



**mineral resources**

Department:  
Mineral Resources  
**REPUBLIC OF SOUTH AFRICA**

Case ID: 2262

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**Directorate Minerals Regulations: Limpopo Region**

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Reference nr: LP30/5/1/3/3/2/1(1722) EM

**REGISTERED MAIL**

**The Manager:  
The Provision- SAHRA Limpopo  
P. O. Box 137  
Polokwane  
0700**

Attention: Mr. Donald Lithole/ Victor Mathivha

**CONSULTATION IN TERMS OF SECTION 40 OF THE MINERAL AND PETROLEUM RESOURCES DEVELOPMENT ACT 2002, (ACT 28 OF 2002) FOR THE APPROVAL OF AN ENVIRONMENTAL MANAGEMENT PLAN FOR MINING PERMIT IN RESPECT OF THE FARM KIRSTEN 212 LT, SITUATED IN THE MAGISTERIAL DISTRICT OF MALAMULELE, LIMPOPO REGION.**

**APPLICANT: HECTOCORP (PTY) LTD.**

Attached herewith, please find a copy of an EMP received from the above-mentioned applicant, for your comments.

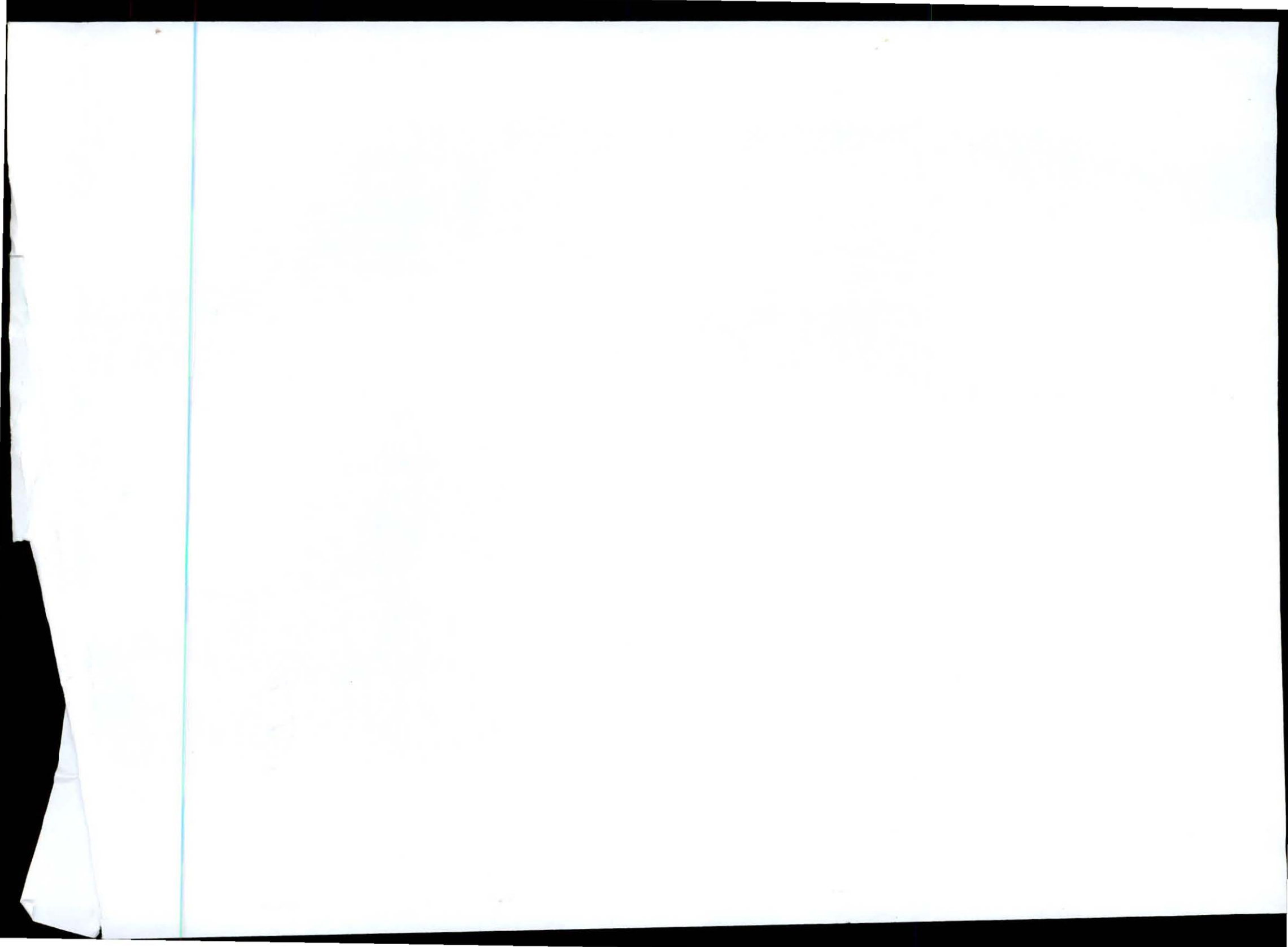
It would be appreciated if you could forward any comments or requirements your Department may have in the case in hand to this office and to the applicant within 30 days as from **06 July 2011 to 08 August 2011**, failure of which will lead to the assumption that your Department has no objection(s) or comments with regard to this application and this Department will in that instance proceed with the finalisation thereof.

Your co-operation will be appreciated.

  
\_\_\_\_\_  
**THE REGIONAL MANAGER  
LIMPOPO REGION – POLOKWANE  
01 JULY 2011**

12557

2011-07-03



HECTOCORP (PTY) LTD

**ENVIRONMENTAL IMPACT ASSESSMENT AND  
ENVIRONMENTAL MANAGEMENT PLAN**

**MINING PERMIT LP 30/05/1/3/2/1722 MP**

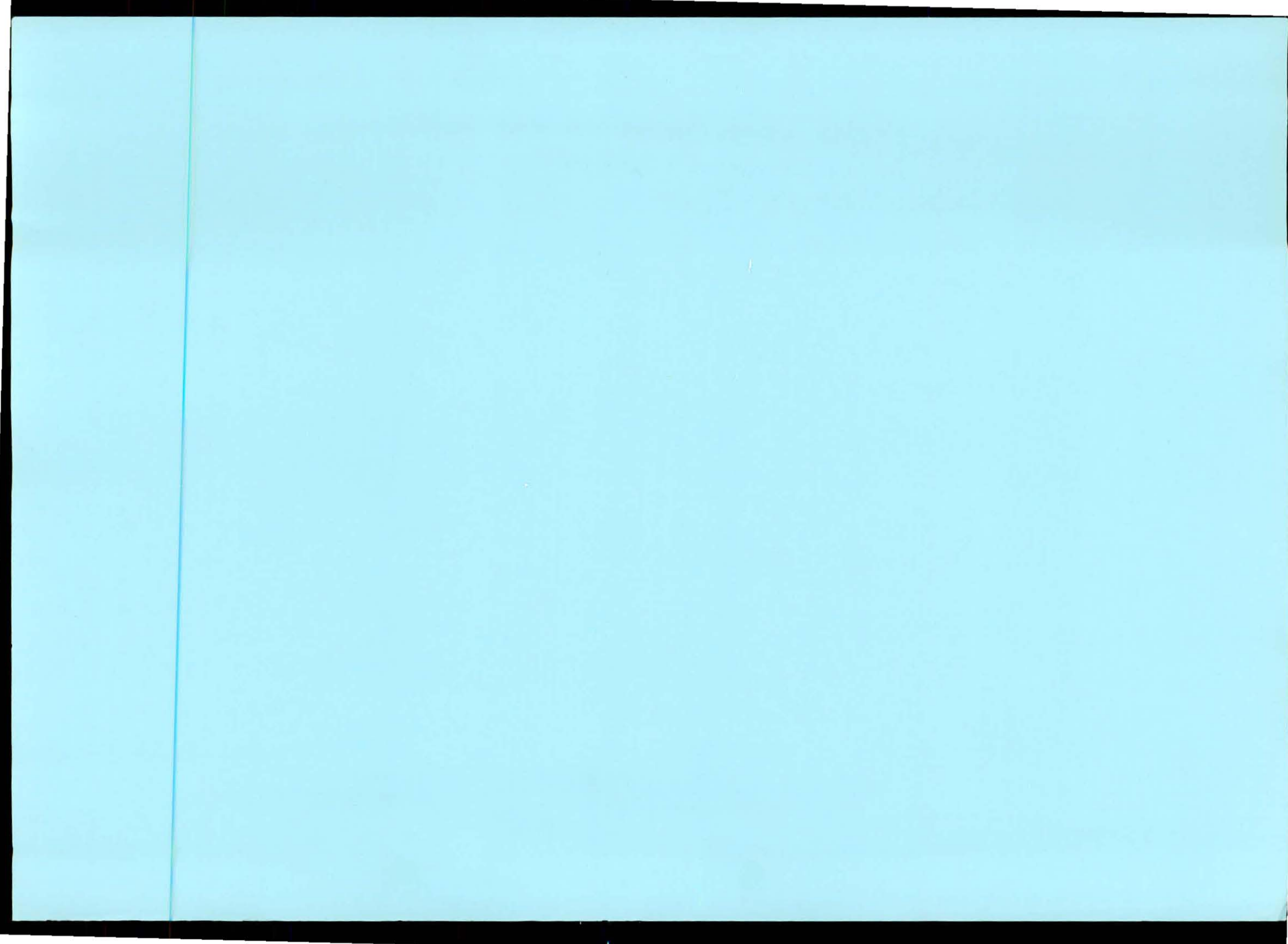
**MINING OPERATION : REPROCESSING OF GOLD TAILING DAMS**

RECEIVED

MINERAL RESOURCES  
PRIVATE BAG X9467  
FOLDOYANE 0700  
REGIONAL MANAGER  
LIMPOPO REGION

SIGNATURE *W. M. J.* DATE 23/06/11

NO.

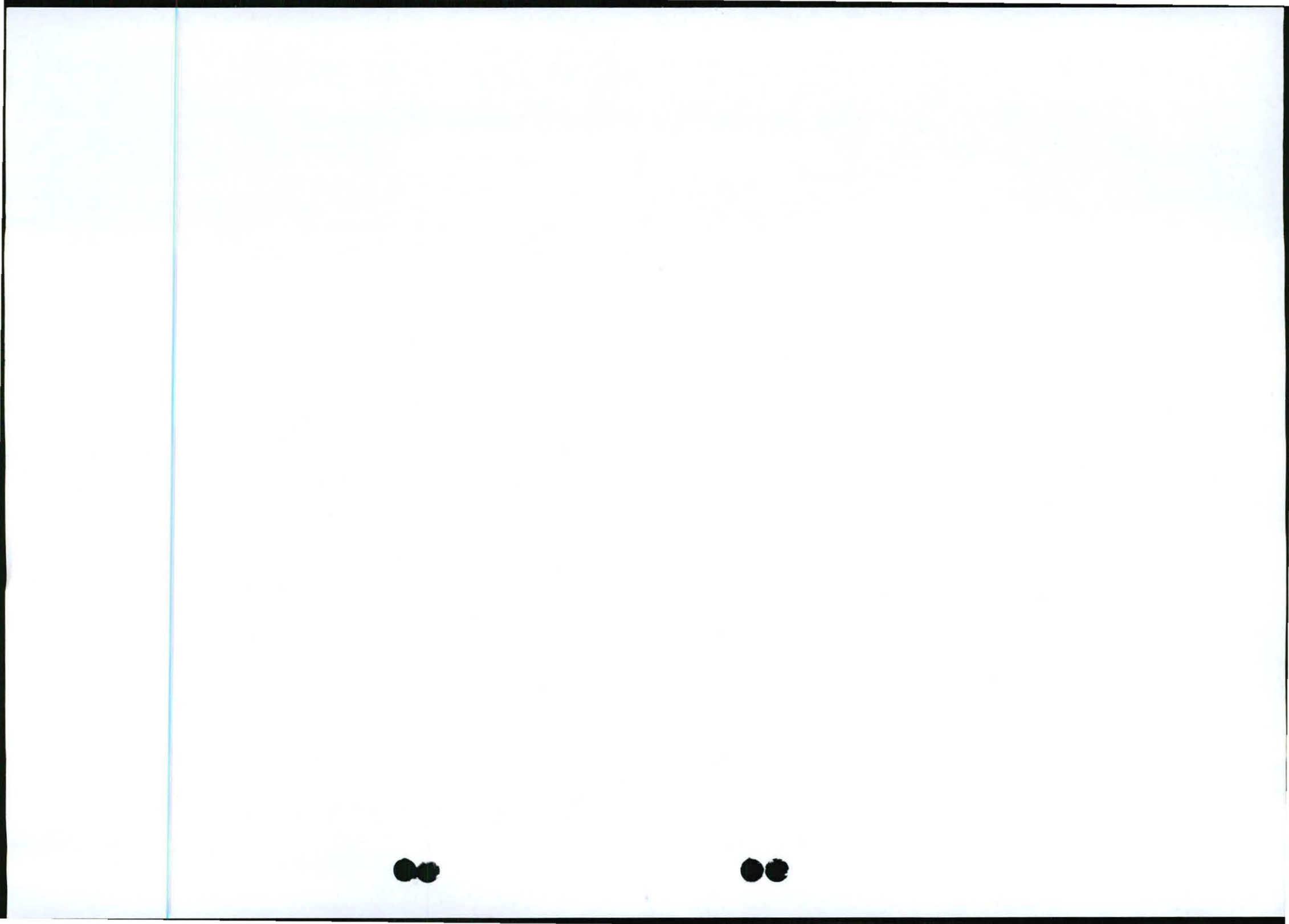


**ENVIRONMENTAL IMPACT ASSESSMENT AND ENVIRONMENTAL  
MANAGEMENT PLAN**

Submitted 7 June 2011

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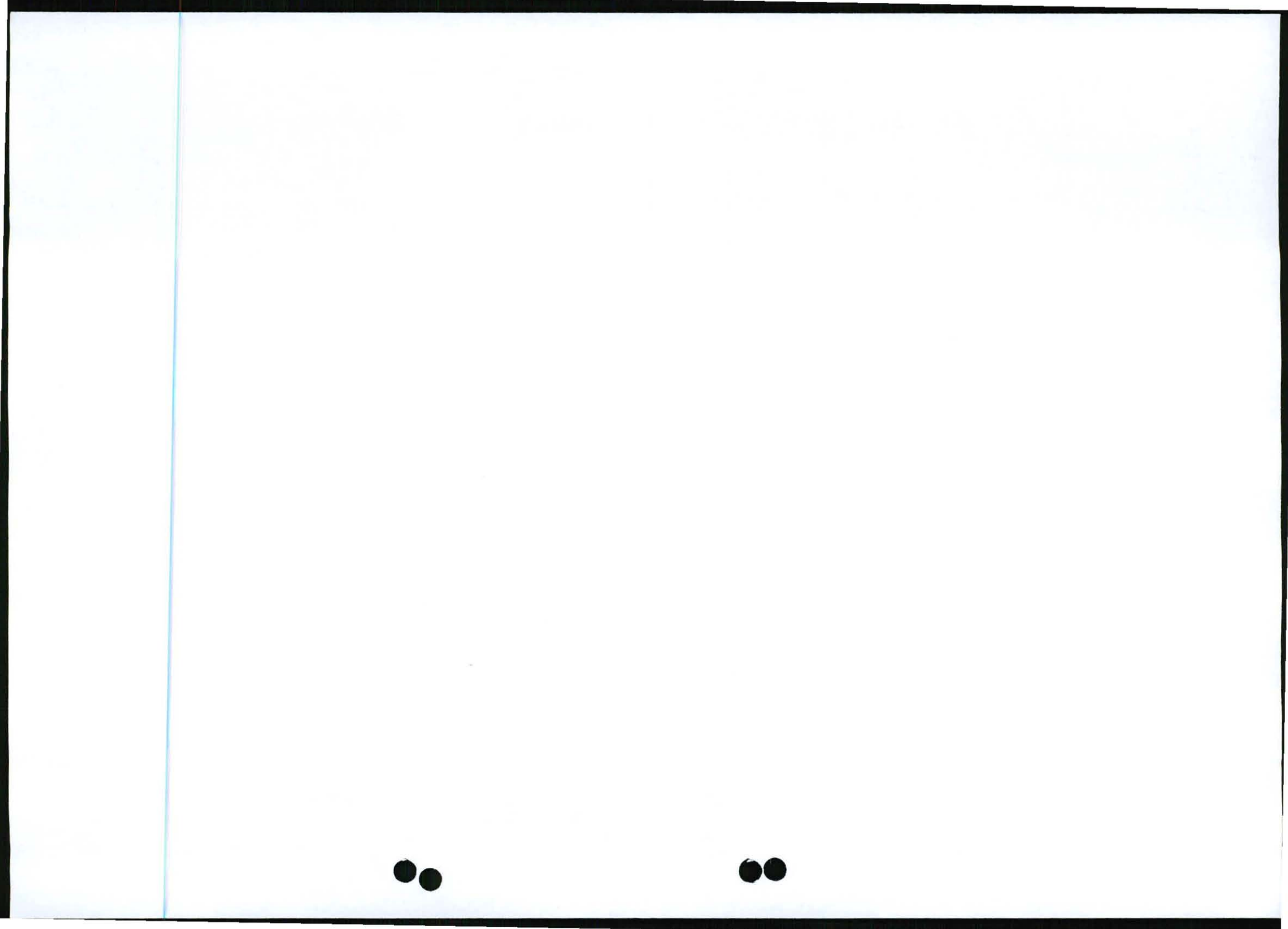


NAME APPLICANT: HECTOCORP (PTY) LTD

REFERENCE NUMBER: LP 30/5/1/3/2/1722 MP

**ENVIRONMENTAL IMPACT  
ASSESSMENT  
AND  
ENVIRONMENTAL MANAGEMENT  
PROGRAMME**

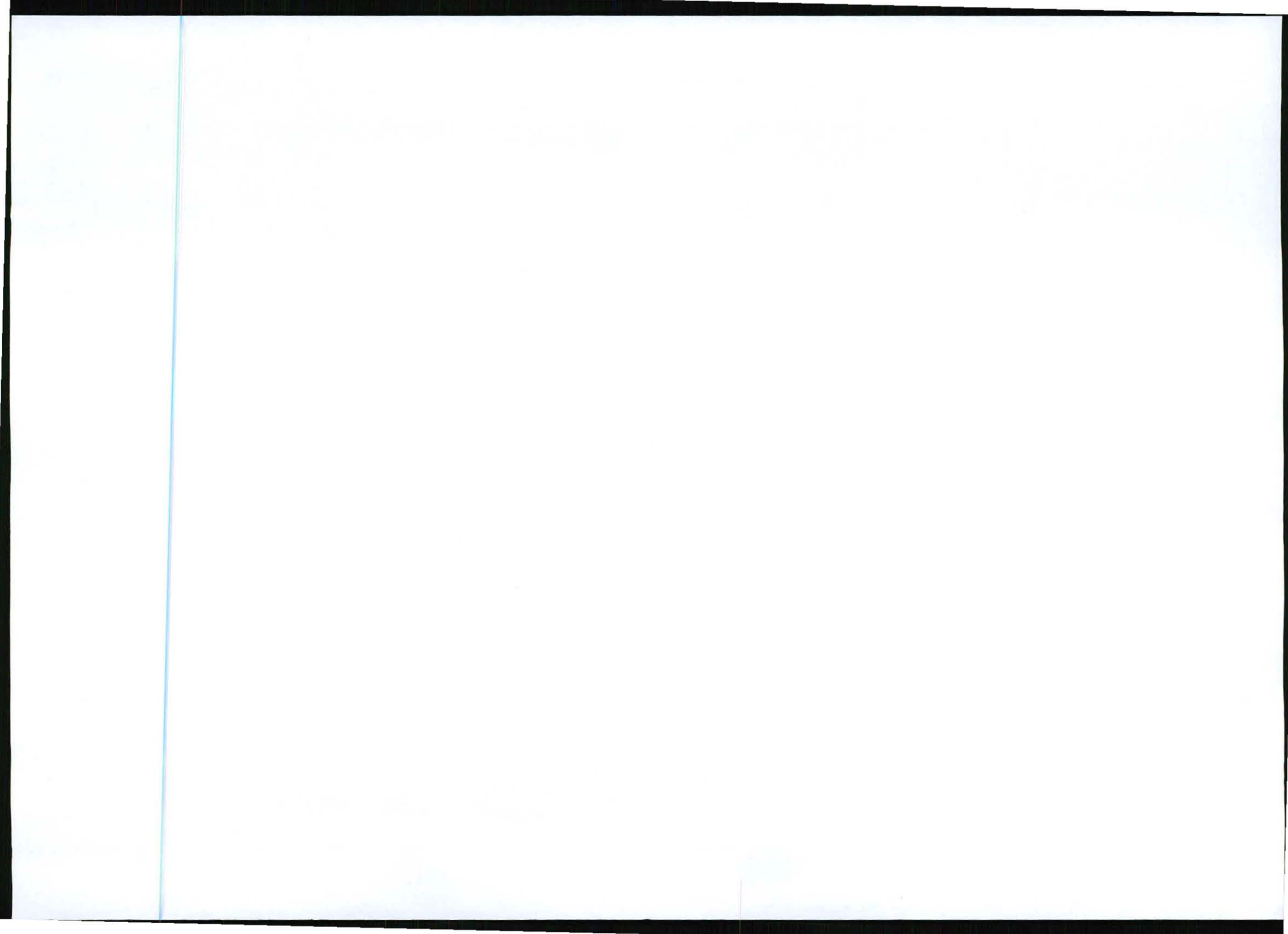
**SUBMITTED FOR AN APPLICATION FOR A MINING  
RIGHT IN TERMS OF SECTION 39 AND OF REGULATIONS  
50 AND 51 OF THE MINERAL AND PETROLEUM  
RESOURCES DEVELOPMENT ACT, 2002  
(ACT NO. 28 OF 2002) (the Act)**





## **STANDARD DIRECTIVE**

All applicants for mining rights are herewith, in terms of the provisions of Section 29 and in terms of Section 39 (5) of the Mineral and Petroleum Resources Development Act, directed to submit an environmental Impact Assessment, and an Environmental Management Programme strictly in accordance with the subject headings herein, and to compile the content according to all the sub items to the said subject headings referred to in the guideline published on the Departments website, within 30 days of notification by the Regional Manager of the acceptance of such application.



**SECTION 1**

**ENVIRONMENTAL IMPACT ASSESSMENT**

**REGULATION 50(a)**

**1. Description of the baseline environment**

1.1 Concise description of the environment on site relative to the environment in the surrounding area.

<b>1 DESCRIPTION OF THE ENVIRONMENT LIKELY TO BE AFFECTED BY PROPOSED PROSPECTING/MINING OPERATIONS: (REGULATION 52(2)(a))</b>			
<b>1.1</b> What does the landscape surrounding the proposed operation look like? (Open veldt/ valley/ flowing landscape/ steep slopes)			
The proposed mining area is located at an altitude of approximately 500m above mean sea level. It maintains a gentle slope towards the NE with a subtle drainage system of non-perennial creeks. The southern section show signs of non-intensive cultivation activities to the south of the Malamulele/ Fumani connection road.			
<b>1.2</b> Describe the type of soil found on the surface of the site			
Most of the prospecting terrain is covered by a mixture Hutton and Clovelly soil forms.			
	<b>VALUE</b>	<b>TICK</b>	<b>OFFICE USE</b>
<b>C 1.3</b> How deep is the topsoil?	0 – 300mm	<b>x</b>	8
	300 – 600mm		4
	600mm +		2
<b>C 1.4</b> What <i>plants, trees and grasses</i> grow naturally in the area around the site?			



*Tropical bush* and *Acacia Nigrescens-Sclerocarya Savanna Biome* dominates the area of Fumani (Acock's veld Type 57 - Acocks). Vegetation in the vicinity surrounding the dumps and elsewhere on the mine premise is fairly undisturbed by erosion and grazing and can be considered to have high plant diversity with some conservation value. *Grass cover* is well established on the mine except for the immediate areas around the old crusher plant facility and to the immediate east of dumps A and B. Evidently the *Digitaria* grass species seems to compete well with the *Themeda* species as the dominant grass (*57b Nera-Highland sourveld variation*). Other grasses are present and include: *Eragrostis*, *Andropogon chinensis*, *Cymbopogon* and less dominant species. Among the dominant trees, *Acacia* and *Combretums* are the essential ones with other subsidiaries: *Sclerocarya caffra*, *Colophospermum mopane*, *Peltoporum africanum* and *Strychnos madagascariensis*. (According to: *Acocks, 18b Mixed Terminalia – Dichpetalum Veld, 6 Open Sclerocarya Veld*)

To the best knowledge, no endangered plant species are currently recorded in the area.

**C 1.5** What *animals* naturally occur in the area?

Detailed studies of animal life in the vicinity of the exploration premise were not undertaken but due to the proximity of intense populated villages in the area and strong poverty, wild life is limited to terrestrial *mammals*, *reptiles* and *birds*. Species diversity is low due to the presence of domestic animals (dogs, goats, donkeys, cattle, cats) associated with the local community and surrounding dwellings. Some sporadic incidences occurred when the local community members in the area have observed large cat families due to the proximity of the National Park boundary.

To the best of our knowledge, no endangered bird or animal species are currently recorded in the area.

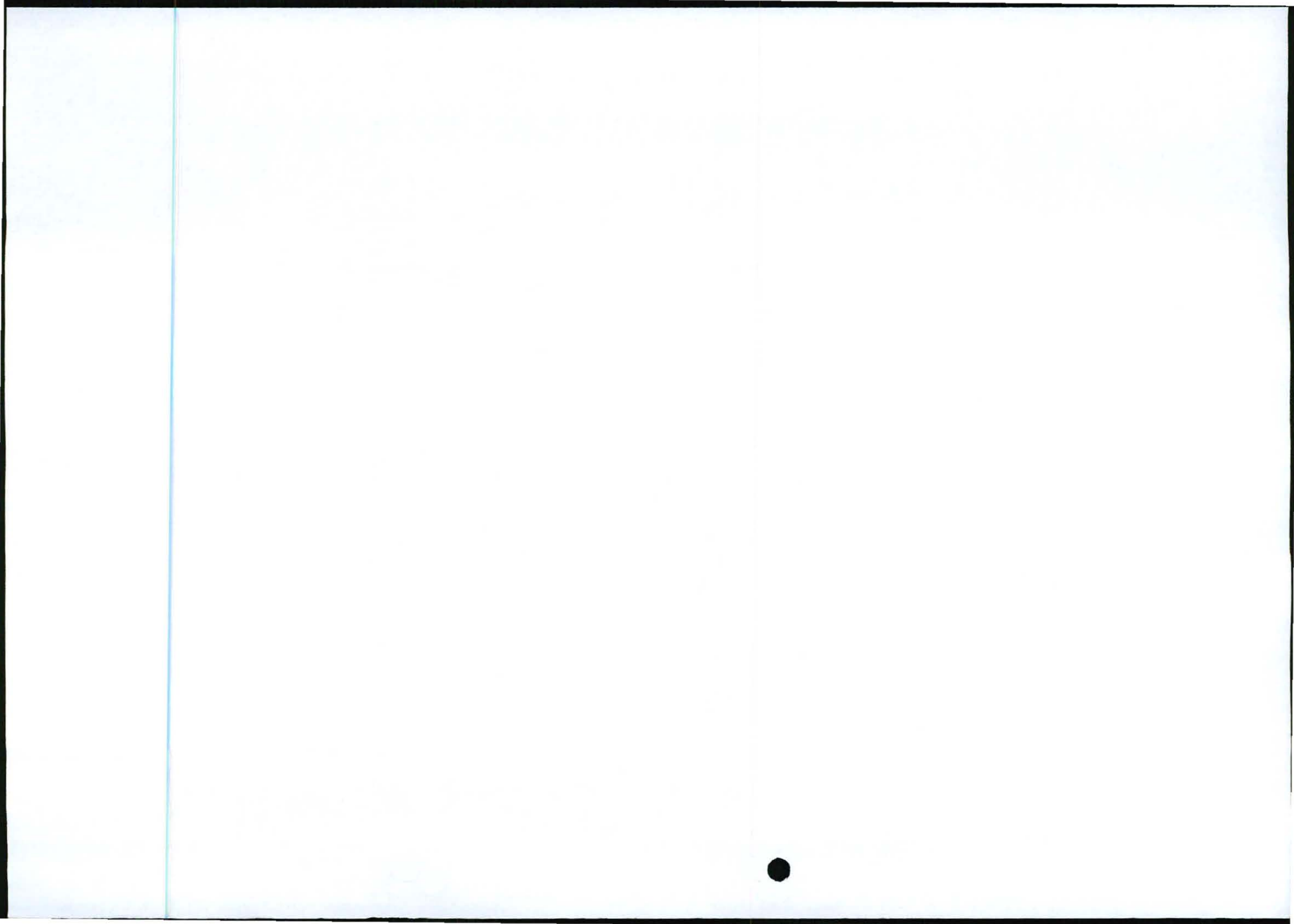
- 1.2 Concise description of each of the existing environmental aspects both on the site applied for and in the surrounding area which may require protection or remediation.

There are no environmental aspects on the mining area that needs consideration as the mining area is covered in old tailing dams from historical mining activities.

The tailing dams themselves may have long term negative effects on the surrounding areas. The mining operation shall eliminate such potential effects and the tailing dams itself.

No conserved/protected areas in the surrounding area, nor any sensitive agricultural areas. The mining area is located in close proximity (2-3 kilometres) from established rural settlements, which include tarred roads.

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The mining operation is non-pollutive and holds no threat to the direct or surrounding area which should be protected, remediated, managed or avoided.

- 1.3 Concise description of the specific land uses, cultural and heritage aspects and infrastructure on the site and neighbouring properties/farms in respect of which the potential exists for the socio-economic conditions of other parties to be affected by the proposed mining operation.

The land is currently unusable. The mining area is covered by old tailing dams. The surrounding area is grazing land and further rural residential developed areas, which shall not be affected by the mining operation.

The neighbouring farms, also Government owned, are used primarily for grazing.

There is no cultural, heritage or infrastructure that will be affected by the mining operation.

- 1.4 Annotated map showing the spatial locality and arial extent of all environmental, cultural/heritage, infrastructure and land use features identified on site and on the neighbouring properties and farms.

There are no cultural, heritage of infrastructure that will be affected by the operation. **Please view annexure "A" hereto.**

- 1.5 Confirmation that supporting documents in the form of specialist studies are attached as appendices.

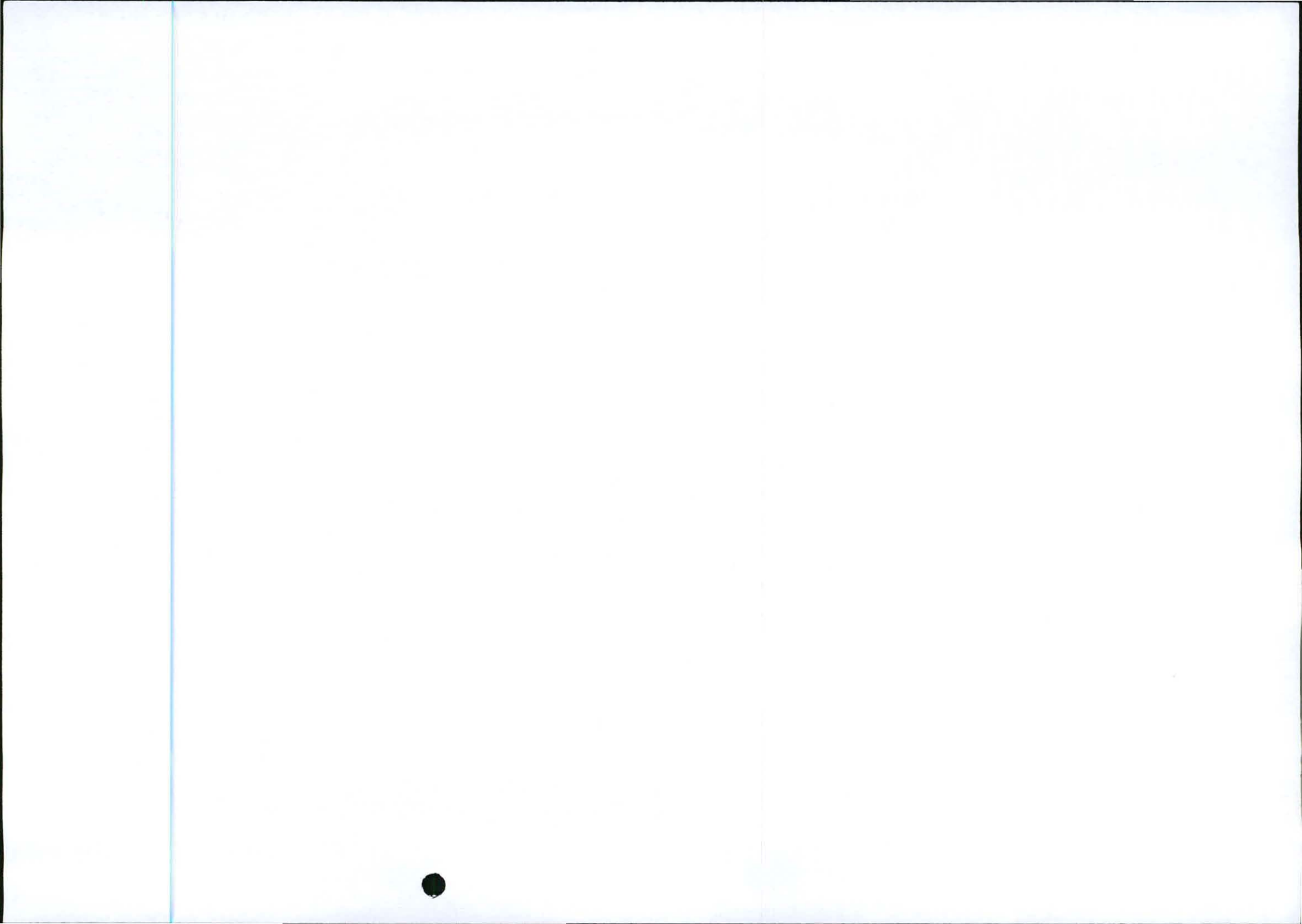
Environmental Impact Assessment and Environmental Management Plan  
Competent Persons Report – Geologist : Du Plessis

**Confirmation of Community Participation**

The Local Community was consulted in the drafting of the above and any maps / plans in relation thereto.

**2. The Proposed mining operation**

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2.1 The mineral to be mined.

Gold (Au)

2.2 The mining method to be employed at the level of opencast, underground, stoping, stooping, total extraction, bord and pillar, block caving, shrinking, dredging, pumping, monitoring, etc. and provide a concise description of the intended magnitude thereof, in terms of volumes, depth and aerial extent.

None.

2.3 List of the main mining actions, activities, or processes, such as but not limited to access roads, shafts, pits, workshops and stores, processing plant, residue deposition sites, topsoil storage sites, stockpiles, waste dumps, access roads dams, and any other basic mine design features.

**Access roads** – existing access roads will be used. Where there are no access roads, the area can be accessed via an informal dirt road.

**Shafts** – none

**Pits** – none

**Workshops and stores** – the mining storage is required. Any storage shall be informal and fenced. No substances that can pollute the environment shall be stored onsite, and if so it shall be stored on a shallow cement surface to ensure no ground pollution (oils, gasoline, etc.)

**Processing plant** – please view annexed document "C" detailing the processing plant.

**Residue deposition sites** – none

**Topsoil storage sites** – none (no invasive mining operations applicable)

**Stockpiles** – none

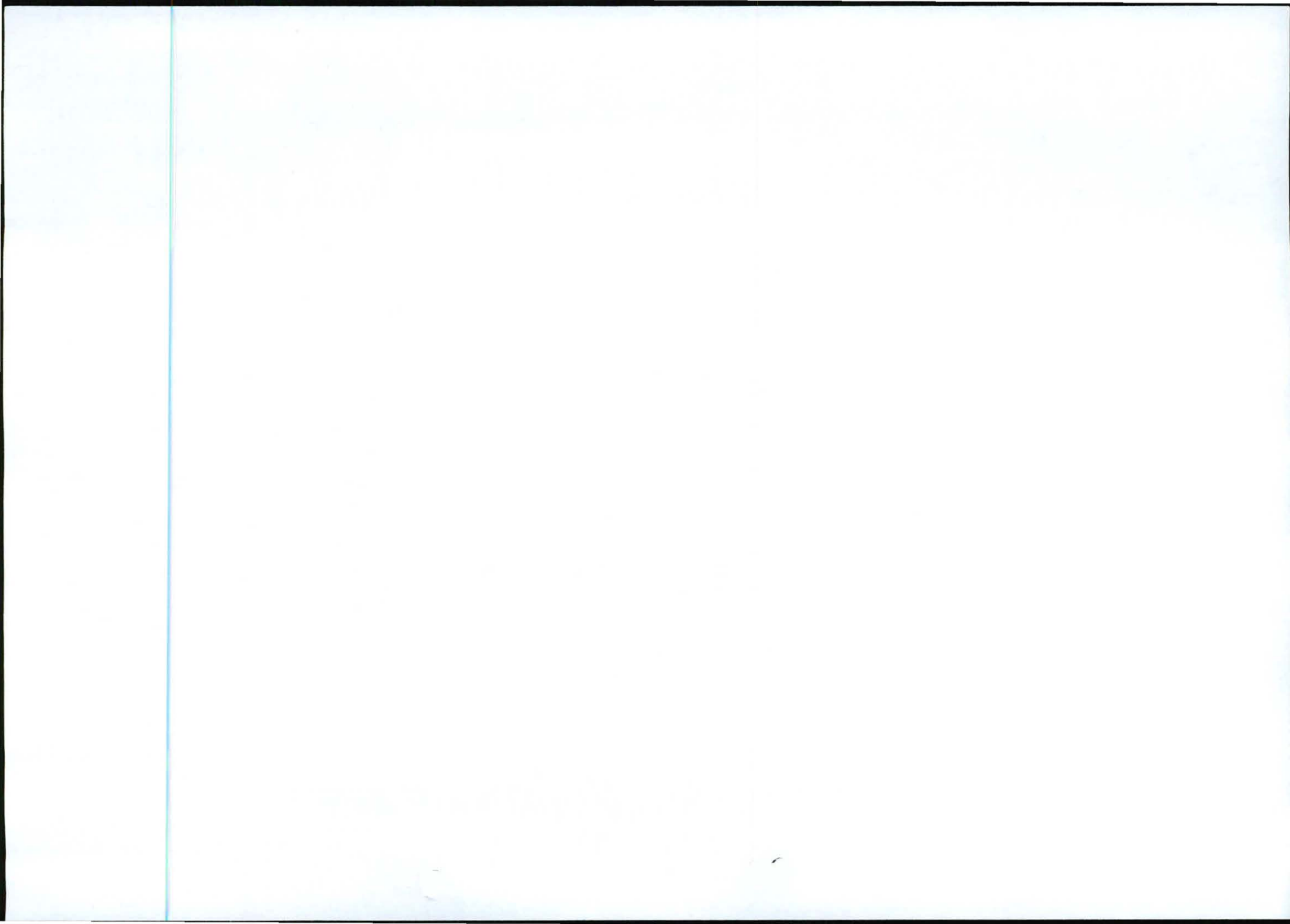
**Waste dumps** – none required

**Access roads dams** – none required

2.4 Plan showing the location and aerial extent of the aforesaid main mining actions, activities, or processes as required to calculate the financial provision in accordance with the Department's published guideline (Reg 51(1)(b)(v)).

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**Please view annexed documents annexed as Annexure "D" & "E"**

The financial provision in accordance with the Department's published guideline is R20 000.00 and the amount shall be secured per bank guarantee.

- 2.5 Listed activities (in terms of the NEMA EIA regulations) which will be occurring within the proposed project.

None.

- 2.6 Indication of the phases (construction, operational, decommissioning) and estimated time frames in relation to the implementation of these actions, activities or processes and infrastructure.

**1. COMMISSIONING**

**1.1 Site Preparation**

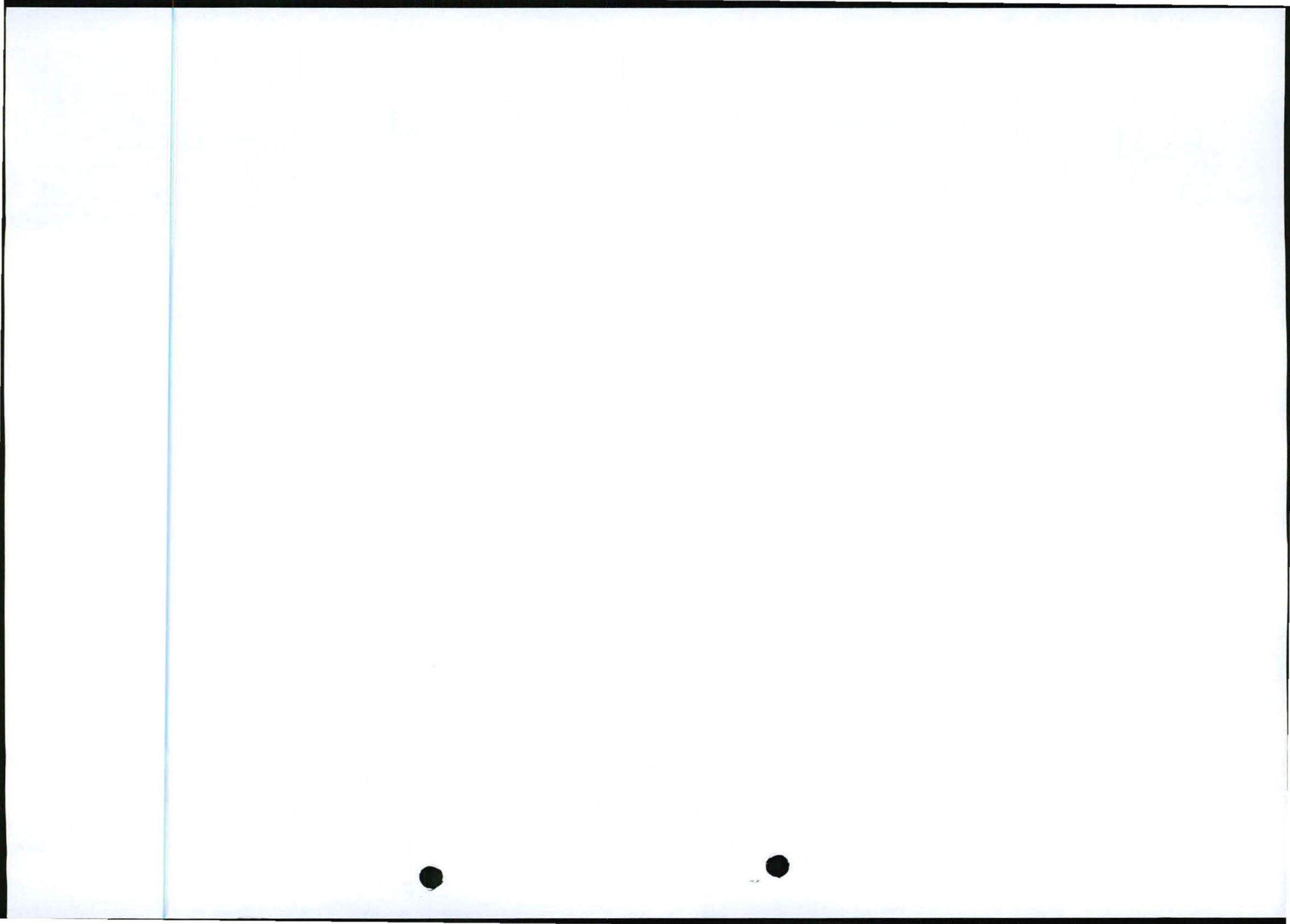
The site where the reduction plant is erected was already leveled by the former mining company. The site is to be "mud & dust proofed" by covering the surface area with granite gravel.

Existing buildings on the mine will be utilized for offices, admin and a laboratory. Existing access roads are used and maintained. The existing electrical grid on the mine will be utilized. The existing water circuit will be used.

**1.2 Plant Construction:**

Construction is executed by the applicant. The operation is a short-term, temporary component system, therefore very little masonry is necessary for the construction of the plant.

The construction is done within the perimeters of the current Regulations as stipulated in the Act and guidelines suggested by the DME.



### 1.3 Cold Commissioning

Following construction, the plant is run without addition of either chemicals or feed. All leakages and other problems are rectified during this test. The plant is then fine-tuned in preparation for production.

### 1.4 Hot Commissioning

After all obvious problems and faults are eliminated: process material is fed into the system. Feed rates are kept low initially and gradually increased until full production figures are reached.

## 2. PRODUCTION

### 2.1 & 2.2 Production rate and Duration of Operation

Baseline

Tons per day	Tons per month	Tons available	Duration of operation
2250 tons	67500 tons	940 000 tons	14 Months

The above reflects calculated figures and does not allow for breakdowns or any other impediments.

Allowing an additional two months leeway for the sake of the unforeseen, the anticipated operation period is 22 Months.

Process water for the operation is drawn from a borehole on the premises. Additional reserves are contained by flooded old workings on the mine. A return-water system is also in place to recycle a percentage of run-off water accumulating in the evaporating dam.

Labour, both skilled and unskilled, is recruited from the surrounding area.

## 3. DECOMMISSIONING

### 3.1 Rehabilitation



The leaching plant is dismantled and the area leveled. In view of the pending hard-rock mining operation, the area will be covered with slimes in the forthcoming period. This operation is described in the EMP for this operation.

### **3.2 Dump Maintenance**

The dump will be maintained as required in the Act and as pledged in the EMP for this operation.

### **3.3 Long Term Objective**

The dump will be utilized for a pending hard-rock mining operation on the same property. All future responsibilities are accepted by the said operation, of which the expected duration is 15 years.

#### **Total time of operation:**

Construction	Production	Decommissioning	Total
3 months	14 months	3 months	20 months

2.7 Confirmation if any other relevant information is attached as appendices.

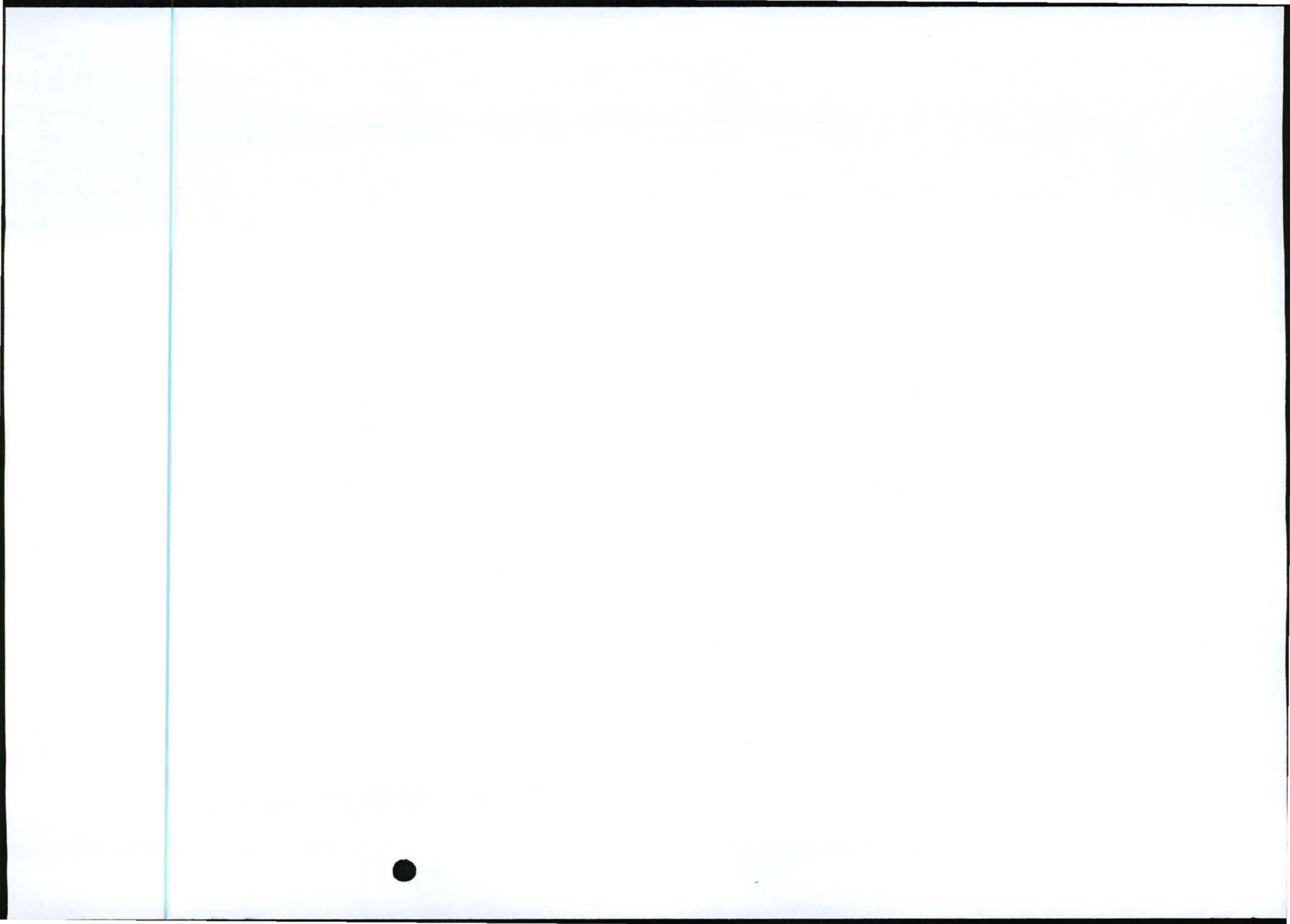
#### **Details of mineral and reprocessing of tailings dams annexed as Annexure "F"**

### **3. The potential impacts**

3.1 List of the potential impacts, on environmental aspects separately in respect **of each** of the aforesaid main mining actions, activities, processes, and activities listed in the NEMA EIA regulations (include all the items to be included in the list referred to in the concomitant section of the guideline posted on the official website of the Department)

n/a

3.2 List of all potential cumulative environmental impacts.





n/a

- 3.3 State specifically whether or not there is a risk of acid mine drainage or potential groundwater contamination associated with the mineral to be mined. (If such a risk is associated with the mineral to be mined provide a summary of the findings and recommendations of a specialist geo-hydrological report in that regard).

None.

**Confirmation of Community Participation**

The Local Community was consulted in the drafting of the above and any maps / plans in relation thereto.

Independent Specialist Report included as Annexure "C"

**REGULATION 50(b)**

**4. The alternative land use or developments that may be affected.**

- 4.1 Concise description of the alternative land use of the area in which the mine is proposed to operate.

The land is covered in old tailing dams from historical mining. The adjacent property is agricultural land owned by the Government of the Republic of South Africa and administered by the Madonsi Tribal Authority. The area is not commercially utilized due to the lack of community irrigation management, a situation that will not be resolved in the near future. The adjacent land is therefore mostly used for cattle grazing. There are no feasible alternative grazing options.

- 4.2 List and description of all the main features and infrastructure related to the alternative land uses or developments.

Grazing land with no infrastructure.



- 4.3 Plan showing the location and aerial extent of the aforesaid main features of the alternative land use and infrastructure related to alternative land developments identified during scoping.

**Please view annexure "G" hereto**

**5. The potential impacts of the alternative land use or development**

- 5.1 List of the potential impacts **of each** of the aforesaid main features and infrastructure related to the alternative land use or development and related listed activities.

None. The current land use is the only alternative. The grazing land is for existing farming and has no commercial value and no value for the employment.

- 5.2 Description of all potential cumulative impacts of the main features and infrastructure related to the identified alternative land uses or developments.

None.

**REGULATION 50(c)**

**6. Identification of potential social and cultural impacts**

- 6.1 List of potential impacts of the proposed mining operation on the socio-economic conditions of other parties' land use activities (include all the items to be included in the list referred to in the concomitant section of the guideline posted on the official website of the Department)

The area which will be the subject of the mining operation is unusable land. There will be no negative social or cultural impact. The property is not used for social or cultural use.

The adjoining areas are used solely for cattle grazing due to a lack of community irrigation management. The area is therefore in no way an income generating or job creating project. The proposed mining operation shall have a direct and direct economically uplifting influence on the direct community



due to employment, supply and contractors being preferentially recruited from the local Community.

Effects on specific parties:

**Landowner** – none. The Government does not actively use the property (the adjacent area) or the area direct.

**Community** – the Local Community has beneficial use of the property as administered by the Madonsi Tribal Authority. For several reasons the property is not commercially utilised. The area is merely used for grazing for the local communities' cattle. The area subject to the mining application is merely 1.5 hectares of the 1812 hectares of the property and will the use of the area have no impact. It was the Chief's specific concern that the local community is severely impoverished and that the local community will benefit from the development of the mining operation.

**There are no further affected parties.**

Please view **annexure "G"** hereto being an analysis of land use.

**Confirmation of Community Participation**

The Local Community was consulted in the drafting of the above and any maps / plans in relation thereto.

Independent Specialist Report included as Annexure "C"

- 6.2 Description of the cultural aspect that will potentially be affected, and describe the potential impact on such cultural aspect (in cases where such features are not applicable the applicant must still include the item in the list and describe it as not applicable)

The area is not used for any cultural activities. The Applicant conferred with the Local Tribal Authority on several occasions in writing, in person and per telephone to ensure that the cultural and traditional values of the Madonsi Tribe is respected.



- 6.3 Description of heritage features and the potential impact on such heritage feature. (in cases where such features are not applicable the applicant must still include the item in the list and describe it as not applicable.

No heritage features.

- 6.4 Quantification of the impact on the socio-economic conditions of directly affected persons, as determined by the findings and recommendations of a specialist report in that regard.

- 6.4.1 The amount of the qualified potential impact on property or infrastructural assets.

None – R0.00 (No influence of infrastructure or property)

- 6.4.2 State the amount of the qualified potential impact on commercial, economic or business activity which will be impacted upon as a result of the mining activity.

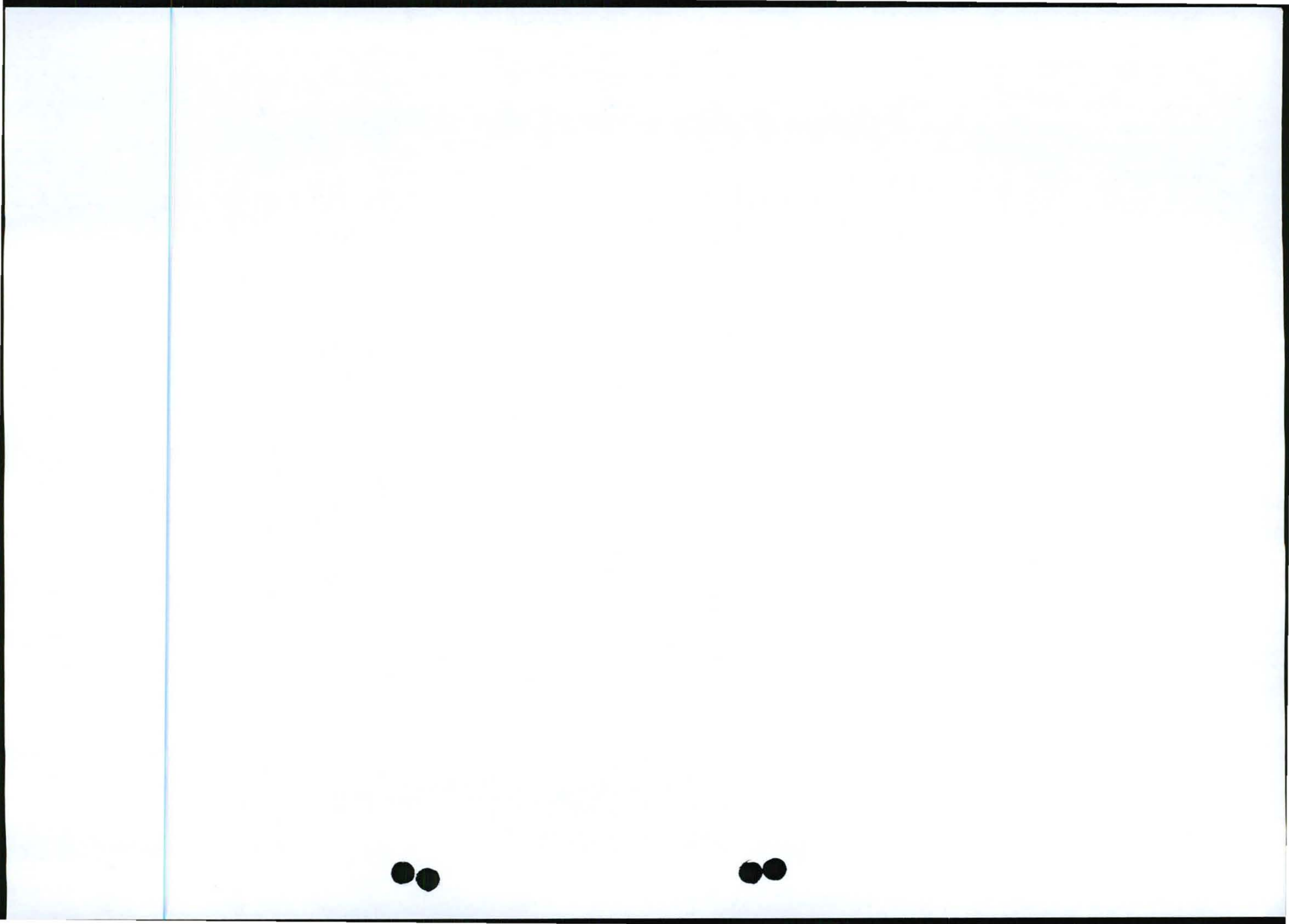
No business, commercial or economic activities on the area which shall be the subject of the mining area.

No negative effect. It was agreed by the Applicant and the Tribal authority that suppliers and contractors from the direct community shall be preferred in terms of a preferred procurement policy of the Applicant. This shall have a positive impact on the commercial, economic and business activities in the area. Estimated at a positive impact of +R10 000 000.00, over the proposed period of two years.

- 6.4.3 The sum of the amounts, referred to in paragraph 6.6.1 and 6.6.2 above.

Positive impact on the economy +R10 000 000.00

**7. Assessment and evaluation of potential impacts.**





10. List of all the significant impacts as identified in the assessment conducted in terms of Regulation 50(c) (Include all the items to be included in the list referred to in the concomitant section of the guideline posted on the official website of the Department)

Main Activity	Access Roads	Plant Establishment	Reprocessing of Tailings	Storage
<b>Impact</b>	Use of existing roads	Plant temporary of nature. Establish on already utilized area.	Use of temporary plant. Limited area used.	Storage on already disturbed area. Shallow cement area, if needed.
<b>Significance of impact</b>	1/10	1/10	1/10	1/10
<b>Cumulative impact</b>	None	None	None	None
<b>Mitigation</b>	Use existing roads	Temporary plant on already disturbed areas	Limit area	Shallow cement
<b>Technical &amp; Managerial</b>	Managerial – Monitor that only existing roads used	Managerial – monitor on existing area	Managerial – monitor limit of area	Managerial – monitor storage space
<b>Significance of Mitigation vs impact</b>	Very – impact limited severely	Very – minimal impact	Very – minimal impact	Very – minimal impact

**REGULATION 50 (f)**

11. **Identification of interested and affected parties.** (Including the community, and list as identified according to the scoping report guideline and identified in the scoping report)

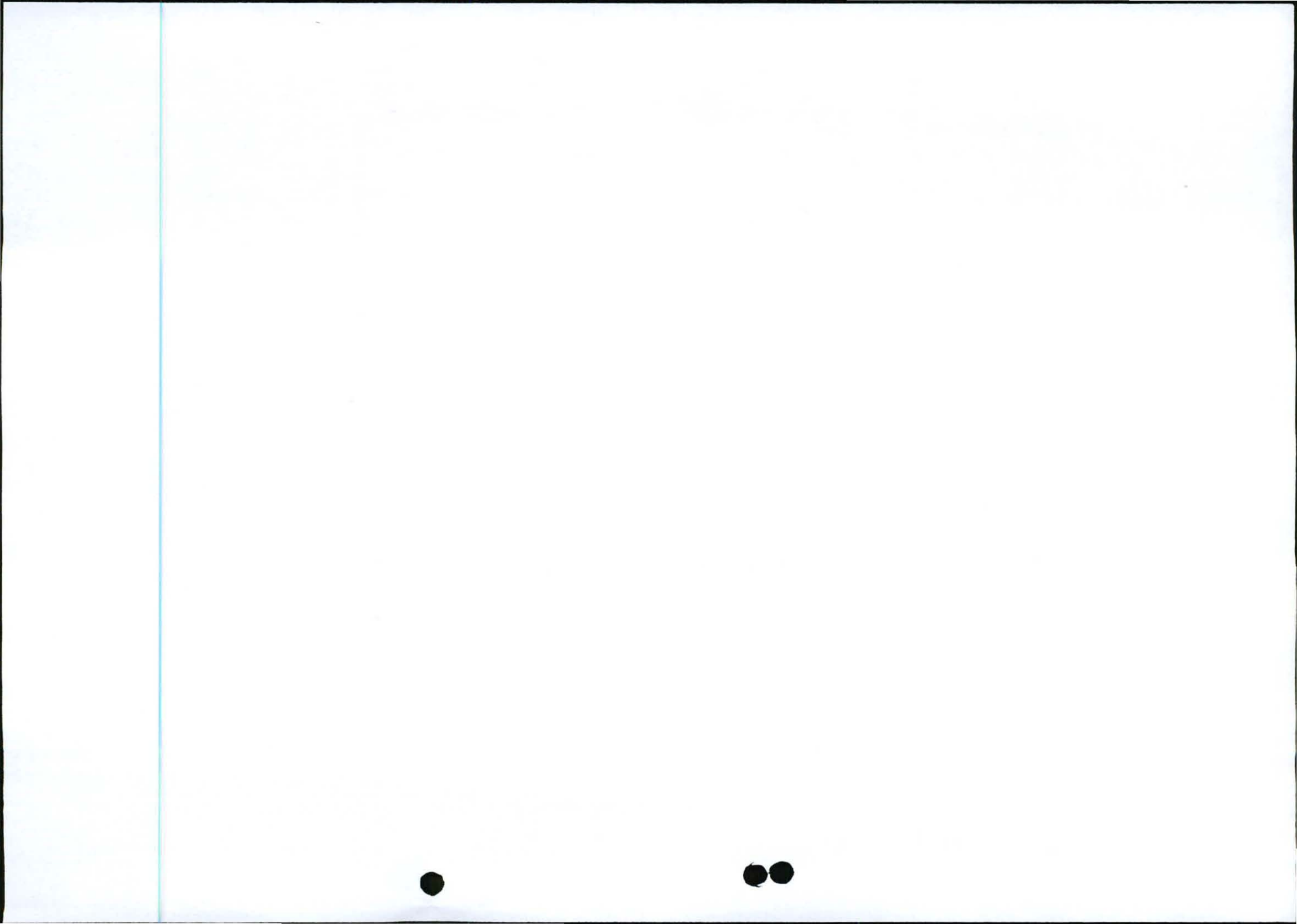
The property is owned by the Government of the Republic of South Africa and administered by the Madonsi Tribal Authority to the benefit of the Mandonsi Community.

The Department of Land Affairs, Land Claims Commissioner and the Madonsi Community, represented by the Madonsi Tribal Authority, has been identified as interested and affected parties.

12. **The details of the engagement process.** (Including the community and list as identified according to the scoping report guideline and identified in the scoping report and any further consultation since the compilation of the scoping report)

All parties were informed for the application in writing, please view annexed **documents “H”, “I” & “J”**. The Madonsi Tribal Authority was specifically conferred with as they are the Madonsi Community is the party most interested and affected by

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the application. A relationship was established between the Applicant and the Tribal Authority to ensure that the Community's interests are best respected. Various personal meetings and telephonic conferences were held between representatives of the Tribal Authority and the Applicant to ensure that the Community is known in the application for a mining permit and the mining operations itself. Please view annexed minutes of meetings held with the Tribal Authority annexed as **Annexure "K"**.

13. **Details regarding the manner in which the issues raised were addressed.** (Include all the items to be included in the list referred to in the concomitant section of the guideline posted on the official website of the Department)

The Department of Land Affairs and the Land Claims Commissioner raised no issues.

Chief Honsi, of the Madonsi Tribal Authority, raised the issue of severe poverty in the area and lack of employment. This issue was raised on several occasions and discussed at length. The Applicant and the Tribal Authority agreed that a preferential procurement policy shall be established by the Applicant wherein preferred employment, vending and contract employment shall be given to the members of the community which shall include, where practically possible, in-job-training to ensure the long term benefits of the policy for the community. No further issues were raised.

#### **REGULATION 50 (g)**

14. **The appropriate mitigatory measures for each significant impact of the proposed mining operation.**

- 14.1 Adequacy of predictive methods utilised.

The document and predictive methods used was done by J J van Aarde with a Diploma in Geology (Pretoria Technicon) and Environmental Management Module (University of the Free State). The methods used is very accurate.

- 14.2 Adequacy of underlying assumptions



Underlying assumptions are based on recognised geological studies and the competent persons report as drafted by Mr du Plessis, and annexed as **annexure "C"** hereto.

14.3 Uncertainties in the information provided

None. All facts were verified. The Local Community was consulted extensively in the drafting of this document to verify facts.

**REGULATION 50 (h)**

**15. Arrangements for monitoring and management of environmental impacts.**

15.1 List of identified impacts which will require monitoring programmes.

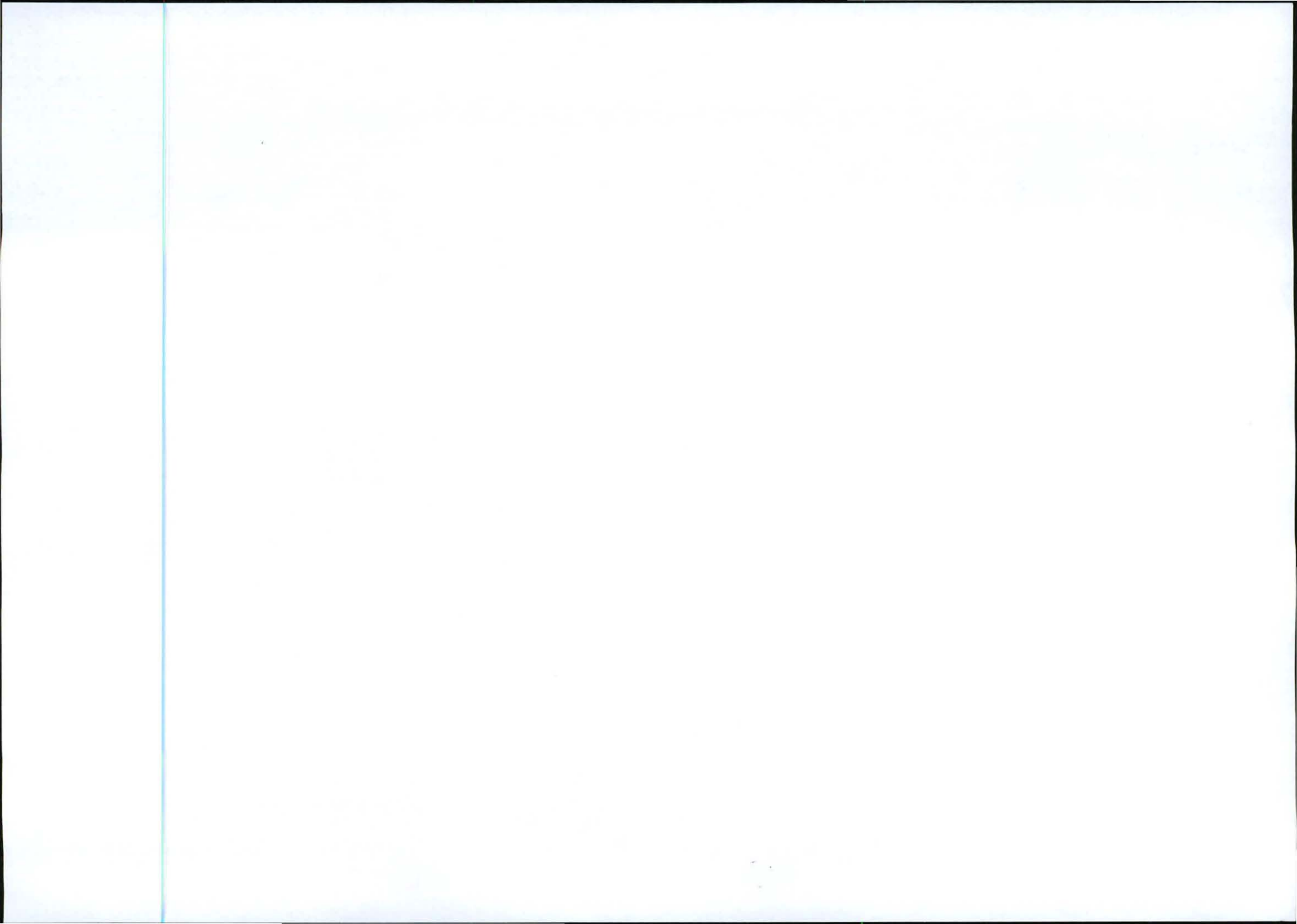
None.

15.2 Functional requirements for the said monitoring programmes.

Even though there is no impacts requiring monitoring, it is the Applicant's view that the environment in general must be monitored during the mining operation to ensure that the mining operation has no short or long term effect on the environment of the area or the adjacent area. Therefore, functional requirements:

1. Education of employees in Environmental Management, Environmental Care and Reporting of Environmental risks or impact;
2. Monitoring by Employees and Reporting system;
3. Monitoring by Project Manager;
4. Reporting by Project Manager to Senior Manager (bi-weekly);
5. Inspecting of mining operation by Senior Management (monthly);
6. Reporting by Senior Management to Director-General.

15.3 Roles and responsibilities for the execution of the monitoring programmes.



Applicant : assumes all responsibility for all and any impact on the environment. The monthly inspection and six-monthly report is to ensure that the applicant does not derelict its duties in this regard.

Project Manager : Assumes liability by ensuring daily inspection and bi-weekly reporting to the senior management of the Applicant. The project manager shall further assume further responsibility in terms of his/her employment agreement or contract to ensure that the severity of the responsibility is respected and enforceable.

All employees : all employees (which shall include security staff) shall be trained to identify any impact or activities which may impact the environment. The employees shall be obliged, in terms of their employment agreement, to report any such impact or activities to the management of the Applicant.

15.4 Time frames for monitoring and reporting.

Every 6 months

**REGULATION 50(i)**

**16. Technical and supporting information.**

(Include all the items to be included in the list referred to in the concomitant section of the guideline posted on the official website of the Department)

**Please view annexures "L" & "M" annexed hereto.**

**SECTION 2**

**ENVIRONMENTAL MANAGEMENT PROGRAMME**

**Regulation 51 (a)**

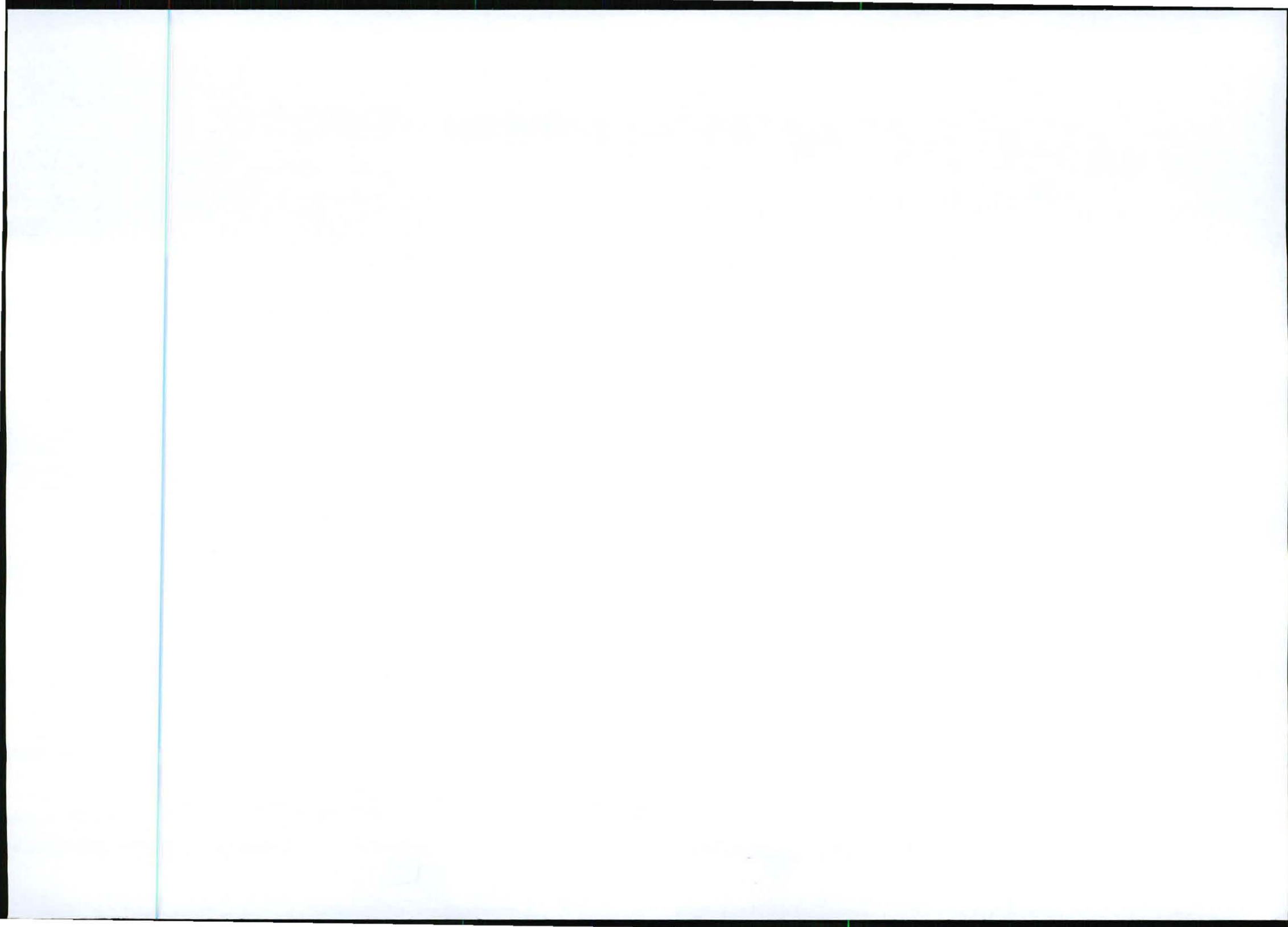
**1. Description of environmental objectives and specific goals for mine closure.**

1.1 Environmental aspects that describe the pre-mining environment.

The area is covered in old tailing dams from historical mining. The adjacent area is utilized primarily for existence farming cattle grazing land.

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- 1.2 Measures required to contain or remedy any causes of pollution or degradation or the migration of pollutants, both for closure of the mine and post-closure.

None. The reprocessing process does not pollute, degrade or contaminates during the mining operation, during closure or post-closure.

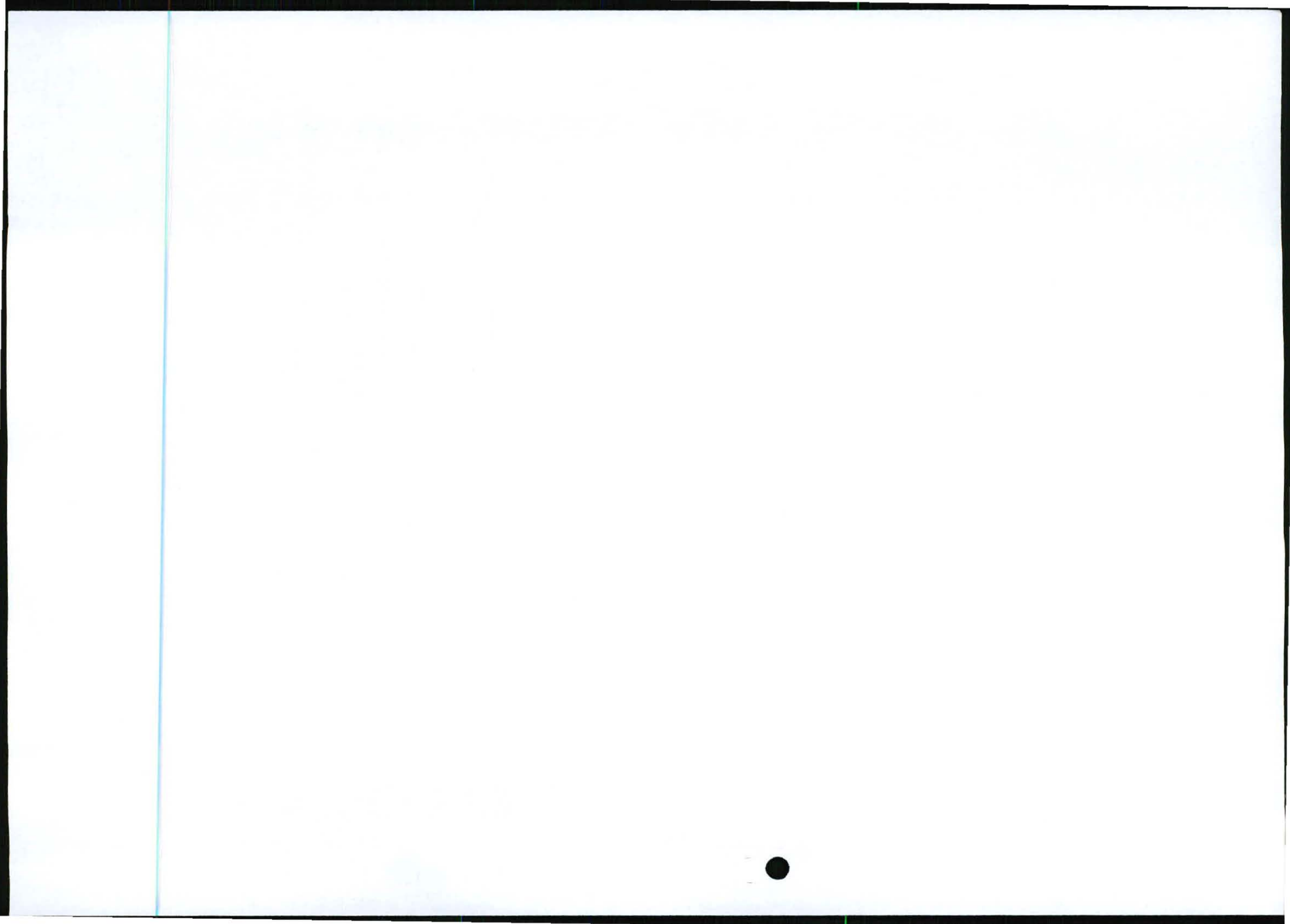
2. **Description of environmental objectives and specific goals for the management of identified environmental impacts emanating from the proposed mining operation.**

(As informed by the information provided in the EIA in terms of Regulation 50(h))

- 2.1 List of identified impacts which will require monitoring programmes.

No environmental impacts identified. No monitoring programmes required for specific impacts. The Applicant, being attentive to the impact of potential mining operations and unplanned impacts, will endeavour to monitor the environment and implement monitoring programmes, as follows:

- 2.1.1 All employees will receive, as part of in-job-training, training on the potential and unplanned impact of the mining operation on the environment;
- 2.1.2 The project manager shall assume liability and responsibility for the environmental impact of the project in terms of his employment agreement / contract;
- 2.1.3 The project manager shall report to the senior management of the Applicant on a bi-weekly basis on the effects on the environment;
- 2.1.4 The senior management of the Applicant shall have site inspections of the mining operations on a monthly basis to inspect the effects on the environment;
- 2.1.5 Any negative impacts on the environment shall be assessed and attended to immediately at the costs of the Applicant to ensure that there will be no long-term negative environmental impact on the mining area;
- 2.1.6 The Applicant shall report to the Director-General of the Department of Mineral Resources on a six-monthly basis on the status of the environment and any affects thereon by the mining operation.



- 2.2 List of the source activities that are the cause of the impacts which require to be managed.

None.

- 2.3 Management activities which, were applicable, will be conducted daily, weekly, monthly, quarterly, annually or periodically as the case may be in order to control any action, activity or process which causes pollution or environmental degradation.

Daily : The project manager, as discussed in 2.1, shall conduct continuous evaluation of the environmental impact of the mining activities. All employees shall be trained to manage environmental impact and have the duty to report any impact to the management of the Applicant.

Bi-weekly: the project manager shall report bi-weekly to the senior management of the Applicant in relation to the environmental impact of the mining operation.

Monthly: Senior Management of the Applicant shall inspect the mining operation on a monthly basis to ensure that no environmental impact was not reported by the project manager.

Six-monthly: The Applicant shall report to the Director-General of the Department of Mineral Resources on a six-monthly basis on the impact and condition of the environment. The report shall detail all impacts, steps taken to address any impact and any other relevant information, including but not limited to the short-term and long-term effect of any impact on the environment.

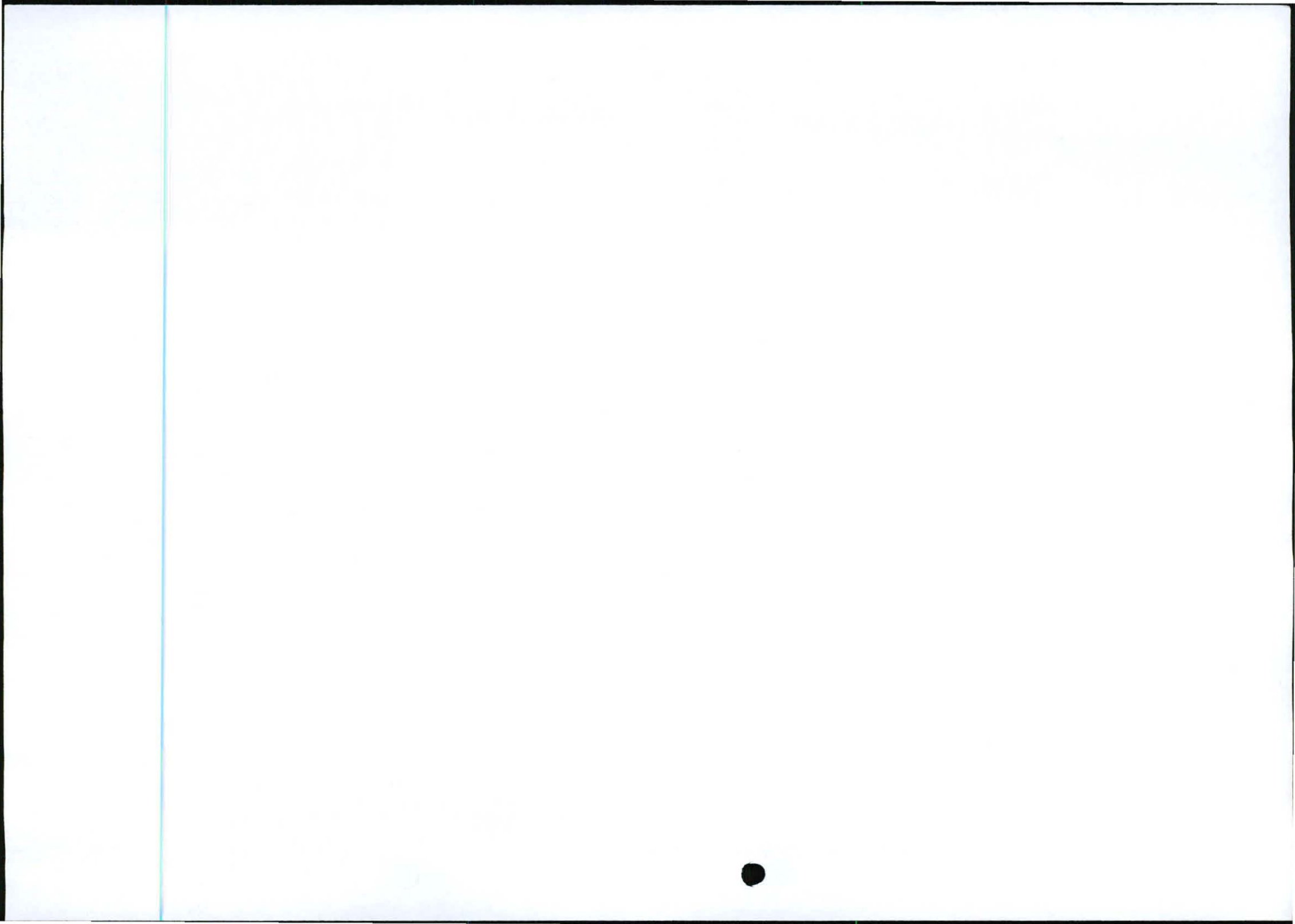
- 2.4 The roles and responsibilities for the execution of the monitoring and management programmes.

Applicant : assumes all responsibility for all and any impact on the environment. The monthly inspection and six-monthly report is to ensure that the applicant does not derelict its duties in this regard.

Project Manager : Assumes liability by ensuring daily inspection and bi-weekly reporting to the senior management of the Applicant. The project manager shall further assume further responsibility in terms of his/her employment agreement or contract to ensure that the severity of the responsibility is respected and enforceable.

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**HECTOCORP (PTY) LTD**



All employees : all employees (which shall include security staff) shall be trained to identify any impact or activities which may impact the environment. The employees shall be obliged, in terms of their employment agreement, to report any such impact or activities to the management of the Applicant.

3. **Description of environmental objectives and specific goals for the socio-economic conditions as identified in the social and labour plan.** (Include all the items to be included in the list referred to in the concomitant section of the guideline posted on the official website of the Department)

n/a

4. **Description of environmental objectives and specific goals for historical and cultural aspects.**

- 4.1 Environmental objectives and goals in respect of historical and cultural aspects identified in specialist studies conducted during the EIA phase.

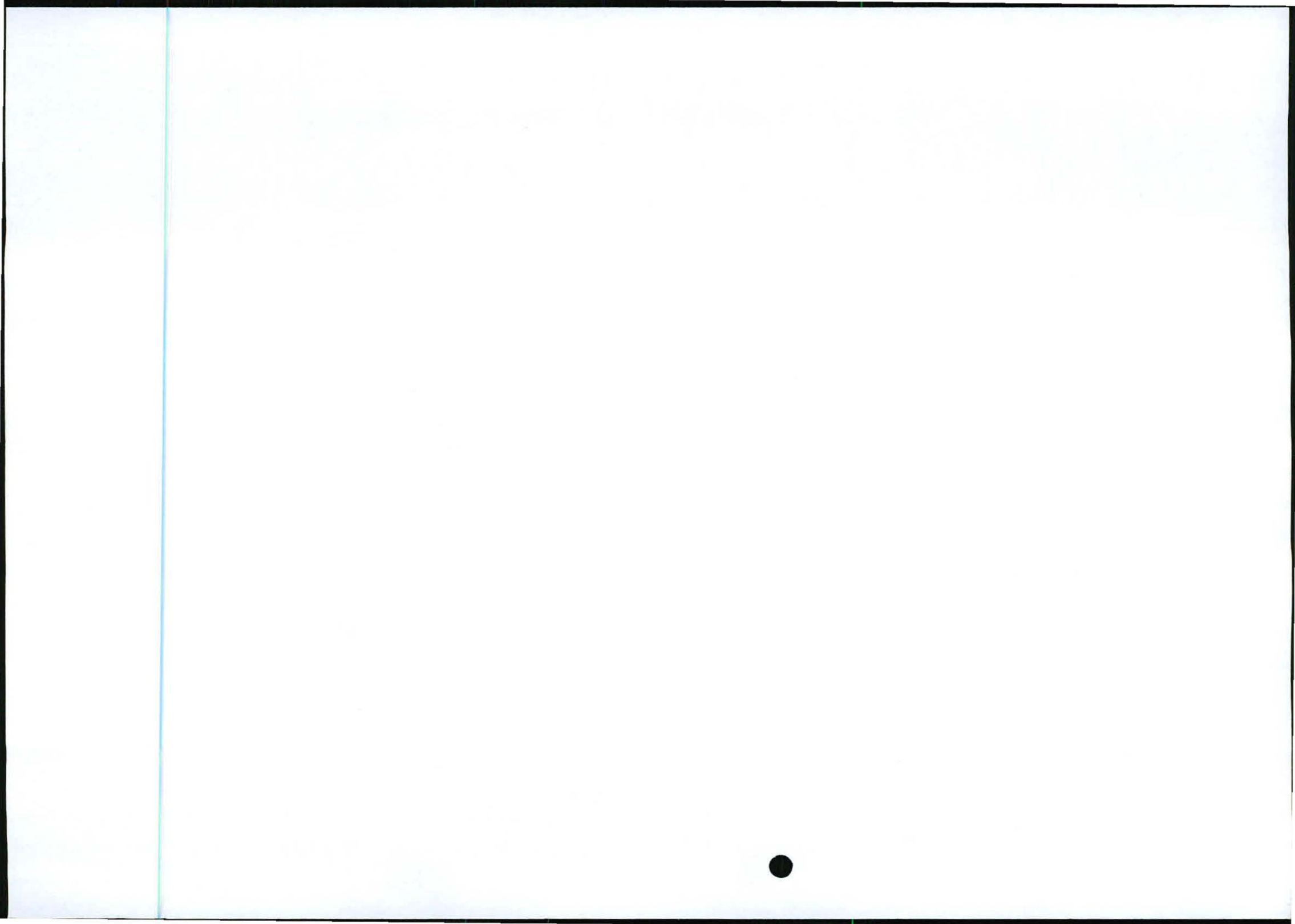
There are no historical or cultural aspects which shall be influenced by the mining operation. The Applicant has taken the utmost of care to respect existing cultural, historical, social and traditional customs of the local Community by endeavouring to establish a relationship and channels of communications between the Applicant and the Madonsi Traditional Authority.

**Regulation 51(b) – Outline of the implementation programme**

5. **The appropriate technical and management options chosen for each environmental impact, socio-economic condition and historical and cultural aspect in each phase of the mining operation, as follows**

- 5.1 Actions, activities or processes, including any NEMA EIA Regulation listed activities, which cause pollution or environmental degradation. (Include all the items to be included in the list referred to in the concomitant section of the guideline posted on the official website of the Department)

None.



5.2 Concomitant list of appropriate technical or management options chosen to modify, remedy, control or stop any action, activity, or process which will cause significant impacts on the environment, socio-economic conditions and historical and cultural aspects as identified. (attach detail of each technical or management option as appendices)

None.

6. **Action plans to achieve the objectives and specific goals contemplated in Regulation 50 (a)**

Time schedules of deadlines for each action to be undertaken to implement each technical or management option chosen. (Include all the items to be included in the list referred to in the concomitant section of the guideline posted on the official website of the Department)

N/a

7. **Procedures for environmentally related emergencies and remediation**

(An environmental emergency plan that includes all the items referred to in the concomitant section of the guideline posted on the official website of the Department)

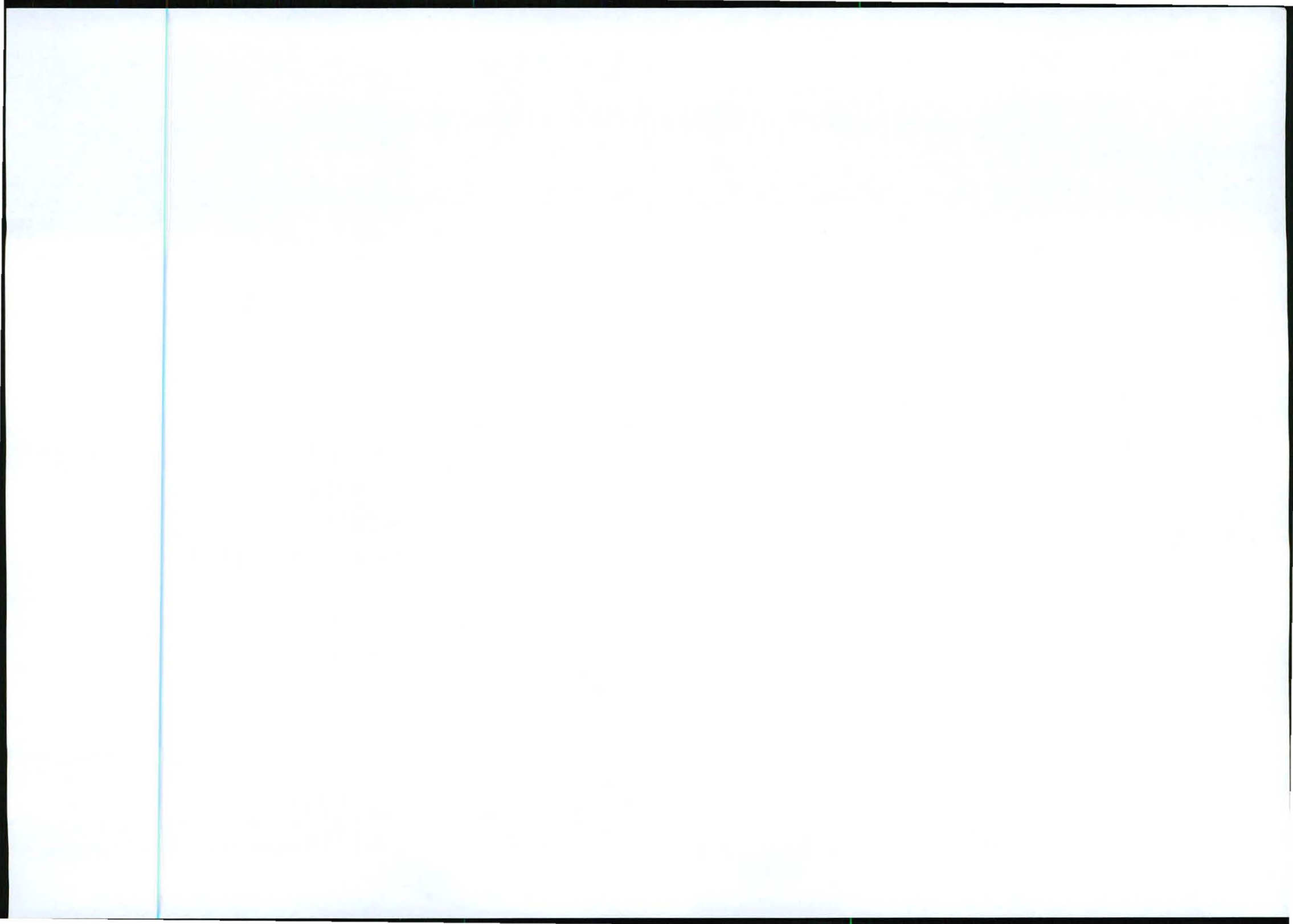
**Please view annexure "N" hereto.**

8. **Planned monitoring and environmental management programme performance assessment.**

8.1 Description of planned monitoring of the aspects of the environment which may be impacted upon. (Include all the items referred to in the concomitant section of the guideline posted on the official website of the Department)

No environmental impact, but consistent monitoring shall be enforced in terms of paragraphs 2.1 to 2.4 of this document.

8.2 Provide a description as to how the implementation of the action plans contemplated in regulation 51(b)(ii) as described will be monitored as described in paragraph 6 of the EMP will be monitored.





It will be the project manager's to monitor the above. The project manager must report bi-weekly to the Senior Management on all matter, said report being detailed. The Senior Management will inspect the mining operation on a monthly basis to assess the situation.

The employees of the Applicant will be trained thoroughly to ensure that it deems as secondary enforcement and monitoring of the above. Any event can also be reported to the Senior Management directly.

As discussed above, responsibility for the environment is to be included in employment contracts and all other contracts to ensure that there will be respect for the severity of environmental management.

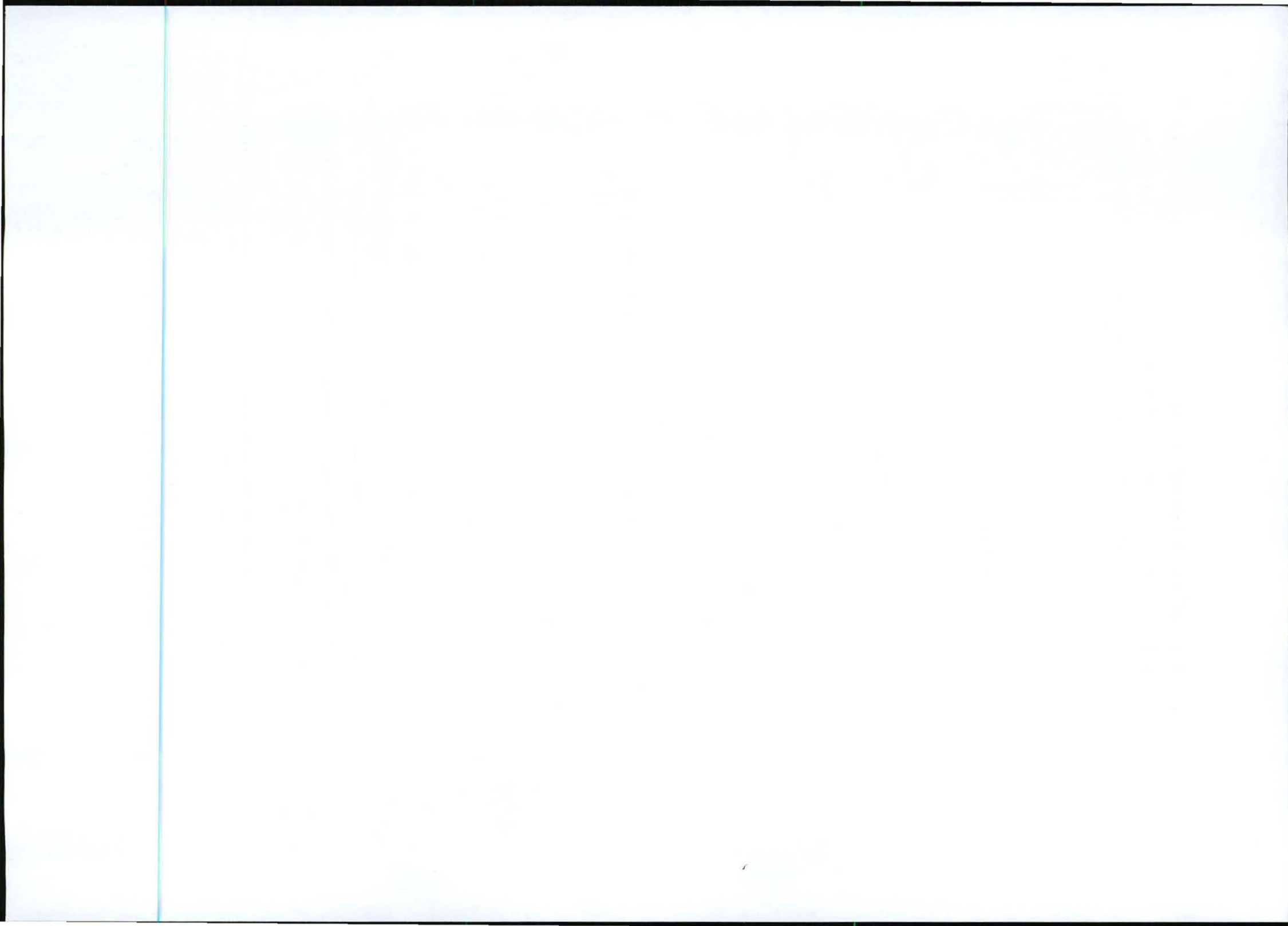
All employees to be employed will receive in-job-training in environmental management. The Project Manager shall be duly qualified in environmental management.

8.3 Frequency of proposed reporting for assessment purposes.

Phased reporting and responsibility shall be enforced. All employees and the project manager, specifically, shall ensure that any emergency be reported to the Senior Management of the Applicant immediately to ensure that any emergency be attended to immediately. Emergency is defined as any action or effect that might have an adverse short-term or long-term effect on the direct or indirect environment of the mining operation.

The project manager shall further report on a bi-weekly basis to the Senior Management on the status of the environment. The Senior Management shall inspect the mining operation on a monthly basis to inspect the environment to ensure to no environmental impact goes unreported. The Applicant shall fully report to the Director-General of the Department of Mineral Resources to ensure that the Department is fully informed of the environmental impact of the mining operation.

**9. Financial provision in relation to the execution of the environmental management programme:-**



- 9.1 Plan showing the location and aerial extent of the aforesaid main mining actions, activities, or processes anticipated. (Include all the items referred to in the concomitant section of the guideline posted on the official website of the Department)

**See annexed document "O".**

- 9.2 Annual forecasted financial provisions calculation (Refer to the concomitant section of the EIA and EMP guideline)

**See annexed document "O"**

- 9.3 Confirmation of the amount that will be provided should the right be granted.

R20 000.00

- 9.4 The method of providing financial provision contemplated in Regulation 53.

Cash deposit.

**10. Environmental Awareness Plan (Section 39(3)(c))**

(Include all the items referred to in the concomitant section of the guideline posted on the official website of the Department)

**See annexed document "P"**

**11. Attachment of specialist reports, technical and supporting information.**

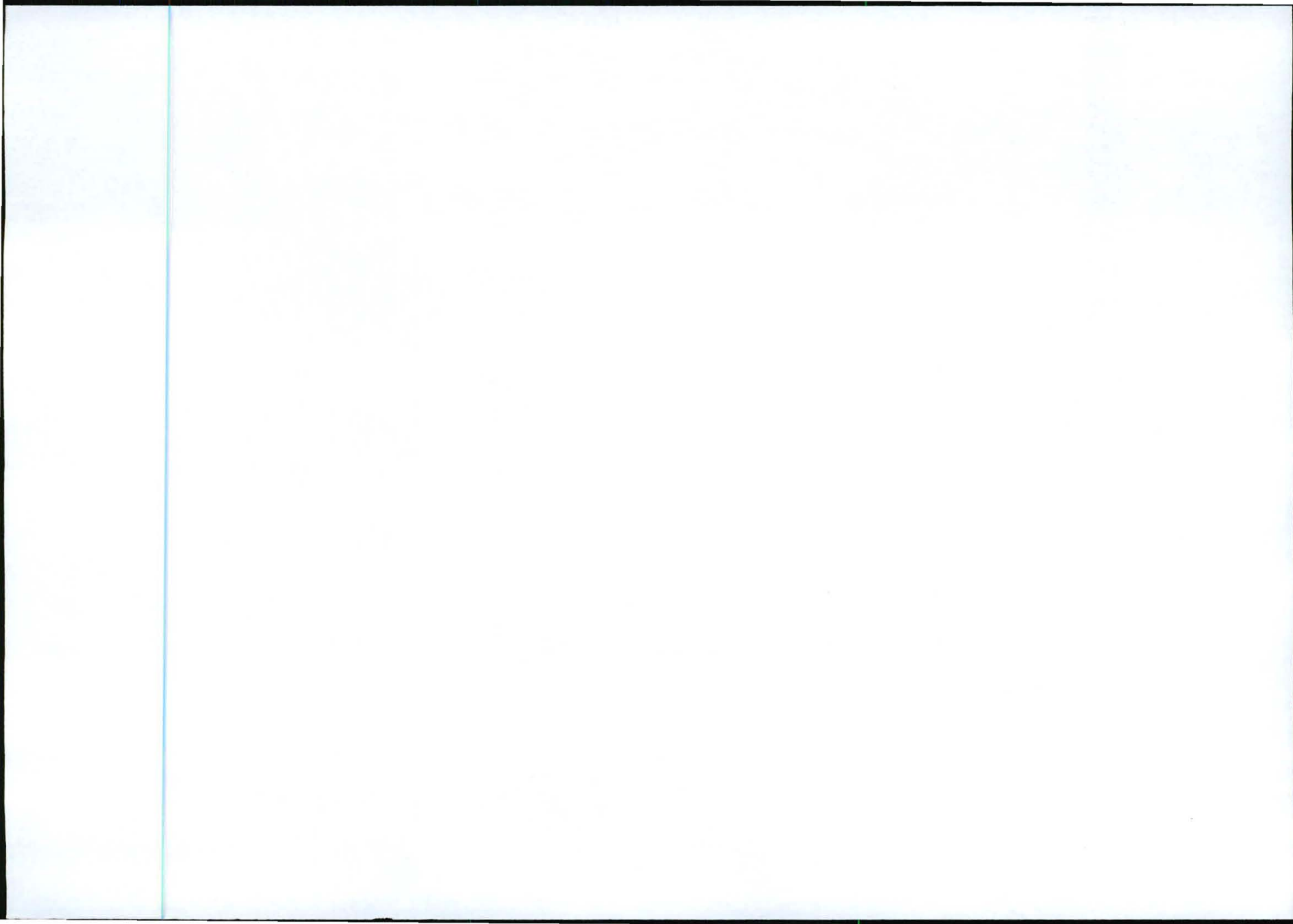
(Provide a List)

**Annexed document "C" – competent persons report.**

**12. SECTION 39(4)(a)(iii), Capacity to manage and rehabilitate the environment**

(Include all the items referred to in the concomitant section of the guideline posted on the official website of the Department)

The applicant has the capacity to manage and rehabilitate the environment as the applicant as experienced and qualified stakeholders, being:



J J van Aarde (annexed CV) as **annexure "L"**

Minlea Mining and Leaching CC – with experience in reprocessing of tailings

The Financial ability of the Applicant is undisputed. The Applicant will further ensure that contingency funding is reserved from the income of the mining operation for funding of any and all rehabilitation required or handling of environmental emergencies. The contingency funding is included in the Details of Minerals as included in the original application and annexed hereto, for your convenience, as **Annexure "F"**.

**13. UNDERTAKING**

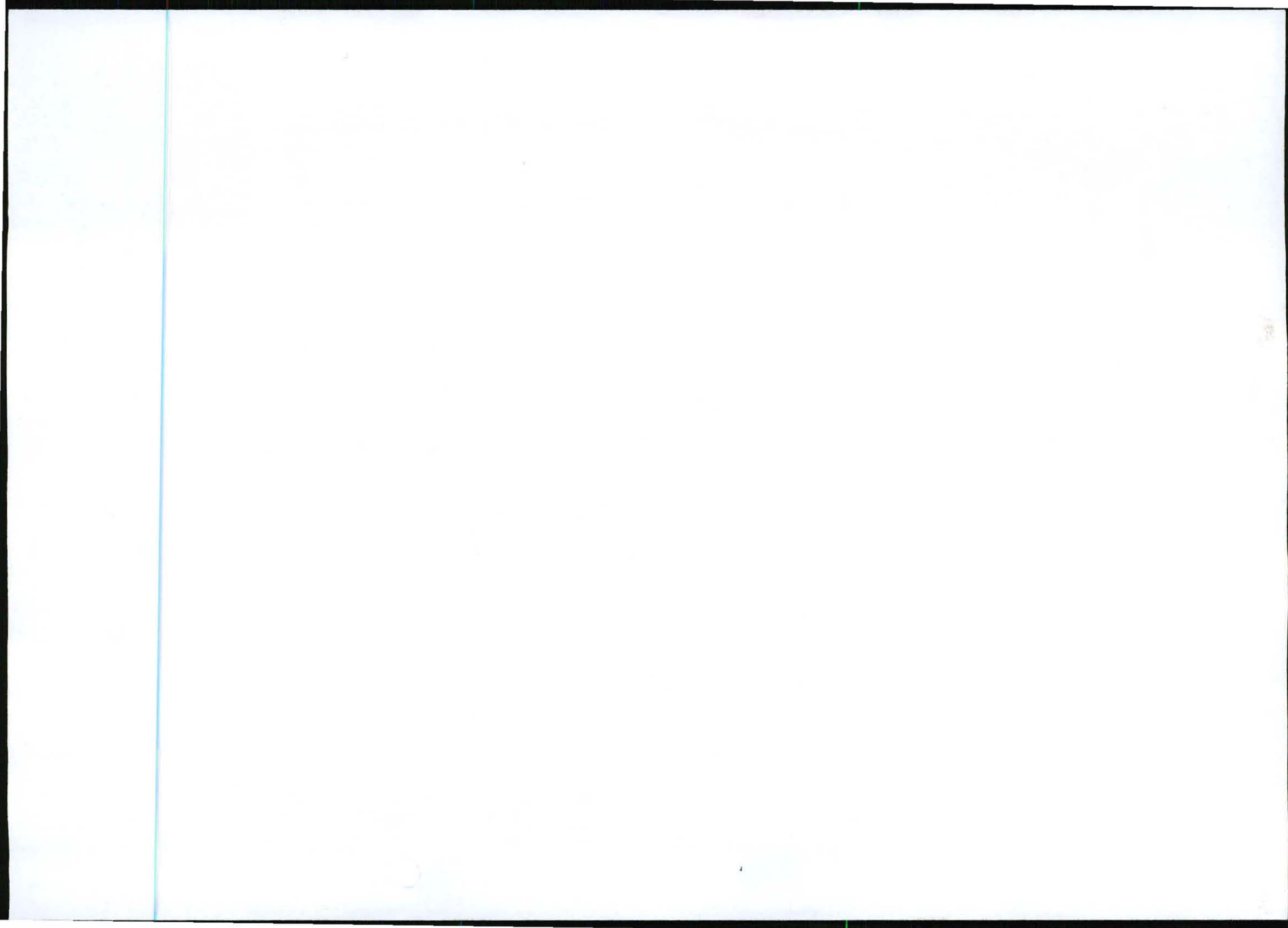
13.1 The Environmental Management Programme will, should it comply with the provisions of section 39 (4)(a) of the Act and the right be granted, be approved and become an obligation in terms of the right issued. As part of the proposed undertaking that it will be executed as approved and that the provisions of the Act and regulations thereto will be complied with.

**14. IDENTIFICATION OF THE REPORT**

Herewith I, the person whose name and identity number is stated below, confirm that I am the person authorised to act as representative of the applicant in terms of the resolution submitted with the application, and confirm that the above report comprises EIA and EMP compiled in accordance with the guideline on the Departments official website and the directive in terms of sections 29 and 39 (5) in that regard.

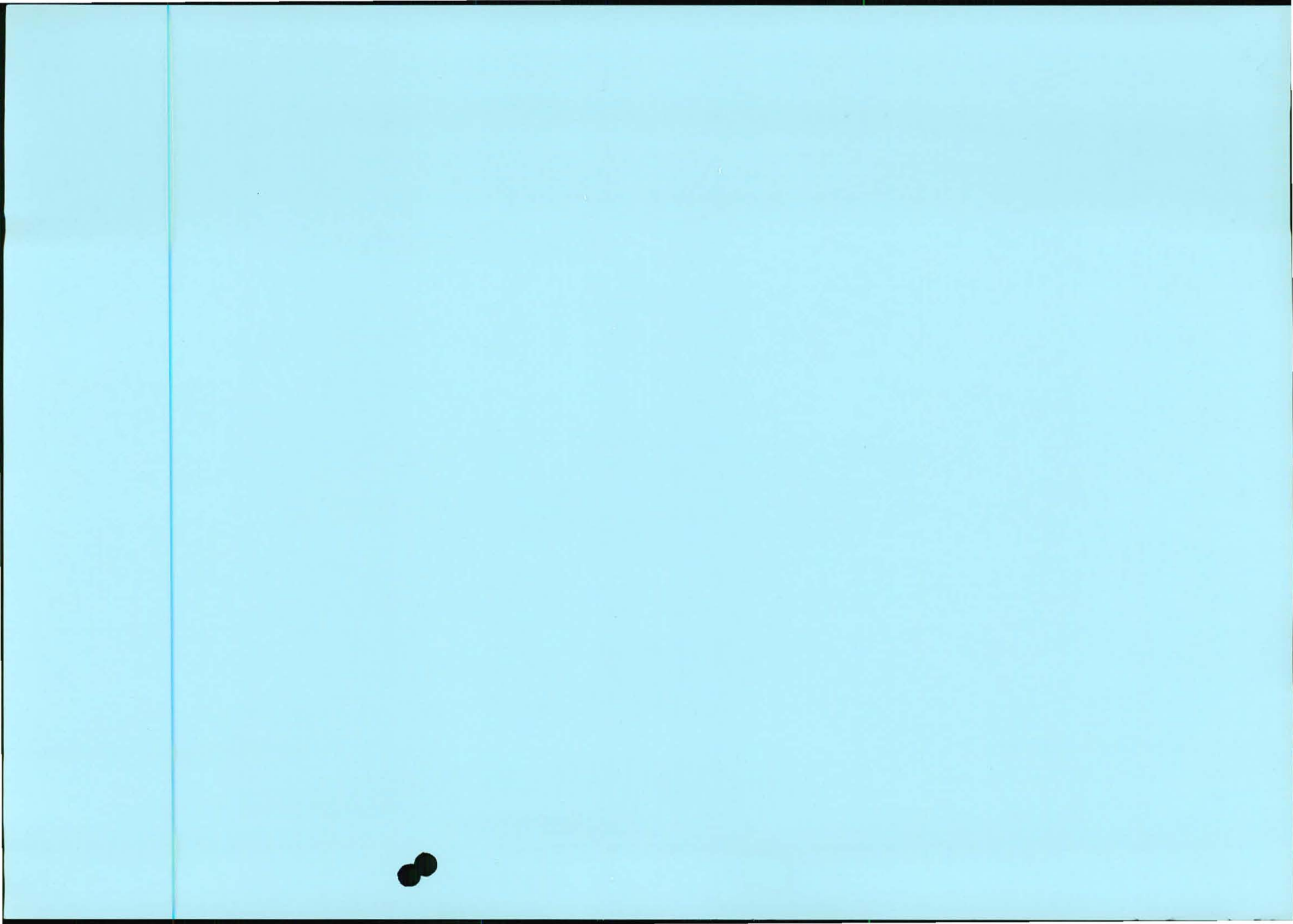
<b>Full Names and Surname</b>	<b>HENDRIK JACOBUS STEENKAMP</b>
<b>Identity Number</b>	<b>610428 5203 083</b>

- END -

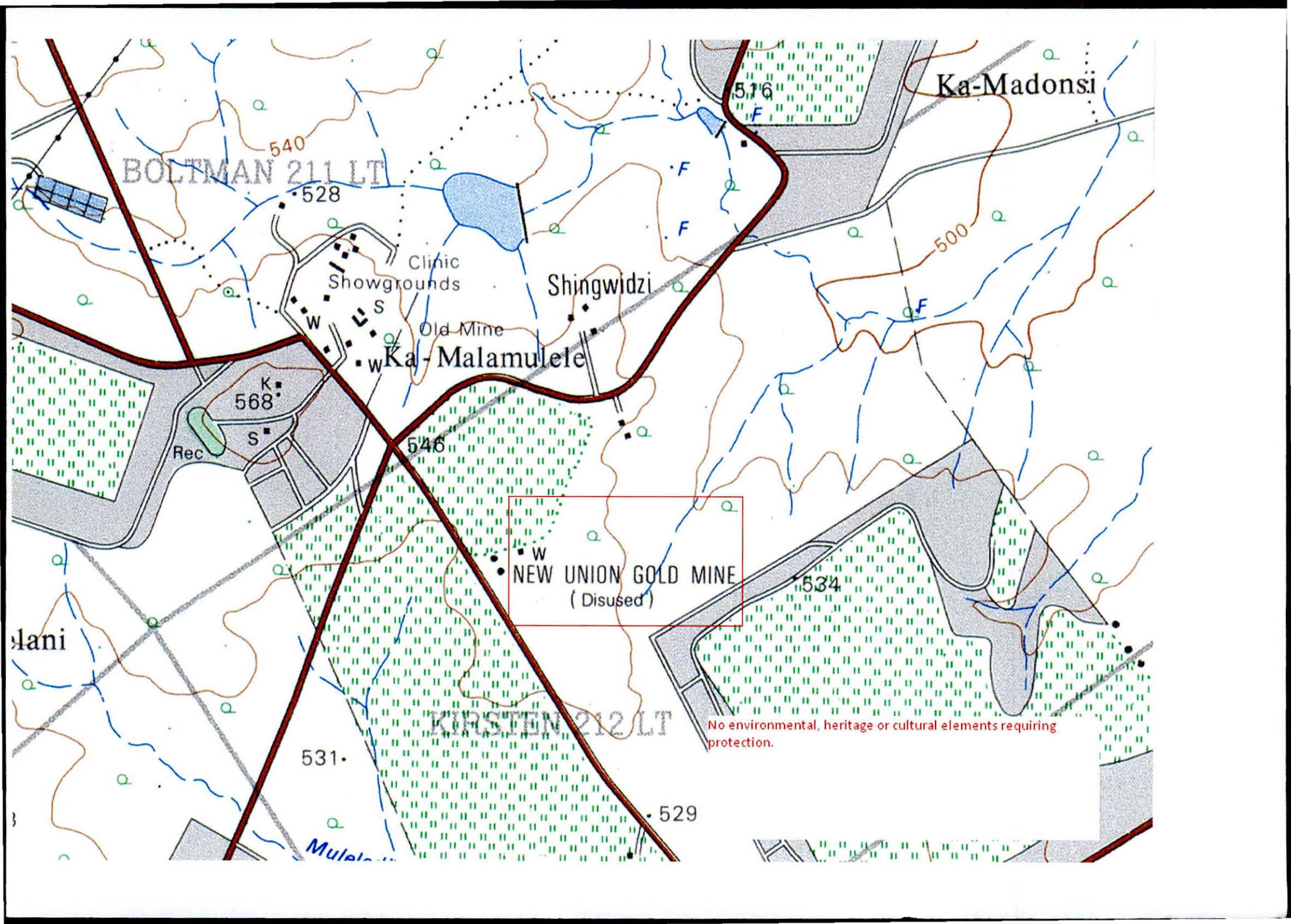


**ANNEXURE A**

AERIAL PHOTOS AND MAPS  
SHOWING NO ENVIRONMENTAL,  
CULTURAL OR HERITAGE  
ELEMENTS







Ka-Madonsi

BOLTMAN 211 LT

540

528

Clinic  
Showgrounds

Shingwidzi

Old Mine

Ka-Malamulele

568

Rec

546

NEW UNION GOLD MINE  
(Disused)

534

lani

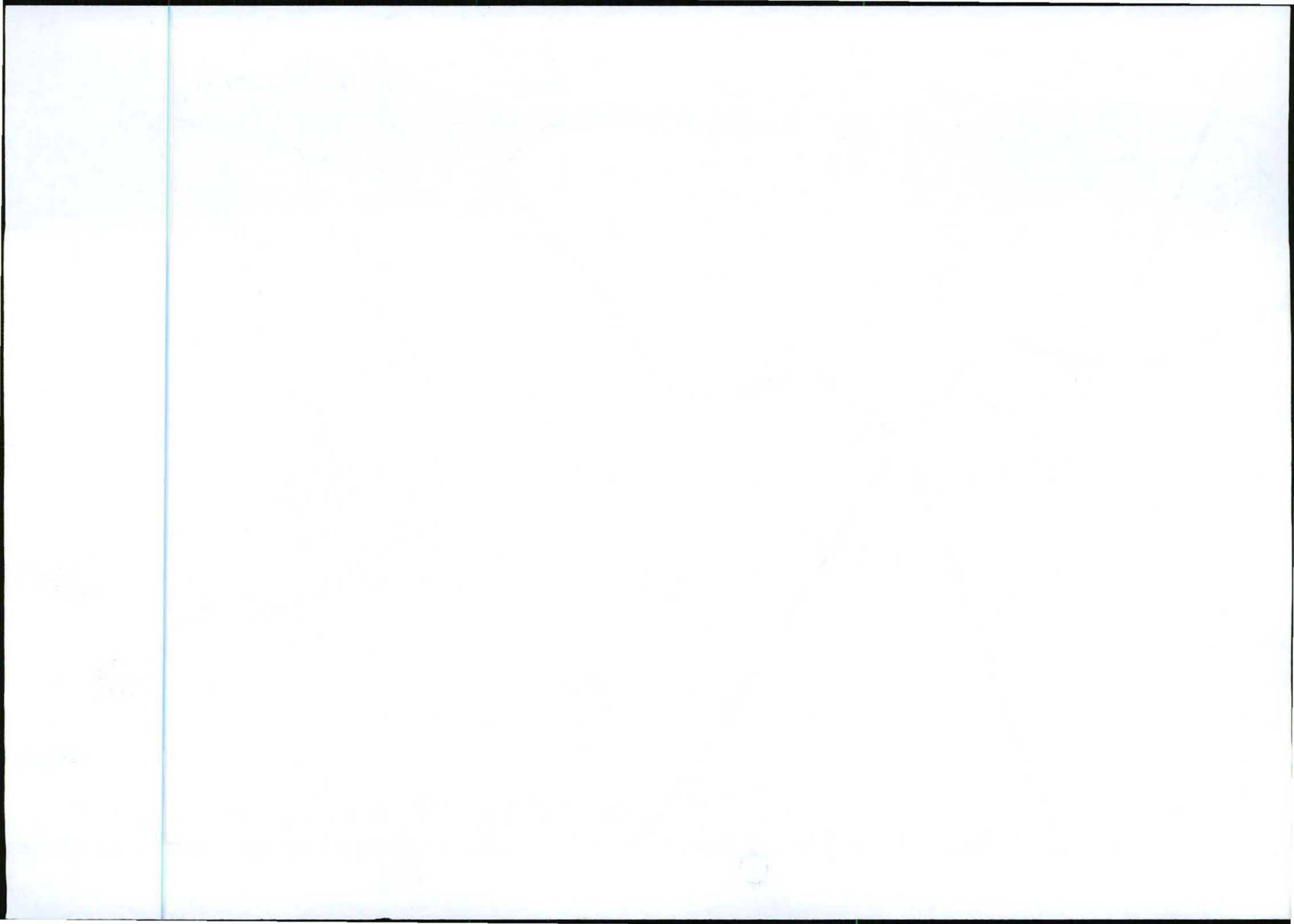
KIRSTEN 212 LT

531

529

No environmental, heritage or cultural elements requiring protection.

Mulele



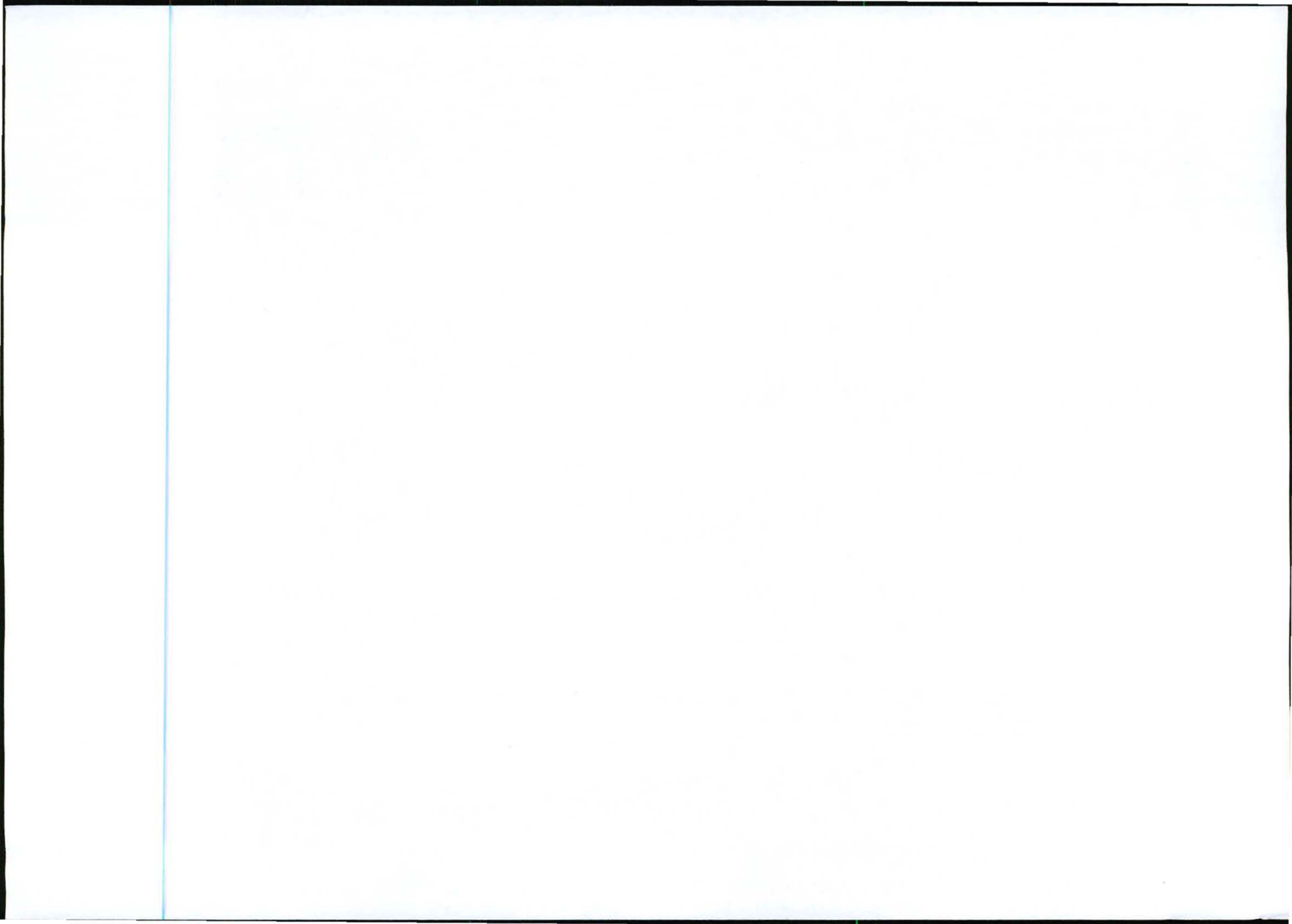
No cultural, environmental  
or heritage areas requiring  
protection

Malamulele-C

Malamulele, South Africa

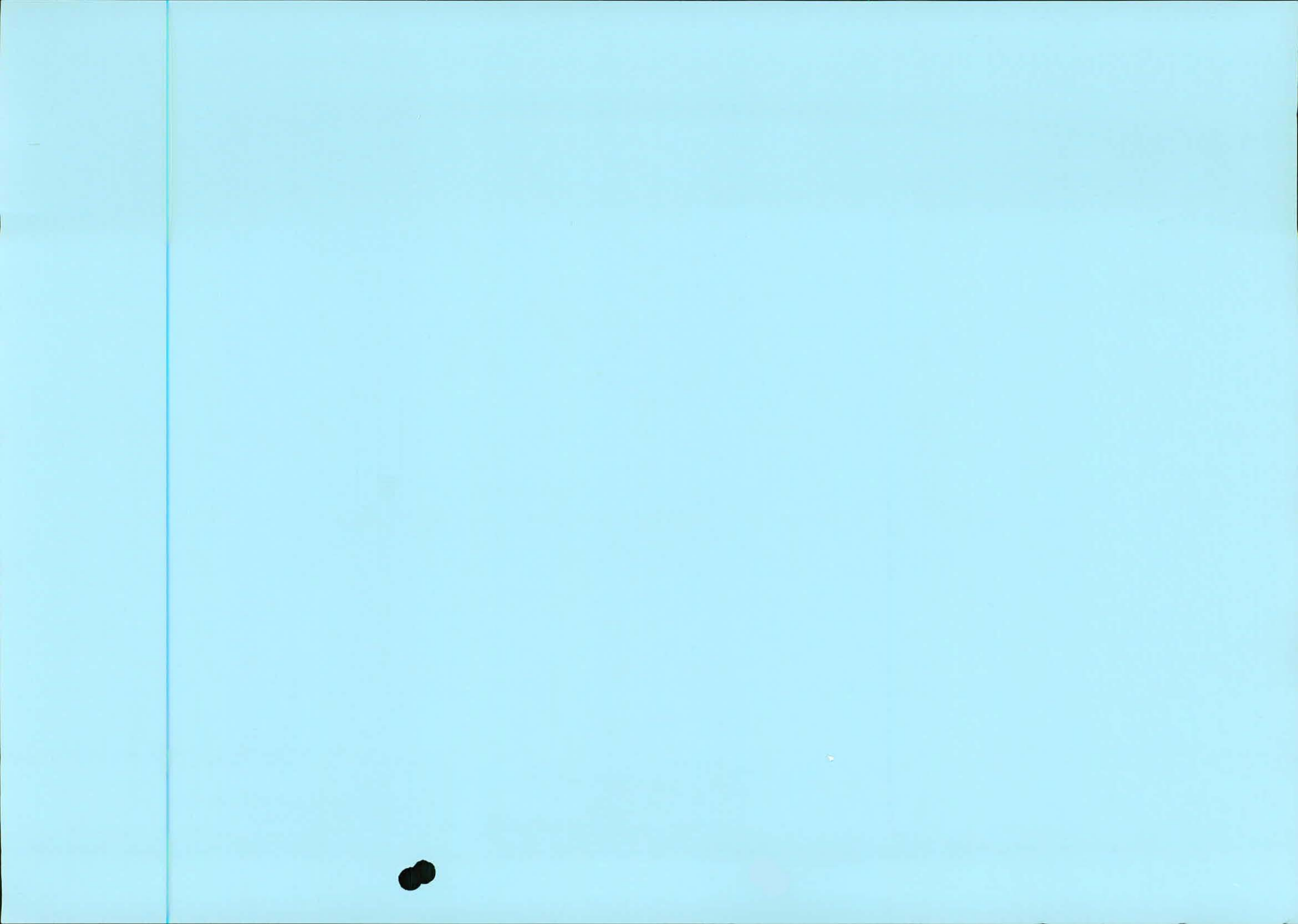
Shingwidzi

TAILING  
DAM



**ANNEXURE B**

ENVIRONMENTAL                      IMPACT  
ASSESSMENT                              AND  
ENVIRONMENTAL MANAGEMENT  
PLAN, IN PREVIOUS PRESCRIBED  
FORM



ANNEXURE "B"

File number: LP 30/5/1/3/2/1722 MP

## DEPARTMENT OF MINERALS AND ENERGY

**ENVIRONMENTAL MANAGEMENT PLAN**

**Submitted in support of application for a prospecting right or mining permit.**  
 Section 39 and Regulation 52 of the Minerals and Petroleum Resources Development  
 Act, 2002 (Act 28 of 2002)



Application for a:

Prospecting Right	
Mining Permit	X

Applicant: HECTOCORP (PTY) LTD

Farms: KIRSTEN 212 LT

District: MALAMULELE

Mineral: Au – REPROCESSING OF TAILING DUMP

Date: 31 May 2011

31 May 2011





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A.5	Legislation/ Regulations	Page 5
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A.7	Word definitions	Page 6

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### **Section E:**

Undertaking by applicant	Page 21
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### **Section F:**

Environmental Management Plan	Page 22
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### **Section G:**

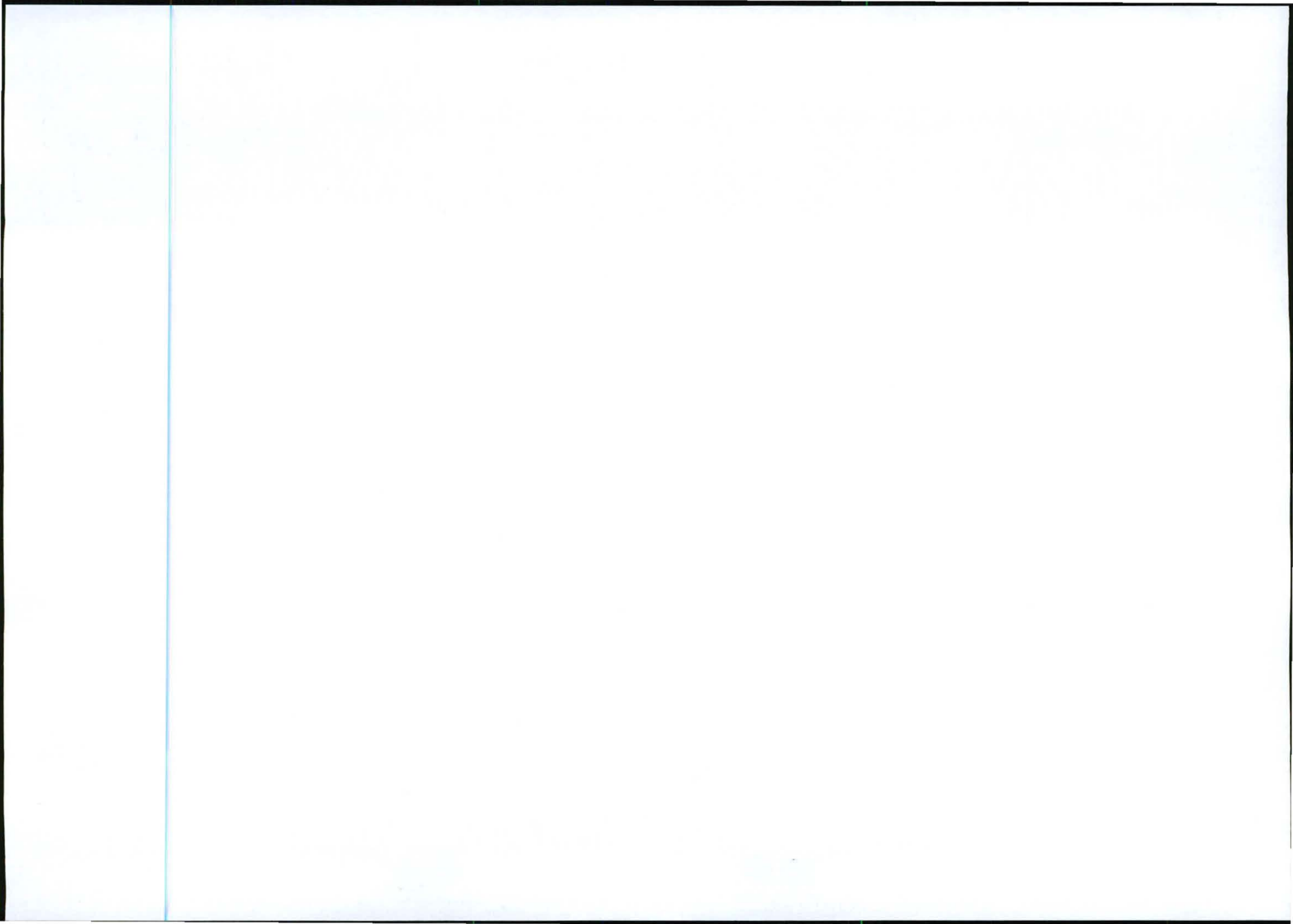
Specific additional requirements determined by the Regional Manager and agreed to by the Applicant	Page 42
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## **A.1 INTRODUCTION**

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 environment.

## **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.

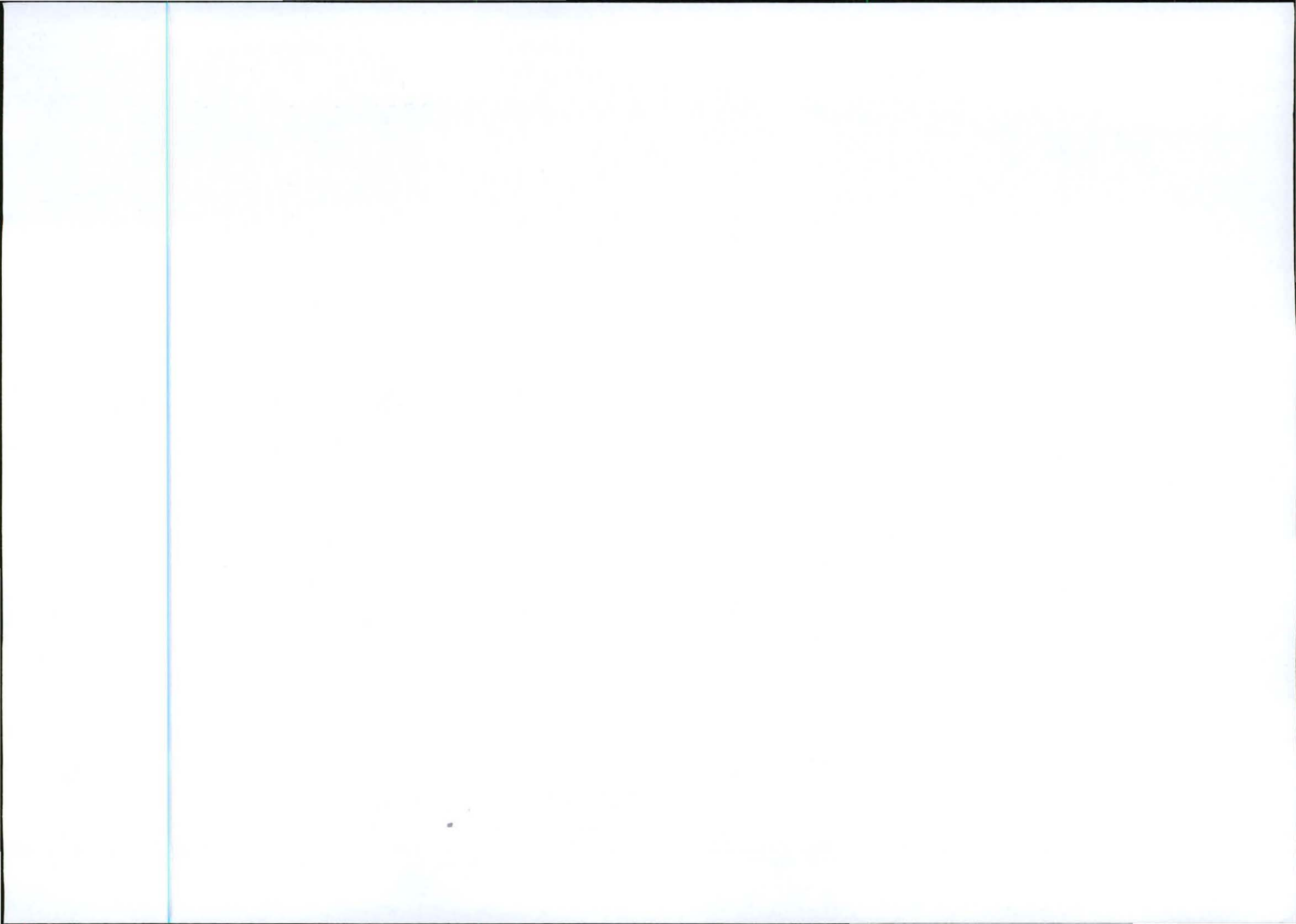
#### **A.4 USE OF THE DOCUMENT:**

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.

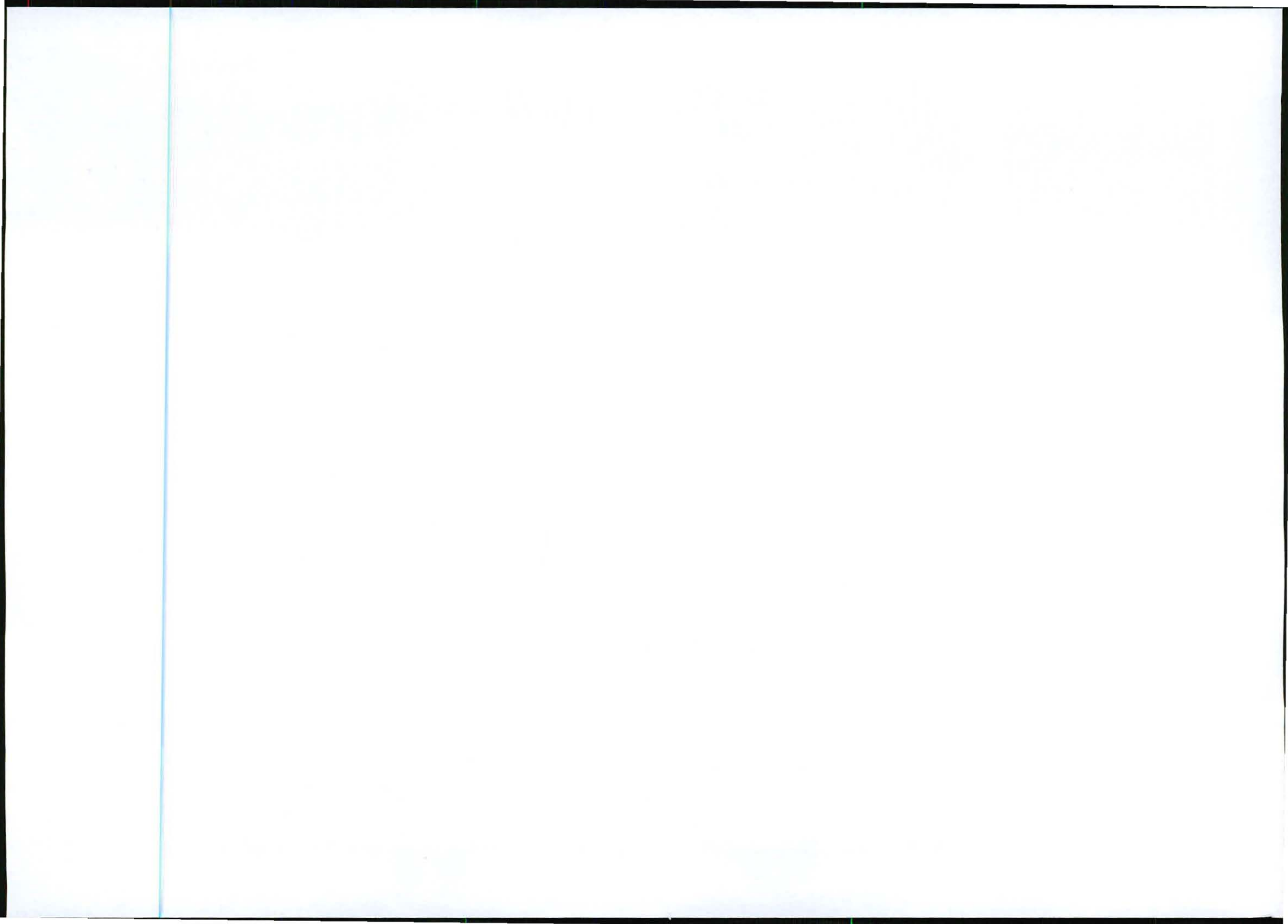
Section F (the Environmental Management Plan) of the document is prescriptive and gives guidance to the miner or prospector on how to limit the damage of the operation on the environment. This part may be added to by the regional manager, who has the prerogative to decide whether this Environmental Management 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	R 100 000 or two years imprisonment or both
20(2)	Holder of prospecting right must obtain Minister's permission to remove any mineral or bulk samples	R 100 000 or two years imprisonment or both
26(3)	A person who intends to beneficiate any mineral mined in SA outside the borders of SA may only do so after notifying the Minister in writing and after consultation with the Minister.	R 500 000 for each day of contravention
28	Holder of a mining right or permit must keep records of operations and financial records AND must submit to the DG: monthly returns, annual financial report and a report detailing compliance with social & labour plan and charter	R 100 000 or two years imprisonment or both
29	Minister may direct owner of land or holder/applicant of permit/right to submit data or information	R 10 000
38(1)(c)	Holder of permission/permit/right MUST manage environmental impacts according to EMP and as ongoing part of the operations	R 500 000 or ten years imprisonment or both.
42(1)	Residue stockpiles must be managed in prescribed manner on a site demarcated in the EMP	A fine or imprisonment of up to six months or both
42(2)	No person may temporarily or permanently deposit residue on any other site than that demarcated and indicated in the EMP	A fine or imprisonment of up to six months or both
44	When any permit/right/permission lapses, the holder may not remove or demolish buildings, which may not be demolished in terms of any other law, which has been identified by the Minister or which is to be retained by agreement with the landowner.	Penalty that may be imposed by Magistrate's Court for similar offence
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

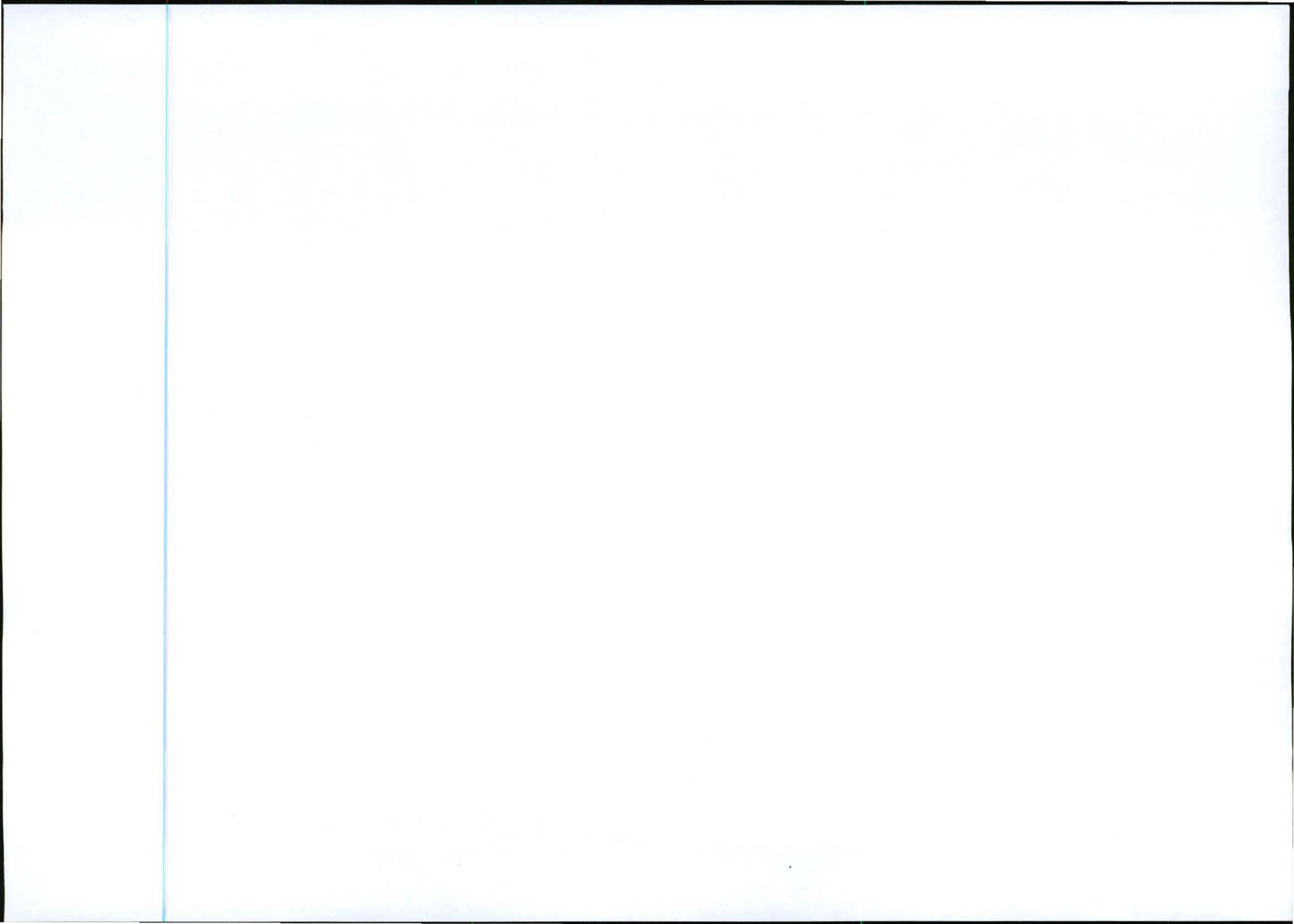
Compliance with the provisions of the Mineral and Petroleum Resources Development Act, 2002 (Act 28 of 2002) and its Regulations does not necessarily guarantee that the applicant is in compliance with other Regulations and legislation. Other legislation that may be immediately applicable includes, but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

<b>Act (The Act)</b>	Mineral and Petroleum Resources Development Act, 2002 (Act 28 of 2002)
<b>Borehole</b>	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.
<b>CARA</b>	The Conservation of Agricultural Resources Act
<b>EIA</b>	An Environmental Impact Assessment as contemplated in Section 38(1) (b) of the Act
<b>EMP</b>	an Environmental Management Plan as contemplated in Section 39 of the Act
<b>Fauna</b>	All living biological creatures, usually capable of motion, including insects and predominantly of protein-based consistency.
<b>Flora</b>	All living plants, grasses, shrubs, trees, etc.usually incapable of easy natural motion and capable of photosynthesis.
<b>Fence</b>	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.

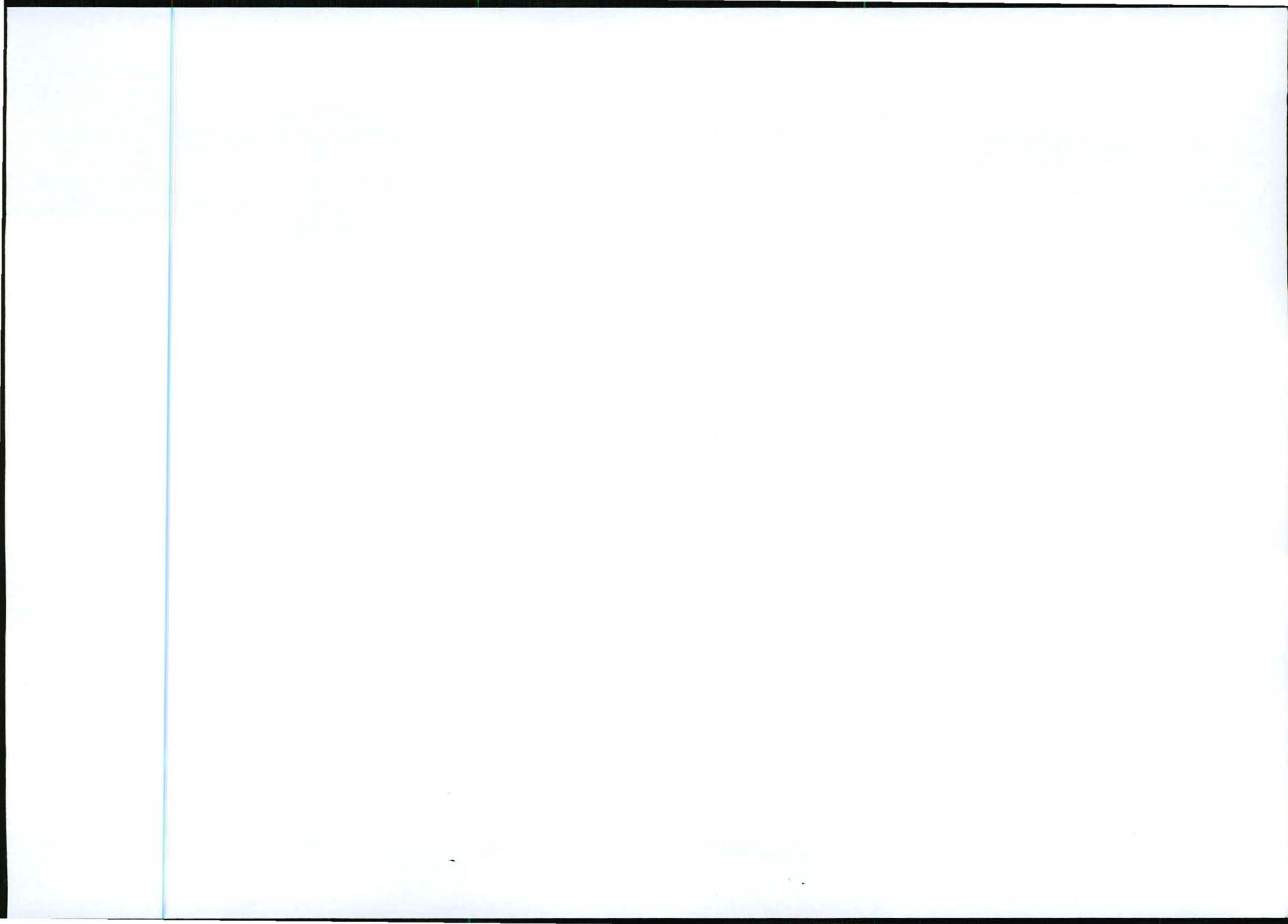


<b>House</b>	any residential dwelling of any type, style or description that is used as a residence by any human being
<b>NDA</b>	National Department of Agriculture
<b>NWA</b>	National Water Act, Act 36 of 1998
<b>Pit</b>	Any open excavation
<b>Topsoil</b>	The layer of soil covering the earth which- <ul style="list-style-type: none"> <li>(a) provides a suitable environment for the germination of seed;</li> <li>(b) allows the penetration of water;</li> <li>(c) is a source of micro-organisms, plant nutrients and in some cases seed; and</li> <li>(d) is not of a depth of more than 0,5 meters or such depth as the Minister may prescribe for a specific prospecting or exploration area or mining area.</li> </ul>
<b>Trench</b>	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 meters in length. Also a prospecting trench.
<b>Vegetation</b>	Any and all forms of plants, see also Fauna
<b>DWAF</b>	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.
<b>MPRDA</b>	the Mineral and Petroleum Resources Development Act, 2002 (Act 28 of 2002)
<b>EMPlan</b>	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>B 1.1</b> Full name (and surname) of person or company applying for permit or right	<b>HECTOCORP (PTY) LTD</b>
<b>B 1.2</b> ID number of person or company/ CC registration number	<b>2010/014370/07</b>
<b>B 1.3</b> Postal address	<b>P O Box 815 Malelane 1320</b>
<b>B 1.4</b> Physical/ residential address	<b>40 Air Street Malelane 1320</b>
<b>B 1.5</b> Applicant's telephone number	<b>013 790 1645</b>
<b>B 1.6</b> Applicant's cellular phone number	<b>072 1945 886</b>
<b>B 1.7</b> Alternative contact's name	<b>Zietta Olivier</b>
<b>B 1.8</b> Alternative contact's telephone/cell phone numbers	<b>082 329 8313</b>
<b>B 2.1</b> Full name of the property on which mining/ prospecting operations will be conducted	<b>Kirsten 212 LT;</b>
<b>B 2.2</b> Name of the subdivision	<b>Whole farms</b>
<b>B 2.3</b> Approximate center of mining/prospecting area: Longitude (WGS84) LO 31	23 01 08 East
Latitude (WGS84) LO 31	30 43 50 South
<b>B 2.4</b> Magisterial district	<b>Malamulele</b>
<b>B 2.5</b> Name of the registered owner of the property	<b>Republic of South Africa Department of Land Affairs</b>
<b>B 2.6</b> His/her Telephone number	<b>015 297 4988</b>
<b>B 2.7</b> His/ her Postal address	<b>Dorp Street Polokwane</b>
<b>B 2.8</b> Current uses of surrounding areas The use of the various properties are as follows: Linder 213 LT : Grazing for cattle Boltman 211 MT: Grazing for cattle and partial cultivation of crops Ireland 210 LT: Grazing for cattle and partial cultivation of crops Krause 226 LT: Grazing for cattle and partial cultivation of crops Van Duren 207 LT : Grazing for cattle and partial cultivation of crops	



**B 2.9** Are there any other, existing land uses that impact on the environment in the proposed mining/ prospecting area?

None obvious evidence

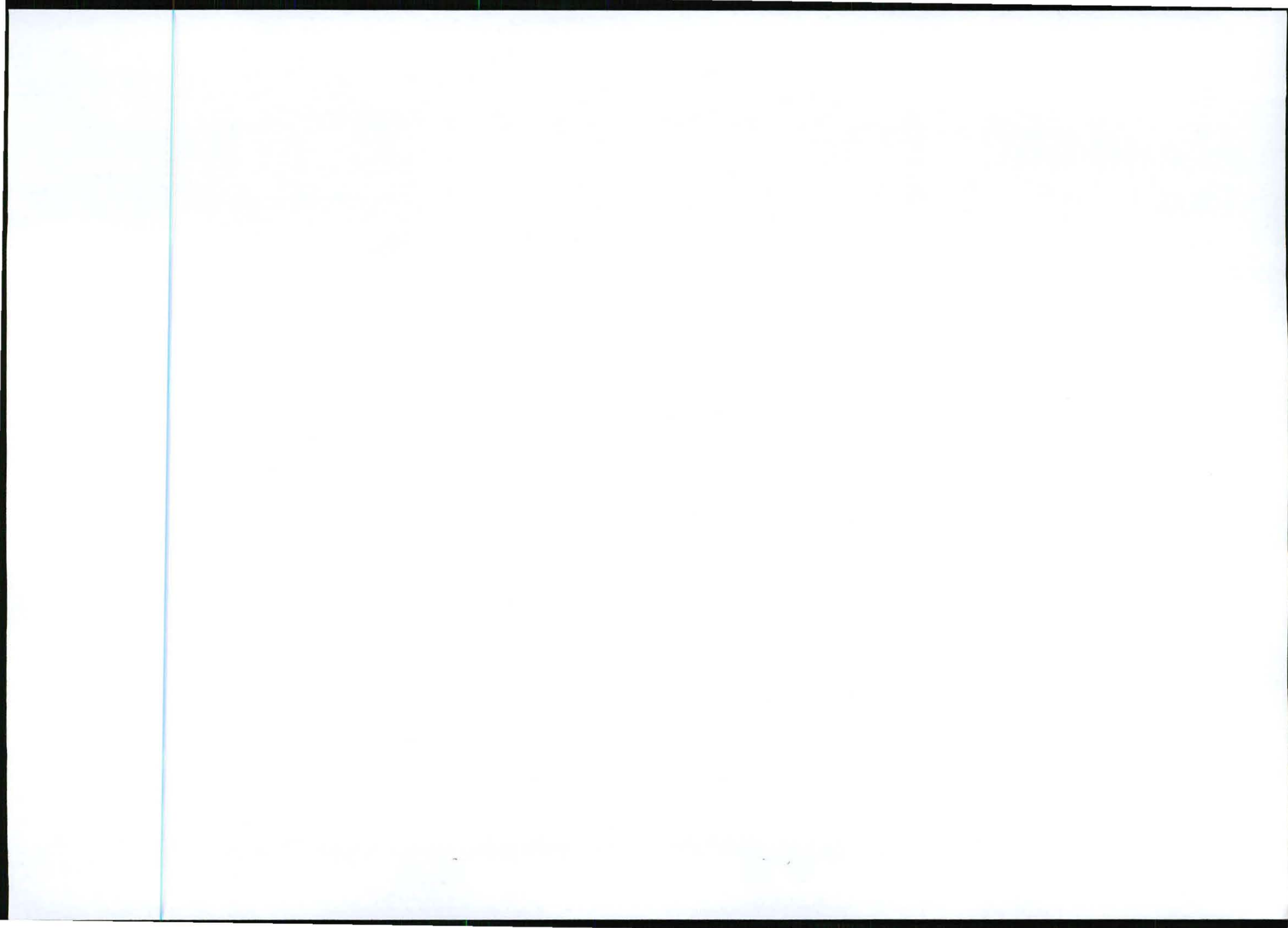
**B 2.10** What is the name of the nearest town? Malamulele

### 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:**

<b>C.1 DESCRIPTION OF THE ENVIRONMENT LIKELY TO BE AFFECTED BY PROPOSED PROSPECTING/MINING OPERATIONS: (REGULATION 52(2)(a))</b>			
<b>ENVIRONMENTAL ELEMENT/ IMPACTOR</b>	<b>VALUE</b>	<b>TICK</b>	<b>OFFICE USE</b>
<b>C 1.1</b> What does the landscape surrounding the proposed operation look like? (Open veldt/ valley/ flowing landscape/ steep slopes)			
The proposed mining area is located at an altitude of approximately 500m above mean sea level. It maintains a gentle slope towards the NE with a subtle drainage system of non-perennial creeks. The southern section show signs of non-intensive cultivation activities to the south of the Malamulele/ Fumani connection road.			
<b>C 1.2</b> Describe the type of soil found on the surface of the site			
Most of the prospecting terrain is covered by a mixture Hutton and Clovelly soil forms.	<b>VALUE</b>	<b>TICK</b>	<b>OFFICE USE</b>
<b>C 1.3</b> How deep is the topsoil?	0 – 300mm	<b>x</b>	8
	300 – 600mm		4
	600mm +		2
<b>C 1.4</b> What <i>plants, trees and grasses</i> grow naturally in the area around the site?			





*Tropical bush* and *Acacia Nigrescens-Sclerocarya Savanna Biome* dominates the area of Fumani (Acock's veld Type 57 - Acocks). Vegetation in the vicinity surrounding the dumps and elsewhere on the mine premise is fairly undisturbed by erosion and grazing and can be considered to have high plant diversity with some conservation value. *Grass cover* is well established on the mine except for the immediate areas around the old crusher plant facility and to the immediate east of dumps A and B. Evidently the *Digitaria* grass species seems to compete well with the *Themeda* species as the dominant grass (57b *Nera-Highland sourveld variation*). Other grasses are present and include: *Eragrostis*, *Andropogon chinensis*, *Cymbopogon* and less dominant species. Among the dominant trees, *Acacia* and *Combretums* are the essential ones with other subsidiaries: *Sclerocarya caffra*, *Colophospermum mopane*, *Peltoporum africanum* and *Strychnos madagascariensis*. (According to: *Acocks, 18b Mixed Terminalia – Dichpetalum Veld, 6 Open Sclerocarya Veld*)

To the best knowledge, no endangered plant species are currently recorded in the area.

**C 1.5** What *animals* naturally occur in the area?

Detailed studies of animal life in the vicinity of the exploration premise were not undertaken but due to the proximity of intense populated villages in the area and strong poverty, wild life is limited to terrestrial *mammals*, *reptiles* and *birds*. Species diversity is low due to the presence of domestic animals (dogs, goats, donkeys, cattle, cats) associated with the local community and surrounding dwellings. Some sporadic incidences occurred when the local community members in the area have observed large cat families due to the proximity of the National Park boundary.

To the best of our knowledge, no endangered bird or animal species are currently recorded in the area.

	VALUE	TICK	OFFICE USE
<b>C 1.6</b> Are there any <i>protected areas</i> (game parks/nature reserves, monuments, etc) close to the proposed operation?	Yes		4
	No	<b>x</b>	0

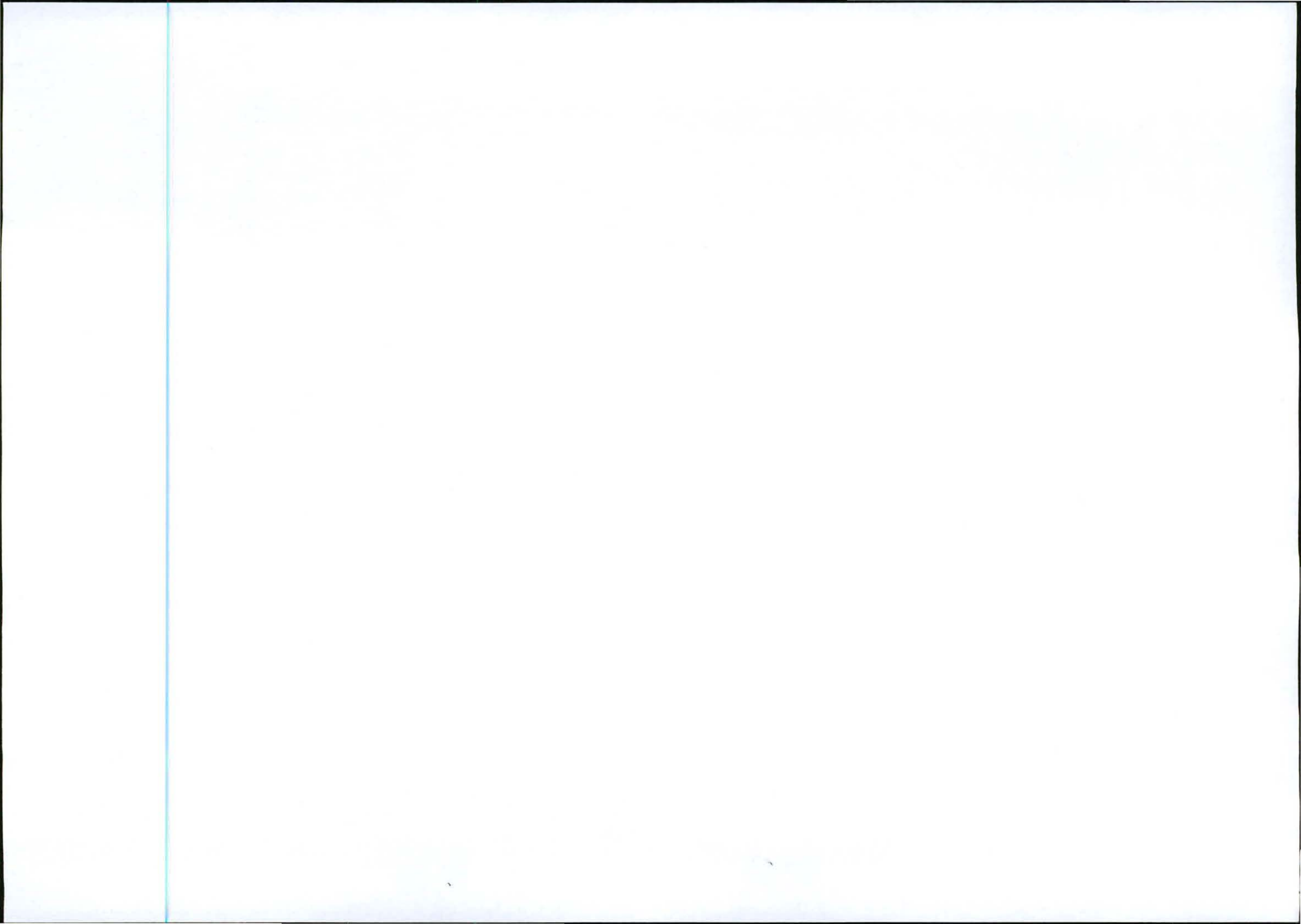
No protected areas under Provincial Management are found proximal the proposed exploration area. The National park boundary is located ~30km to the east of the property.

C 1.7 What mineral are you going to prospect or mine for?

Gold Ore

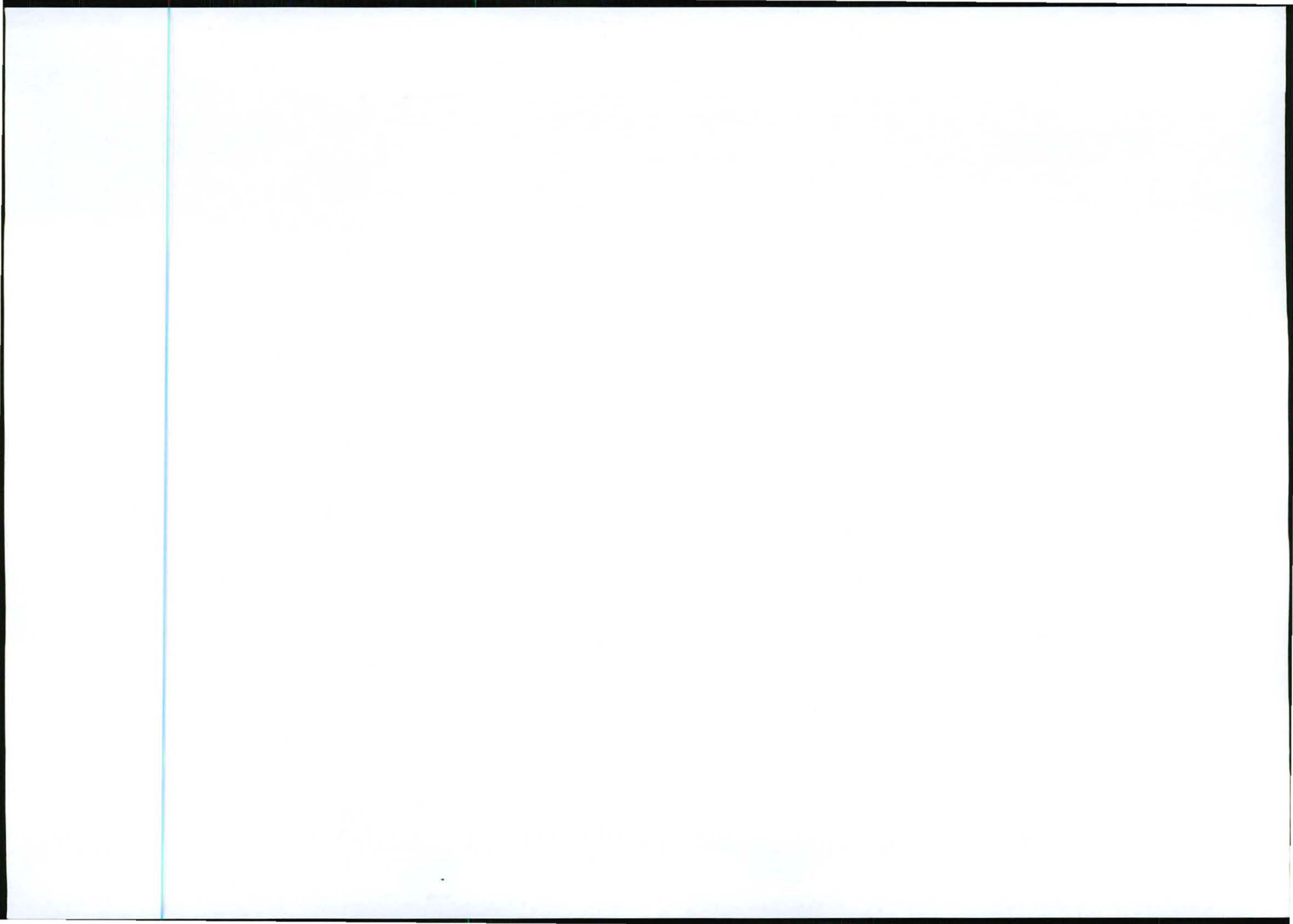
**C 1.8** Describe the type of equipment that will be used:

The reprocessing of old tailing dams as per the mining work program, as submitted with the application.



<b>C.2 HOW WILL THE PROPOSED OPERATION IMPACT ON THE NATURAL ENVIRONMENT? (REGULATION 52(2)(b))</b>			
ENVIRONMENTAL ELEMENT/ IMPACTOR	VALUE	TICK	OFFICE USE
<b>C 2.1</b> What will the ultimate depth of the proposed prospecting operations be?	0 – 5m	<b>0</b>	2
	6 – 10m		4
	10 – 25m		8
Drilling activities	25m +		10
			Ha
	<10 X 10m	<b>0</b>	2
<b>C 2.2</b> How large will the <i>total</i> area of all excavations be?	<20 X 20m		4
No large excavations planned at any stage	>20 X 20m		8
<b>C 2.4</b> How many <i>prospecting</i> boreholes or trenches will there be?			
None			

	VALUE	TICK	OFFICE USE
<b>C 2.5</b> Will employees prepare food on the site and collect firewood?			4
	No	<b>x</b>	0
<b>C 2.6</b> Will water be extracted from a river, stream, dam or pan for use by the proposed operation?	No		4
	No	x	2
<b>C 2.7</b> If so, what is the name of this water body?	Not applicable		
<b>C 2.8</b> If water will not be extracted from an open surface source, where will it be obtained?			
<b>Water will be acquired from the closest licenced operator/municipality and will be carted by truck to the proposed prospecting site</b>			
	VALUE	TICK	OFFICE USE
<b>C 2.9</b> How much water per day will the <i>mineral processing</i> operation require?	1000 – 10 000 Liters	N/A	2
	20 000 – 40 000 L	N/A	3
	40 000 – 60 000 L	N/A	5
	60 000 – 100 000L	N/A	8



	More	N/A	10
<b>C 2.10</b> How far is the proposed operation from open water (dam, river, pan, lake)?	0 – 15m		8
	16 – 30m		6
	31 – 60m		4
	More than 60 meters	<b>x</b>	2
<b>C 2.11</b> What is the estimate depth of the water table?	5-25m		meters
<b>C.2.12</b> How much water per day will the proposed operation utilize for an employee?			Liters
Drinking water for employees will be collected at the old Madonsi Mine village.			
<b>C 2.13</b> What toilet facilities will be made available to workers?	None		8
	Pit latrine (longdrop)		4
To be constructed in line with F2.3.2. .	Chemical toilet	<b>x</b>	2
<b>C 2.14</b> Would it be necessary to construct roads to access the proposed operations?	Yes		4
	No	<b>x</b>	0
	<b>VALUE</b>	<b>TICK</b>	<b>OFFICE USE</b>
<b>C 2.15</b> How long will these access road(s) be (from a public road to the proposed operations)	0 – 0,5 km		4
	0,6 – 1,5 km	<b>x</b>	2
	1,6 – 3 km		4
Existing farm roads will be utilized as access roads to proposed operations. However allocation has been made in the financial provision for rehabilitation where required.			
<b>C. 2.16</b> Will trees be uprooted to construct these access road(s)?	Yes		4
	No	<b>x</b>	0
<b>C 2.17</b> 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
	No	<b>x</b>	0
<b>C.3 TIME FACTOR</b>			
<b>C 3.1</b> For what time period will mining operations be conducted on this particular site?	0 – 6 months		2



	6 – 12 months		4
	12 – 18 months		6
	18 – 24 months	x	8
	>24 months		10
<b>C.4 HOW WILL THE PROPOSED OPERATION IMPACT ON THE SOCIO-ECONOMIC ENVIRONMENT? (REGULATION 52(2)(b))</b>			
<b>ELEMENT/ IMPACTOR</b>	<b>VALUE</b>	<b>TICK</b>	<b>OFFICE USE</b>
<b>C 4.1</b> How many people will be employed?	10		
<b>C 4.2</b> How many men?	7		
<b>C 4.3</b> How many women?	3		
<b>C 4.4</b> Where will employees be obtained? (Own or employed from local communities?)	Own		2
	Local	X	4
<b>C 4.5</b> How many hours per day will employees work?	Sunrise→ Sunset		4
	Less	X	2
	More		8
	<b>VALUE</b>	<b>TICK</b>	<b>OFFICE USE</b>
<b>C 4.6</b> Will operations be conducted within 1 kilometer from a residential area	Yes		6
	No	X	1
<b>C 4.7</b> How far will the proposed operation be from the nearest fence/windmill/house/dam/built structure?	0 – 50 metres		8
	51 – 100 metres		4
	150 or more metres	X	2
<b>C.5 HOW WILL THE PROPOSED OPERATION IMPACT ON THE CULTURAL HERITAGE OF THE SURROUNDING ENVIRONMENT? REGULATION 52(2)(b)</b>			
<b>ELEMENT/ IMPACTOR</b>	<b>VALUE</b>	<b>TICK</b>	<b>OFFICE USE</b>
There are no cultural heritage sites on the property	Not applicable		
<b>C 5.1</b> Are there any graveyards or old houses or sites of	Yes		8





historic significance within 1 kilometer of the area?			
None that the applicant is aware of	No	X	0

## C.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:

There will be no impact during mining operations apart from normal emissions from a limited number of South African licensed and approved road-going vehicles. Dust generated from equipment will be sufficiently far from the farm inhabitants and will have a negligible impact.

### 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)**

Not applicable

### 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.

Minimal noise pollution. Any operators of noisy equipment shall wear protective equipment.

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

Please indicate whether any blasting operations will be conducted.

Blasting:	Yes/ No	<b>No</b>	How often?	<b>N/A</b>
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### 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 waste rock or silt will be dumped anywhere on the prospecting premise.

Domestic waste material viz. non-biodegradable refuse such as glass bottles, plastic bags, metal scrap, etc., will be stored in a container at a collecting point and collected on a regular basis and disposed of at a recognised disposal facility.

Biodegradable refuse generated from the office/camp site, 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 practical). Provision will be made for future subsidence of the covering.

All requirements in terms of section F2.3.2 will be adhered to where applicable.

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

6.6.1 Indicate how topsoil will be handled on the area.

Reprocessing of old tailing dams do not entail any handling of topsoil.

6.6.2 Describe how spills of oil, grease, diesel, acid or hydraulic fluid will be dealt with.

A vehicle maintenance yard and secured storage area will be established at the old Madonsi Mine premise and secure from any potential of polluting groundwater or intimidating tree and plant life. Any spill will be cleaned up immediately by removing the spill, grease and oil, together with the polluted soil and disposing of it at a recognized dumping facility.

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

The sealed containers will not be stored on site for prolonged periods. 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.



**C.7 FINANCIAL PROVISION: (Regulation 54)**

<p><b>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))</b></p>	<p><b>.6.8 How will the negative impacts on the environment be mitigated or managed (as described in C 6.6 to the left? (Regulation 57(2)(c))</b></p>
<p><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</p>	<p><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.</p>
<p><b>1</b></p>	<p><b>1</b> The site will be fenced off, and rehabilitated immediately upon completion.</p>
<p><b>2</b></p>	<p><b>2</b> Fences around the sites will be removed and terrain will be graded to reflect the original environment.</p>
<p><b>3</b></p>	<p><b>3</b> The mining operation itself is rehabilitation.</p>
<p><b>4</b></p>	<p><b>4</b></p>
<p><b>5</b></p>	<p><b>5</b></p>
<p><b>6</b></p>	<p><b>6</b></p>
<p><b>7</b></p>	<p><b>7</b></p>
<p><b>8</b></p>	<p><b>8</b></p>



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 it will cost the Department to rehabilitate the area disturbed in case of liquidation or abscondence.

<b>REHABILITATION OF PROSPECTING OPERATIONS</b>				
	<b>Unit Rate</b>	<b>Number</b>	<b>Area</b>	<b>Amount</b>
	<b>R/bh (12)</b>	<b>of units</b>	<b>(m<sup>2</sup>)</b>	<b>(Rand)</b>
	<b>R/m<sup>2</sup> (13)</b>			
	<b>R/m<sup>3</sup> (14)</b>			
13	<b>Removal of processing plant</b> (cost to dismantle, remove, demolish, remove waste)		500	R20 000.00
<b>Subtotal</b>				R 20 000.00
<b>10% supervision fee</b>				R 0
<b>14% VAT</b>				R 0
<b>TOTAL</b>				<b>R20 000.00</b>
Enter the amount of financial provision required here: <b>R20 000.00</b>				

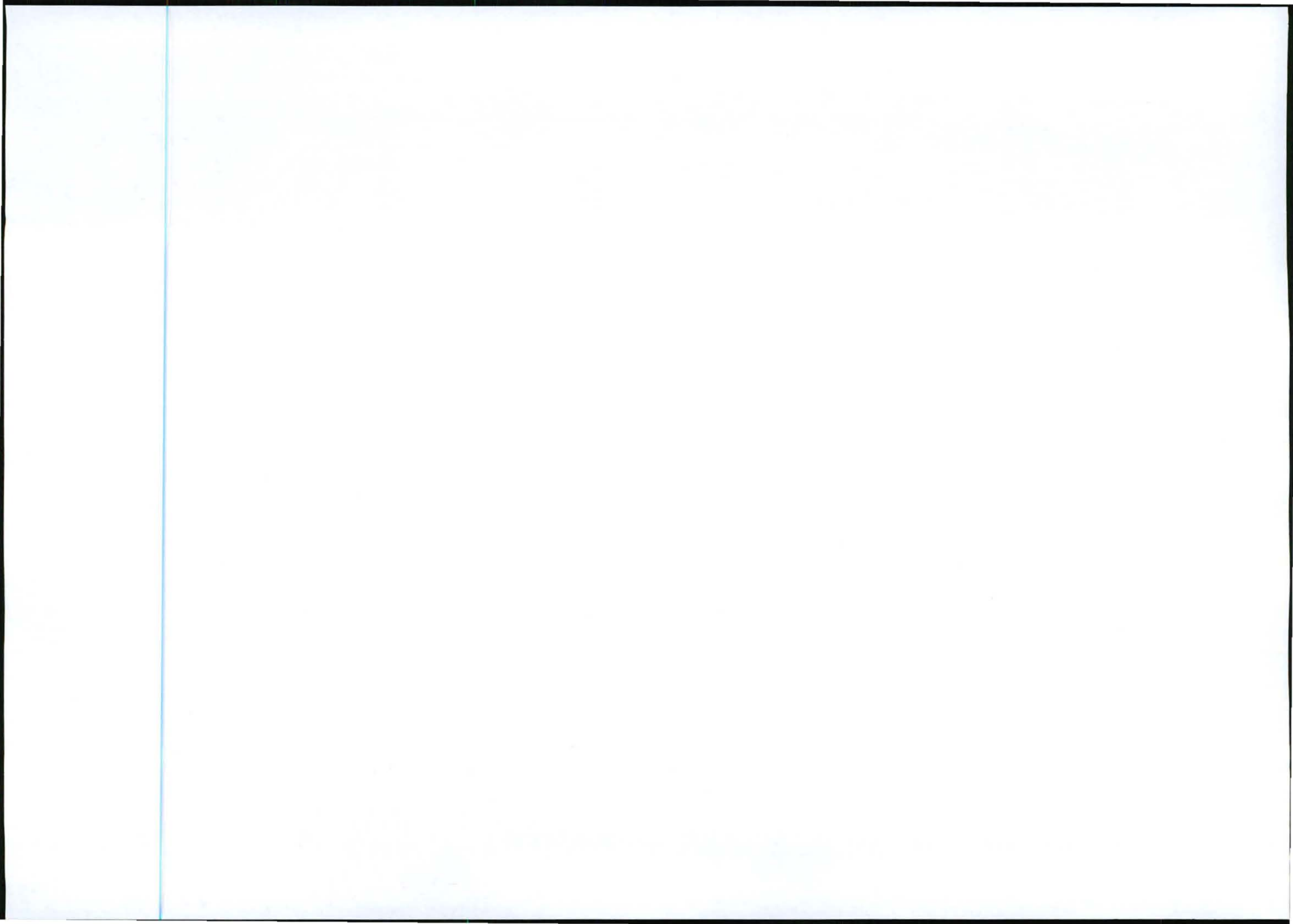
What method will be used to furnish DME with this financial provision?

Cash deposit	X
Bank guarantee	
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. 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.8.1 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.*

All contractors employed will be made aware of the above regulations. An independent Environmental Compliance Report will be undertaken on a six monthly basis, a copy of which will be forwarded to the Regional Director. The management of the Applicant shall also on a bi-monthly basis check to insure that the regulations are met. The Mining Engineer and/or Geologist shall assume all liability to ensure that the regulations are complied with and ensure liability agreement for compliance of the regulations.

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

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

The mining activities will not cause a permanent detrimental impact to the environment. As the tailings will be reprocessed and the area rehabilitated the area can be utilized, contrary to the lack of function due to the tailings. The Community can use the area for any use they deem fit.

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

The tailings will be reprocessed and the area levelled. The environment will be rehabilitated as it was before the historical mining was commenced.

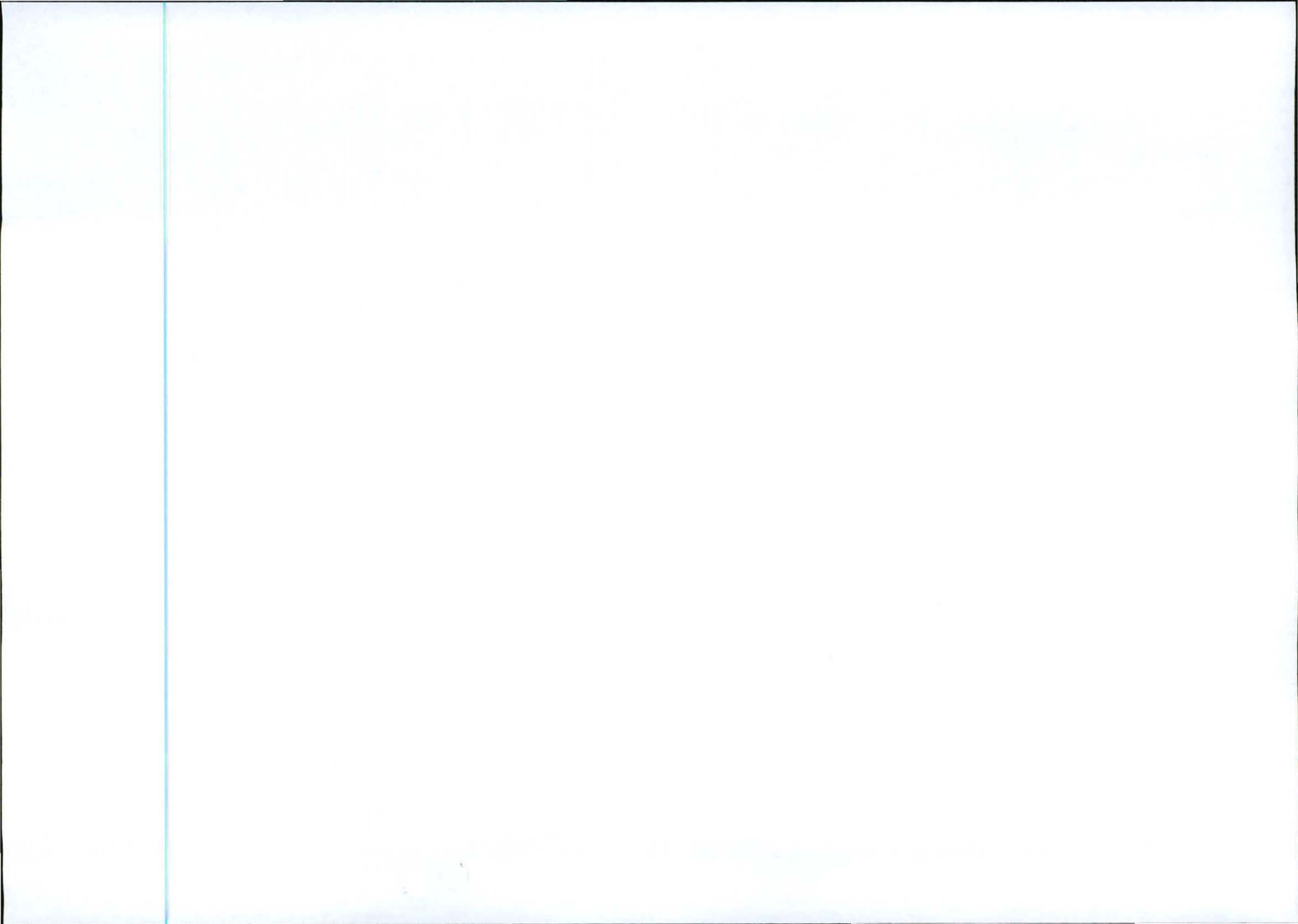
Note: The proposed end-state of your area must be consulted with interested and affected parties in terms of Regulation 52(2)(g). Details of the acceptability of the end-state must appear in the section below.

**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?

<b>Name of Interested/ affected party</b>	<b>Contact details: Address &amp; telephone number</b>	<b>How did consultation take place?</b>	<b>What was his/her main concern about the operation?</b>
Department of Land Affairs Limpopo Province	Particulars of designated official not yet known Tel : 015 297 3539 Fax : 015 297 1815	In writing by fax. (attached)	Awaiting response.
Land Claims Commissioner Polokwane	Particulars of designated official not yet known Tel : 015 297 0800 Fax: 015 287 0811	In writing by fax (attached)	Awaiting response.
Madonsi Tribal Authority	Chief Hosi Cellc:	In writing, personal attendances and various telephonic discussions.	None.

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**Instructions for officials:**

In this table, complete the totals of each section indicated below and do the calculation. **Remember to first add all the values of sections C 1,2,4 and 5 and then to multiply 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

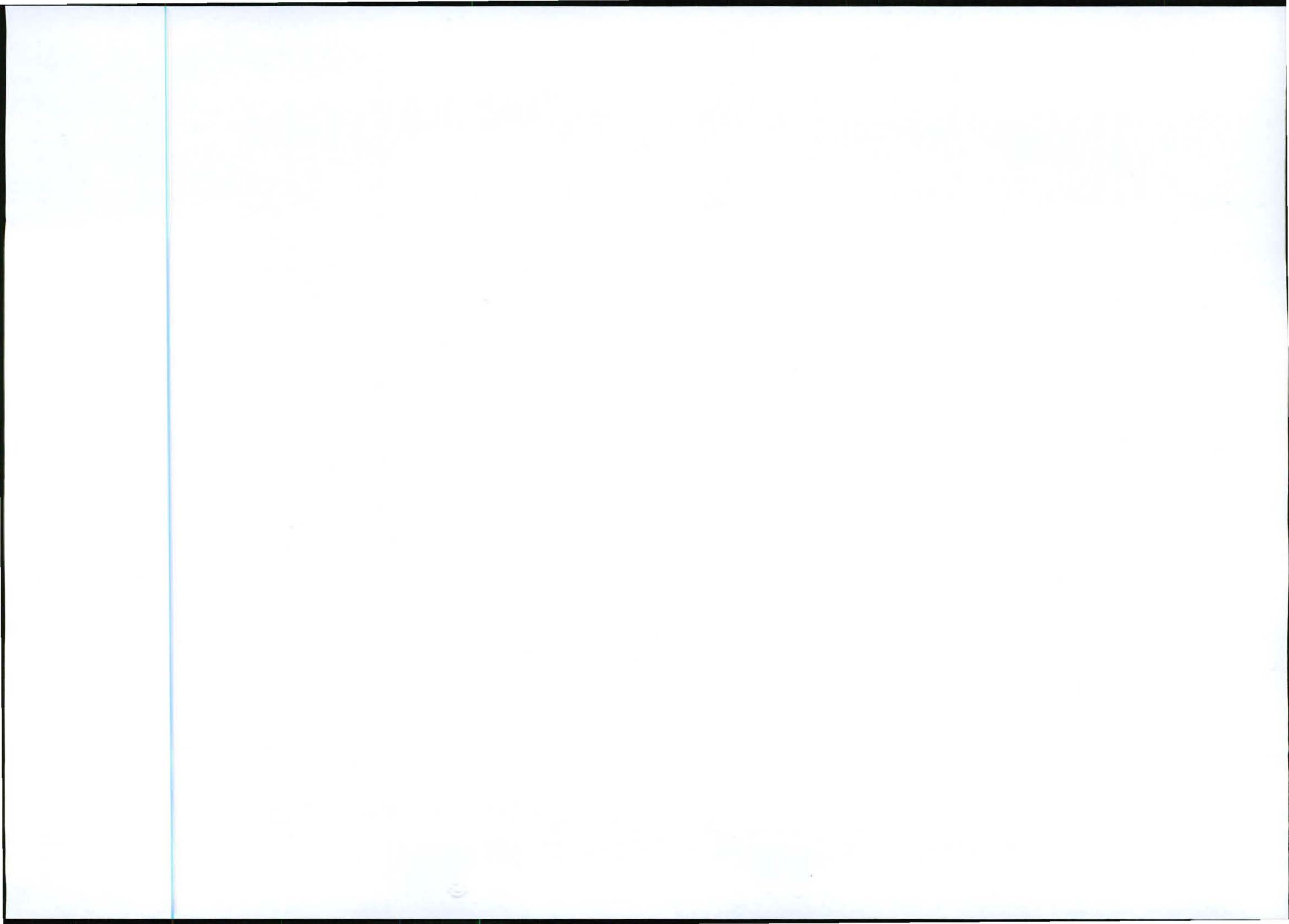
Section <b>C 1</b> Total	+	Section <b>C 2</b> Total	+	Section <b>C 4</b> Total	+	Section <b>C 5</b> Total	=	<i>Subtotal</i>	X	Time Factor Section <b>C 3</b>	=	Score (Impact rating)
	+		+		+		=		X		=	

### D 1.2 IMPACT RATING SCALE

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

#### Additional Objectives:

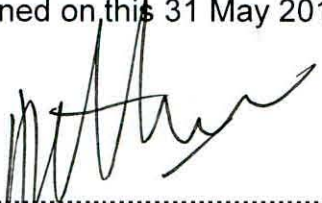
Based on the information provided by the applicant and the regional office's assessment thereof, combined with the interpretation of the scoring and impact rating attained for the particular operation above, the Regional Manager of the regional office of the DME may now determine additional objectives /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:**

**HECTOCORP (PTY) LTD**, the applicant for a **PROSPECTING RIGHT** hereby declares that the above information is true, complete and correct. Hectocorp (Pty) Ltd undertakes to implement the measures as described in Sections F and G hereof. Hectocorp (Pty) Ltd understands that this undertaking is legally binding and that failure to give effect hereto will render it 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). Hectocorp (Pty) Ltd is also aware that the Regional Manager may, at any time but after consultation with the company, make such changes to this plan as he/she may deem necessary.

Signed on this 31 May 2011 at Malelane, Mpumalanga



.....  
**Signature of Applicant**

H J Steenkamp





## **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;*
  - (iii) *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):**

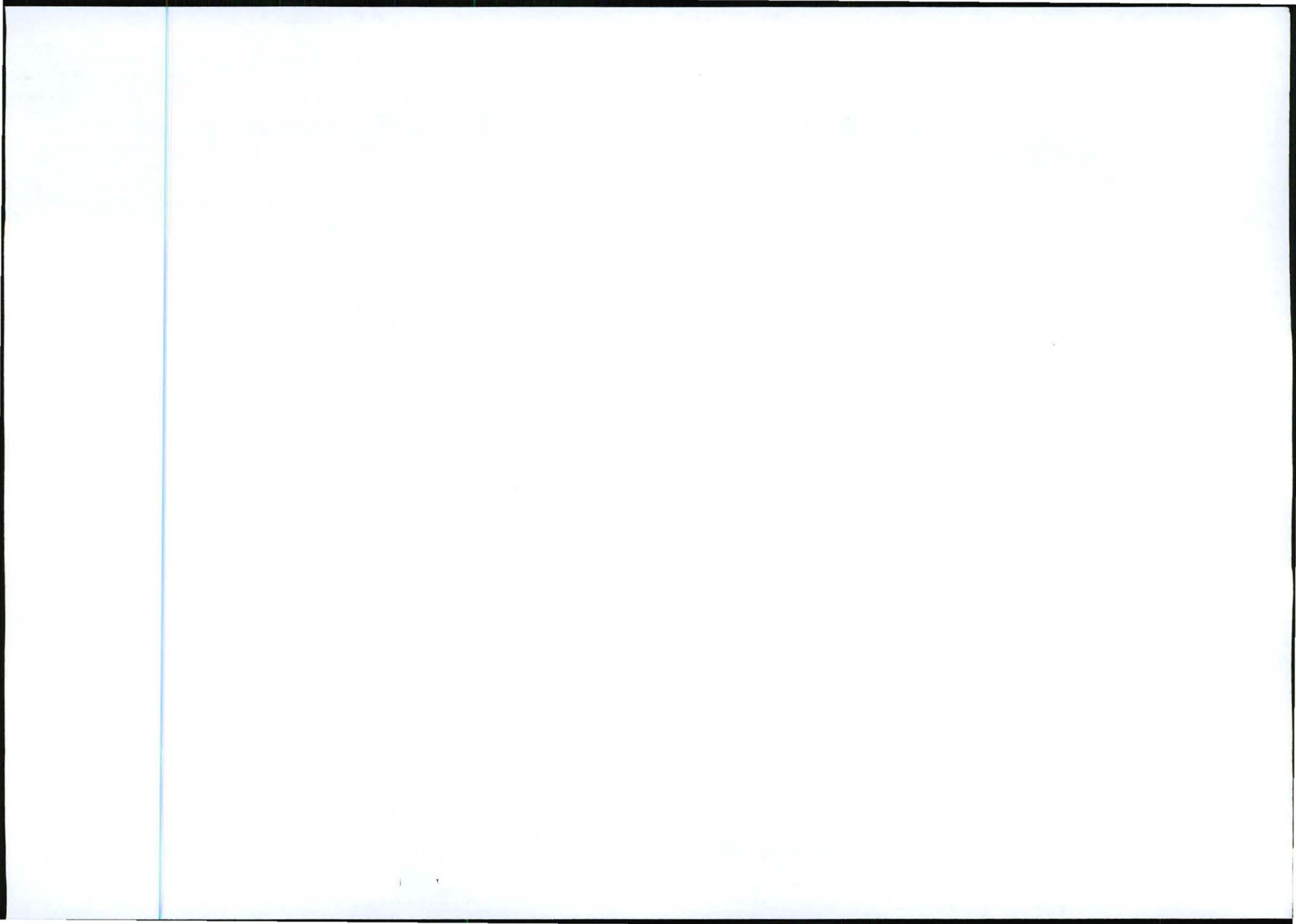
- Beacons as indicated on the layout plan or as prescribed by the Regional Manager must be erected and maintained in their correct position throughout the life of the operation.
- These beacons must be of a permanent nature during the operations and must not be easily removable, especially those in a 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.**

