	015 2990 3000
B 2.7 His/ her Postal address	P O Box 657
	Polokwane
	0700



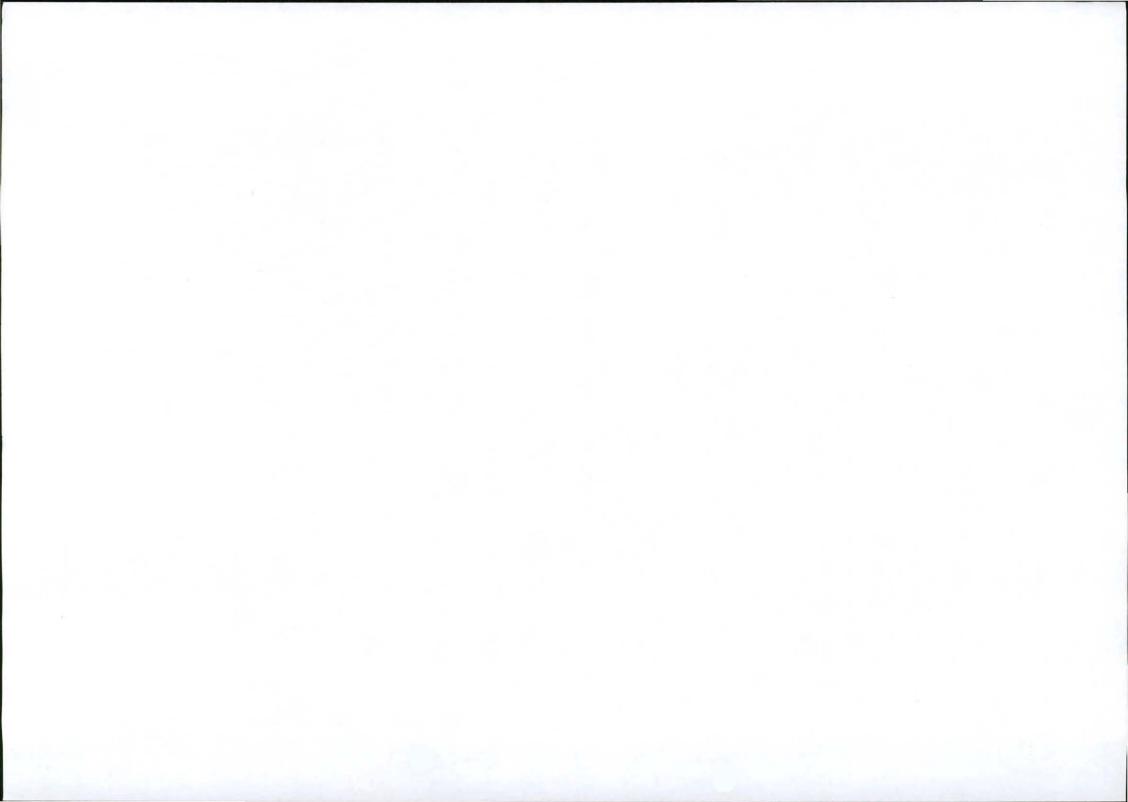
B 2.8 Current uses of surrounding areas	
Land use is confined to cattle farming and mining of aggregate	
<b>B 2.9</b> Are there any other, existing land uses that impact on the environment in the propprospecting area?	osed
Yes mining activities conducted on adjacent land by Catnis and construction on I Silicon Smelters	ehalf of
B 2.10 What is the name of the nearest town?	
Polokwane	

### C. ENVIRONMENTAL IMPACT ASSESSMENT:

The information provided in this section will enable officials to determine how serious the impact of the prospecting/mining operation will be.

DESCRIBE THE ENVIRONMENT THAT WILL BE AFFECTED BY THE PROPOSED PROSPECTING/MINING OPERATIONS UNDER THE FOLLOWING HEADINGS:

C.1 DESCRIPTION OF THE ENVIRONMENT LIKELY PROSPECTING/MINING OPERATIONS: (REGULA		Y PROPO	SED
ENVIRONMENTAL ELEMENT/ IMPACTOR	VALUE	TICK	OFFICE USE
C 1.1 What does the landscape surrounding the proposed of flowing landscape/ steep slopes)	peration look like? (O	pen veldt/	valley/
Bush veldt with flowing landscape			
C 1.2 Describe the type of soil found on the surface of the site	The geology and soil a by Felsic and Intermed meinhardskraal granit Postorogenic magmat Ultramafic Rocks of th with monocyclic defor dominated by silica st status	diate rocks e, Randian, ism and Ma ie Pietersbu mation. The	of ific and irg group e area is
	VALUE	TICK	OFFICE
C 1.3 How deep is the topsoil?	0 – 300mm		8
The topsoil is very limited due to the aggregate outcrop. The topsoil will not exceed 150 mm at any place within the mining area.	300 – 600mm		4
	600mm +		2



C 1.4 What plants, trees and grasses grow naturally in the area around the site?

Trees: Accacia davyi, Sclerocarya birrea, Parinari curatellifola, Accaia caffra, Rhus pentheri, Vernonia amygdalina, Ficus burkel, Antisdesma, Termninalia sercea.ficus sycomorus, Africana and Accaicia robusta.

Grasses: Anthepora pubescens, Digitaria chrianths, Heteropogon conforius, Stipagtostis uniplumis, Themeda trianda, Aristida congesta subsp. Barbicollis, Arrislida stiipitate subsp. Chloris vigate, Setaria incrassate, Sporobolus cosnimills, and Etrichophora and Sporobolus fimbriatus.

Thermerda triandra is the most dominant vegetation feature

C 1.5 What animals naturally occur in the area?

Domistic animals are very limited, small mammals, birds and reptiles can be expected. No

endangered or rare species have been noted during the field visit in the area.

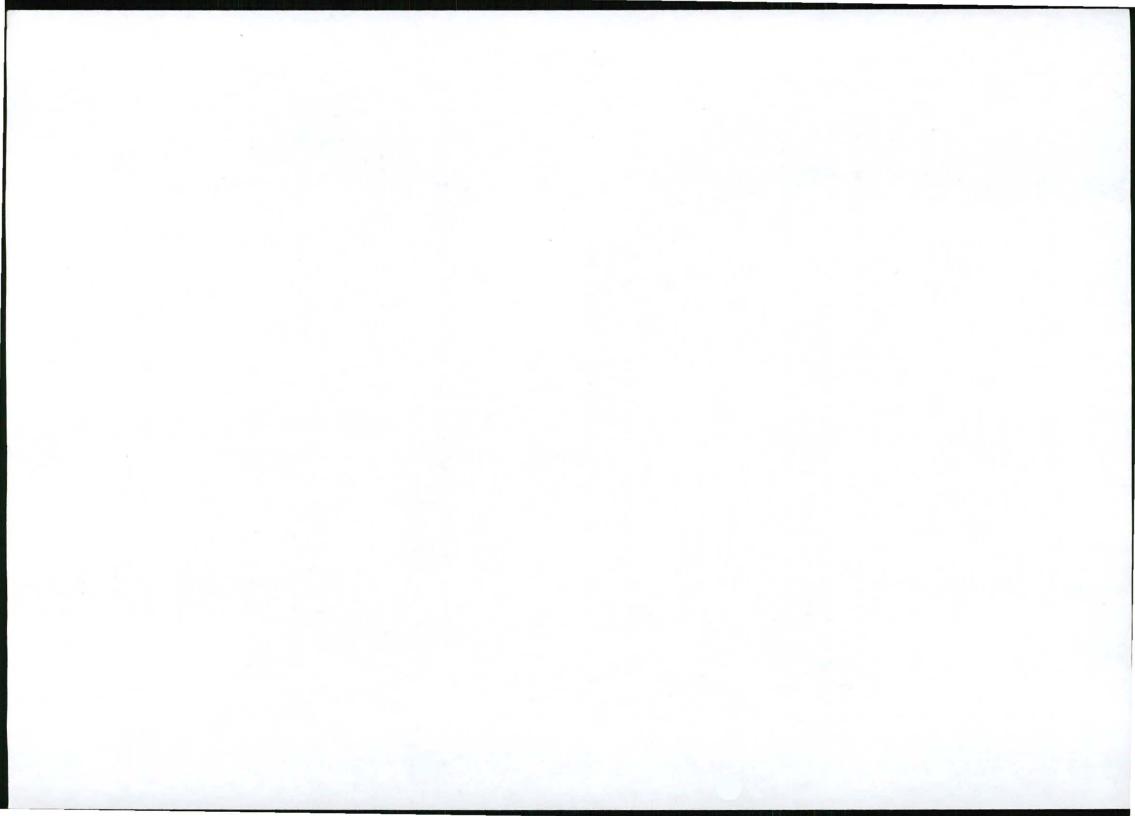
	VALUE	TICK	OFFICE USE
C 1.6 Are there any <i>protected areas</i> (game parks/nature reserves, monuments, etc) close to the proposed operation?	Yes		4
	No	Х	0
C 1.7 What mineral are you going to prospect for	Aggregate		

The aggregate will be extracted by means of a front-end loader. The mined product will be screened by a mobile screening plant and transported to clients by means of tipper trucks. The majority of the screened product is being supplied to Silicon Smelters

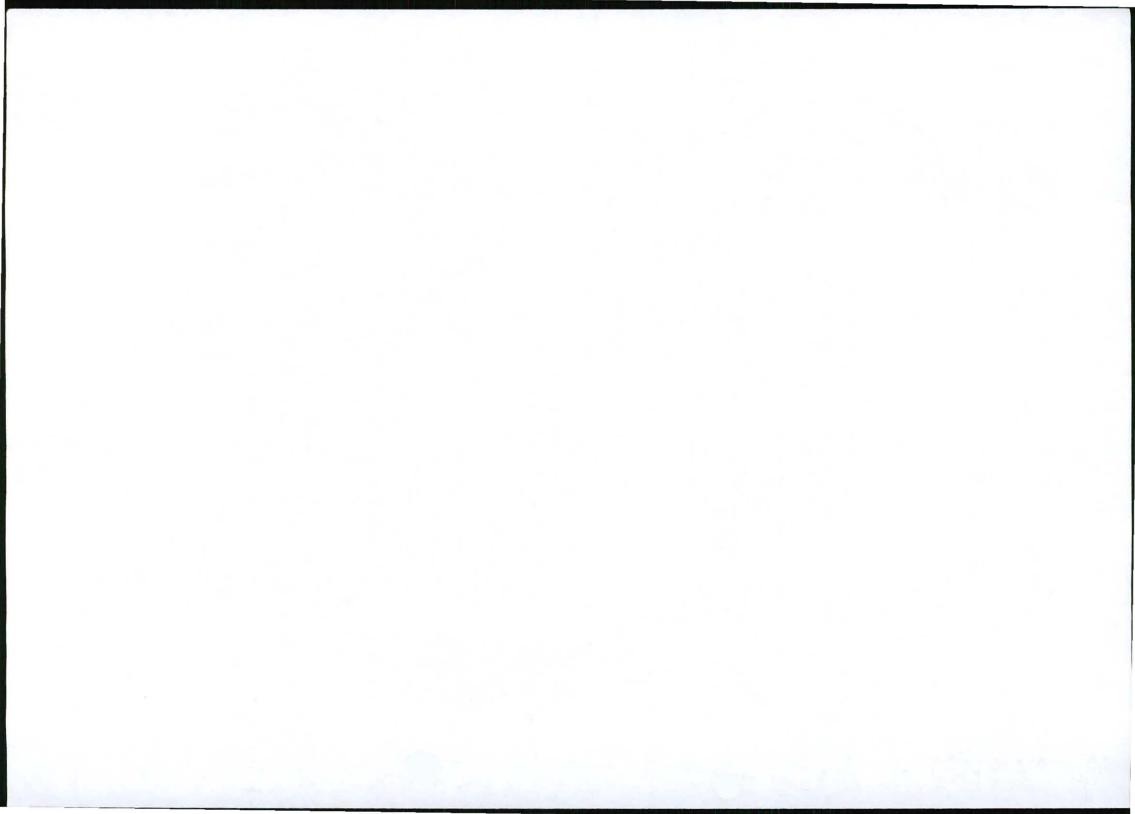
- C 1.8 Describe the type of equipment that will be used:
- 1 X Mobile Screening Plant.
- 2 X Dumpers.
- 2 X Front End Loaders.
- 2 X Tipper Trucks

C.2 HOW WILL THE PROPOSED OPERATION IMPACT ON THE NATURAL ENVIRONMENT? (REGULATION 52(2)(b))

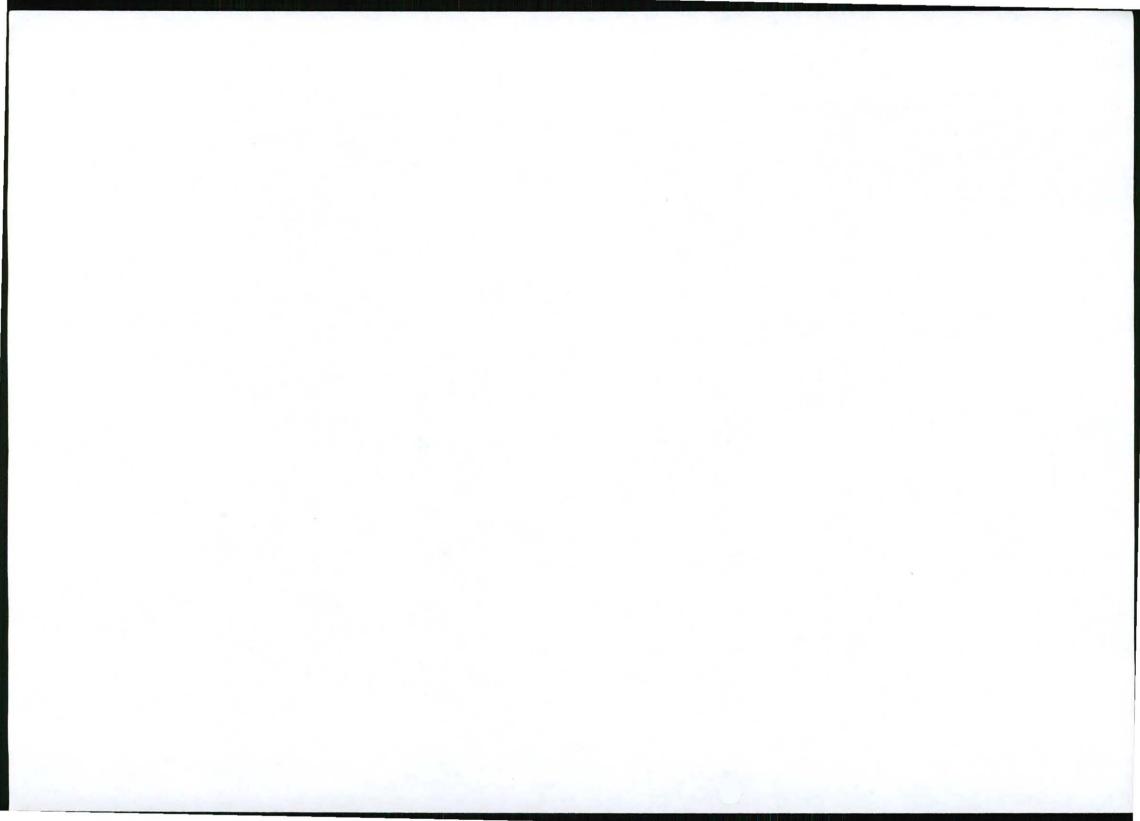
ENVIRONMENTAL ELEMENT/ IMPACTOR	VALUE	TICK	OFFIC	
C 2.1 What will the ultimate depth of the proposed prospecting operations be ?	0 – 5m	Х	2	
The aggregate outcrop is between 1 and 3 m thick. The ultimate depth will be 3 metres	6 – 10m		4	
	10 – 25m		8	n.
	25m +		10	)
C 2.2 How large will the total area of all excavations be?		1,6	5000	ha
C 2.3 How large will each excavation be before it is filled up?	<10 X 10m		2	
Rehabilitation will be conducted simultaneously with mining once the excavation exceed 400 m <sup>2</sup>	<20 X 20m		4	
	>20 X 20m	X	8	EU.



C 2.4 How many prospecting boreholes or trenches will there be?	N/A		
Only one excavation will be made of approximately 13000m in extent	VALUE	OFFICE USE	
C 2.5 Will employees prepare food on the site and collect firewood?	Yes		4
	No	X	0
C 2.6 Will water be extracted from a river, stream, dam or pan for use by the proposed operation?	Yes	11	4
	No	Х	2
C 2.7 If so, what is the name of this water body?	No water will b	e extract	ed
C 2.8 If water will not be extracted from an open surface source, where will it be obtained?	Water will be obtained from a borehole on the farm with permission from the surface (See letter attached) The relevant borehole is sit approximately 500m from mining site		owner. tuated
	VALUE	TICK	OFFICE USE
C 2.9 How much water per day will the mineral processing operation require?	1000 – 10 000 Liters	Х	2
Approximately 5000 liters per day will be necessary for processing purposes	20 000 – 40 000 L		3
	40 000 – 60 000 L		5
	60 000 - 100 000L		8
	More		10
C 2.10 How far is the proposed operation from open water (dam, river, pan, lake)?	0 – 15m		8
The Sandriver traverse the farm approximately 2.5 km from the mining area	16 – 30m		6
	31 – 60m		4
	More than 100m	X	2
C 2.11 What is the estimate depth of the water table/borehole?	50		metres
C 2.12 How much water per day will the proposed operation utilize for employees?	Water will be obtained from the source referred to in C. 2. 8 . Approximately 100 litres per day		Liters



C 2.13 What toilet facilities will be made available to	None		8
workers?	Pit latrine (longdrop)		4
	Chemical toilet	Х	2
C 2.14 Would it be necessary to construct roads to access the proposed operations?	Yes		4
An existing farm road will be used see permission from surface owner attached	No	Х	0
	VALUE	TICK	OFFICE USE
C 2.15 How long will these access road(s) be (from a public road to the proposed operations)	0 – 0,5 km		4
Existing farm road on the farm will be used no new roads will be constructed	0,6 – 1,5 km		2
	1,6 – 3 km	Х	4
C 2.16 Will trees be uprooted to construct these access road(s)?	Yes	e e	4
Existing farm roads will be utilized	No	Х	0
C 2.17 Will any foreign material, like crushed stone, limestone, or any material other than the naturally occurring topsoil be placed on the road surface?	Yes		4
cocuming topoch be placed on the read canade.	No	Х	0
C.3 TIME FACTOR			
C 3.1 For what time period will prospecting/ operations be conducted on this particular site?	0 – 6 months		2
The lifespan of the mining activities will be approximately 36 months depending on demand of the mined product	6 – 12 months		4
	12 – 18 months		6
	18 – 24 months		8
	>24 months	X	10
C.4 HOW WILL THE PROPOSED OPERATION IMPAGENTATION (REGULATION 52(2)(b))	CT ON THE SOCIO-EC	ONOMIC	
FLENGUT / WIDLISTOP	VALUE	TIDY	DEF:0-
ELEMENT/ IMPACTOR	VALUE	TICK	OFFICE
C 4.1 How many people will be employed?	• 5		
C 4.2 How many men?	• 5		
C 4.3 How many women?	• 0		-



C 4.4 Where will employees be obtained? (Own or employed from local communities?)	Own		2
	Local	X	4
C 4.5 How many hours per day will employees work?	Sunrise→ Sunset	Х	4
	Less		2
	More		8
	VALUE	TICK	OFFICE USE
C 4.6 Will operations be conducted within 1 kilometer from a residential area	Yes		6
The mining area is situated approximately 1 km from a fence and 2,5 km from a farm house	No	Х	1
C 4.7 How far will the proposed operation be from the nearest fence/windmill/house/dam/built structure?	0 – 50 metres		8
The mining area is situated approximately 1 km from a fence and 2,5 km from a farm house	51 – 100 metres		4
	150 or more metres	X	2
C.5 HOW WILL THE PROPOSED OPERATION IMPACTHE SURROUNDING ENVIRONMENT? REGULATION		L HERIT	AGE OF
ELEMENT/ IMPACTOR	VALUE	TICK	OFFICE USE
C 5.1 Are there any graveyards or old houses or sites of historic significance within 1 kilometer of the area?	Yes		8
No graveyards or heritage sites have been identified on the proposed mining sites. However careful consideration will be taken at the pre mining sites to ensure that any graves that may be present in the area are clearly marked such that they can be avoided.	No	Х	0

#### .6 SPECIFIC REGULATORY REQUIREMENTS

### C.6.1 Air quality Management and Control (Regulation 64)

Describe how the operation will impact on the quality of the air, taking into account predominant wind direction and other affected parties in the downwind zone:

The mine will not have a significant effect on air quality. A dust monitoring programme will be in operation from start of mining. The requirements of the MHSA (Act 29 of 1996) will be met. The crushing/screening plant will be equipped with mist sprays. Access and haul roads will be watered with a water-cart.



#### C.6.2 Fire Prevention (Regulation 65)

Applicants for permits, rights or permissions involving *coal or bituminous rock* must:

 Indicate on a plan where the coal or rock discard dump will be located (If applied for a permit to mine or prospect for coal or bituminous rock, indicate the exact location of the discard dump on the plan and write" EMPlan C6.2" next to it)

Earth moving vehicles will be equipped with fire extinguishers.

#### C.6.3 Noise control (Regulation 66)

Indicate how much noise the operation will generate, and how it will impact on the surrounding environment, who might be influenced by noise from your operation.

The mine is situated within a rural area and not within 500 metres from any village or farm house. Noise will be generated by the equipment during day time. Earthmoving equipment will be well maintained with adequate noise reduction measures. Hearing protection devices will be used by employees.

#### C.6.4 Blasting, vibration and shock (Regulation 67)

Please indicate whether any blasting operations will be conducted.

Blasting: No How often?

#### C.6.5 Disposal of waste material (Regulation 69)

Indicate on your plan where waste will be dumped in relation to the beneficiation works/ washing pans Also indicate below how domestic waste material will be managed.

No domestic waste will be dumped on site during the mining operation. Domestic waste will be collected in a bin and removed to the local refuse disposal site in Polokwane. All Hazardous waste material will be stored in disposal receptacles within a bunded area. Any spill will be cleaned up through the removal of contaminated soil and disposed of by the Old Oil Man of Polokwane (Tel 073 129 5229).

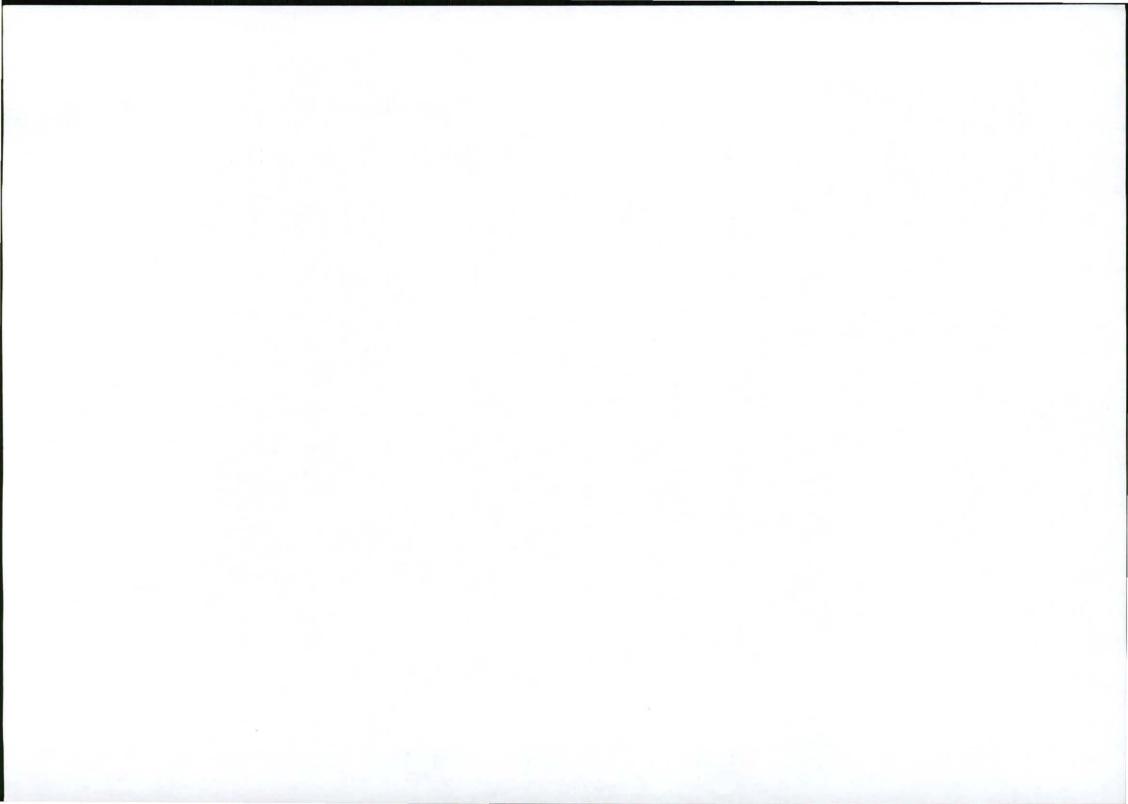
#### C.6.6 Soil pollution and erosion control (Regulation 70)

- 6.6.1 Indicate how topsoil will be handled on the area.
- 6.6.2 Describe how spills of oil, grease, diesel, acid or hydraulic fluid will be dealt with.

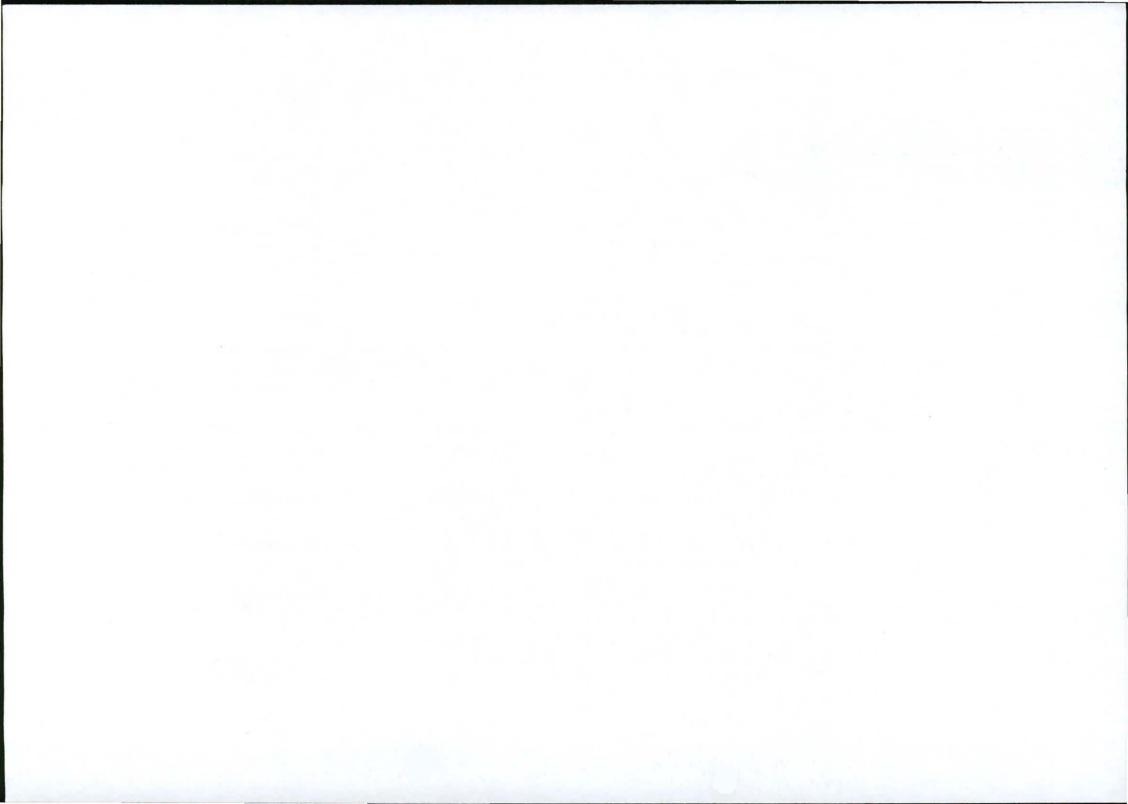
Contamination of top soil will be regarded as significant if oil (or similar chemicals) spills occur. All spills of oil, diesel, grease or hydraulic fluids will be cleaned up immediately together with polluted soil and stored in waste disposal receptacles for removal by an outside licensed contractor viz the Old Oil Man of Polokwane (Tel 073 129 5229).

#### 6.6.3 Briefly describe the storage facilities available for the above fluids:

All unused / used oil, diesel, grease or hydraulic fluids will be kept within a secured bunded area. Portable storage tanks will be used and no bulk storage of any fuels will be undertaken during the mining phase. The aforementioned facilities are situated at the contractors workshop in Polokwane



C.6.7 If significant impacts on any element of the environment mentioned in Section C 1 to C 6.6 above have been identified, summarise all of them here: (Regulation 52(2)(c))	C.6.8 How will the negative impacts on the environment be mitigated or managed (as described in C 6.11 to the left? (Regulation 57(2)(c))
<b>Example:</b> Section C 6.4 Blasting. I have identified that the people living on the neighbouring property are sensitive to loud noises as they have children that must study during the afternoons	<b>Example:</b> I will mitigate the impact of my blasting operations on the Interested Parties by limiting blasting operations to school hours, when no one in the affected area is at home.
1 Dust generated by the mining activity	1 Dust will be suppressed by means of a water cart
2 Noise generated by the earth moving equipment	2 Noise levels will not exceed 85a BA. Mining to be Conducted during daylight hours. Hearing protection devices will be used by employees
3 Access roads : existing roads and tracks will be used	3 The use of existing roads and tracks only. The road infrastructure will be maintained by Thaba Chueu Mining
4 Transport Vegetation nil: as existing roads and tracks will be used thus ensuring no construction	4 The use of existing roads and tracks only. Personnel will be made aware of their responsibility to ensure safe transportation
5 Pollution from vehicles	5 All vehicles will be checked daily for oil or fuel leaks Should there be any contamination the soil will be removed and dealt with under the supervision of the Environmental Control Officer
6	6
7	7
8	8



#### C.7 Financial provision: (Regulation 54)

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 will be estimated by the regional office of the DME, based on the information supplied in this document. This amount will reflect how much will it cost the Department to rehabilitate the area disturbed in case of liquidation or abscondence.

Enter the amount of financial provision required here: R 62185,86	
---	--

What method will be used to furnish DME with this financial provision?

Cash deposit	
Bank guarantee	X
Trust Fund	
Other: (specify) (Note: other methods must be approved by the Minister)	

The standard formats for each of these types of guarantees are available from your regional office of the DME.

#### C.8.1 Monitoring and performance assessment.

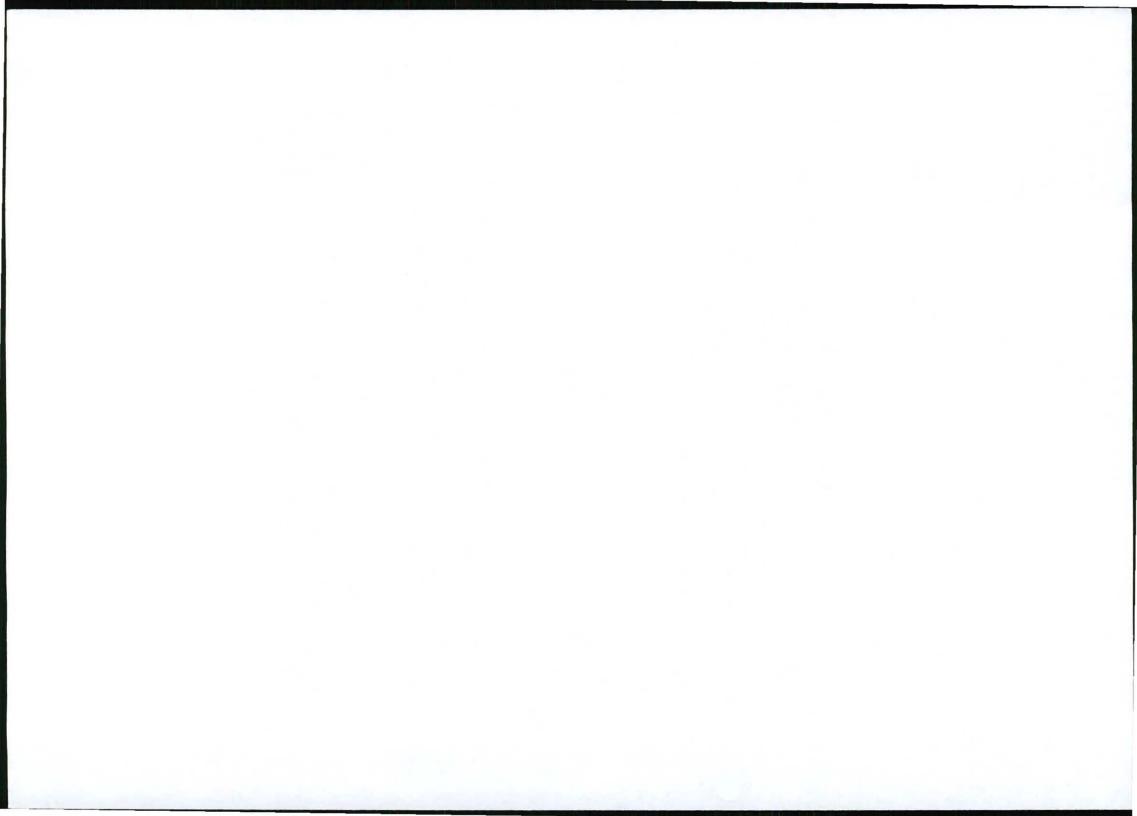
Regulation 55 of the Mineral and Petroleum Resources Development Act, 2002 (Act 28 of 2002) clearly describes the process and procedure as well as requirements for monitoring and auditing of the performance of this plan to adequately address environmental impacts from the operation. The following information must be provided:

# C.8.2 Please describe how the adequacy of this programme will be assessed and how any inadequacies will be addressed. (Regulations 55(1) and 52(2)(e))

Example: I will, on a bi-monthly basis, check every aspect of my operation against the prescriptions given in Section F of this document and, if I find that certain aspects are not addressed or impacts on the environment are not mitigated properly, I will rectify the identified inadequacies immediately.

A monthly audit will be conducted on the mining site to check each of the aspects described in Section F in terms of compliance. Should any aspect show a non conformance to section F or display any risk of pollution or environmental degradation a corrective action instruction will be issued. An Environmental Performance Assessment will be conducted annually and forwarded to DME. All inadequacies will be addressed immediately.

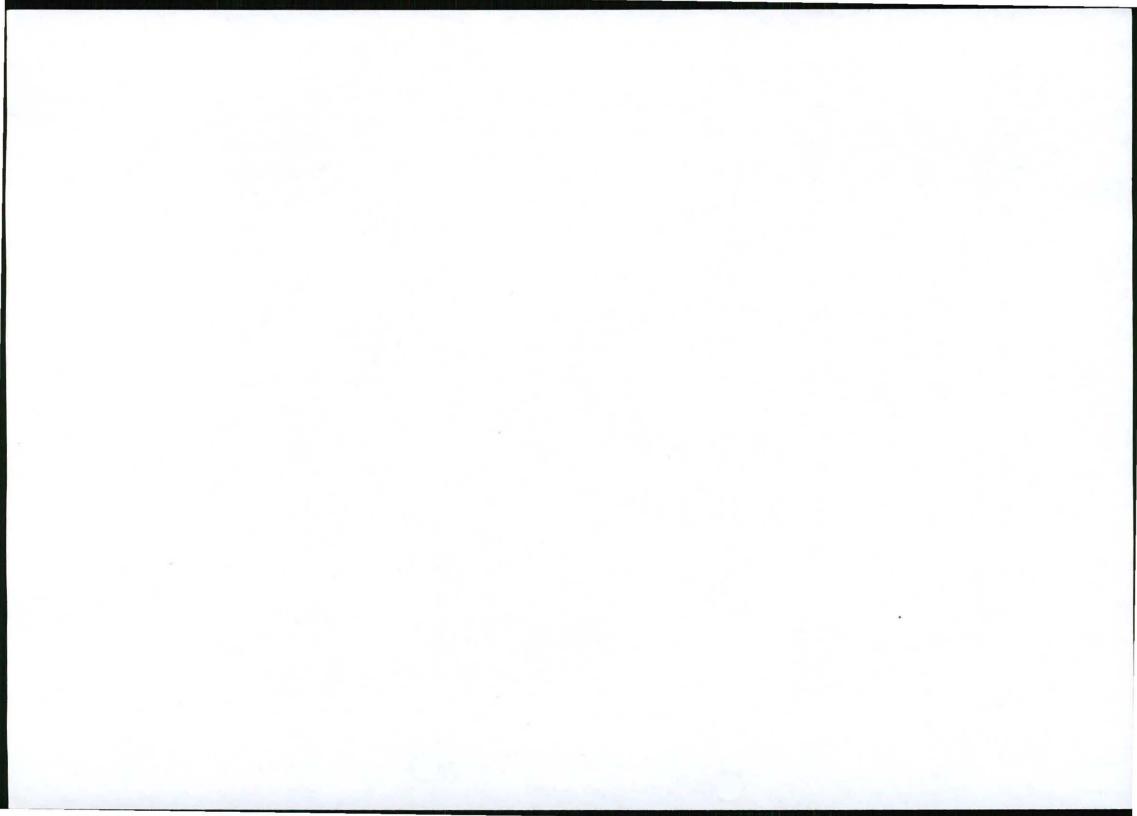
Compile performance assessment report and send to DMR annual and revised the financial provision.



# REHABILTATION COST ESTIMATE.

MINING AREA: REMAINING EXTENT OF THE FARM PAARL 102 LQ DME REF: LP 30/5/1/3/2/1062MP

	UNIT RATE	NUMBER OF UNITS	VOLUMES	AMOUNT
1. Machinery / Equipment 1 X FEL 1 X Bulldozer	R680.p/h			
2. Transportation / Establishment of all equipment		2		R4000.00
3. Size of Excavation: 1,5 ha Sloping of sidewalls ± 500	R680.00hr	16 hours		R10880.00
metresLevelling of quarry floor	R450.00hr	10 hours		R 4500.00
4. Cost of decommissioning of Plant and associated infrastructure	R450.00	18 hours		R 8100.00
5. Labour cost	R100.00 p/d	5 Labours 3 days		R 1500.00
<ol><li>Cost of profiling disturbed area Construction of bermwalls</li></ol>	R 450.00hr	8 hr		R 3600.00
7. Cost of replacing topsoil / overburden	R 450.00hr	12 hr		R 4500.00
8. Cost of surface preparation Ripping of quarry floor	R 680.00 p/h	10hours		R 6800.00
9.Cost of revegetation Cost of seeds	1,5 ha	R1500.00 p ha		R 2250.00
2 Labourers	R100.00 p/d	2		R 400.00
10. Cost of interim water control 800 m Beam wall ( See 6 above )	R 400.00hr			
11. Site visits	R 6.00 km	60 km	6 visits	R 2160.00
TOTAL:				R49590.00
Add 10% for supervision fees				R 4959.00
Add 14% VAT :				R 7636.86
TOTAL:				R62185.86



# C.9 Closure and Environmental objectives: (Regulation 52(2)(f))

Clearly state the intended end use for the area prospected after closing of operations

The residual impact on the environment after closure of the project will only be positive. Waste material of any description, including receptacles, scrap, rubble and tyres, will be removed entirely from the mining area and disposed of at a recognised landfill facility. It will not be permitted to be buried or burned on the site. The area shall be rehabilitated to the satisfaction of the Regional Manager

C.9.1 Describe, in brief terms, what the environment will look like after a closure certificate has been obtained.

The plant structures will be removed and the land will be restored as close as possible to its original state.

With careful planning and rehabilitation a site will be left behind that is aesthetically acceptable.

Note: The proposed end-state of your area must be consulted with interested and affected parties in terms of Regulation 52(2)(g). Details of the acceptability of the end-state must appear in the section below.

#### C 10 CLOSURE

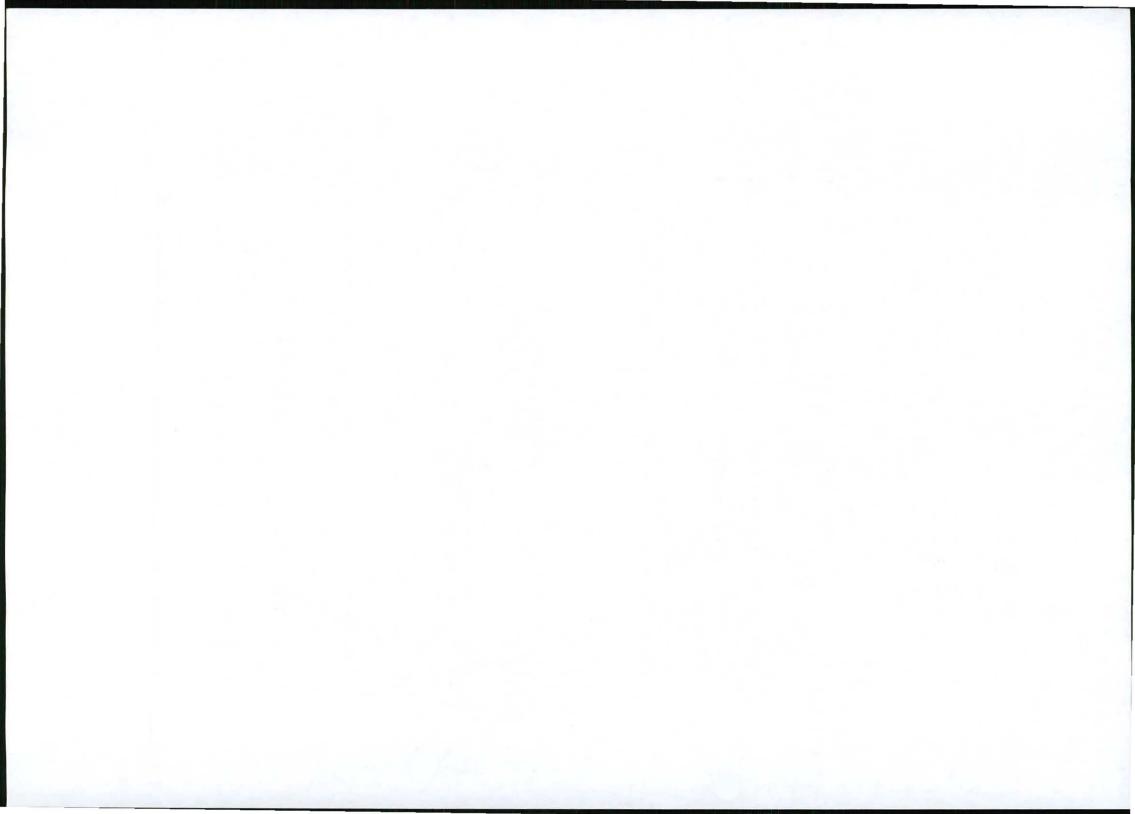
Regulations 56 to 62 outline the entire process of mine closure, and these are copied in Section F of this document, both as a guide to applicants on the process to be followed for mine closure, and also to address the legal responsibility of the applicant with regard to the proper closure of his operation. In terms of Section 37 of the Mineral and Petroleum Resources Development Act, 2002 (Act 28 of 2002), the holder of a permit 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).

#### C.11 Public Participation: (Regulation 52(2)(g))

In terms of the above regulation consultation with interested and affected person or persons must take place prior to the approval of the environmental management plan. This regulation is quoted below for ease of reference.

"a record of the public participation undertaken and the results thereof"

- C 11.1 Any comments lodged by an interested and affected person or persons in terms of section 10(1)(b) of the Act, must be in writing and addressed to the relevant Regional Manager.
- C 11.2 Any objections lodged by an interested and affected person or persons against the application for a right or permit in terms of the Act, must set out clearly and concisely the

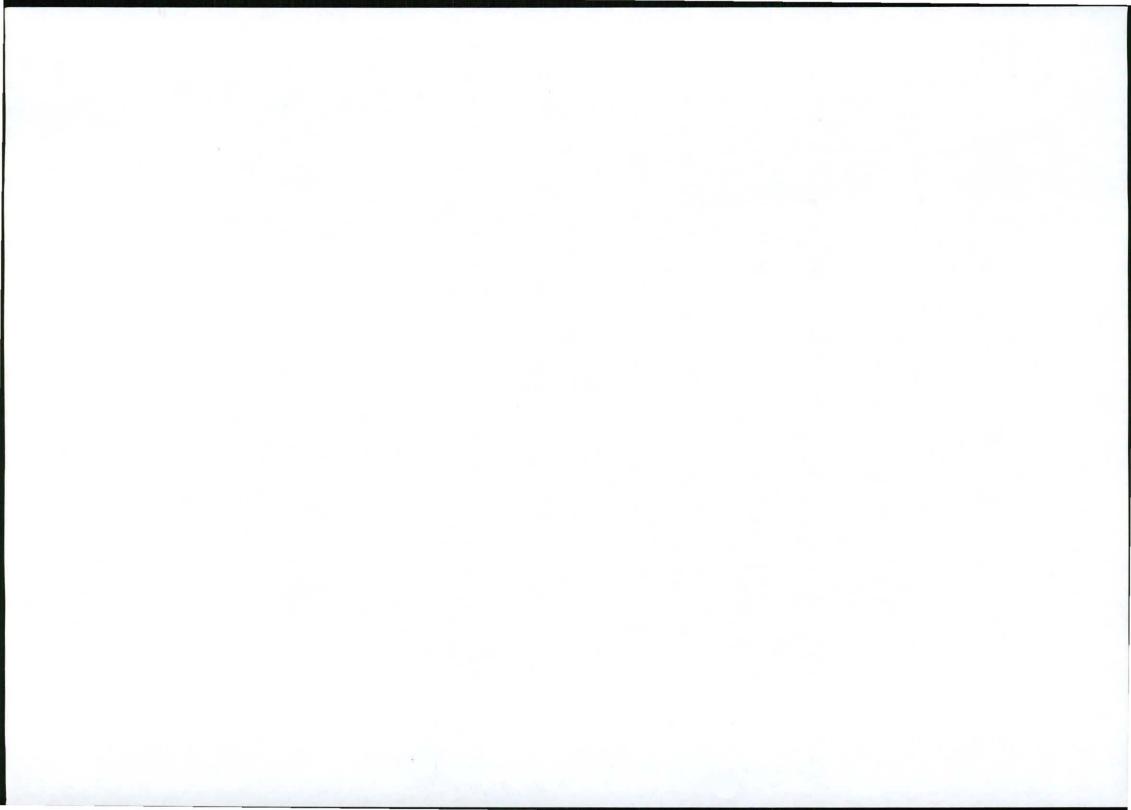


facts upon which it is based and must be addressed to the relevant Regional Manager in writing.

C 11.3 The Regional Manager must make known by way of publication in a local newspaper or at the office of the Regional Manager, that an application for a right or permit in terms of the Act has been received.

In the table below, please list the names of people or organisations likely to be influenced by the proposed operations (these might include neighbours, other water users, etc.) Kindly indicate how these people were consulted (eg. By letter or by phone) and provide proof of that consultation. What were the main concerns/ objections raised by the interested and affected parties to the proposed operation?

Name of Interested/ affected party	Contact details: Address & telephone number	How did consultation take place?	What were his/her main concer about the operation?		
Lyndou Trading (Pty) Ltd	P O Box 4452 Mokopane 0699 Tel No: 015 491 8567	Per registered letter	No answer to date		
Silicon Smelters (Pty) Ltd	P O Box 657 Polokwane 0700 Tel No: 015 2903000	Verbally Owner of the farm	No concerns were raised (See attached letter		
Northern Review	Local Newspapaer Polokwane	Advert	No concerns were raised to date		



Thasba Chueu Mining (Pty) Ltd P O Box 657 Polokwane 0700

REGISTERED MAIL Lyndou Trading (Pty) Ltd P O Box 4452 Mokopane 0699

Sir

APPLICATIONS FOR MINING PERMITS: FOR AGGREGATE IN RESPECT OF PORTION 13 OF THE FARM FORT KLIPDAM 852 LS, DISTRICT OF POLOKWANE

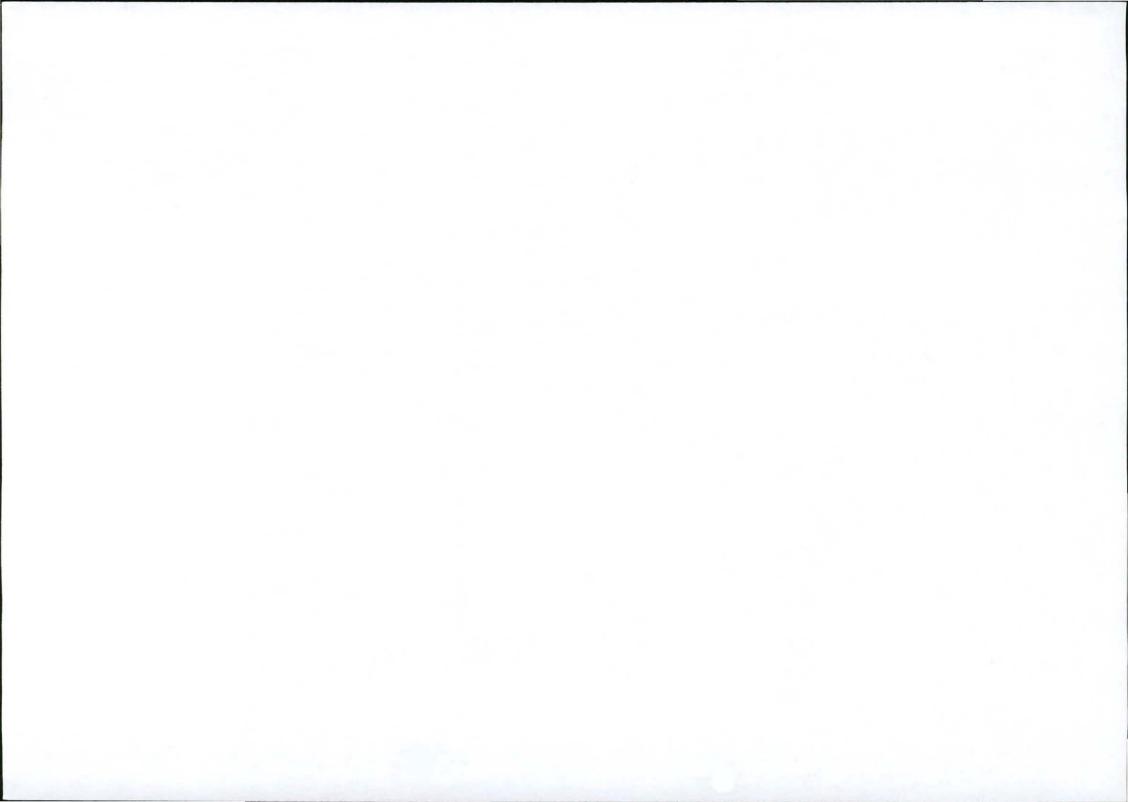
It is confirmed herewith that three applications for the mining of aggregate on the abovementioned property has been accepted by the Department of Mineral Resources, Private Bag X9467 Polokwane (Ref No's: LP30/5/1/3/2/1686MP, 1687MP & 1688MP).

Your Company is being regarded as an affected party for the purpose of Regulation 52(2)(g) and Section 10(1)(b) of the Minerals and Petroleum Resources Development Act, 2002 (Act 28 of 2002) and I shall be glad to receive such comments you may wish to offer with regard to the said application.

Please forward such comments you may wish to offer to the above address on or before 30 June 2011.

Yours faithfully

APPLICANT:
DATE: 2/10/2011





27 May 2011

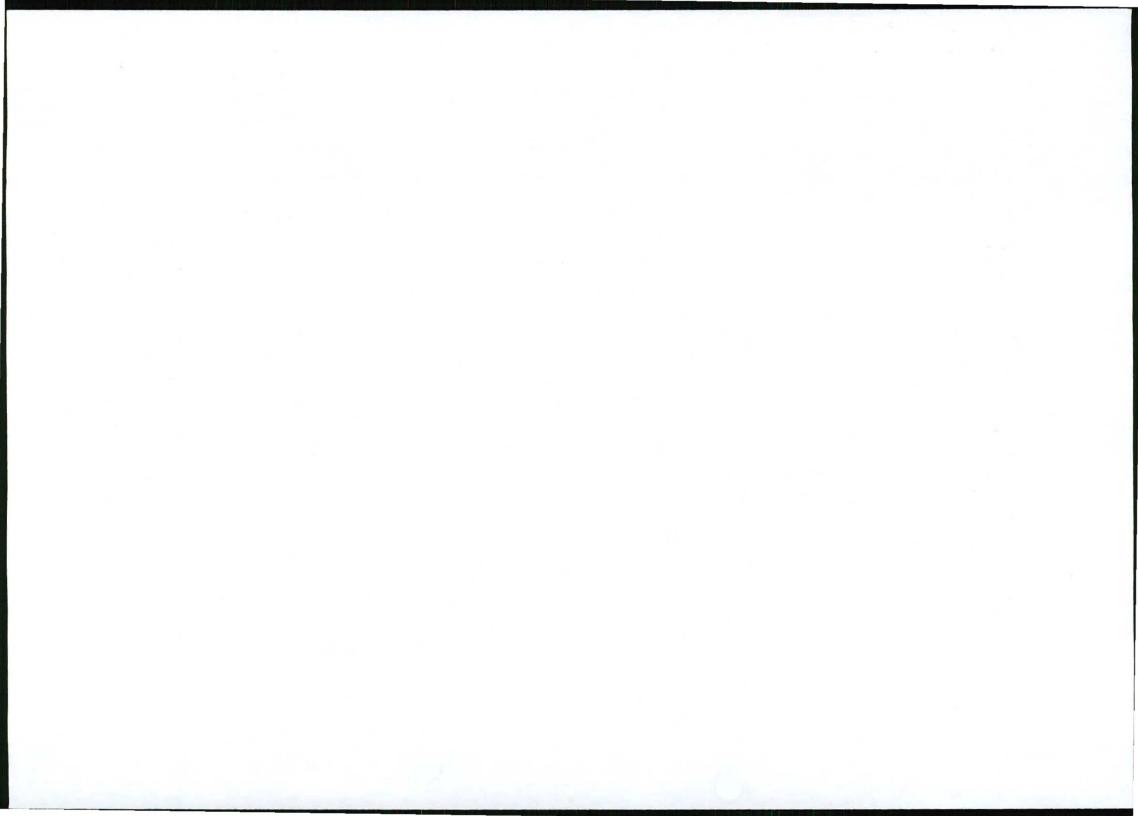
DMR File Reference: 30/1/5/3/21687MP1686MP/168MP/1688MP

# TO WHOM IT MAY CONCERN

# MINING PERMIT APPLICATION ON THE REMAINING EXTENSION OF PORTION 13 OF THE FARM, FORT KLIMPDAM 852 LS

This letter serves to confirm that Silicon Smelters (Pty) Ltd, as the surface owner, has no objection to the application by Thaba Cheue Mining (Pty) Ltd, to extract and remove aggregate from the abovementioned farm.

E FAUSOUR \
MANAGING DIRECTOR



PENINA PARK 3 bedrooms, kitchen, dining room, d/garage, 2 toilets and one outside, large braal area and big yard.

> Cell: 084 400 0202 CW003255

#### STERPARK

Modern spacious, secure 2 & 3 bedroom townhouse apartments. Prepaid electric 1, 2 bedr R4 800, bedr R5 500. J83 407 4450 CW003415

3 bedroom, 2 bathroom house to rent, in Sterpark Openplan kitchen, dining room, and lounge, build in braai, swimming pool, servants quarters and double garage, available end of Feb.

Contact: 084 798 6684 CW0033

#### 0309 Offices & Shops

OFFICE SPACE & MEDICAL CONSULTING ROOMS

Spacious modern office space and consulting rooms available for immediate occupation in Polokwane **Contact Dandy** 

072 272 9277 CW002908

## 0310 ownhouses / Simplexes / Duplexes

MEENTHUIS TE HUUR Ruim 3-slk meenthuis iri, Bodom, 2 badk, copplan sit-/eetkamer en kombuis, lapa met braal. Dubbel. motodiuis, 2 atdakke en buitetollet binne

butterine birtie sekuriteitskompleks. Langtermyn huur vanaf i April 2011: R5 600 p.m. + dep. Kontak: Neels 082 873 5309

A man of quality does Tet en o

woman of equality.

2-slaapkamer meenthuis, toesluit motorbuis. Veilig en netiles

Skakel: Pieter 083 627 8523 CW003376

2 bedr townhouse in -Bendor, 1 bathr, carport, walk to Gycad & Platinum Park, R4 250 + dep + w/l. 082 694 7987 CW003434

> 0500 VACANCIES

> > 0504 General

Kontrak Passer en Draaier benodig met 10jr ondervinding. Faks CV: 015 297 4427 of e-pos tha78@hotmail.com CW003407 URGENTLY NEEDED

Semi-qualified-boilermakers. Send CV to 015 263 6555. lacoline @aquarockdrills.co.za CW003419

#### VACANCY

Company in Seshego has two positions. 1) Senior turner preferably with maintenance experience to supervise maintenance staff. 2) Fitter aid with mechanical experience will be trained later as mechanical apprentice. E-mail CV to: ben Fax to: 015 223 6798 -- CW003372

> 0505 Hairdressing & Beauty

BEAUTY THERAPIST
Wellness Clinic in
Polokwane has a vacancy
for a qualified Beauty Therapist Candidates must be people orientated. To start immediately. Please bring CV to: 58. Thabo Mbekl Street. sureslimpbg
© telkomsa.net
Tel: 015 291 3390

GW003423

#### 0600 MOTORING

0602 Cars for Sale

Kontant vir jou voertuig, ook vir voertuie steeds onder huurkoop. Kontak: Werner 083 960 6806 CW003057

#### 0605 Motorcycles

Bad Boy 250 cc 4 wiel te koop @ R12 000 (O.N.K.A) 18 mnde oud. 076 055 1136 CW003437

# 0700 LEGALS

0702 General Notices

NOTICE OF ENVIRONMENTAL IMPACT ASSESSMENT PROCESS

in terms of Regulation 543 of In terms of Regulation S43 of the regulations published in Gövernment Notice No; 33306 of 2010 under Section 54 read with section 44 of the National Environmental Management Act, 1998 (Act No: 107 of 1998), notice is hereby given that Dafne Energy (Pty) Ltd (Reg 2010/918591/07) is of intention to carry outthe activity 2010/018591/07) is of intention to carry outribe activity described below. The above act requires that an Environmental impact Assessment for the activity be undertaken. Such a study is currently being undertaken by Tekplan Environmental (in-order to defermine whether the proposed activity will result in any significant environmental impacts).

Project Name: Witkop Solar Park Project reference number. The project has been registered with the National Department of Environmental Affairs under ref.

power of up to 30MWp with associated infrastructure and

structures.

The facility will be located on a property measuring 189,3757 hectares in size- the total tootprin area of the Wilkop Solar Park will be approximately 90 hectares.

The facility will comprise several arrays franch stress.

several arrays (branch strings) of Photovoltaic modules mounted on frames (construction will be done in phases).

phases).

Associated infrastructure will
consist of:
(i) internal and external access
roads and a small parking area,
(ii) fenoing of the plant and
video security control systems;
(iii) foundations for the mounted

(iii) foundations for the mounte Photovotlato panels, (iv) electricity access point for the construction phase and UPS (Uninterruptible Power Supply) devices; (v) water access point and/or water extraction on-site from borehole(s), water supply, pipelines, water treatment; (vi) sewage system and stormwater collection; (vii) workshop, storage, accommodation and administrative areas & control

administrative areas & control

administrative areas of control room;
(viii) cabling linking Photovoltaic strings and other internal cabling;
(ix) medium voltage stations designed to host inverters and medium voltage transformers and receiving medium voltage stations.

stations:
(x) one high voltage substation;
(xi) overhead high voltage
power lines and/or high voltage
underground cables connecting
to the Eskom high voltage
substation called "Wilkop",
located on the Portion 47 of the
farm Wildebeestfontein 20 KS,
adiacent to the project site. The
connection could also entail
interventions on the Eskom's
grid according to Eskom's
connection requirements
/solution;

connection requirements solution; (xi) pre-tabricated buildings (to be definely at the end of the construction phase). Location: The site is located, on Portion 9 of the Farm Wildebeestfontein 20 KS. Polickwane Local Municipality. Capricorn District Municipality. Limpopo Province. A background information document (BID) providing more information can be requested via e-mail. (see e-mail address below). The BID can also be accessed on the following website: www.tekplan.co.za (see "current projects"). In order to ensure that you are identified as an interested and or affected party, please submit, in writing, your name, contact information and interest. address below.
Date of publication: 24 February

> TEKPLAN ENVIRONMENTAL P O BOX 50590 MORELETA VILLAGE

0097 CELL: 083 459 7120 FAX: 086 218 3267 E-MAIL: tecoplan@ mweb.co.za —MB000541

#### NOTICE

Application for mining permits, for Silicon Quartz and cobble, in terms of Section 27 of the Mineral Resources Development Act, 2002 (Act 28 of 2002) were lodged at the office of the Regional Manager, Mineral Regulation, Limpopo-Region, Private Bag X9467, Polokwane, 0700 in respect of Portion 13 of the farm Fort Klipdam 652 LS. District of Capricoris.

PARTICULARS OF APPLICANT: Applicant: Thaba Chueu Mining (Pty) Ltd (2007/030475/07) Address: P O Box 657

0700 Tel: 015 290 3000 Flie Ref No; LP30/5/1/3/2/ 1686MP, 1687MP and 1688MP

Any comments with regard to the relevant applications shou be forwarded to the above address within 14 days from publication of this notice. MB000523

POLOKWANE/PERSKEBULT
AMENDMENT SCHEME 212
NOTICE OF APPLICATION
FOR THE AMENDMENT OF
THE POLOKWANE/
PERSKEBULT TOWN
PLANNING SCHEME 2007, IN
TERMS OF SECTION
56(1)(b)(l) OF THE TOWN
PLANNING AND TOWNSHIPS
ORDINANCE 1986 ORDINANCE, 1986 (ORDINANCE 15 OF 1986)

Katlego Mokwena of P.E. I, Katlego Mokwena of P.E. Mahapa and Associates Town and Regional Planners, being the authorized agent of the owner(s) of the Erl mentioned hereunder, hereby give notice terms of Section 56(1)(b)(i) of the Town Planning and Townships Ordinarco. the Town Planning and Townships Ordinance (Ordinance 15 of 1986) that I have applied to the Polokwane Municipality for the amendment of the Town Planning Scheime known as the Polokwane/Perskebult Town Planning Scheime 2007, by the rezoning of Portion 1 of Erf 1317, located at 1317 Stanza Bopape Street of the Township Seshego, District of Seshego, Limpope Province from "Public Open Space" to "Special" for Place of Public Worship purposes.

Particulars of the application will lie for inspection during normal office hours at the office of the Director, Spatial Planning and Land Use Management. Business Unit, 1st Floor, West Wing, Civic Centre, c/o Landdros Mare & Bodenstein. Street, Poliokwane for a period of 28 days from 25 February 2011. 25 February 2011.

Objections to of representations in respect to the application must be lodged with or made out in writing to the Municipal Manager at the above address or at P.O. Box 111, Polokwane, 0700 within a period of 28 days from 25 February 2011.

ADDRESS OF THE AGENT: P.E. Mahapa and Associates Town and Regional Planners 68 De Klerk Street Mokopane, 0600

POLOKWANE/PERSKEBULT
AMENDMENT SCHEME 213
ANGTICE OF APPLICATION
FOR THE AMENDMENT OF
THE POLOKWANE/
PERSKEBULT TOWN
PLANNING SCHEME 2007, IN
TERMS OF SECTION
55(1)(b)(f) OF THE TOWN
PLANNING AND TOWNSHIPS
ORDINANCE, 1986
(ORDINANCE 15 OF 1986)

I. Katlego Mokwena of P.E. Mahapa and Associates Town and Regional Planners, being the authorised agent of the owner(s) of the Erf mentioned hereunder, hereby give notice in terms of Section 56(1)(b)(i) of the Town Planning and Townships Ordinance (Ordinance 15 of 1986) that I have applied to the Polokwane Municipality for the amendment of the Town Planning Scheme known as the Polokwane/Perskebull Town Planning Scheme 2007, by the rezoning of Erf 314, located at 314 Moretloa Street of the Township, Seshego, District of Seshego, Limpopo Province from "Residential 1" to "Institution" purposes Katlego Mokwena of P. E

Particulars of the application will lie for inspection during normal office hours at the office of the Director, Spatial Planning and

must be lodged with or made out in writing to the Municipal Manager at the above address or at P O Box 111, Polokwane, 0700 within a period of 28 days rom 25 February 2011

ADDRESS OF THE AGENT:
P. E. Mahapa and Ass CC
Town and Regional Planners
68 De Klerk Street
Mokopane, 0600,
MB000536

POLOKWANE/PERSKEBULT WYSIGINGSKEMA 212 KENNISGEWING VAN AANSOEK OM WYSIGING VAN DIE POLOKWANE/ PERSKEBULT PERSKEBULT
DORPSBEPLANNINGSKEMA
2007, INGEVOLGE ARTIKEL
56(1/b)(i) VAN DIE
ORDONNANSIE OP
DORPSBEPLANNING EN
DORPE (ORDONNANSIE 15
VAN 1986)

VAN 1986)

Ek, Katlego Mokwena van P.E. Mahapa Stads- en Streeksbeplanners, synde die gemagtligde agent van die eienaarts) van die ondergenoemde aft, gee hiermee ingevolge Artikel 56(1)(bi)) van die Ordonnansie op Domsteplanning en Dompe (Ordonnansie 15 van 1986) kennis dat bins by die Polokwane Minisipaliteit aansoek gedoen het om die Wysiging van die Polokwane Perskebult Domsteplanningskema 2007, deur die hersonering van Gedeelto 1 van Erf 1317, geleë te 1317 Stanza Bopapestraat van die dorp Seshego, Distrik van Seshego, Limpopo Provinsie van "Publieke Ope Spasie" na "Spesiale Plek van Besonderhede van die gansoek

Besonderhede van die aansoek lê ter insae gedurende gewone kantoorure by die kantoor van die Bestuurder Ruimtelijke Beplanning en Gröndgebruikbestuur, Grondgebrukoestuur, Eerstevloer, Wes vleuel, Burgersentrum, h/V Landdros Mare- en Bodensteinstraat, Polokwane vir 'n tydperk van 25 Februarie 2011.

Besware teen of vertoe ten opsigte van die aansoek moet binne 'n tydperk van 28 dae nne 'n tydperk van 28 dae naf 25 Februarie 2011 riftelik by of tot die Munisipale Bestuurder by bovermelde adres of by Posbus 111,

geng wo

Stads-

POLOK W KEN AANS VAN

DORPS 2007, II DORFI

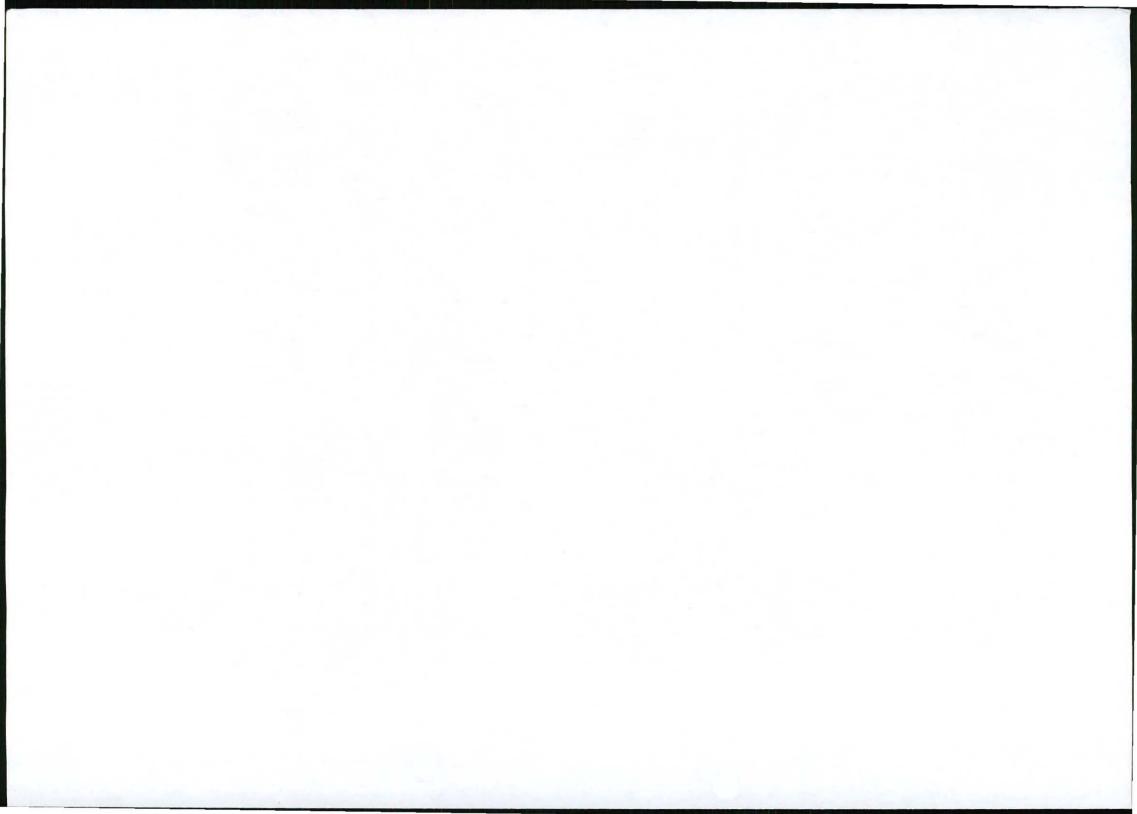
Ek, Katle Mahapa Streekst gemagtii eienaar( onderge 56(1)(b)( op Dorps (Ordonn kennis d Polokwa Polokwa aansoek het om o Polokwa Dorpsbe deur die 314, gel Morello Sesheg Sesheg van "Re "Institus

Besonde le ter ins kantoon die Best Beplann Grondge Eerstevl Burgersi Mare- er Polokwa dae van

Besware opsigte binne 'n vanat 25 skriftelik Bestuur adres of Polokwa gerig wo

Stads





# D SCORING OF EIA- FOR OFFICIAL USE ONLY

#### Instructions for officials:

In this table, complete the totals of each section indicated below and do the calculation. Remember to <u>first add</u> all the values of sections C 1,2,4 and 5 <u>and then to multiply</u> it by the time factor in Section C 3

Note that the value for the time factor element of the impact rating appears in Section C3. This is the total amount of time that the operation is expected to impact on the environment and all other factors are MULTIPLIED by this value. Compare the score (Impact rating) with the table below to help you make a decision on the total impact of the operation and also on the sufficiency of this programme to address all expected impacts from the operation on the environment.

#### D 1.1 CALCULATION TABLE

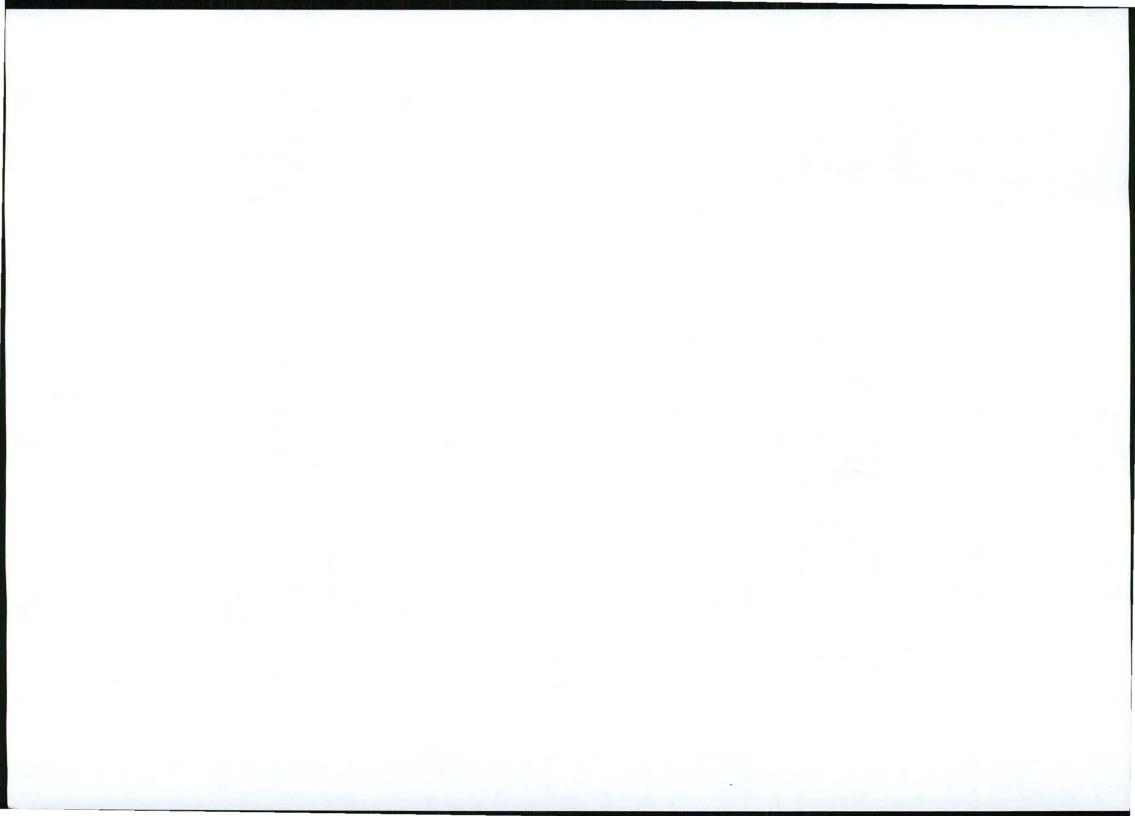
Section C 1 Total	+	Section C 2 Total	+	Section C 4 Total	+	Section C 5 Total	=	<u>Subtotal</u>	х	Time Factor Section <b>C 3</b>	=	Score (Impact rating)
	+		+		+		=		х		=	

#### D 1.2 IMPACT RATING SCALE

SCORE IMPACT ATTAINED RATING		REMARKS			
46 – 300	Low	No additional objectives needed – this programme is sufficient			
301 - 800	Medium	Some specific additional objectives to address focal areas concern may be set.			
801 - 1160	High	Major revision of Environmental Management Plan for adequacy and full revision of objectives.			

#### Additional Objectives:

Based on the information provided by the applicant and the regional office's assessment thereof, combined with the interpretation of the scoring and impact rating attained for the particular operation above, the Regional Manager of the regional office of the DME may now determine additional objectives /requirements for the mine owner/manager to comply with. These measures will be specific and will address specific issues of concern that are not adequately covered in the standard version of this document. These requirements are not listed here, but are specified under Section G of this document, so as to form part of the legally binding part of this Environmental Management Plan.

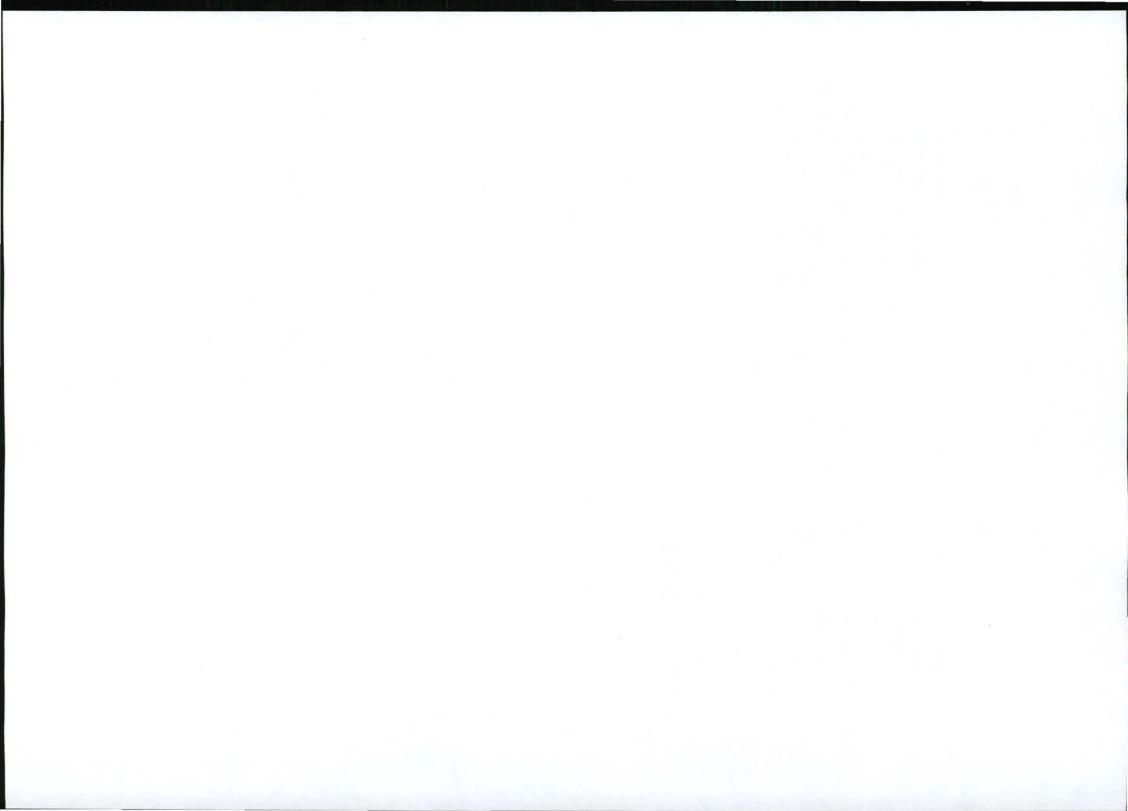


# E UNDERTAKING:

hereby declare that the above information is true, complete and correct. I undertake to implement the measures as described in Sections F and G hereof. I understand that this undertaking is legally binding and that failure to give effect hereto will render me liable for prosecution in terms of Section 98 (b) and 99 (1)(g) of the Mineral and Petroleum Resources Development Act, 2002 (Act 28 of 2002). I am also aware that the Regional Manager may, at any time but after consultation with me, make such changes to this plan as he/she may deem necessary.

Signed on this 13th day of June 2011 at Pole Murrays (Place)

Signature of applicant



# F. ENVIRONMENTAL MANAGEMENT PLAN:

#### INTRODUCTION

This Environmental Management Plan contains guidelines, operating procedures and rehabilitation/pollution control requirements which will be binding on the holder of the mining permit/ prospecting permission/ reconnaissance permission after approval of the Environmental Management Plan. It is essential that this portion be carefully studied, understood, implemented and adhered to at all times.

## F 1 GENERAL REQUIREMENTS

#### F 1.1 MAPPING AND SETTING OUT

#### F 1.1.1 LAYOUT PLAN

- A copy of the layout plan as provided for in Regulation 2.2 must be available at the prospecting/mining site for scrutiny when required.
- The plan must be updated on a regular basis with regard to the actual progress of the establishment of surface infrastructure, mining operations and rehabilitation (a copy of the updated plan shall be forwarded to the Regional Manager on a regular basis).
- A final layout plan must be submitted at closure of the mine or when operations have ceased.

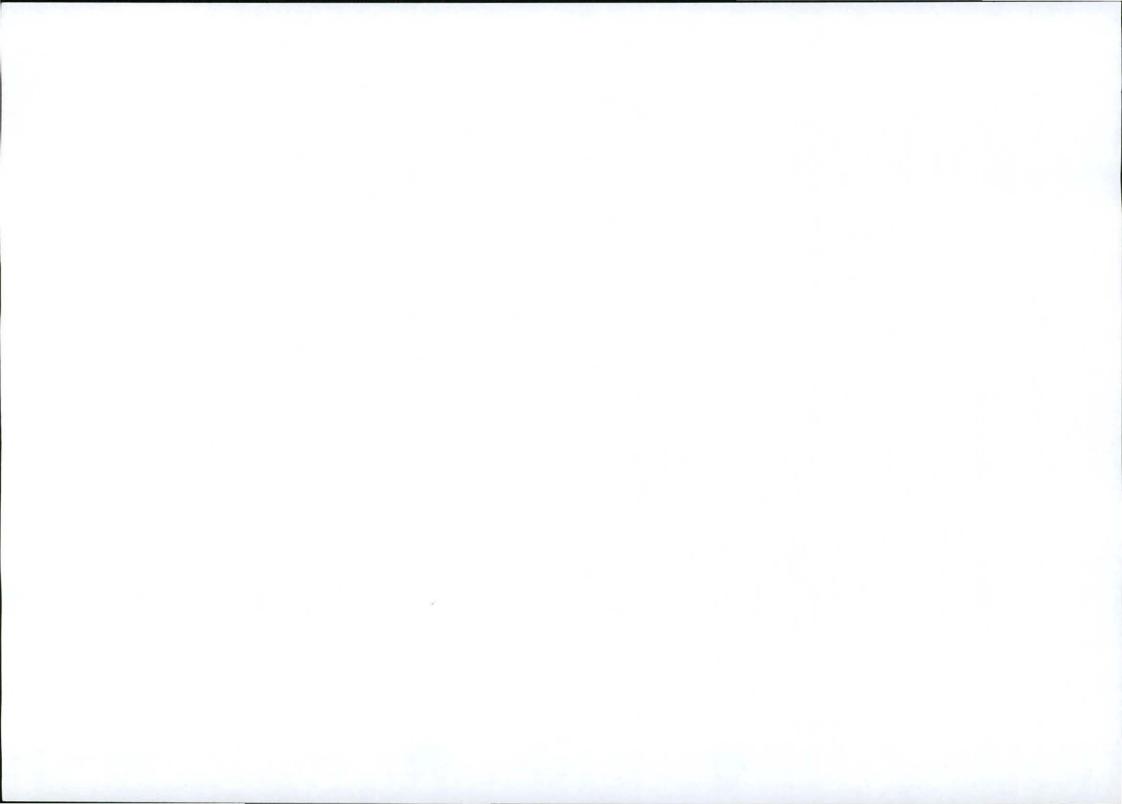
NOTE: Regulation 2.2 of the regulations promulgated in terms of the Act requires:

"An application contemplated in sub-regulation (1) must be accompanied by a plan that must contain –

- (a) the co-ordinates of the land or area applied for;
- (b) the north point;
- (c) the scale to which the plan has been drawn;
- (d) the name, number and location of the land or area covered by the application; and
- (e) in relation to farm boundaries and surveyed points-
  - (i) the size and shape of the proposed area;
  - (ii) the boundaries of the land or area comprising the subject of the application concerned;
  - the layout of the proposed reconnaissance, prospecting, exploration, mining or production operations;
  - (iv) surface structures and servitudes;
  - (v) the topography of the land or area; "

#### F 1.1.2 DEMARCATING THE MINING/ PROSPECTING AREA

- The mining/ prospecting area must be clearly demarcated by means of beacons at its corners, and along its boundaries if there is no visibility between the corner beacons.
- Permanent beacons as indicated on the layout plan or as prescribed by the Regional Manager must be firmly erected and maintained in their correct position throughout the life of the operation.



 Mining/ prospecting and resultant operations shall only take place within this demarcated area.

#### F 1.1.3 DEMARCATING THE RIVER CHANNEL AND RIVERINE ENVIRONMENT

The following is applicable if operations are conducted within the riverine environment (See F 3.2):

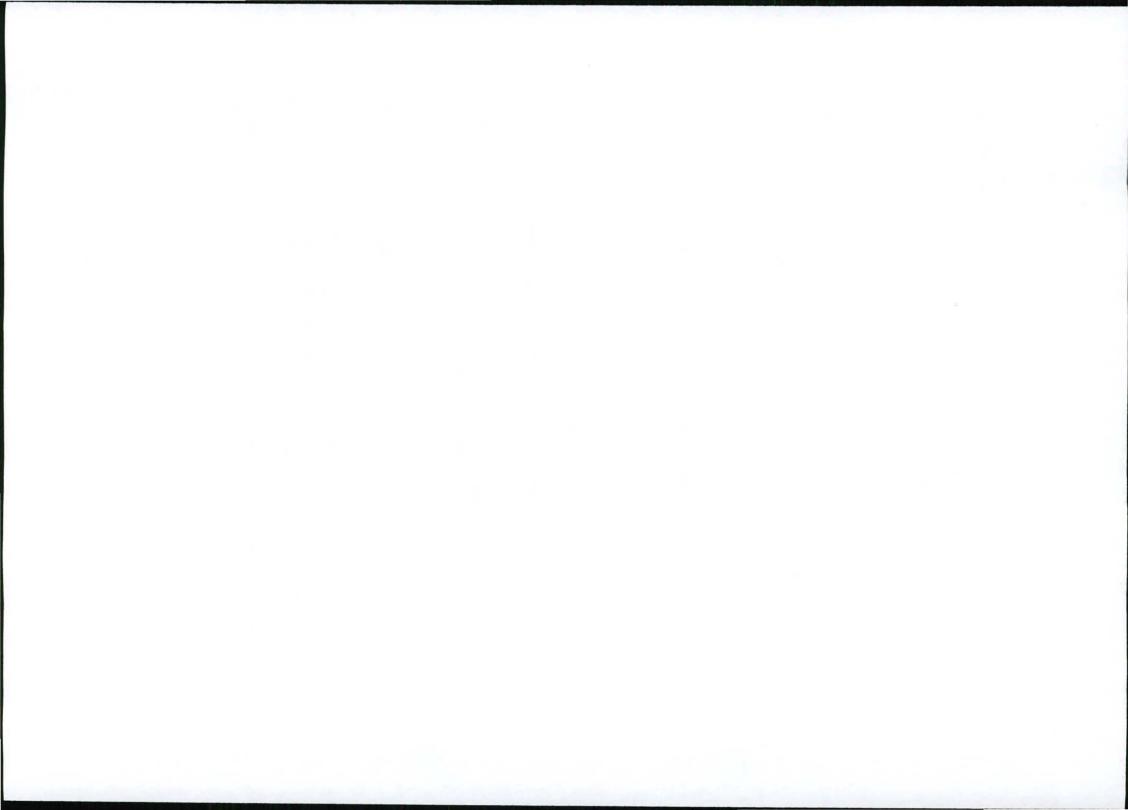
- Beacons as indicated on the layout plan or as prescribed by the Regional Manager must be erected and maintained in their correct position throughout the life of the operation.
- These beacons must be of a permanent nature during the operations and must not be easily removable, especially those in a river channel. The beacons must, however, be removed at the end of the operations.
- The mining of and prospecting for any mineral shall only take place within this demarcated mining area.
- If riverine vegetation is present in the form of reeds or wetland vegetation, the presence of these areas must be entered in Part C 1.45 of the EMPlan and indicated on the layout plan.
- The holder of the mining permit/ prospecting right will also be required to permanently demarcate the areas as specified in F 1.1.2.

#### F 1.2 RESTRICTIONS ON MINING/ PROSPECTING

- On assessment of the application, the Regional Manager may prohibit the conducting of mining or prospecting operations in vegetated areas or over portions of these areas
- In the case of areas that are excluded from mining or prospecting, no operations shall be conducted within 5 m of these areas.

#### F 1.3 RESPONSIBILITY

- The environment affected by the mining/ prospecting operations shall be rehabilitated by the holder, as far as is practicable, to its natural state or to a predetermined and agreed to standard or land use which conforms with the concept of sustainable development. The affected environment shall be maintained in a stable condition that will not be detrimental to the safety and health of humans and animals and that will not pollute the environment or lead to the degradation thereof.
- It is the responsibility of the holder of the mining permit/ prospecting right to ensure that the manager on the site and the employees are capable of complying with all the statutory requirements which must be met in order to mine, which includes the implementation of this EMP.
- If operations are to be conducted in an area that has already been disturbed, the
  holder must reach specific agreement with the Regional Manager concerning the
  responsibilities imposed upon himself/herself pertaining to the rehabilitation of the
  area and the pollution control measures to be implemented.



# F 2 INFRASTRUCTURAL REQUIREMENTS

#### F 2.1 TOPSOIL

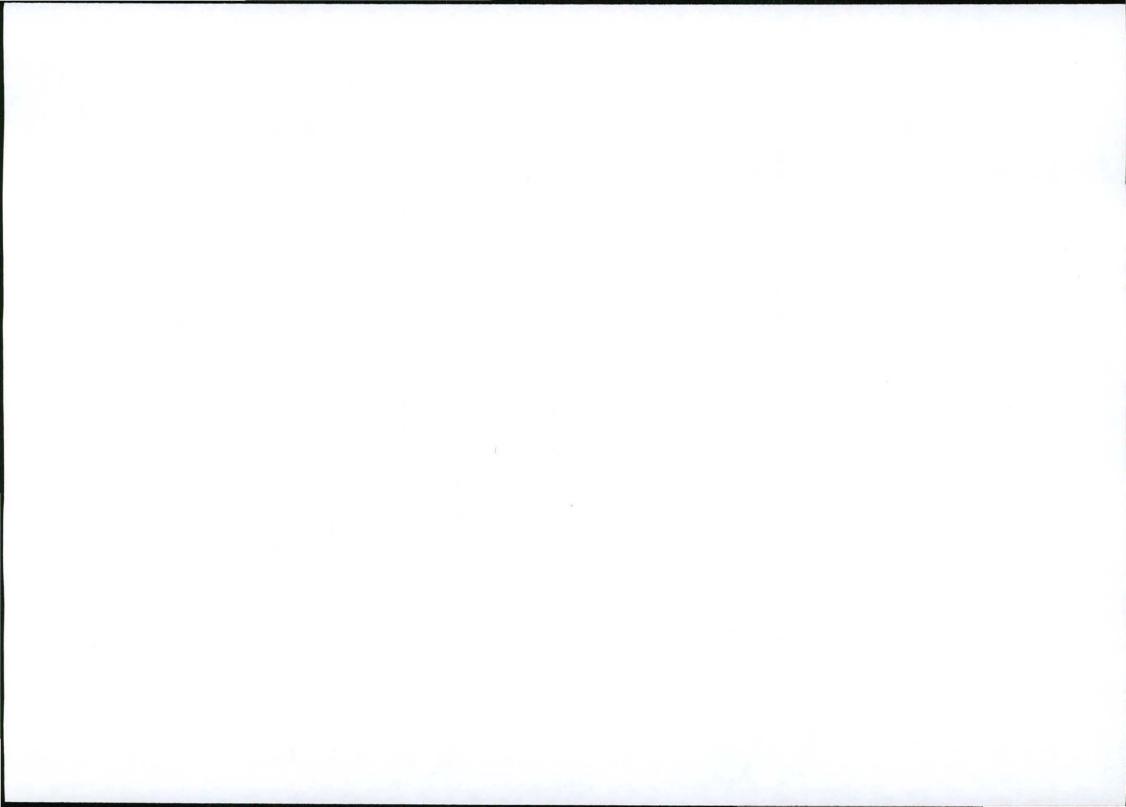
- Topsoil shall be removed from all areas where physical disturbance of the surface will occur.
- All available topsoil shall be removed after consultation with the Regional Manager prior to the commencement of any operations.
- The topsoil removed, shall be stored in a bund wall on the high ground side of the mining/prospecting area outside the 1:50 flood level within the boundaries of the mining area/ prospecting.
- Topsoil shall be kept separate from overburden and shall not be used for building or maintenance of access roads.
- The topsoil stored in the bund wall shall be adequately protected from being blown away or being eroded.

#### F 2.2 ACCESS TO THE SITE

# F 2.2.1 Establishing access roads on the site

- The access road to the mining/prospecting area and the camp-site/site office must be established in consultation with the landowner/tenant and existing roads shall be used as far as practicable.
- Should a portion of the access road be newly constructed the following must be adhered to:
  - The route shall be selected that a minimum number of bushes or trees are felled and existing fence lines shall be followed as far as possible.
  - Water courses and steep gradients shall be avoided as far as is practicable.
  - Adequate drainage and erosion protection in the form of cut-off berms or trenches shall be provided where necessary.
- If imported material is used in the construction or upgrading of the access road this must be listed in C 2.17
- The erection of gates in fence lines and the open or closed status of gates in new and existing positions shall be clarified in consultation with the landowner/tenant and maintained throughout the operational period.
- No other routes will be used by vehicles or personnel for the purpose of gaining access to the site.

NOTE: The design, construction and location of access to provincial roads must be in accordance with the requirements laid down by the Provincial or controlling authority.



#### F 2.2.2 Maintenance of access roads

- In the case of dual or multiple use of access roads by other users, arrangements
  for multiple responsibility must be made with the other users. If not, the
  maintenance of access roads will be the responsibility of the holder of the mining
  permit/ prospecting right.
- Newly constructed access roads shall be adequately maintained so as to minimise dust, erosion or undue surface damage.

#### F 2.2.3 Dust control on the access and haul roads

 The liberation of dust into the surrounding environment shall be effectively controlled by the use of, inter alia, water spraying and/or other dust-allaying agents. The speed of haul trucks and other vehicles must be strictly controlled to avoid dangerous conditions, excessive dust or excessive deterioration of the road being used.

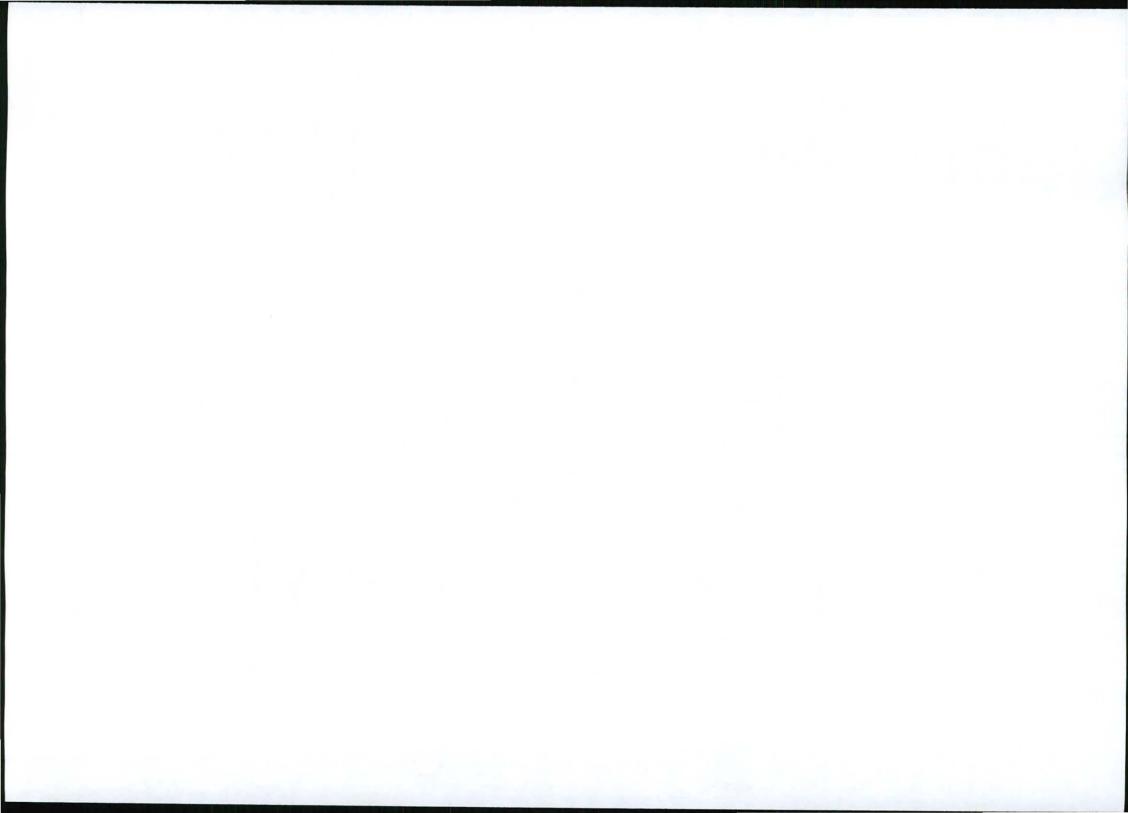
# F 2.2.4 Rehabilitation of access roads

- Whenever a mining permit/ prospecting right is suspended, cancelled or abandoned or if it lapses and the holder does not wish to renew the permit or right, any access road or portions thereof, constructed by the holder and which will no longer be required by the landowner/tenant, shall be removed and/or rehabilitated to the satisfaction of the Regional Manager.
- Any gate or fence erected by the holder which is not required by the landowner/tenant, shall be removed and the situation restored to the pre mining/ prospecting situation.
- Roads shall be ripped or ploughed, and if necessary, appropriately fertilised (based on a soil analysis) to ensure the regrowth of vegetation. Imported road construction materials which may hamper regrowth of vegetation must be removed and disposed of in an approved manner prior to rehabilitation.
- If a reasonable assessment indicates that the re-establishment of vegetation is unacceptably slow, the Regional Manager may require that the soil be analysed and any deleterious effects on the soil arising from the mining/prospecting operation, be corrected and the area be seeded with a seed mix to the Regional Manager's specification.

# F 2.3 OFFICE/CAMP SITES

# F 2.3.1 Establishing office / camp sites

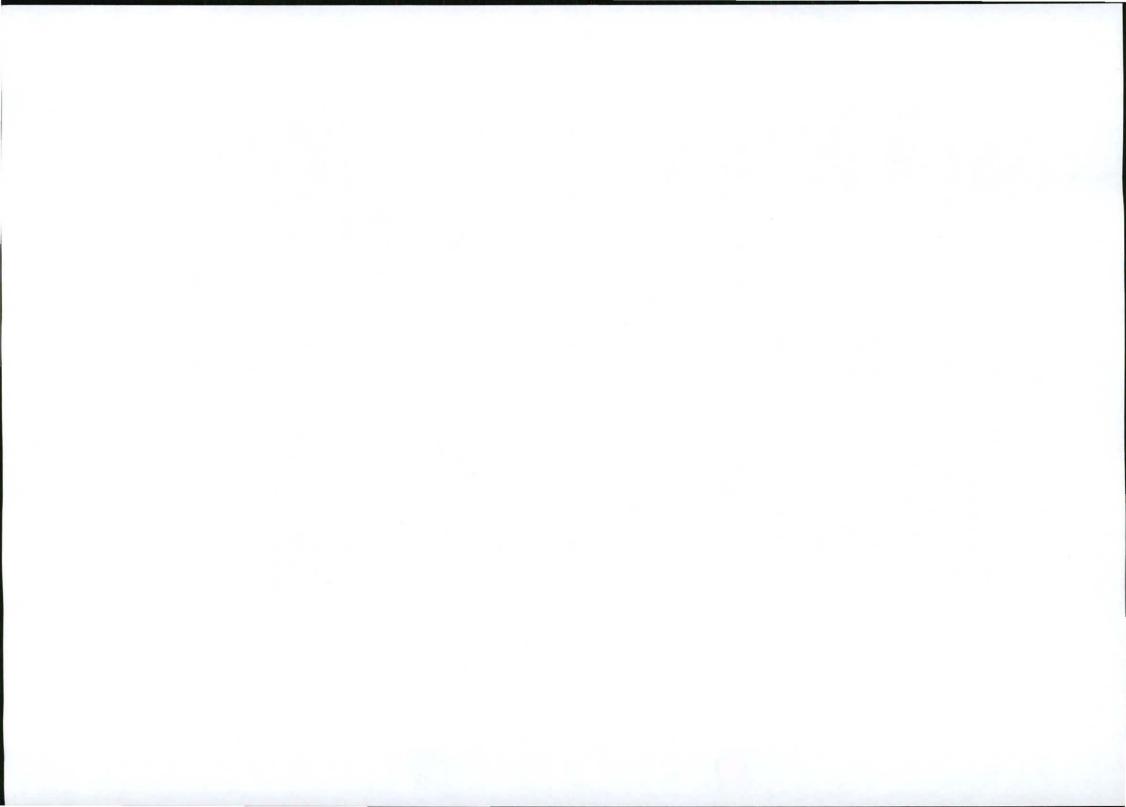
- Office and camp sites shall be established, as far as is practicable, outside the flood plain, above the 1 in 50 flood level mark within the boundaries of the mining/ prospecting area.
- The area chosen for these purposes shall be the minimum reasonably required and which will involve the least disturbance to vegetation. Topsoil shall be handled as described in F 2.1 above



- No camp or office site shall be located closer than 100 metres from a stream, river, spring, dam or pan.
- No trees or shrubs will be felled or damaged for the purpose of obtaining firewood, unless agreed to by the landowner/tenant.
- Fires will only be allowed in facilities or equipment specially constructed for this purpose. If required by applicable legislation, a fire-break shall be cleared around the perimeter of the camp and office sites.
- Lighting and noise disturbance or any other form of disturbance that may have an
  effect on the landowner/tenant/persons lawfully living in the vicinity shall be kept to
  a minimum.

# F 2.3.2 Toilet facilities, waste water and refuse disposal

- As a minimum requirement, the holder of a mining permit/ prospecting right shall, at least, provide pit latrines for employees and proper hygiene measures shall be established.
- Chemical toilet facilities or other approved toilet facilities such as a septic drain shall preferably be used and sited on the camp site in such a way that they do not cause water or other pollution.
- The use of existing facilities must take place in consultation with the landowner/tenant.
- In cases where facilities are linked to existing sewerage structures, all necessary regulatory requirements concerning construction and maintenance should be adhered to.
- All effluent water from the camp washing facility shall be disposed of in a properly constructed French drain, situated as far as possible, but not less than 200 metres, from any stream, river, pan, dam or borehole.
- Only domestic type wash water shall be allowed to enter this drain and any
  effluents containing oil, grease or other industrial substances must be collected in
  a suitable receptacle and removed from the site, either for resale or for appropriate
  disposal at a recognised facility.
- Spills should be cleaned up immediately to the satisfaction of the Regional Manager by removing the spillage together with the polluted soil and by disposing of them at a recognised facility.
- Non-biodegradable refuse such as glass bottles, plastic bags, metal scrap, etc., shall be stored in a container at a collecting point and collected on a regular basis and disposed of at a recognised disposal facility. Specific precautions shall be taken to prevent refuse from being dumped on or in the vicinity of the camp site.
- Biodegradable refuse generated from the office/camp site, processing areas vehicle yard, storage area or any other area shall either be handled as indicated above or be buried in a pit excavated for that purpose and covered with layers of soil, incorporating a final 0,5 metre thick layer of topsoil (where practicable). Provision should be made for future subsidence of the covering.



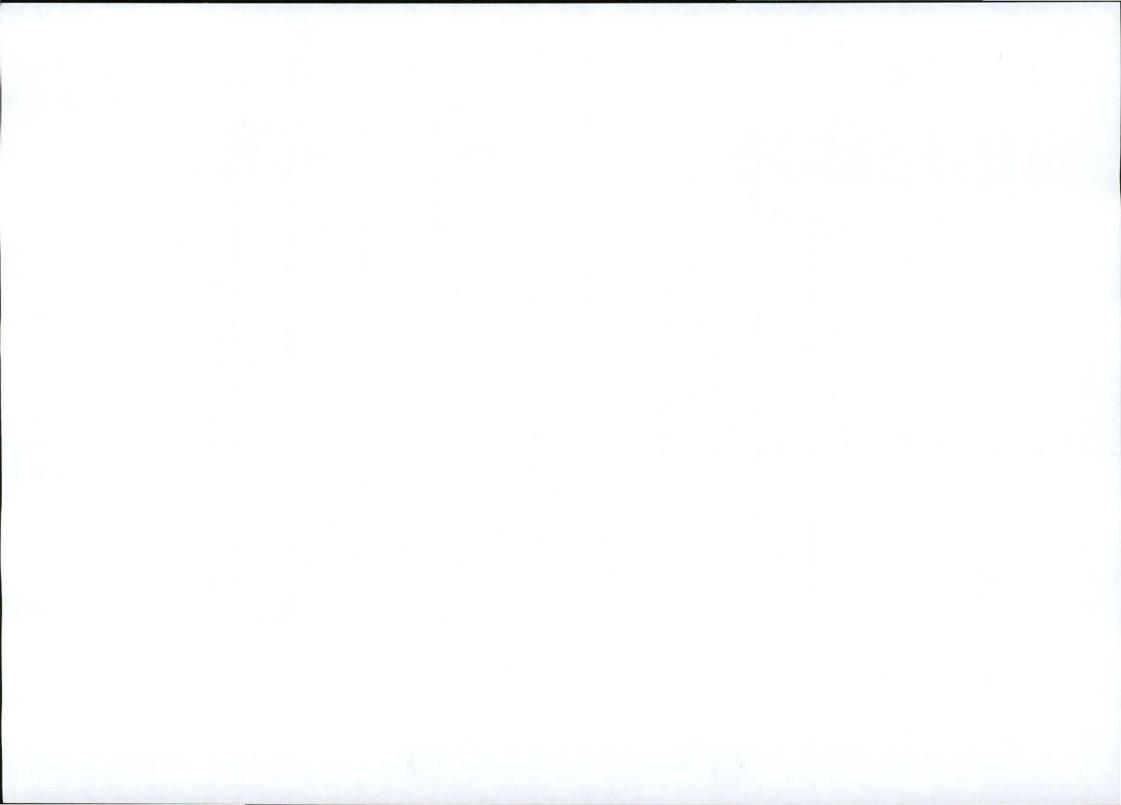
# F 2.3.3 Rehabilitation of the office/camp site

- On completion of operations, all buildings, structures or objects on the camp/office site shall be dealt with in accordance with section 44 of the Mineral and Petroleum Resources Development Act, 2002 (Act 28 of 2002), which states:
  - (1) When a prospecting right, mining right, retention permit or mining permit lapses, is cancelled or is abandoned or when any prospecting or mining operation comes to an end, the holder of any such right or permit may not demolish or remove any building, structure, object -
    - (a) which may not be demolished in terms of any other law;
    - (b) which has been identified in writing by the Minister for purposes of this section; or
    - (c) which is to be retained in terms of an agreement between the holder and the owner or occupier of the land, which agreement has been approved by the Minister in writing.
  - (2) The provision of subsection (1) does not apply to bona fide mining equipment which may be removed
- Where office/camp sites have been rendered devoid of vegetation/grass or where soils have been compacted owing to traffic, the surface shall be scarified or ripped.
- Areas containing French drains shall be compacted and covered with a final layer of topsoil to a height of 10cm above the surrounding ground surface.
- The site shall be seeded with a vegetation seed mix adapted to reflect the local indigenous flora.
- If a reasonable assessment indicates that the re-establishment of vegetation is unacceptably slow, the Regional Manager may require that the soil be analysed and any deleterious effects on the soil arising from the mining/prospecting operation be corrected and the area be seeded with a vegetation seed mix to his or her specification.
- Photographs of the camp and office sites, before and during the mining/ prospecting operation and after rehabilitation, shall be taken at selected fixed points and kept on record for the information of the Regional Manager.

# F 2.4 VEHICLE MAINTENANCE YARD AND SECURED STORAGE AREAS

#### F 2.4.1 Establishing the vehicle maintenance yard and secured storage areas

- The vehicle maintenance yard and secured storage area will be established as far as is practicable, outside the flood plain, above the 1 in 50 flood level mark within the boundaries of the mining/prospecting area.
- The area chosen for these purposes shall be the minimum reasonably required and involve the least disturbance to tree and plant life. Topsoil shall be handled as described in F 2.1 above.



- The storage area shall be securely fenced and all hazardous substances and stocks such as diesel, oils, detergents, etc., shall be stored therein. Drip pans, a thin concrete slab or a facility with PVC lining, shall be installed in such storage areas with a view to prevent soil and water pollution.
- The location of both the vehicle maintenance yard and the storage areas are to be indicated on the layout plan.
- No vehicle may be extensively repaired in any place other than in the maintenance yard.

# F 2.4.2 Maintenance of vehicles and equipment

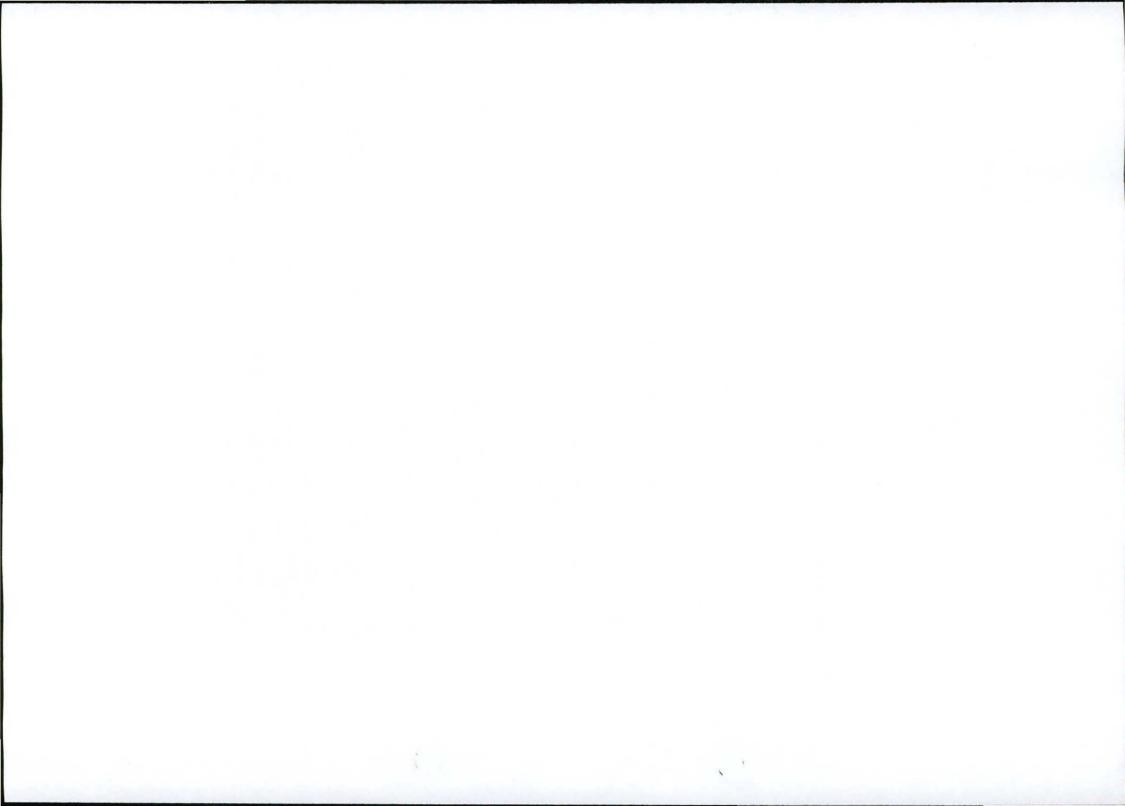
- The maintenance of vehicles and equipment used for any purpose during the mining/prospecting operation will take place only in the maintenance yard area.
- Equipment used in the mining/prospecting process must be adequately maintained so that during operations it does not spill oil, diesel, fuel, or hydraulic fluid.
- Machinery or equipment used on the mining/prospecting area must not constitute
  a pollution hazard in respect of the above substances. The Regional Manager
  shall order such equipment to be repaired or withdrawn from use if he or she
  considers the equipment or machinery to be polluting and irreparable.

# F 2.4.3 Waste disposal

- Suitable covered receptacles shall be available at all times and conveniently placed for the disposal of waste.
- All used oils, grease or hydraulic fluids shall be placed therein and these receptacles will be removed from the site on a regular basis for disposal at a registered or licensed disposal facility.
- All spills should be cleaned up immediately to the satisfaction of the Regional Manager by removing the spillage together with the polluted soil and by disposing of them at a recognised facility.

# F 2.4.4 Rehabilitation of vehicle maintenance yard and secured storages areas

- On completion of mining/prospecting operations, the above areas shall be cleared
  of any contaminated soil, which must be dumped as referred to in section F 2.4.3
  above.
- All buildings, structures or objects on the vehicle maintenance yard and secured storage areas shall be dealt with in accordance with section 44 of the Mineral and Petroleum Resources Development Act, 2002.
- The surface shall then be ripped or ploughed to a depth of at least 300mm and the
  topsoil previously stored adjacent the site, shall be spread evenly to its original
  depth over the whole area. The area shall then be fertilised if necessary (based
  on a soil analysis).
- The site shall be seeded with a vegetation seed mix adapted to reflect the local indigenous flora.



 If a reasonable assessment indicates that the re-establishment of vegetation is unacceptably slow, the Regional Manager may require that the soil be analysed and any deleterious effects on the soil arising from the mining/prospecting operation be corrected and the area be seeded with a seed mix to his or her specification.

#### F 3 OPERATING PROCEDURES IN THE MINING AREA

# F 3.1 Limitations on mining/prospecting

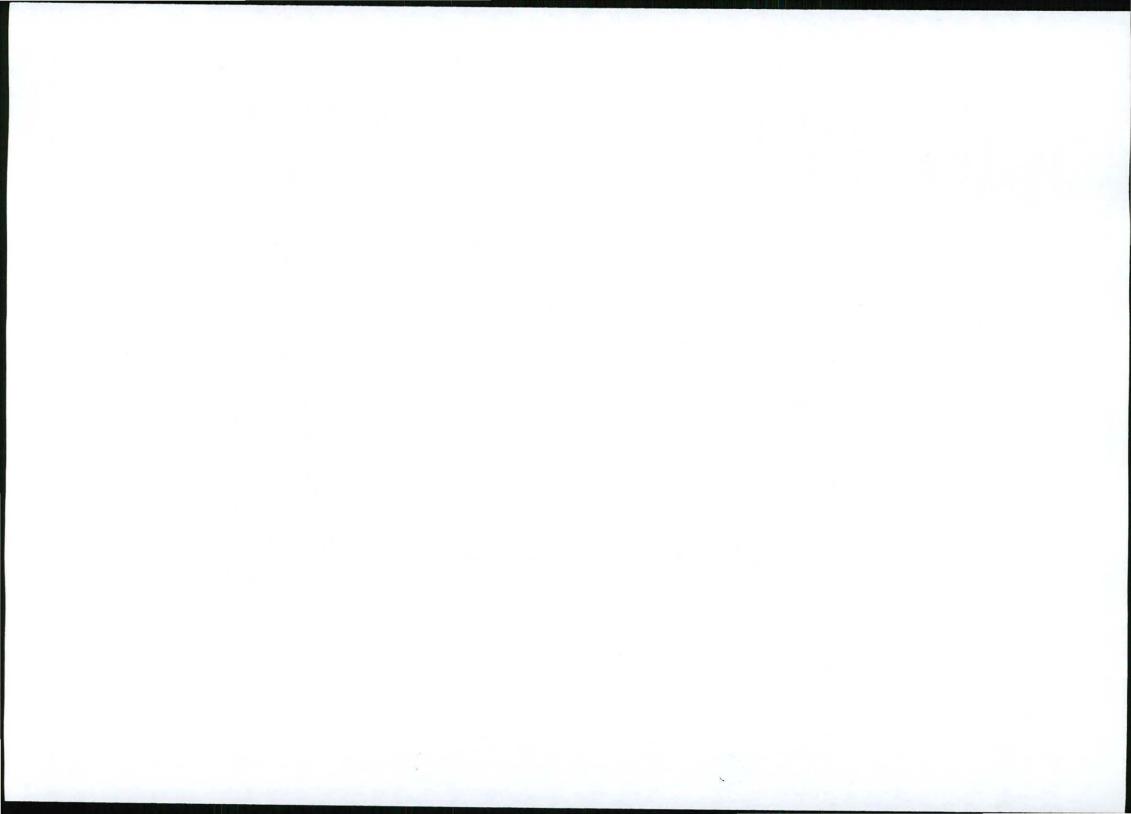
- The mining of or prospecting for precious stones shall take place only within the approved demarcated mining or prospecting area.
- Mining/ prospecting may be limited to the areas indicated by the Regional Manager on assessment of the application.
- The holder of the mining permit/ prospecting right shall ensure that operations take place only in the demarcated areas as described in section F 1.1.2 above.
- Operations will not be conducted closer than one and a half times the height of the bank from the edge of the river channel and in such manner that the stability of the bank of the river is effected.
- Precautions shall also be taken to ensure that the bank of the river is adequately
  protected from scouring or erosion. Damage to the bank of the river caused by the
  operations, shall be rehabilitated to a condition acceptable to the Regional
  Manager at the expense of the holder.
- Restrictions on the disturbance of riverine vegetation in the form of reeds or wetland vegetation must be adhered to. The presence of these areas must be entered in Part of the programme and indicated on the layout plan.

# F 3.2 Mining/ prospecting operations within the riverine environment

NOTE: The Department of Water Affairs and Forestry may impose additional conditions which must be attached to this EMP. In this regard, please see the Best Practice Guideline for small scale mining developed by DWAF (BPG 2.1)

(available from http://www.dwaf.gov.za)

- The mining of or prospecting for precious stones in the river or the banks of the river will be undertaken only after the Regional Manager has consulted with the Department of Water Affairs and Forestry.
- The canalisation of a river will not be undertaken unless the necessary permission
  has been obtained from the Department of Water Affairs and Forestry. Over and
  above the conditions imposed by the said Department, which conditions shall form
  part of this EMPlan, the following will also apply:
  - The canalisation of the flow of the river over different parts of the river bed shall be constructed in such a manner that the following are adhered to at all times:



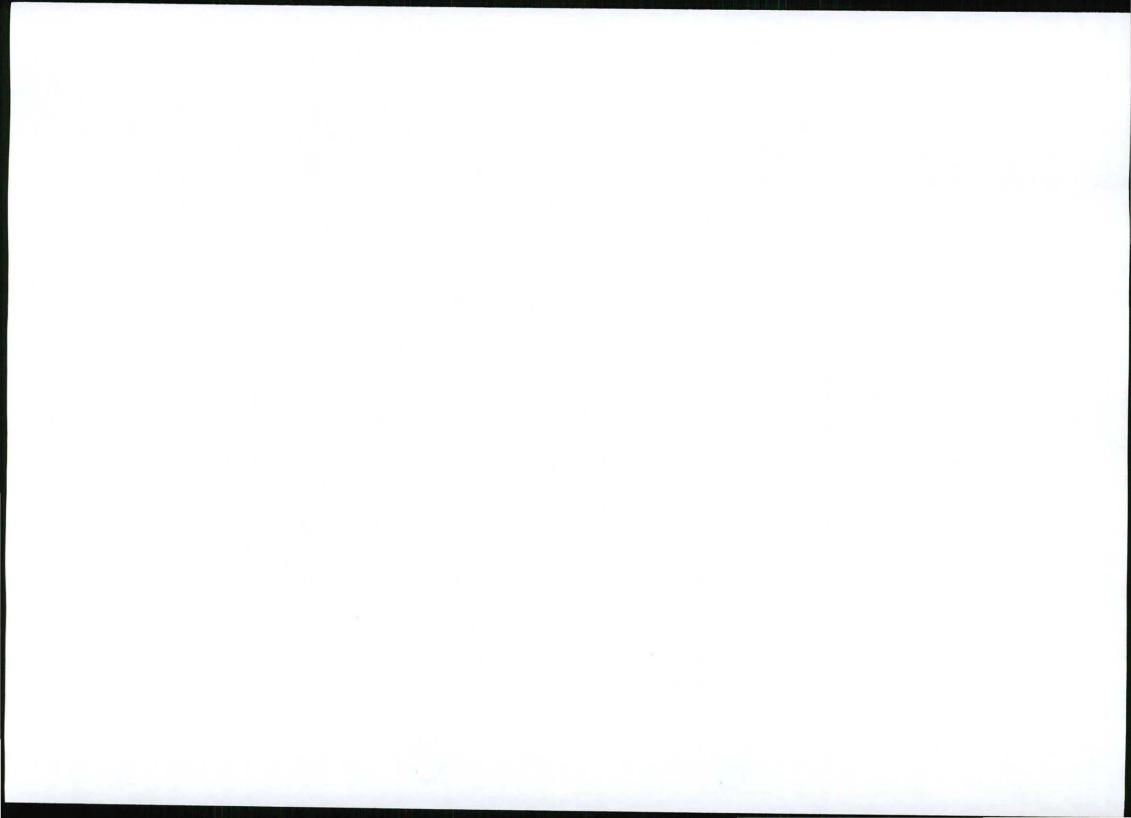
- The flow of the river may not be impeded in any way and damming upstream may not occur.
- The canalisation of the flow may not result in scouring or erosion of the river-bank.
- Well points or extraction pumps in use by other riparian users may not be interfered with and canalisation may not impede the extraction of water at these points.
- Access to the riverbed for the purpose of conducting excavations in the river-bed, shall be through the use of only one access at a time. The location of the access to the river channel across the river-bank shall be at a point of the river-bank where the least excavation and damage to vegetation will occur and shall not be wider than is reasonably required. The position of the river access together with all planned future access points, must be indicated on the layout plan.

# F 3.2.1 Rehabilitation of access to river-bed

- When rehabilitating the access point, the original profile of the river-bank will be reestablished by backfilling the access point with the original material excavated or other suitable material.
- The topsoil shall then be returned over the whole area to its original depth and if necessary fertilised and the vegetation allowed to grow.
- If a reasonable assessment indicates that the re-establishment of vegetation is unacceptably slow, the Regional Manager may require that the soil be analysed and any deleterious effects on the soil arising from the mining/prospecting operation be corrected and the area be seeded with a seed mix to his or her specification.
- In the event of damage from an occurrence where high flood waters scour and
  erode access points in the process of rehabilitation over the river-bank or an
  access point currently in use, repair of such damage shall be the sole
  responsibility of the holder of the mining permit or prospecting right.
- Repair to the river-bank to reinstate its original profile to the satisfaction of the Regional Manager must take place immediately after such event has occurred and the river has subsided to a point where repairs can be undertaken.
- Final acceptance of rehabilitated river access points will be awarded only after the
  vegetation has re-established to a point where the Regional Manager is satisfied
  that the river-bank is stable and that the measures installed are of durable nature
  and able to withstand high river-flow conditions.

# F 3.2.2 Rehabilitation of mining/prospecting area in the bed of the river

- The goal of rehabilitation with respect to the area where mining/prospecting has taken place in the river-bed is to leave the area level and even, and in a natural state containing no foreign debris or other materials and to ensure the hydrological integrity of the river by not attenuating or diverting any of the natural flow.
- All scrap and other foreign materials will be removed from the bed of the river and disposed of as in the case of other refuse (see section F 2.3.2 above), whether



- these accrue directly from the mining/prospecting operation or are washed on to the site from upstream.
- Removal of these materials shall be done on a continuous basis and not only at the start of rehabilitation.
- Where reeds or other riverine vegetation have been removed from areas, these shall be re-established systematically in the approximate areas where they occurred before mining/prospecting.
- An effective control programme for the eradication of invader species and other exotic plants, shall be instituted on a regular basis over the entire mining/prospecting area under the control of the holder of the mining permit/ prospecting right, both during mining/prospecting and at the stage of final rehabilitation.

#### 2. THE WATER USE LICENCE

The National Water Act, (Act 36 of 1998), is based on the principles of sustainability, efficiency and equity, meaning that the protection of water resources must be balanced with their development and use.

In addition to being issued with a prospecting right or mining permit a small-scale miner may also need to get a **water use licence** for the proposed water uses that will take place, except in certain cases.

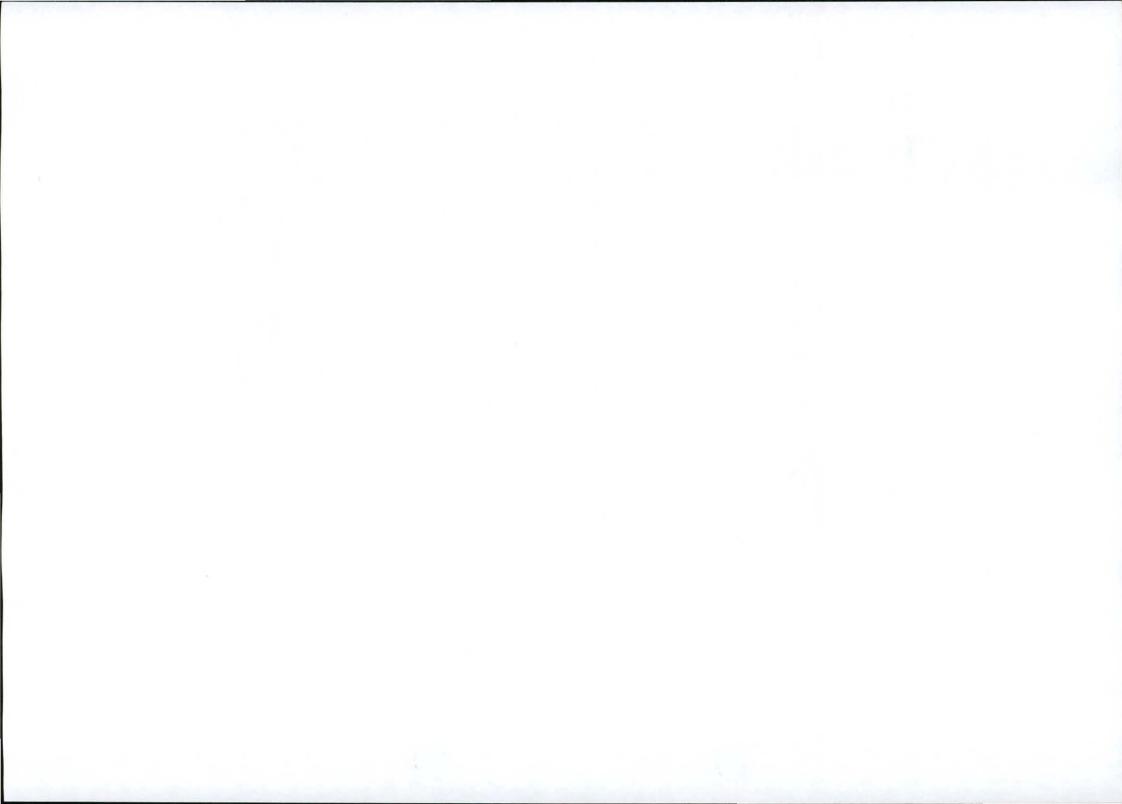
NOTE: The Department of Water Affairs and Forestry (DWAF) developed specific Best Practice Guideline for small scale mining that relates to stormwater management, erosion and sediment control and waste management. Copies of these guidelines can be obtained from the regional office of DME or DWAF.

Applications for a water use licence must be made in good time, such that approval can be granted before a water use activity can begin. The appropriate licence forms for each kind of expected water use should be completed together with supporting documentation. The main supporting document required is a technical report. To make the technical report easier, you can refer to sections in this EMPlan, as most of what the technical report requires has already been done in the EMPlan. If you refer to the EMPlan it must be attached to the technical report.

#### F 3.3 EXCAVATIONS

#### F 3.3.1 Establishing the excavation areas

- Whenever any excavation is undertaken for the purpose of locating and/or extracting ore bodies of all types of minerals, including precious stonebearing gravels, the following operating procedures shall be adhered to:
  - Topsoil shall, in all cases (except when excavations are made in the river-bed), be handled as described in F 2.1 above.
  - Excavations shall take place only within the approved demarcated mining/prospecting area.
  - Overburden rocks and coarse material shall be placed concurrently in the excavations or stored adjacent to the



- excavation, if practicable, to be used as backfill material once the ore or gravel has been excavated.
- Trenches shall be backfilled immediately if no ore or precious stone-bearing gravel can be located.

#### F 3.3.2 Rehabilitation of excavation areas

The following operating procedures shall be adhered to:

- The excavated area must serve as a final depositing area for the placement of tailings during processing.
- Rocks and coarse material removed from the excavation must be dumped into the excavation simultaneously with the tailings.
- Waste, as described in paragraph F 2.3.2 above, will not be permitted to be deposited in the excavations.
- Once excavations have been refilled with overburden, rocks and coarse natural materials and profiled with acceptable contours and erosion control measures, the topsoil previously stored, shall be returned to its original depth over the area.
- The area shall be fertilised if necessary to allow vegetation to establish rapidly. The site shall be seeded with a local or adapted indigenous seed mix in order to propagate the locally or regionally occurring flora.
- If a reasonable assessment indicates that the re-establishment of vegetation is unacceptably slow, the Regional Manager may require that the soil be analysed and any deleterious effects on the soil arising from the mining/ prospecting operation, be corrected and the area be seeded with a vegetation seed mix to his or her specification.

## F 3.4 PROCESSING AREAS AND WASTE PILES (DUMPS)

## F 3.4.1 Establishing processing areas and waste piles

- Processing areas and waste piles shall not be established within 100 metres of the edge of any river channel or other water bodies.
- Processing areas should be established, as far as practicable, near the edge of excavations to allow the waste, gravel and coarse material to be processed therein.
- The areas chosen for this purpose shall be the minimum reasonably required and involve the least disturbance to vegetation.
- Prior to development of these areas, the topsoil shall be removed and stored as described in paragraph F 2.1 above.
- The location and dimensions of the areas are to be indicated on the layout plan and once established, the processing of ore containing precious stones shall be confined to these areas and no stockpiling or processing will be permitted on areas not correctly prepared.
- Tailings from the extraction process must be so treated and/or deposited that it will
  in no way prevent or delay the rehabilitation process.



# F 3.4.2 Rehabilitation of processing areas

- Coarse natural material used for the construction of ramps must be removed and dumped into the excavations.
- On completion of mining/prospecting operations, the surface of the processing areas especially if compacted due to hauling and dumping operations, shall be scarified to a depth of at least 300mm and graded to an even surface condition and the previously stored topsoil will be returned to its original depth over the area.
- Prior to replacing the topsoil the material that was removed from the processing area will be replaced in the same order as it originally occurred.
- The area shall then be fertilised if necessary to allow vegetation to establish rapidly. The site shall be seeded with a local, adapted indigenous seed mix.
- If a reasonable assessment indicates that the re-establishment of vegetation is unacceptably slow, the Regional Manager may require that the soil be analysed and any deleterious effects on the soil arising from the mining/prospecting operation be corrected and the area be seeded with a seed mix to his or her specification.

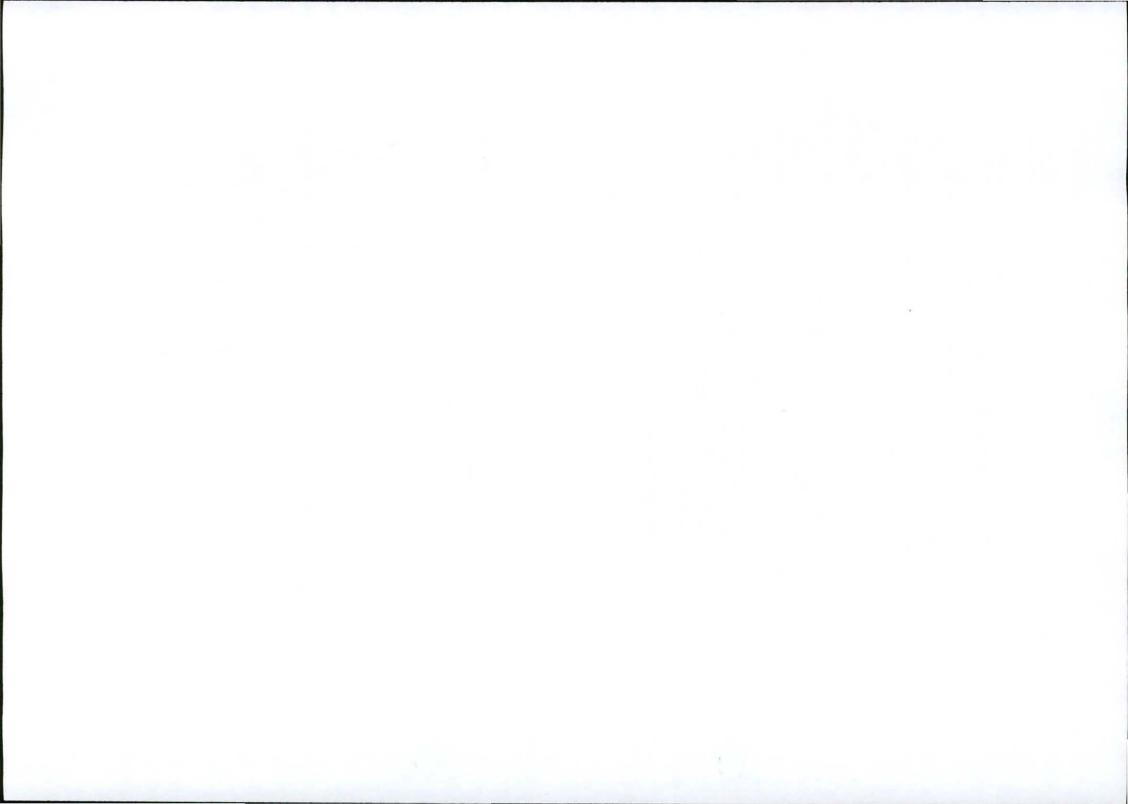
# F 3.5 TAILINGS DAM(S) (SLIMES DAM)

The permission of the Regional Manager must be obtained should a tailings dam be constructed for the purpose of handling the tailings of the mining/prospecting operations. The construction, care and maintenance of tailings dams have been regulated and the relevant regulation is copied herwith, both for your information and as a guideline to the commissioning, management, operation, closing and aftercare of a tailings deposition facility.

# Regulation 73 promulgated under the Mineral and Petroleum Resources Development Act, 2002 (Act 28 of 2002) requires the following:

#### Management of residue stockpiles and deposits

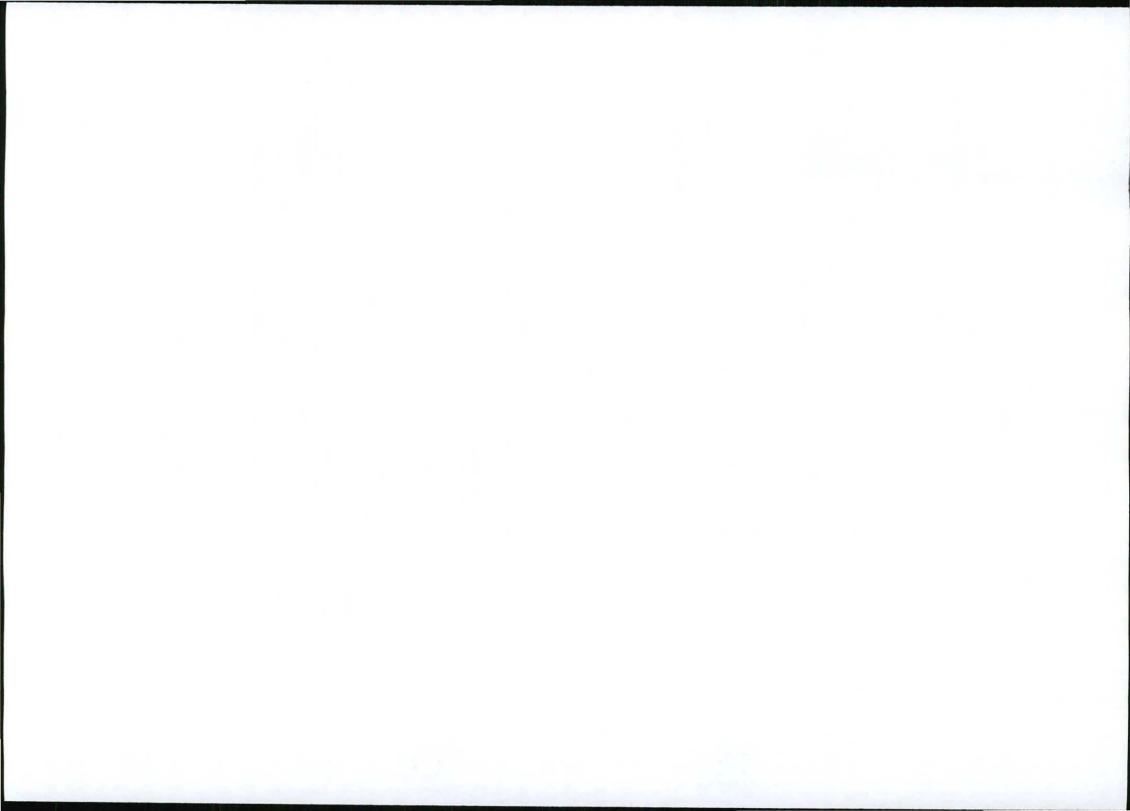
- The assessment of impacts relating to the management of residue stockpiles and deposits, where appropriate, must form part of the environmental impact assessment report and environmental management programme or the environmental management plan.
  - (2) Residue characterisation
    - (a) Mine residue must be characterised to identify any potentially significant health and safety hazard and environmental impact that may be associated with the residue when stockpiled or deposited at the site(s) under consideration.
    - (b) Residue stockpiles and deposits must be characterised in terms of its -
      - (i) physical characteristics, which may include -
        - (aa) the size distribution of the principal constituents:
        - (bb) the permeability of the compacted material;
        - (cc) void ratios of the compacted material;
        - (dd) the consolidation or settling characteristics of the material under its own weight and that of any overburden;
        - (ee) the strength of compacted material;
        - (ff) the specific gravity of the solid constituents; and



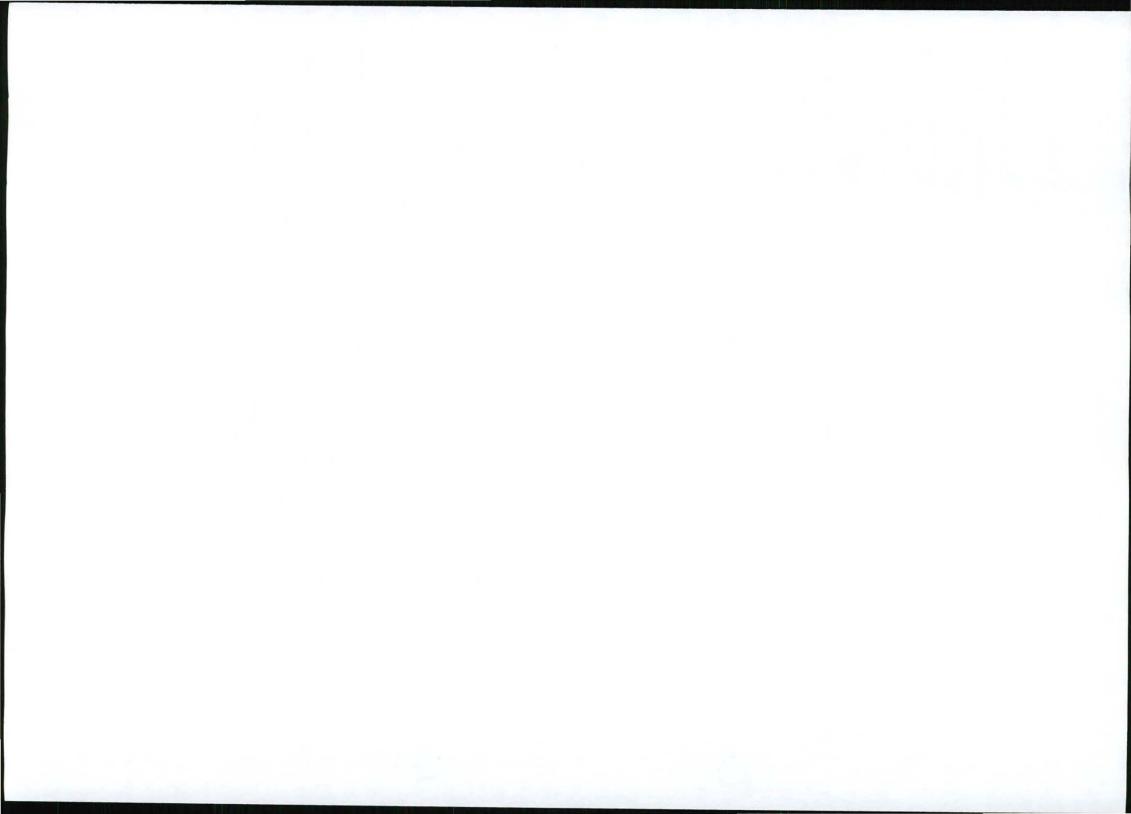
- (gg) the water content of the material at the time of deposition, after compaction, and at other phases in the life of the deposit.
- (ii) chemical characteristics, which may include -
  - (aa) the toxicity;
  - (bb) the propensity to oxidize and /or decompose;
  - (cc) the propensity to undergo spontaneous combustion;
  - (dd) the pH and chemical composition of the water separated from the solids;
  - (ee) stability and reactivity and the rate thereof; and
  - (ff) neutralising potential.
- (iii) mineral content, which include the specific gravity of the residue particles and its impact on particle segregation and consolidation;
- (3) Classification of residue stockpiles and deposits
  - (a) All residue stockpiles and deposits must be classified into one or a combination of the following categories –
    - the safety classification to differentiate between residue stockpiles and deposits of high, medium and low hazard on the basis of their potential to cause harm to life or property; and
    - (ii) the environmental classification to differentiate between residue stockpiles and deposits with -
      - (aa) a potentially significant impact on the environment due to its spatial extent, duration and intensity of potential impacts; or
      - (bb) no potentially significant impact on the environment.
  - (b) All mine residue stockpiles and deposits must be classified by a suitably qualified person(s).
  - (c) The classification of residue stockpiles and deposits shall determine the -
    - (i) level of investigation and assessment required;
    - (ii) requirements for design, construction, operation, decommissioning, closure and post closure maintenance; and
    - (iii) qualifications and expertise required of persons undertaking the investigations, assessments, design, construction thereof.
  - (d) The safety classification of residue stockpiles and deposits shall be based on the following criteria –

Number of	Number of workers	Value of third party	Depth to	Classiication
residents in zone	in zone of influence	propert in zone of	underground mine	
of influence		influence	workings	
0	< 10	0 – R2 m	> 200m	Low hazard
1 – 10	11 – 100	R 2 m – R20 m	50 m - 200 m	Medium hazard
> 10	> 100	> R20 m	< 50 m	High hazard

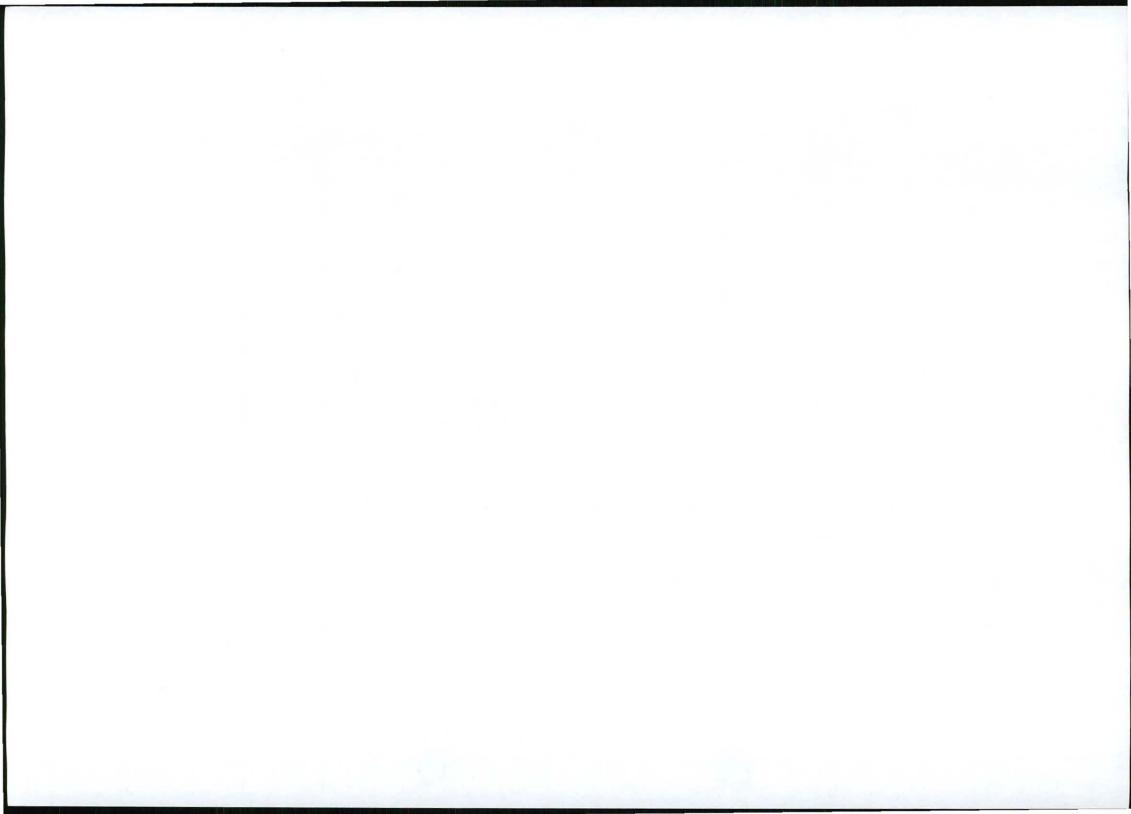
- (e) A risk analysis must be carried out and documented on all high hazard residue stockpiles and deposits.
- (f) The environmental classification of residue stockpiles and deposits must be undertaken on the basis of –
  - (i) the characteritics of the residue;
  - (ii) the location and dimensions of the deposit (height, surface area);
  - (iii) the importance and vulnerability of the environmental components that are at risk; and
  - (iv) the spatial extent, duration and intensity of potential impacts.



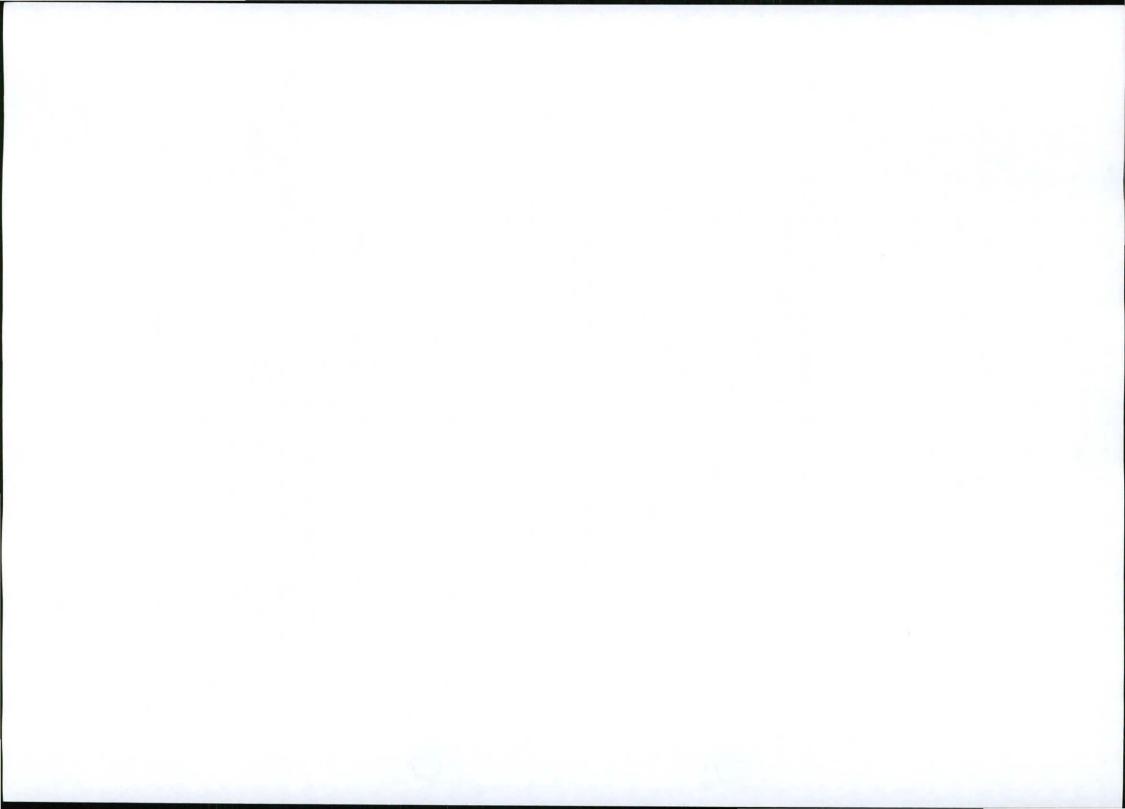
- (g) An assessment of the environmental impacts shall be done on all environmental components which are significantly affected.
- (h) The assessment of impacts and analyses of risks shall form part of the environmental assessment and management programme.
- (4) Site selection and investigation:
  - (a) The process of investigation and selection of a site must entail -
    - the identification of a sufficient number of possible candidate sites to ensure adequate consideration of alternative sites;
    - (ii) qualitative evaluation and ranking of all alternative sites;
    - (iii) qualitative investigation of the top ranking sites to review the ranking done in (ii);
    - (iv) a feasibility study to be carried out on the highest ranking site(s), involving -
      - (aa) a prelimenary safety classification;
      - (bb) an environmental classification;
      - (cc) geotechnical investigations; and
      - (dd) groundwater investigations.
  - (b) The geotechnical investigations may include-
    - the characterization of the soil profile over the entire area to be covered by the residue facility and associated infrastructure to define the spatial extent and depth of the different soil horizons;
    - the characterization of the relevant engineering properties of foundations soils and the assessment of strength and drainage characteristics.
  - (c) The groundwater investigations may include-
    - (i) the potential rate of seepage from the residue facility;
    - (ii) the quality of such seepage;
    - (iii) the geohydrological properties of the strata within the zone that could potentially be affected by the quality of seepage;
    - (iv) the vulnerability and existing potential use of the groundwater resource within the zone that could potentially be affected by the residue facility.
  - (d) From these investigations, a preferred site must be identified.
  - (e) Further investigation on the preferred site, shall include -
    - (i) land use;
    - (ii) topography and surface drainage;
    - (iii) infrastructure and man-made features;
    - (iv) climate:
    - (v) flora and fauna;
    - (vi) soils;
    - (vii) ground water morphology, flow, quality and usage; and
    - (viii) surface water.
  - (f) The investigations, laboratory test work, interpretation of data and recommendations for the identification and selection of the most appropriate and suitable site for the disposal of all residue that have the potential to generate leachate that could have a significant impact on the environment and groundwater must be carried out by a suitably qualified person.



- (5) Design of residue stockpile and deposit
  - (a) The design of the residue stockpile and deposit shall be undertaken by a suitably qualified person.
  - (b) An assessment of the typical soil profile on the site is required for residue stockpiles and deposits which -
    - (i) have a low hazard potential; and
    - (ii) have no significant impact on the environment.
  - (c) The design of the residue stockpile and deposit must take into account all phases of the life cycle of the stockpile and deposit, from construction through to closure and must include
    - (i) the characteristics of the mine residue;
    - (ii) the characteristics of the site and the receiving environment;
    - the general layout of the stockpile or deposit, whether it is a natural valley, ring dyke, impoundment or a combination thereof and its 3-dimensional geometry at appropriate intervals throughout the planned incremental growth of the stockpile or deposit:
    - (iv) the type of deposition method used; and
    - (v) the rate of rise of the stockpile or deposit.
  - (d) Other design considerations, as appropriate to the particular type of stockpile and deposit must be incrporated –
    - (i) the control of storm water on and around the residue stockpile or deposit by making provision for the maximum precipitation to be expected over a period of 24 hours with a frequency of once in a 100 years, in accordance with the regulations made under section 8 of the National Water Act, 1998;
    - (ii) the provision, throughout the system, of a freeboard of at least 0.5 m above the expected maximum water level, in accordance with regulations made under the National Water Act, 1998, to prevent overtopping;
    - (iii) keeping the pool away from the walls; where there are valid technical reasons for deviating from this, adequate motivation must be provided and the design must be reviewed by a qualified person as required in terms of sections 9(6) or 9(7) of the Mine Health and Safety Act, 1996;
    - (iv) the control of decanting of excess water under normal and storm conditions:
      - (aa) the retension of polluted water in terms of polluted water in terms of GN R991(9), where measures may be required to prevent water from the residue deposit from leaving the residue management system unless it meets prescribed requirements;
      - (bb) the design of the penstock, outfall pipe, under-drainage system and return water dams;
      - (cc) the height of the phreatic surface, slope angles and method of construction of the outer walls and their effects on shear stability;
      - (dd) the erosion of slopes by wind and water, and its control by (ee) vegetation, berms or carchment paddocks; and
      - (ee) the potential for pollution.
  - (e) A design report and operating manual shall be drawn up for all residue stockpiles and deposits which
    - (i) have a medium to high hazard; and
    - (ii) have a potentially significant impact on the environment.
  - (f) Relevant information must be included in the draft environmental management programme or environmental management plan.



- (6) Construction and operation of residue deposits:
  - (a) The holder of any right or permit in terms of the Act, must ensure that-
    - the residue deposits, including any surrounding catchment paddocks, is constructed and operated in accordance with the approved environmental management programme or environmental management plan;
    - (ii) the design of the residue deposit is followed implicitly throughout the construction thereof, and that any deviations from the design be approved by the Regional Manager and the environmental manage programme and environmental management plan be amended accordingly;
    - (iii) as part of the monitoring system, measurements of all residues transported to the site and of all surplus water removed from the site are recorded;
    - (iv) the provision for appropriate security measures be implemented to limit unauthorised access to the site and inrusion into the residue deposit;
    - (v) specific action be taken in respect of any sign of pollution;
    - (vi) adequate measures be implemented to control dust pollution and erosion of the slopes; and
    - (vii) details of rehabilitation of the residue deposit be provided in the draft environmental management programme or environmental management plan.
  - (b) A system of routine maintenance and repair in respect of the residue deposit must be imlemented to ensure the ongoing control of pollution, the integrity of rehabilitation and health and safety maters at the site.
- (7) Monitoring of residue stockpiles and deposits:
  - (a) A monitoring system for residue stockpiles and deposits with respect to potentially significant impacts as identified in the environmental assessment must be included in the environmental management programme or environmental management plan.
  - (b) In the design of a monitoring system for a residue stockpile or deposit, consideration must be given to
    - baseline and background conditions with regard to air, surface and groundwater quality;
    - (ii) the air, surface and groundwater quality objectives;
    - (iii) residue characteristics:
    - (iv) the degree and nature of residue containment;
    - (v) the receiving environment and secifically the climatic, local geological, hydrogeological and geochemical conditions;
    - (vi) potential migration pathways;
    - (vii) potential impacts of leachate:
    - (viii) the location of monitoring points and the prescribed monitoring protocols; and
    - (ix) the reporting frequency and procedures.
- (8) Decommissioning, closure and after care:
  - (a) The decommissioning, closure and post closure management of residue deposits must be addressed in the closure plan, which must contain the following -
    - the environmental classification, including assumptions on which the classification were based:
    - (ii) the closure objectives, final land use or capability;
    - (iii) conceptual descrption and details for closure and post closure management;
    - (iv) cost estimates and financial provision for closure and post-closure management; and
    - (v) residual impacts, monitoring and requirements to obtain mine closure in terms of the Act.



#### F 3.6 FINAL REHABILITATION

- All infrastructure, equipment, plant, temporary housing and other items used during the mining period will be removed from the site (section 44 of the MPRDA)
- Waste material of any description, including receptacles, scrap, rubble and tyres, will be removed entirely from the mining area and disposed of at a recognised landfill facility. It will not be permitted to be buried or burned on the site.
- Final rehabilitation shall be completed within a period specified by the Regional Manager.

#### F 4 MONITORING AND REPORTING

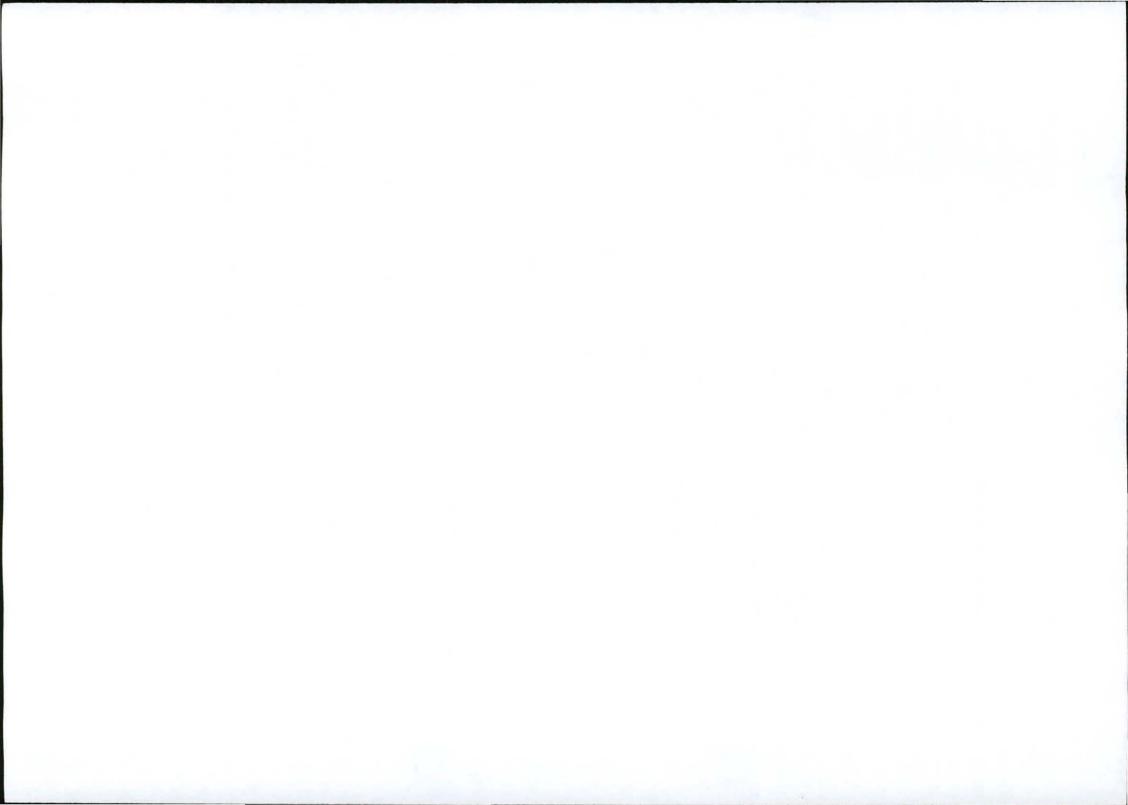
# F 4.1 Inspections and monitoring

- Regular monitoring of all the environmental management measures and components shall be carried out by the holder of the prospecting right, mining permit or reconnaissance permission in order to ensure that the provisions of this programme are adhered to.
- Ongoing and regular reporting of the progress of implementation of this programme will be done.
- Various points of compliance will be identified with regard to the various impacts that the operations will have on the environment.
- Inspections and monitoring shall be carried out on both the implementation of the programme and the impact on plant and animal life.
- Visual inspections on erosion and physical pollution shall be carried out on a regular basis.

## Regulation 55 promulgated in terms of the MPRDA requires the following:

## Monitoring and performance assessments of environmental management programme or plan

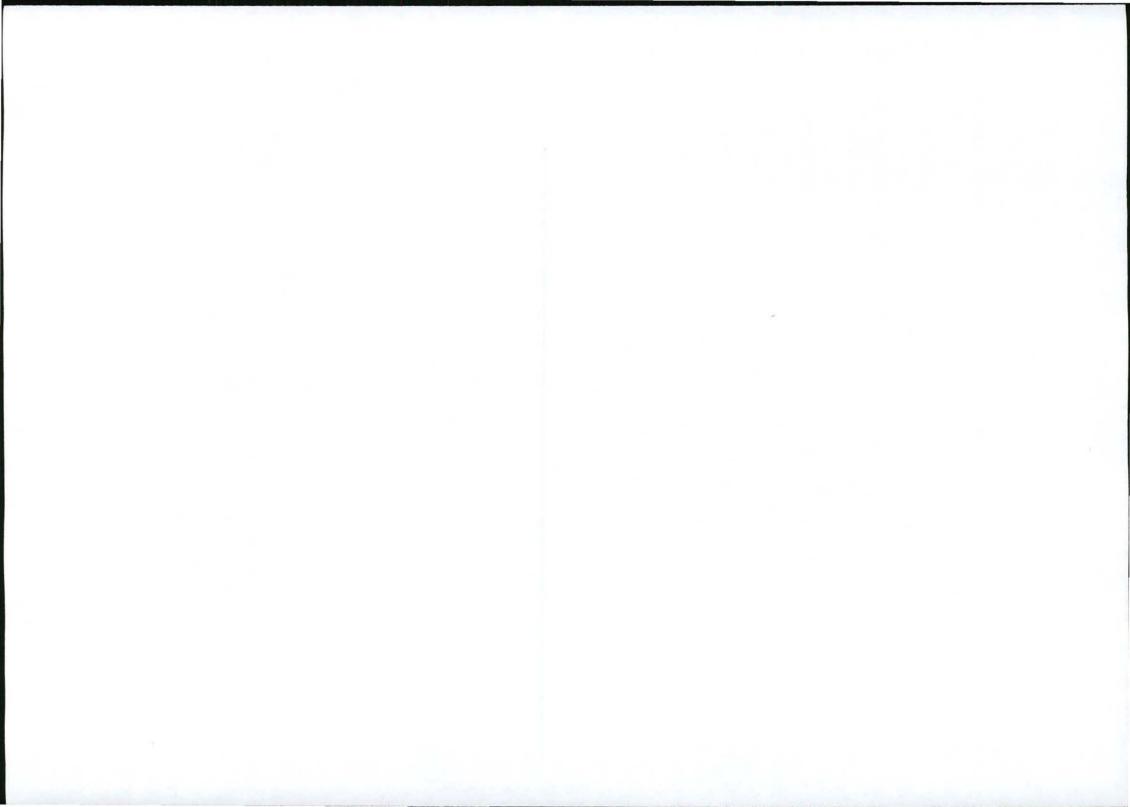
- (1) As part of the general terms and conditions for a prospecting right, mining right or mining permit and in order to ensure compliance with the approved environmental management programme or plan and to assess the continued appropriateness and adequacy of the environmental management programme or plan, the holder of such right must-
  - (a) conduct monitoring on a continuous basis;
  - (b) conduct performance assessments of the environmental management programme or plan as required; and
  - (c) compile and submit a performance assessment report to the Minister to demonstrate adherence to sub-regulation (b).
- (2) The frequency of performance assessment reporting shall be-
  - in accordance with the period specified in the approved environmental management programme or plan, or, if not so specified;
  - (b) as agreed to in writing by the Minister; or
  - (c) biennially (every two years).
- (3) The performance assessment report, shall be in the format provided in guidelines that will from time to time be published by the Department and shall as a minimum contain-
  - (a) information regarding the period that applies to the performance assessment;
  - (b) the scope of the assessment;



- (c) the procedure used for the assessment;
- the interpreted information gained from monitoring the approved environmental management programme or plan;
- (e) the evaluation criteria used during the assessment;
- (f) the results of the assessment; and
- (g) recommendations on how and when deficiencies that are identified and/or aspects of non-compliance will be rectified.
- (4) The holder of a prospecting right, mining right or mining permit may appoint an independent qualified person(s) to conduct the performance assessment and compile the performance assessment report provided that no such appointment shall relieve the holder of the responsibilities in terms of these regulations.
- (5) Subject to section 30(2) of the Act, the performance assessment report submitted by the holder shall be made available by the Minister to any person on request.
- (6) If upon consideration by the Minister, the performance assessment executed by the holder is not satisfactory or the report submitted by the holder is found to be unacceptable, the holder must-
  - repeat the whole or relevant parts of the performance assessment and revise and resubmit the report; and/or
  - (b) submit relevant supporting information; and/or
  - (c) appoint an independent competent person(s) to conduct the whole or part of the performance assessment and to compile the report.
- (7) If a reasonable assessment indicates that the performance assessment cannot be executed satisfactorily by the holder or a competent person(s) appointed by the holder, the Minister may appoint an independent performance assessment person(s) to conduct such performance accessment. Such appointment and execution shall be for the cost of the holder.
- (8) When the holder of a prospecting right, mining right or mining permit intends closing such operation, a final performance assessment shall be conducted and a report submitted to the Minister to ensure that -
  - (a) the requirements of the relevant legislation have been complied with;
  - (b) the closure objectives as described in the environmental management programme or plan have been met; and
  - (c) all residual environmental impacts resulting from the holder's operations have been identified and the risks of latent impacts which may occur have been identified, quantified and arrangements for the management thereof have been assessed.
- (9) The final performance assessment report shall either precede or accompany the application for a closure certificate in terms of the Act.

# F 4.2 Compliance reporting / submission of information

- Layout plans will be updated on a regular basis and updated copies will be submitted on a biennial basis to the Regional Manager
- Reports confirming compliance with various points identified in the environmental management programme will be submitted to the Regional Manager on a regular basis and as decided by the said manager.
- Any emergency or unforeseen impact will be reported as soon as possible.
- An assessment of environmental impacts that were not properly addressed or were unknown when the programme was compiled shall be carried out and added as a corrective action.



#### F 5 CLOSURE

When the holder of a prospecting right, mining permit or reconnaissance permission intends closing down his/her operations, an environmental risk report shall accompany the application for closure. The requirements of such a risk report is contained in Regulation 60 of the Regulations promulgated in terms of the Act and is guoted below:

## F 5.1 ENVIRONMENTAL RISK REPORT

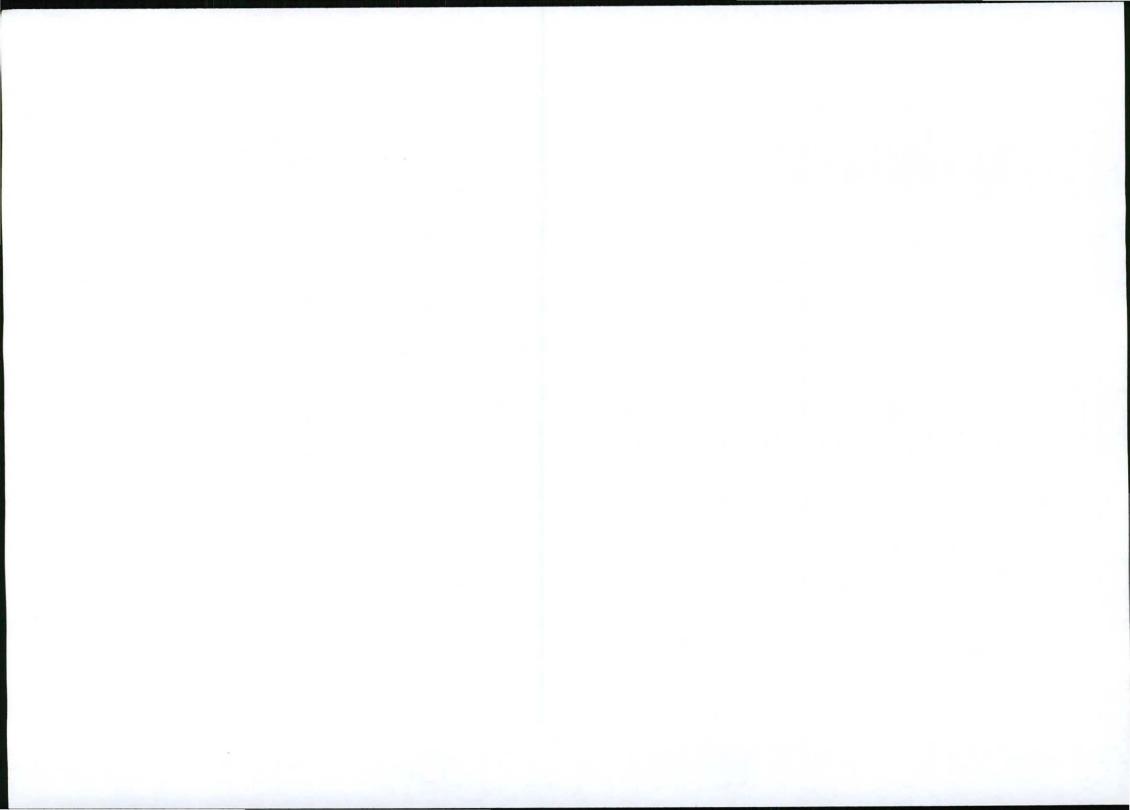
"An application for a closure certificate must be accompanied by an environmental risk report which must include-

- (a) the undertaking of a screening level environmental risk assessment where-
  - all possible environmental risks are identified, including those which appear to be insignificant;
  - (ii) the process is based on the input from existing data;
  - (iii) the issues that are considered are qualitatively ranked as -
    - (aa) a potential significant risk; and/or
    - (bb) a uncertain risk; and/or
    - (cc) an insignificant risk.
- (b) the undertaking of a second level risk assessment on issues classified as potential significant risks where-
  - (i) appropriate sampling, data collection and monitoring be carried out;
  - (ii) more realistic assumptions and actual measurements be made; and
  - (iii) a more quantitative risk assessment is undertaken, again classifying issues as posing a potential significant risk or insignificant risk.
- assessing whether issues classified as posing potential significant risks are acceptable without further mitigation;
- issues classified as uncertain risks be re-evaluated and re-classified as either posing potential significant risks or insignificant risks;
- (e) documenting the status of insignificant risks and agree with interested and affected persons;
- (f) identifying alternative risk prevention or management strategies for potential significant risks which have been identified, quantified and qualified in the second level risk assessment:
- (g) agreeing on management measures to be implemented for the potential significant risks which must include-
  - (i) a description of the management measures to be applied;
  - (ii) a predicted long-term result of the applied management measures;
     (iii) the residual and latent impact after successful implementation of the management measures;
  - (iv) time frames and schedule for the implementation of the management measures;
  - (v) responsibilities for implementation and long-term maintenance of the management measures;
  - (vi) financial provision for long-term maintenance; and
  - (vii) monitoring programmes to be implemented."

#### F 5.2 CLOSURE OBJECTIVES

Closure objectives form part of this EMPlan and must-

- (a) identify the key objectives for mine closure to guide the project design, development and management of environmental objectives;
- (b) provide broad future land use objective(s) for the site; and
- (c) provide proposed closure cost



#### F 5.3 CONTENTS OF CLOSURE PLAN

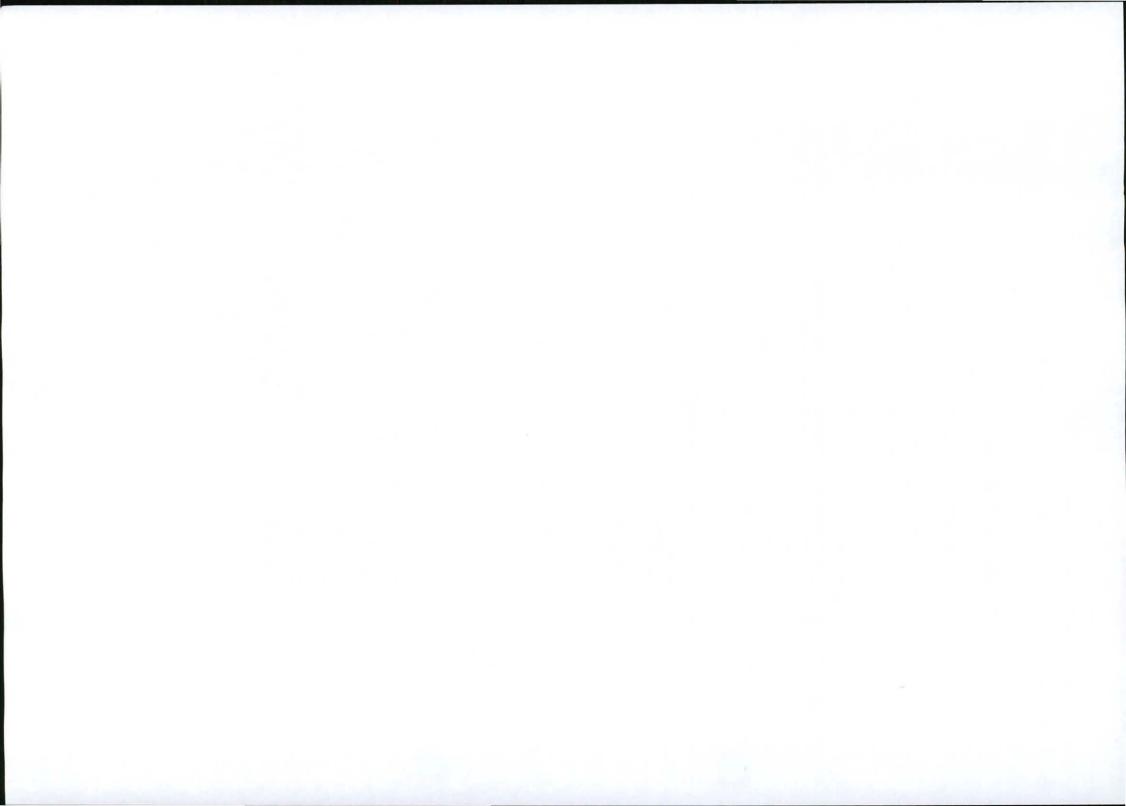
A closure plan forms part of the EMP and must include the following:

- a description of the closure objectives and how these relate to the prospecting or mine operation and its environmental and social setting;
- (b) a plan contemplated in Regulation 2(2), coordinated according to generally accepted standards, showing the land or area under closure;
- (c) a summary of the regulatory requirements and conditions for closure negotiated and documented in the environmental management programme or plan;
- a summary of the results of the environmental risk report and details of identified residual and latent impacts;
- (e) a summary of the results of progressive rehabilitation undertaken;
- (f) a description of the methods to decommission each prospecting or mining component and the mitigation or management strategy proposed to avoid, minimize and manage residual or latent impacts;
- (g) details of any long-term management and maintenance expected;
- (h) details of financial provision for monitoring, maintenance and post closure management, if required;
- a plan or sketch at an appropriate scale describing the final land use proposal and arrangements for the site;
- (j) a record of interested and affected persons consulted; and
- (k) technical appendices, if any.

## F 5.4 TRANSFER OF ENVIRONMENTAL LIABILITIES TO A COMPETENT PERSON

Should the holder of a prospecting right, mining permit or reconnaissance permission wish to transfer any environmental liabilities and responsibilities to another person or persons, the following will pertain:

- (1) An application to transfer environmental liabilities to a competent person in terms of section 48) of the Act, must be completed on Form O as set out in Annexure 1 to the Regulations and be lodged to the Minister for consideration.
- (2) The holder of a prospecting right, mining right or mining permit may transfer liabilities and responsibilities as identified in the environmental management plan and the required closure plan to a competent person as contemplated in Regulation 58.
- (3) When considering the transfer of environmental liabilities and responsibilities in terms of section 48) of the Act, the Minister must consult with any State department which administers any law relating to matters affecting the environment.
- (4) No transfer of environmental liabilities and responsibilities to a competent person may be made unless the Chief Inspector of Mines and the Department of Water Affairs and Forestry have confirmed in writing that the person to whom the liabilities and responsibilities is transferred to, have the necessary qualifications pertaining to health and safety and management of potential pollution of water resources.



# F 5.5 NOTES ON LEGAL PROVISIONS

NOTE:	The holder of a prospecting right, mining permit or reconnaissance permission must also take cognisance of the provisions of other legislation dealing with matters relating to conservation, and which include, <i>inter alia</i> , the following:
*	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)

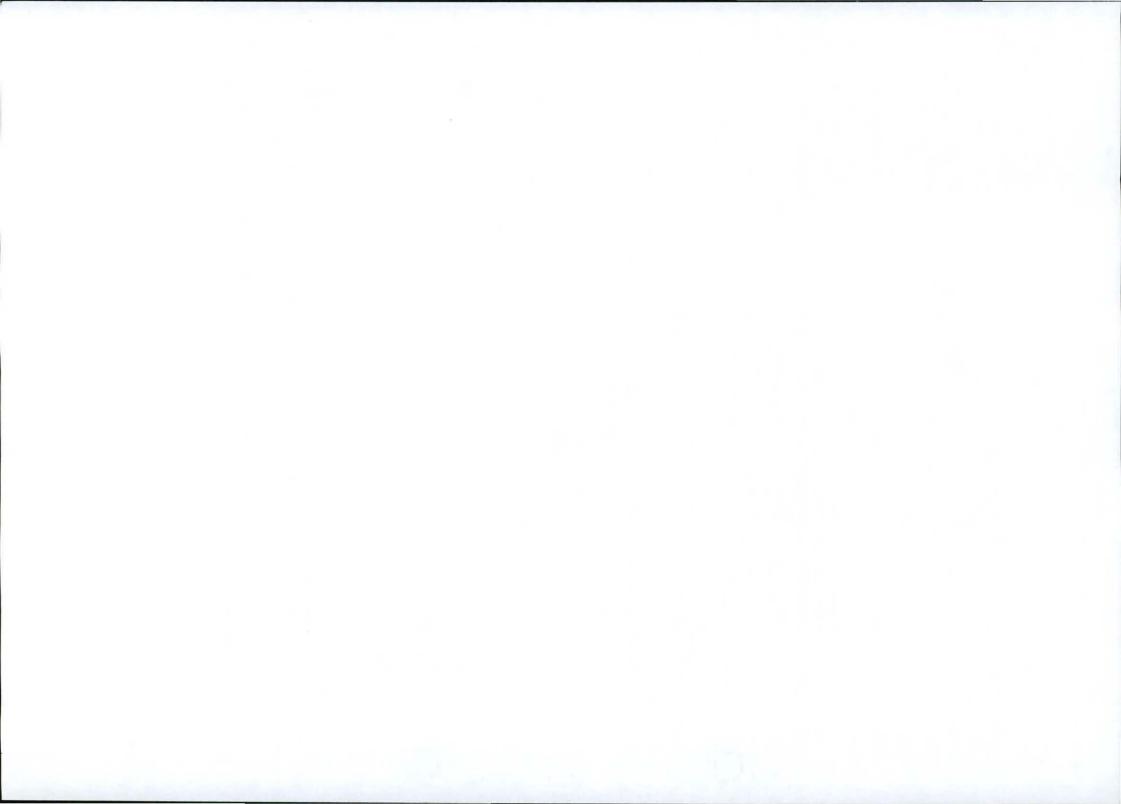
## G. SPECIFIC ADDITIONAL REQUIREMENTS DETERMINED BY THE REGIONAL MANAGER.

The Conservation of Agricultural Resources Act, 1983 (Act 43 of 1983).

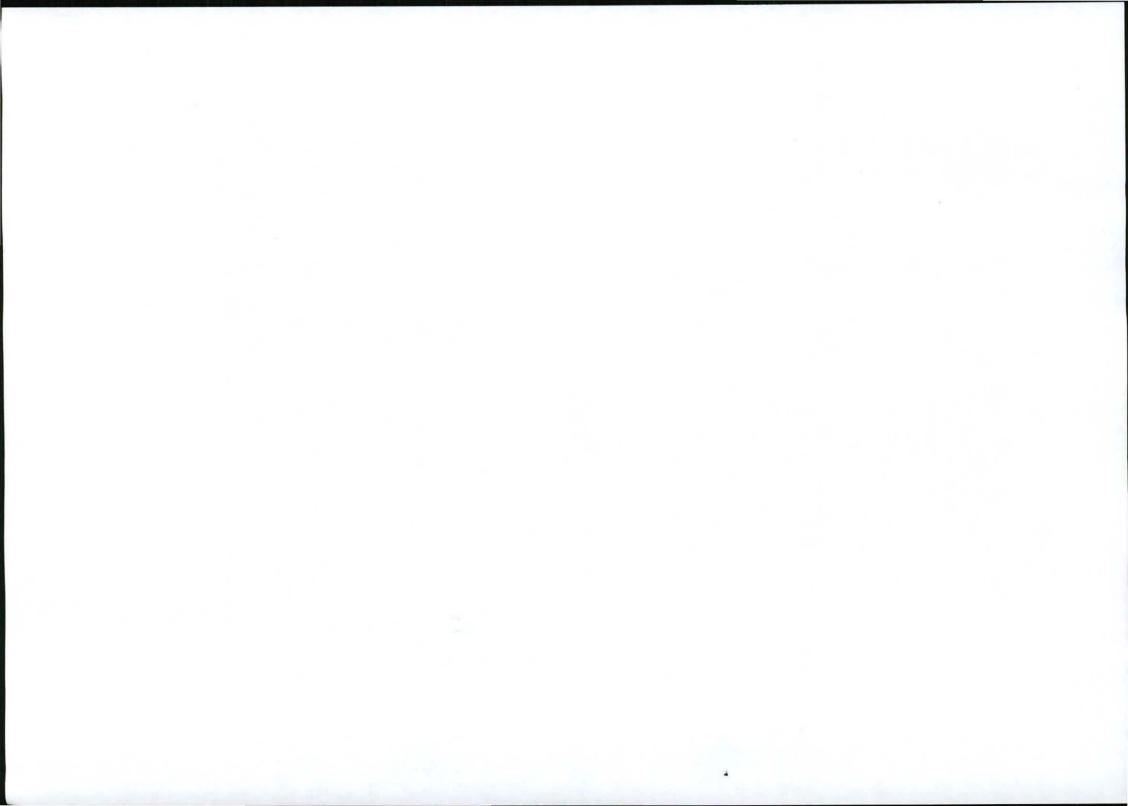
Officials in regional offices may use the following matrix to determine the necessity for additional objectives to be included in this Section of the document:

	POTENT	IAL E	VIRON	MENTA	AL IMPAC	TS OF I	MINING			
Activity	Disturbance			Pollution			Visual			
	Landform	Soil	Flora	Fauna	Heritage	Land	Water	Air	Noise	
Mining										
Access										
Topsoil removal										
Overburden removal										
Mineral Extraction										
Tailings disposal										
Water Abstraction										
Pipeline route										
Transport										
Accomodation										
Waste Disposal										
Electricity										
Hydrocarbon storage										
Workforce										

Please indicate VL, L, M, H, and VH for Very Low, Low, Medium, high and Very High in each column to determine the main area and severity of impact.



G. This section outlines the specific additional requirements that may be set for the operation by the Regional Manager. Additional requirements will only have been set if the Regional Manager is of the opinion that there are specific impacts on the environment which will not be adequately mitigated by the provisions set within the standard version of the Environmental Management Plan. These requirements form part of the Environmental Management Plan and all elements and instructions contained herein must be complied with by the applicant.
H. UNDERTAKING
TAN ( havened Allery )
1. JAN Christopper Augusp
the undersigned and duly authorised thereto by Thank CHUBAL MINIOS.  Company/Glose Corporation/Municipality (Delete that which is not applicable) have studied and
(APT9) LTA.
understand the contents of this document in it's entirety and hereby duly undertake to adhere to the
conditions as set out therein including the amendment(s) agreed to by the Regional Manager in
Section G and approved on
Signed at Pololiu mic this 13th day of JUNE 2011
Signature of applicant Designation  ACTING MANAGING DIRECTOR.
Agency declaration: This document was completed byon behalf



# J. APPROVAL

Approved in terms of Section 39 2002 (Act 29 of 2002)	9(4) of the Mineral and	Petroleum Resources Develop	ment Act,
Signed at	this	day of	20
REGIONAL MANAGER			
REGION:			

This document has been compiled by the Directorate: Mine Environmental Management of the Department of Minerals and Energy at their Head Office in Pretoria. Any comments, suggestions or inputs will be sincerely appreciated. If you have any comments or suggestions regarding this document or its application, please forward your contribution to:

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