



mineral resources

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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 ON PORTION 13 OF THE FARM DUSSELDORP 22 KT, SITUATED IN THE MAGISTERIAL DISTRICT OF LETABA: LIMPOPO REGION.

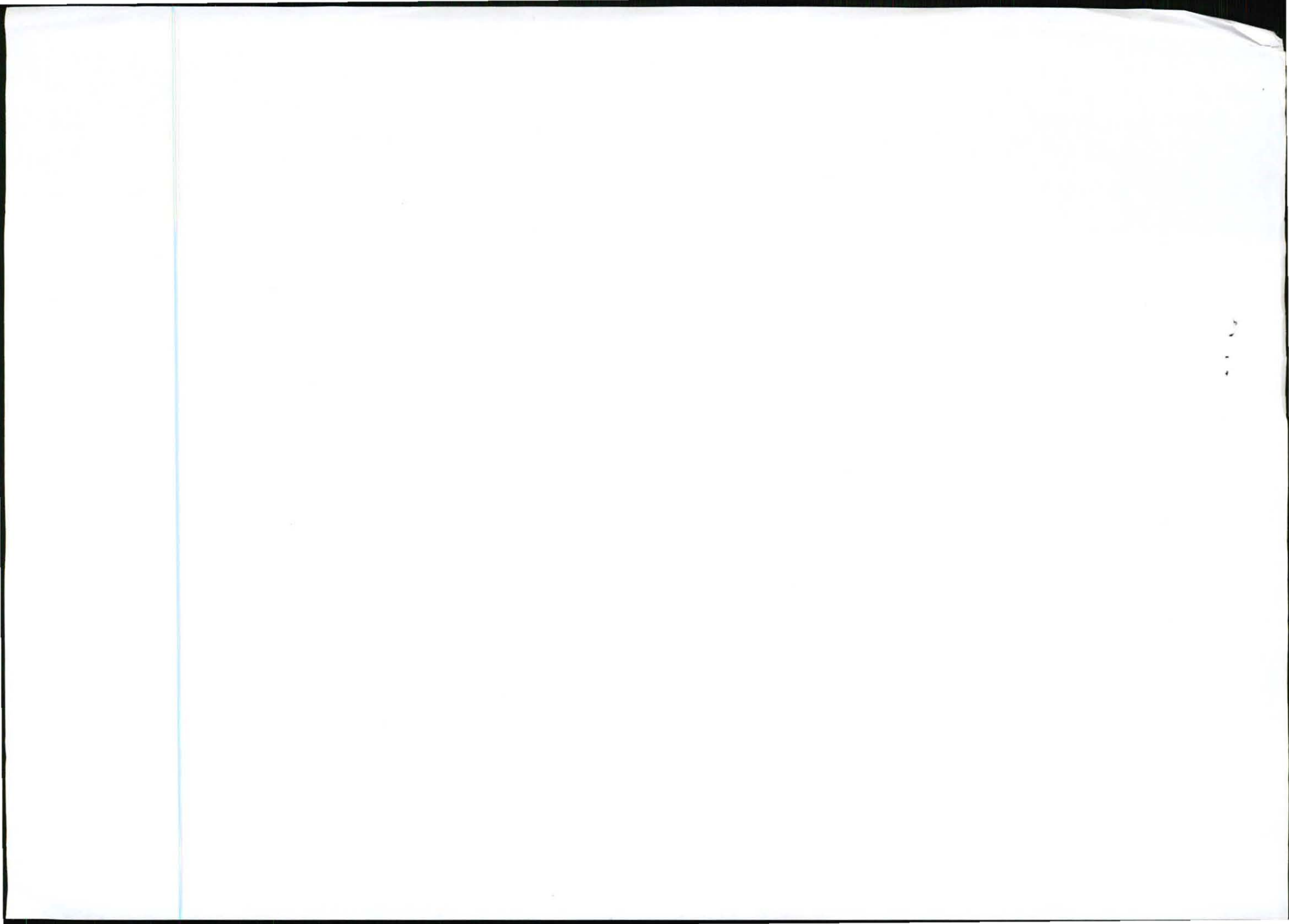
APPLICANT: Mbewu Construction cc

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 60 days as from **21 July 2011 to 21 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
21 July 2011



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ENVIRONMENTAL MANAGEMENT PLAN

PROJECT NAME:

FARM DUSSELDORP 22KT

PREPARED FOR:

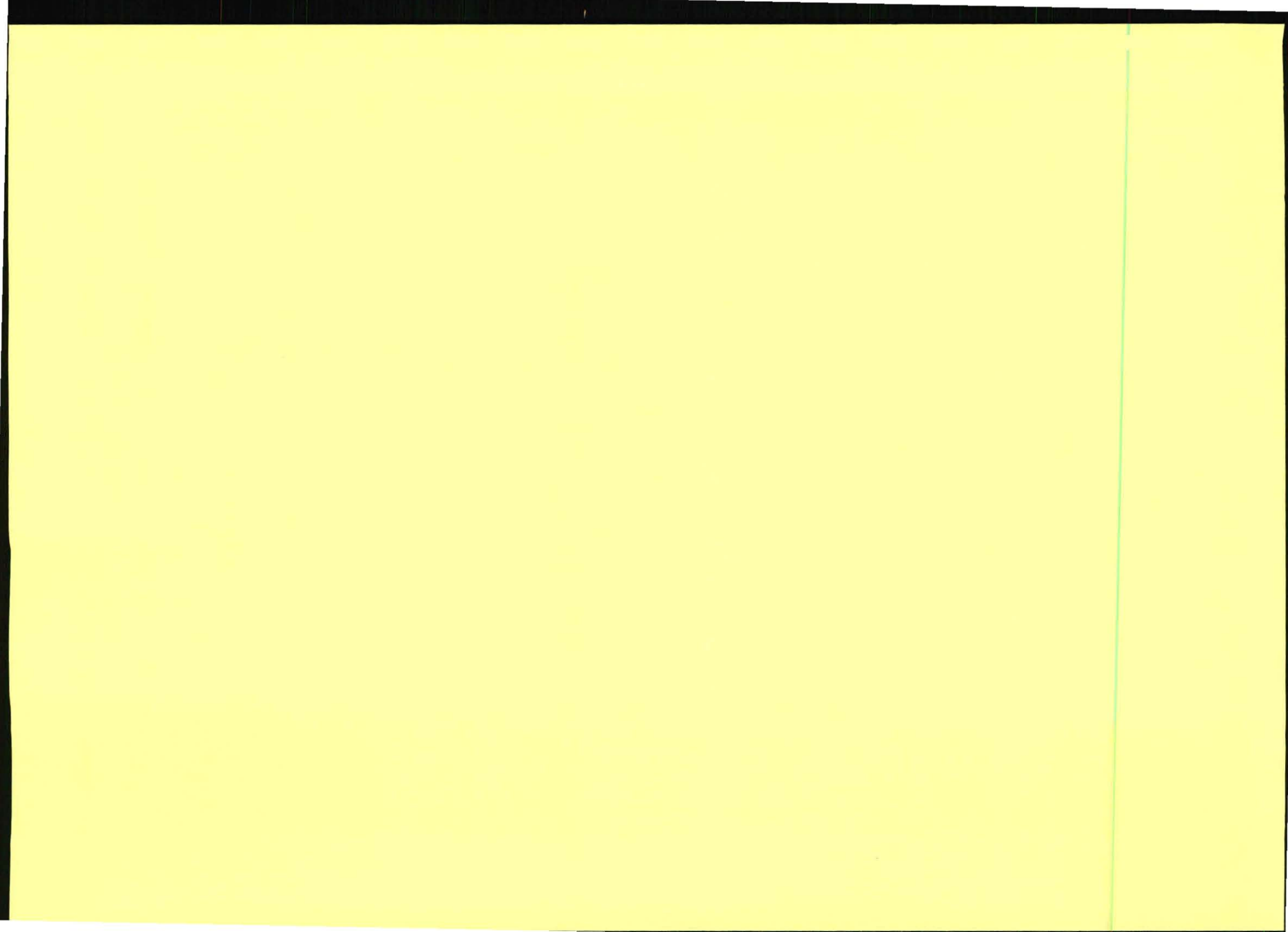
DEPARTMENT OF MINERAL & ENERGY

LIMPOPO

PRESENTED BY:

MBEWU CONSTRUCTION CC

08 JULY 2011



MBEWU CONSTRUCTION CC

EMP ISSUE NO 1

PROPOSED DUSELDDORP EMP

COMPILED FOR

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2011/092771/23

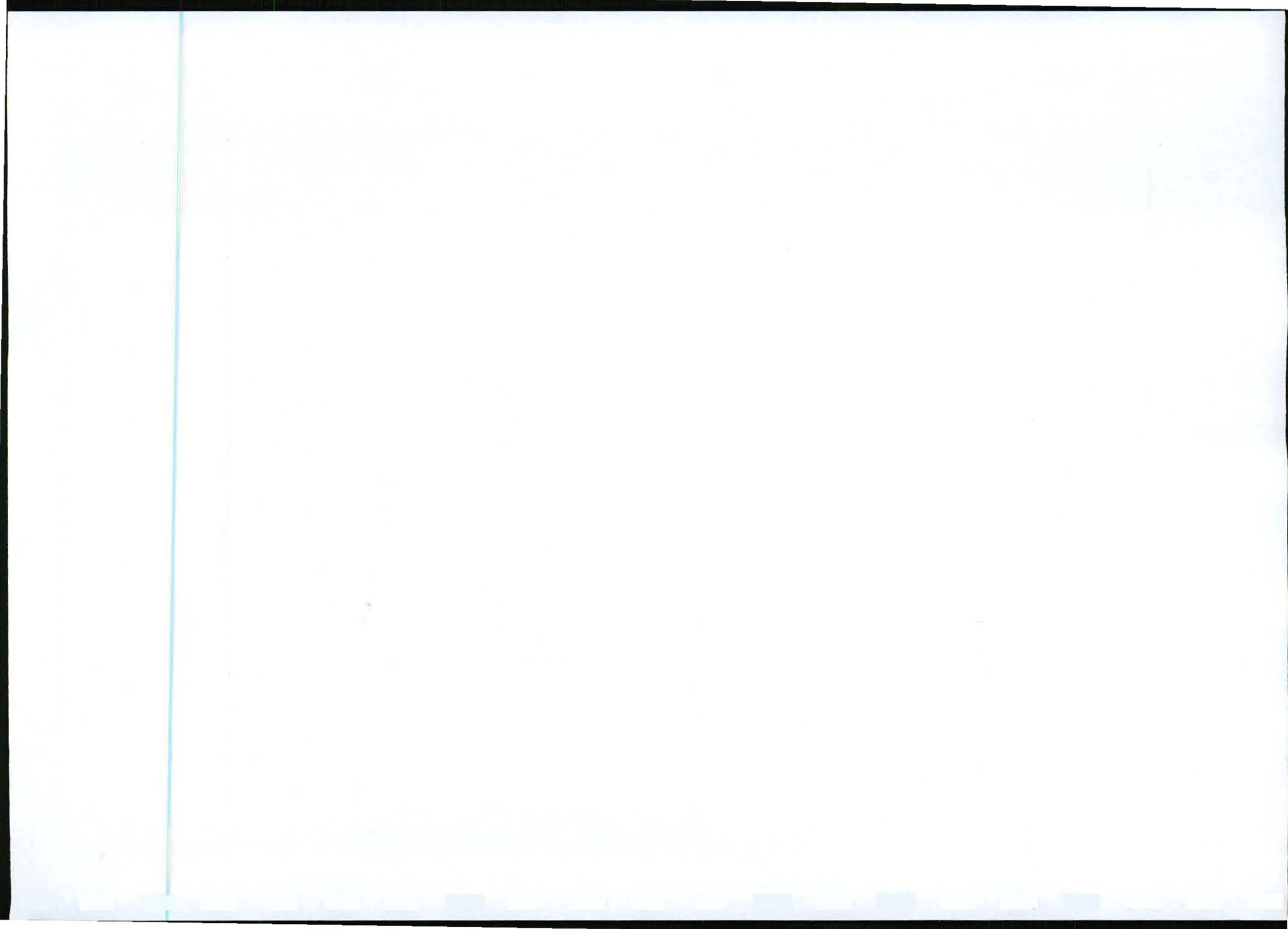


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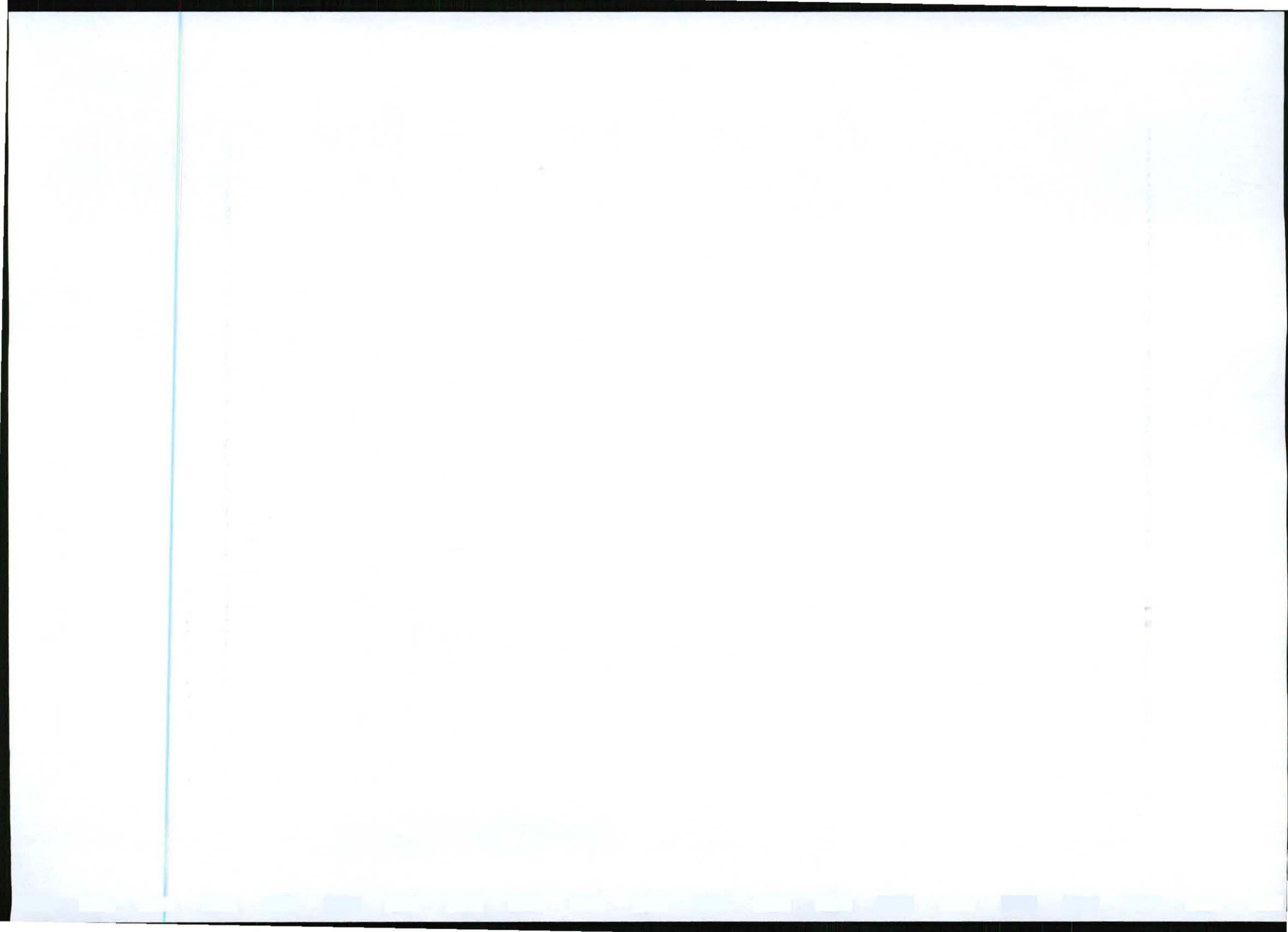
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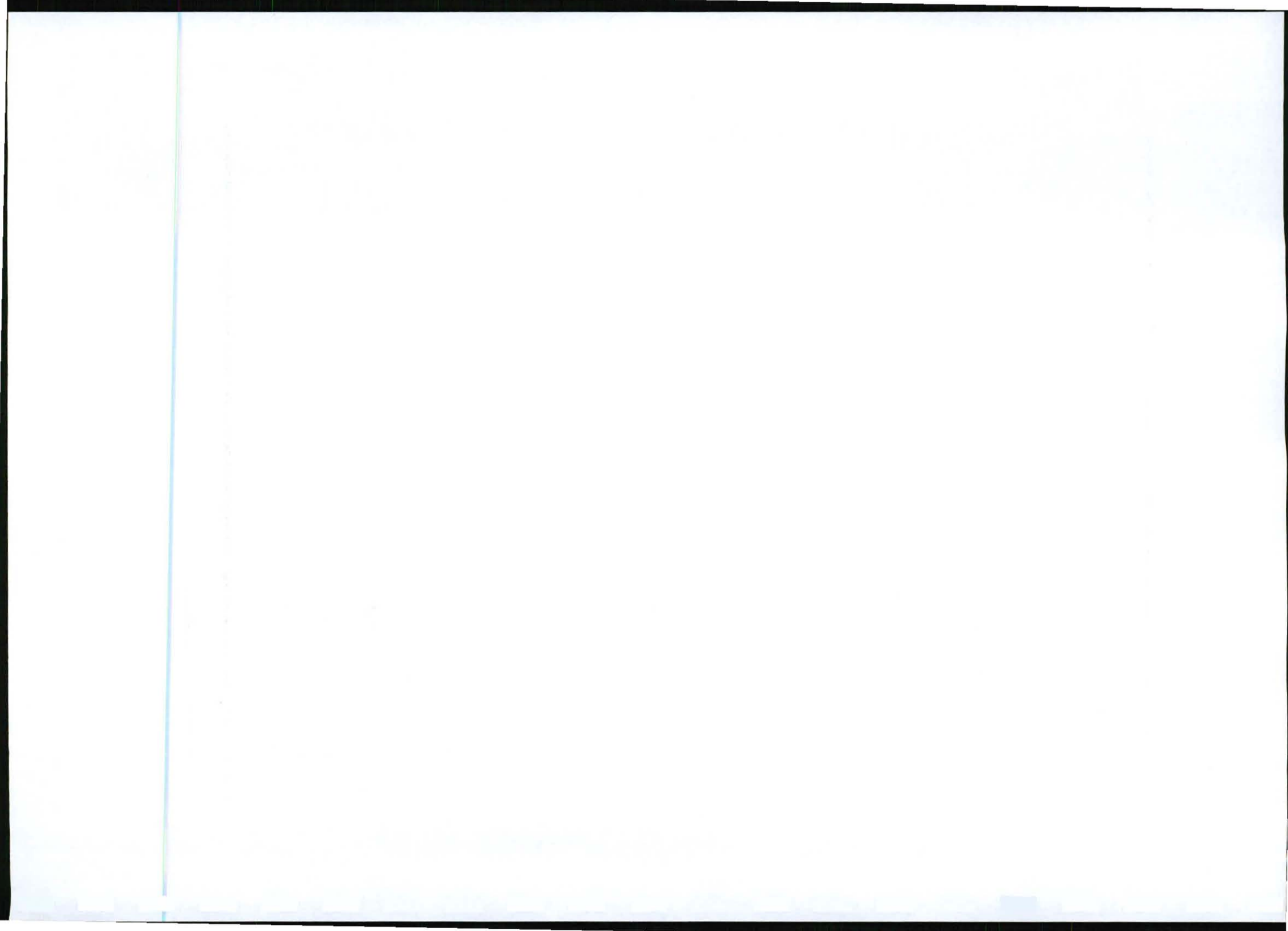
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EXECUTIVE SUMMARY

1. Introduction

Mbewu Mine is situated in the farm Dusseldorp, a property owned by the State, in the Letaba Magisterial district. This Mine is a division of Mbewu Construction cc. The locality enjoys the lowveld weather. It is at its development stages and aims at mining gold using underground mining methods and open pits as per mineral deposit dictates.

The proposed Environmental Management Plan (EMP) for the mine has been drafted following completion of an Environmental Impact Assessment (EIA) exercise carried out by Mr L N Madondo (MGSSA, SACNASP cert.sci.nat) tasked by Mbewu Construction cc.

1.1 Background.

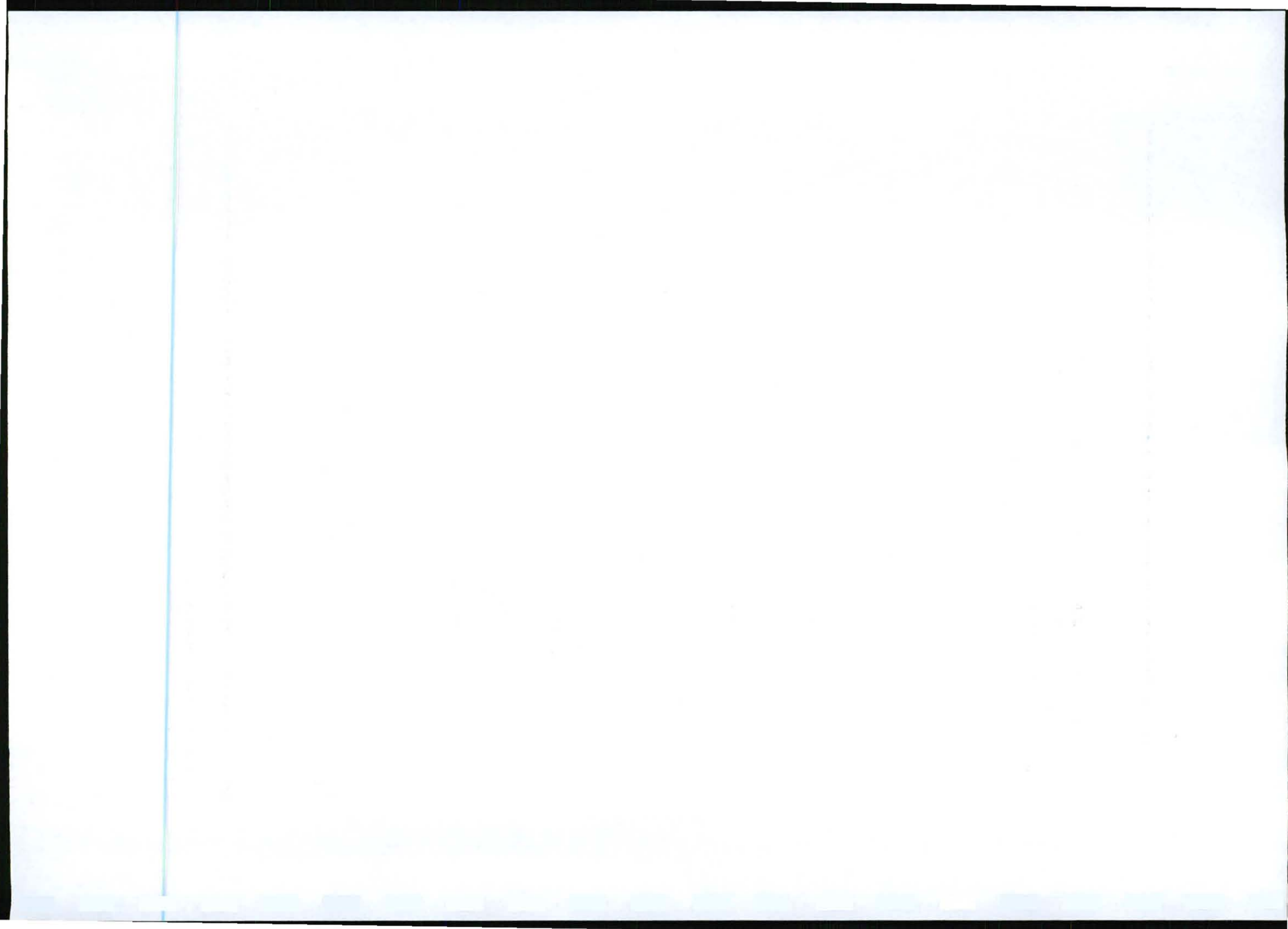
The Mine's EMS and the Mine's EMP addresses all activities undertaken at the mine and associated facilities that may impact on the environment including air quality, noise, energy management and water management. Mbewu Construction cc administration manages the EMP for the proposed Mbewu Mine at the Dusseldorp.

1.2 Purpose of the EMP

The purpose of this EMP is to:

- ☑ Ensure that Mbewu Construction cc is exercising due diligence with respect to managing the Dusseldorp Mine.

- ☑ Ensure that environmental considerations are incorporated into all phases of development and operation of the site;



- Provide a framework for managing the environmental impacts of day to day operational activities of the quarry in areas that might potentially cause environmental harm;
- Provide the community with evidence of management of the site in an environmentally friendly manner; and
- Provide statutory authorities with a framework to confirm compliance with policies, relevant Acts and Regulations and other requirements.

2. General Project Description

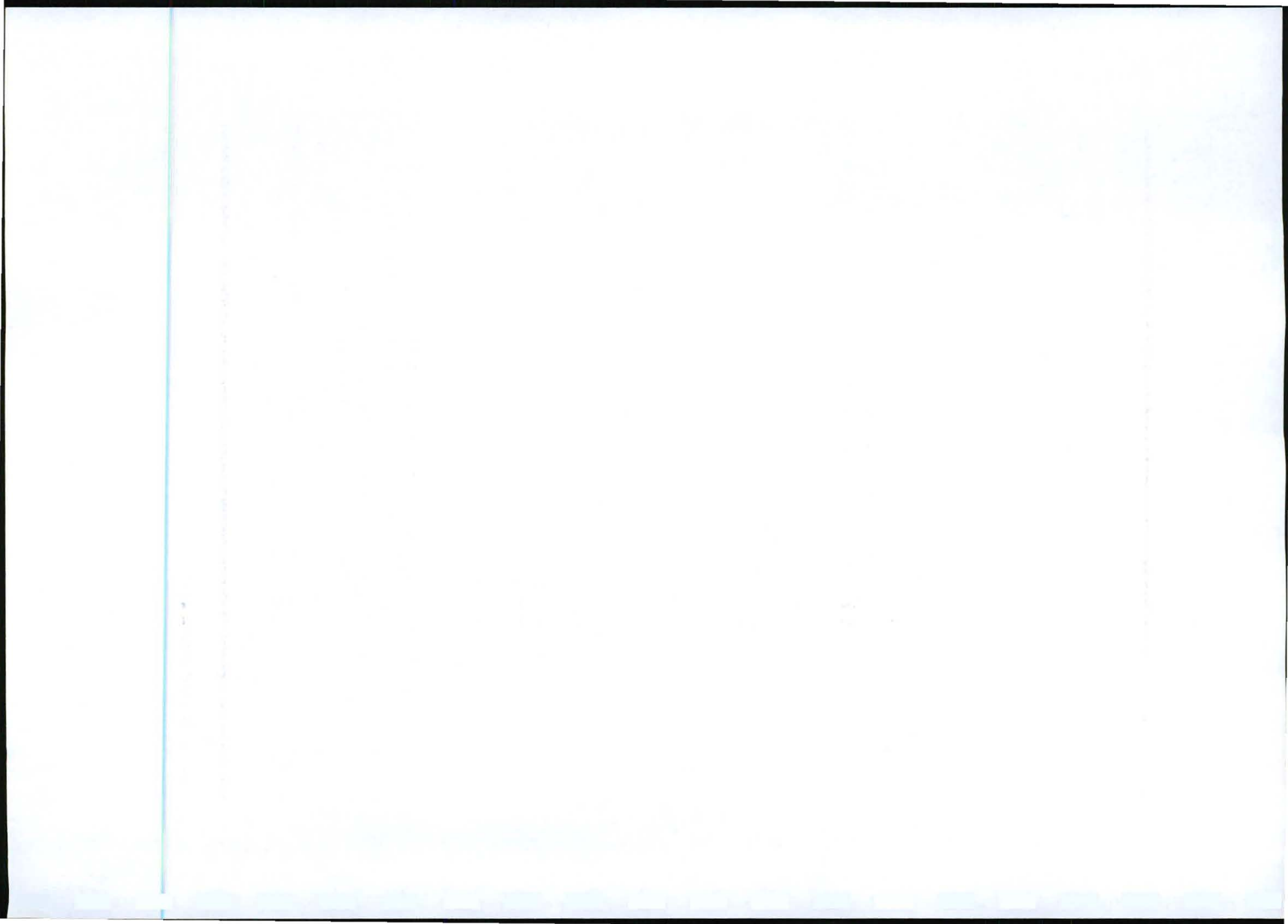
Mbewu Construction cc seeks to mine gold and antimony in the farm of interest by underground mining methods for deep deposits and open pit for near surface deposits as the mineralisation dictates. The Mineralisation is located under an open savannah veldt, a small piece of land currently grazing land for wildlife. This piece of land is not tiled probably due to the rocky outcrops and the river that runs southeast. The proposed method of mining is opencast for near surface deposits and otherwise underground mining for deep seated deposits. The broken rock will be ferried by construction vehicles to a Metallurgical Plant site on the mining premises for processing (crushing and metal beneficiation). A slimes dam will be constructed on site for handling of metallurgical plant wastes. Blasting will be done using medium to high density explosives that give the required fragmentation. Given the potential growth in scale of operation and the required water usages, the operation will need to acquire the relevant water licensing for water usage, treatment and handling on site.

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2.1 Key Risk Issues

1. Alteration of topography
2. Soil erosion
3. Land use
4. Natural vegetation.
5. Fauna
6. Surface water
7. Ground water
8. Air quality
9. Noise
10. Interested and affected parties.
11. Explosive management
12. Mining and residential waste Management



2.2 IMPACT EVALUATION

2.2.1 Alteration of topography

The topography is going to be significantly affected by the operation since there is a slimes dam that will have to be constructed to manage metallurgical wastes. The slimes dumps will stand out above the horizon as a prominent sight from a distance. Mining wastes will also form a prominent heap above the horizon. Stock piles in the metallurgical plant vicinity will also form a feature that alters the topography though for short a term since the payable ore in the stockpile will eventually be milled.

2.2.2 Soil erosion

This project is likely to aggravate erosion. The overburden removed may be washed into the lower lying river causing siltation. The movement of haulage trucks ferrying the ore may also loosen the particles of the topsoil making it susceptible to erosion. General surface runoff from rain water and mining water usages may also cause erosion. These potential impacts may be of medium significance hence the management programme outlined is of utmost importance in ameliorating the potential adverse impacts on the environment.

2.2.3 Land Use

The area earmarked for the mine is currently non arable and is not used for agricultural purposes. There is a savannah vegetation flourishing in the area pegged for the mine. This forms a piece of grazing land for the faunal species found. The land could be used, now, for an economically beneficial purpose. There is no community resident on the land earmarked for mining thus there is no displacement of settlements that will take place. There is instead a potential development of residential compound in the vicinity of the mine for mine families' residence.

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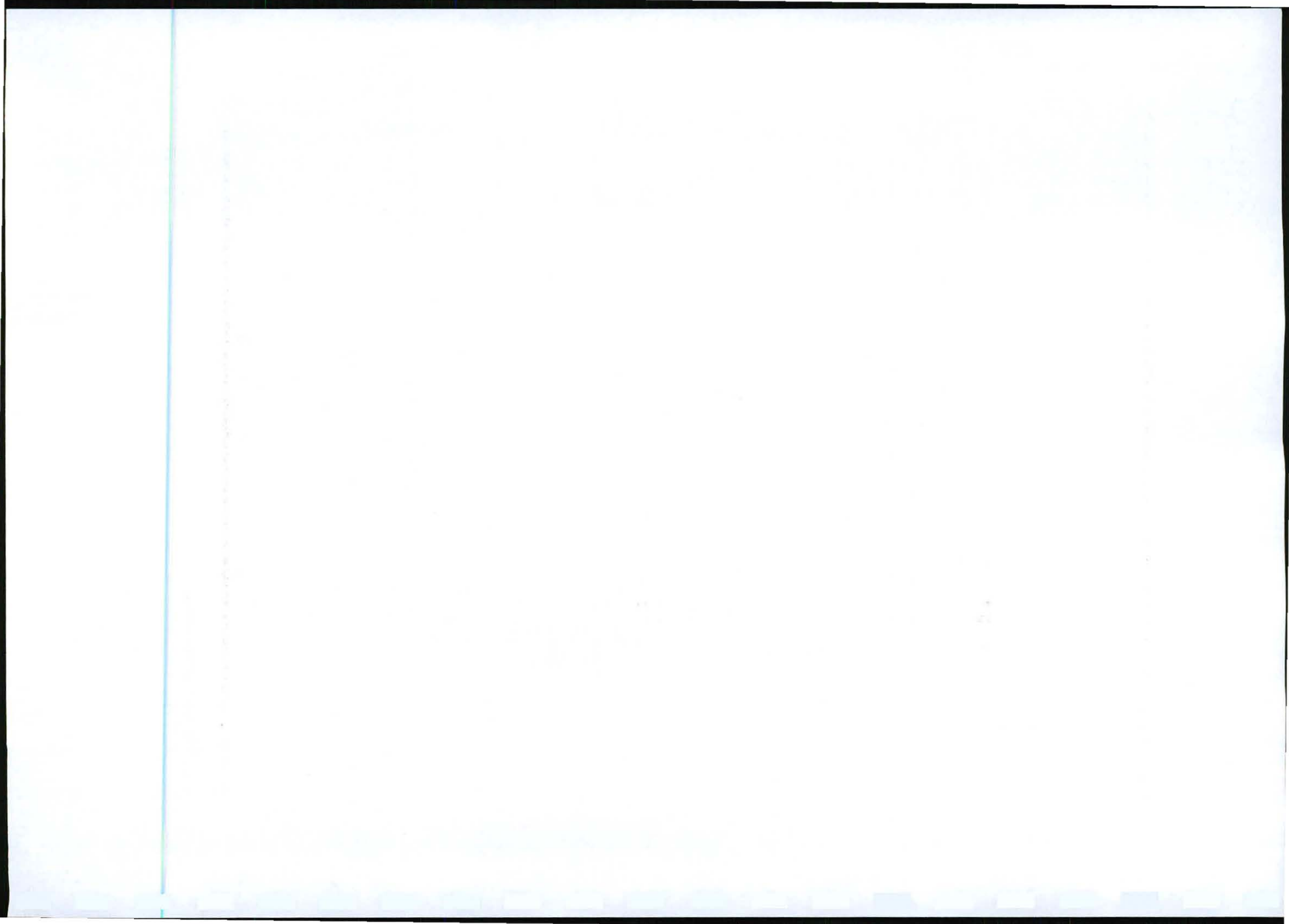
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2.2.4 Natural Vegetation

Some trees flourishing on the area pegged will be cleared for infrastructure establishment. The grass which forms the greater cover of the topsoil will also be cleared where such a need arises. The impact is potentially of high significance. Some access roads are already in place and thus vegetation clearing will be minimized by use of existent roads and a couple more to be established. Tailings dam establishment is one activity that makes the potential impact become of high significance. Disused mining dumps will be re-vegetated to reintroduce floral species.

2.2.5 Fauna

The wild animals using the trees for food and habitat will be displaced. However because there are few trees to be cut, the impact is of medium significance. The size of the area earmarked also makes the whole magnitude of the impact to be reduced considering that the remainder of the land is still available for the habitation and food for the fauna. Potential threat to fauna due to mining staff (poaching tendencies) will be dealt with by firm company laws that have a zero tolerance to poaching. National policies in this regard will be employed in dealing with cases of non compliance or deliberate violation by mine employees.



2.2.6 Surface water

Surface water may be contaminated by the operation due to runoff from tailing dams and from industrial water handling bodies on surface. This could as well be from any spillages of oil, in the event that these occur. Minerals exposed by the excavation could become exposed to runoff and be drained to open water bodies. The presence of sulphur bearing minerals makes the impact of high significance since improper handling of surface runoff could lead to acid mine drainage and death of water dwelling faunal species. Consequently, drainage systems to separate contaminated runoff from rain surface runoff will have to be established to ameliorate what could be a high- significance impact into one of low significance.

2.2.7 Ground water

2.2.7.1 Ground –water levels

The water levels are likely to rise in the vicinity of the tailings dam. Hydro geological boreholes will have to be drilled before construction of the tailings dam. Monitoring boreholes will be drilled once in two years to assess the effect on the ground water levels.

2.2.7.2 Ground water Yields

Ground water yields in the ground immediately around the open pit may increase slightly in the vicinity of the slimes dam due to seepage of water from the slimes dam. Borehole yields may be reduced in cases where runoff is diverted away from where the catchment for the borehole is. The impact is perceived to be of low significance since there is no community in the immediate surrounding areas that could be exposed to this potential decline in ground water yield.

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2.2.7.3 Ground water quality

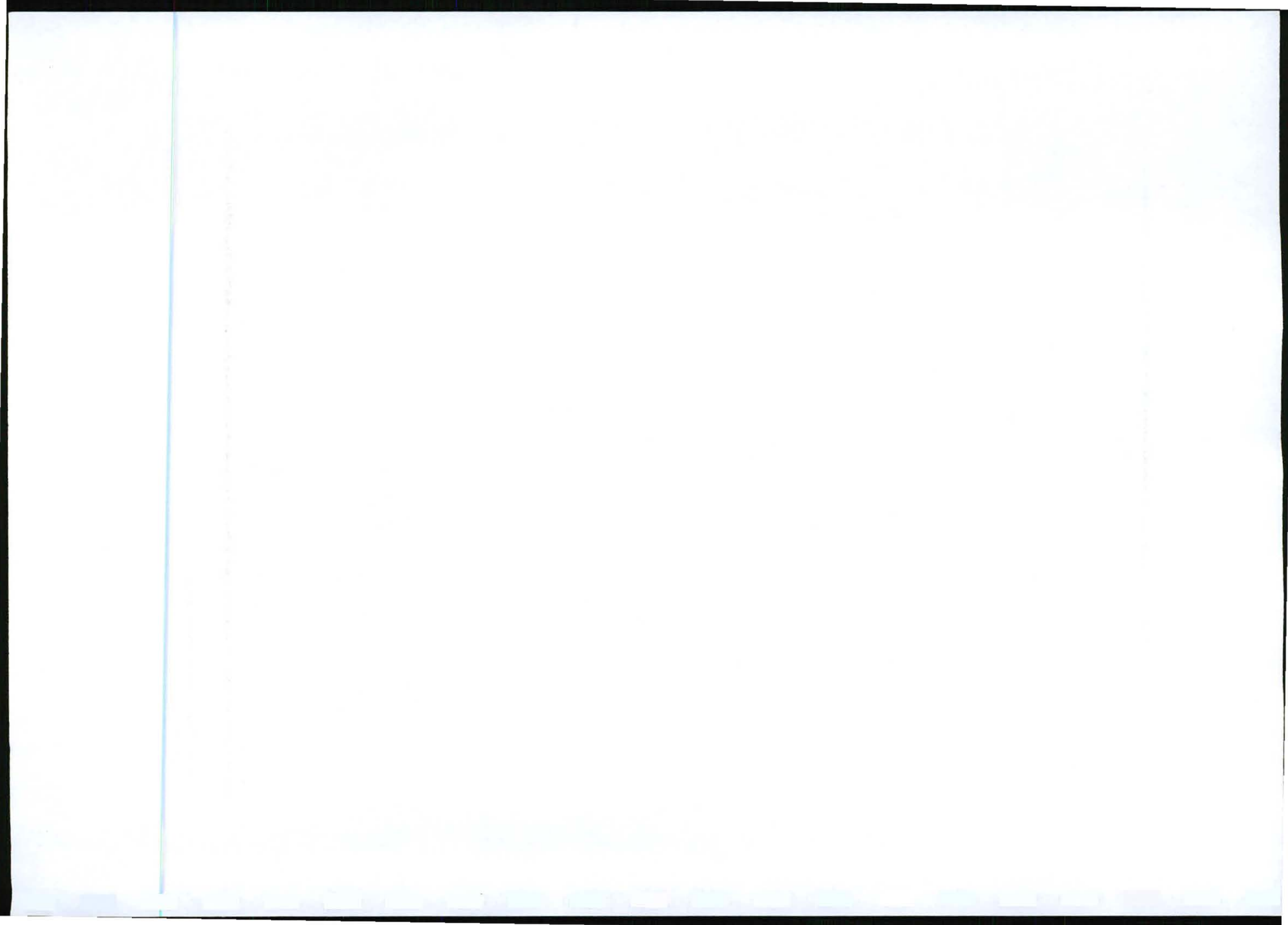
Water quality could potentially be compromised by the oil spillages from machinery and equipment. Waste water from the metallurgical plant could also contaminate ground water if not handled properly. The impact is perceived to be of high significance. Industrial water will be treated before it can be used for agricultural purposes. Oil spillages will be removed immediately to ameliorate the adverse impacts to water quality that could arise from this mining. Waste will be handled as per waste management plan.

2.2.8 Air quality

Dust from haulage trucks may affect the quality of air. The fumes from industrial equipment like earth moving machines and haulage trucks could also compromise air quality. The impact is potentially of medium significance. Wetting dusty unpaved surfaces will be one amelioration effort and service the equipment to make sure that diesel engines are efficient could also be a way of lowering the significance of the impact. Workers are the potential recipients of this polluted air and the company shall endeavour as much as is feasible to ensure the safety of the employees by supplying protective clothing and enforcing the use thereof.

2.2.9 Noise

Blasting will generate noise which may inconvenience the nearby communities. The trucks and drilling machinery also will contribute to the anticipated noise levels. However because the operation will run during the day, when sound does not travel longer distance, and traffic from the nearby road already contributes noise that the communities is accustomed to now, the significance of the noise is going to be low. The nearest community is about 10km way from the mine area. Use of protective ear-wear where noise levels are above stipulated levels will be enforced by the mine management.



2.2.10 Interested and Affected Parties.

Any concerns to be raised will be documented, filed and attended to as soon as possible.

2.2.11 Explosive management

Regulation of explosive use could be of concern if proper facilities and accounting is not in place. This might lead to explosions and criminal use of explosives. With the proposed offsite storage of explosives, the security concern is eased and the accounting part will be addressed by training.

2.2.12 Mining and residential waste Management

Industrial waste could be of high significance in terms of environmental impacts. Domestic waste including human waste as well could be of high significance on environmental impacts. Waste from offices (papers) could also affect the cleanliness of the environment. All waste related impacts are potentially of high impact.

3 MANAGEMENT RECOMMENDATIONS

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3.1 Topography

After decommissioning, mine dumps could be used to fill up excavations made on surface where economically feasibility exists. Heaps of topsoil will be spread over disturbed ground to encourage vegetation growth.

3.2 Soils

The overburden will be heaped on the upland away from the stream and rock barriers to washing away downstream will be laid. All topsoil heaps will be levelled out to encourage vegetation growth. Oil spillages will be removed immediately and sent to a registered facility. Use of biological means of dealing with oil spillages will be piloted and implemented where economically feasible.

3.3 Land use

Potentially, a residential compound could be established which could address issues of accommodation shortage. Re-vegetation of the disused tailings dumps could result in re-establishment of habitats for faunal species initially displaced. An economically non beneficial piece of land could become of economical significance.

3.4 Natural vegetation

Re vegetation of disturbed ground will be done at decommissioning. Old tailings dumps will be vegetated to reduce erosion and dust levels. Seeds of grass species will be introduced on earlier disturbed ground to bring back floral life.

3.5 Fauna

Poaching will be handled as a criminal offence that will be dealt with involving the South African Police Service. Deaths of faunal species as a result of any activities associated with this mine will be documented and actions generated to address the root cause of such deaths.

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2. 2002-2003

3. 2004-2005

4. 2006-2007

5. 2008-2009

6. 2010-2011

7. 2012-2013

8. 2014-2015

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3.6 Surface Water

Drainages will be put in place to divert runoff of contaminated water. This will ensure that contaminated water does not drain into surface water bodies. Drainages for clean water runoff will be diverted away from the main course that lead to mixing with contaminated water. Contaminated water dams will be constructed for treatment of industrial water before it can be reused for purposes like agriculture for example. All water usages will have all the applicable licensing in place at all times.

3.7 Ground water

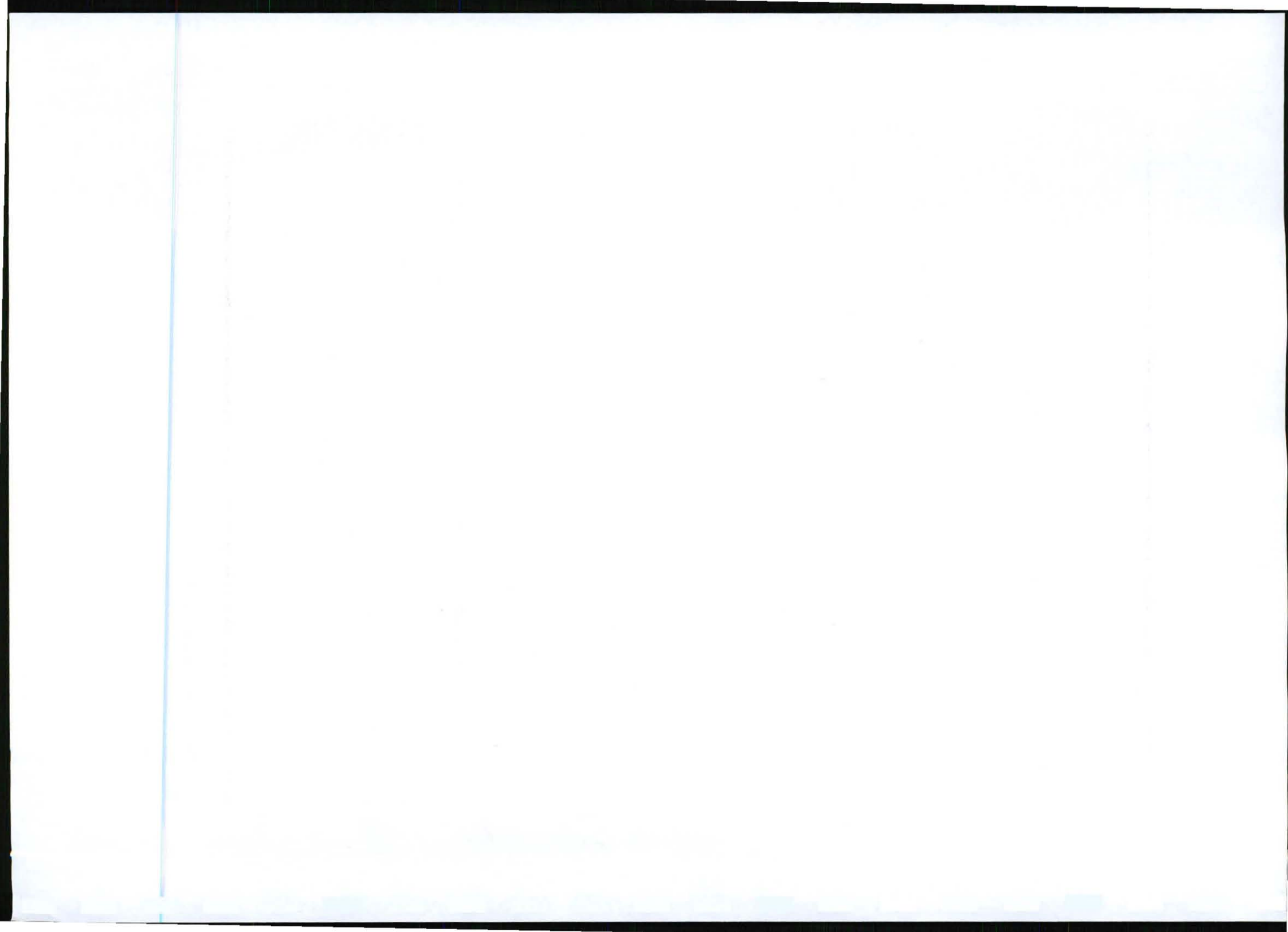
Monitoring of machinery to avoid oil spillage and immediate removal of contaminated soil in the event of spillage will reduce surface and ground water contamination. Drilling of monitoring borehole 3 months after decommissioning and water sampling to quantify the extent of the impacts if any, will be done. Necessary amendment of the EMP to fully cover any arising water quality issues will then be done also.

3.8 Air quality

Wetting of unpaved surfaces where people are working to reduce dust levels will be done every day before commencement of work. Equipment will be kept at the best of their efficiency by maintenance. This will reduce emissions. Use of protective clothing in work areas where dust levels are perceived to be high as to cause deterioration of employees' health will be done.

3.9 Noise

Trucks will be maintained with silencers operational. Noisy equipment like generators and winders and pumps will be housed where practical to reduce noise levels. Equipment that is not in use will be switched off.



3.10 Interested and affected parties

A file of any complaints raised and minutes for discussions on environmental issues with the neighbouring communities will be kept at Mbewu Construction cc offices.

3.11 Explosive management

Explosives will be kept in a secure explosive holding place to be constructed on site. The explosives holding bay will be fenced off and will be lockable and kept as such at all times. Clear insignia of existence of danger will be put up on fence and flames and igniters will be prohibited within the explosive handling bay. On the day of blasting, required amounts will be delivered to the mine. All movement of explosives will be accounted for in a log book by a competent person. At work places, a lockable facility will be made available for temporary storage. A competent person will be in charge of explosive use. Compliance audits will be carried out on a monthly basis by a SHE officer.

3.12 Mining and residential waste Management

A tailings dam will be built for handling metallurgical waste. Residential waste will be collected by the company's waste management branch from the rubbish bins to be provided by Mbewu Construction cc. Waste from offices will be sent to recyclers where applicable. Human waste will be handled by a septic facility with an established pipe facility. Underground, chemical, movable toilets will be made available for use by underground workers. These will be kept clean at all times and chemically treated to reduce smell and shall always be emptied periodically to ensure sanity of the underground environment.

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4 Conclusions

No aspects of the physical and biological environments, having conservation, scientific or cultural and educational value must be destroyed at commissioning and throughout the course of the operation. In order to conform to the above, all mitigation recommended in this EMP should be applied to ameliorate negative impacts.

It is the intention of Mbewu Construction cc to continue to maintain this document as a dynamic document and to continue to update it yearly to make it a comprehensive document on environmental management issues.

5 THE ENVIRONMENTAL MANAGEMENT PLAN

5.1 Brief project description

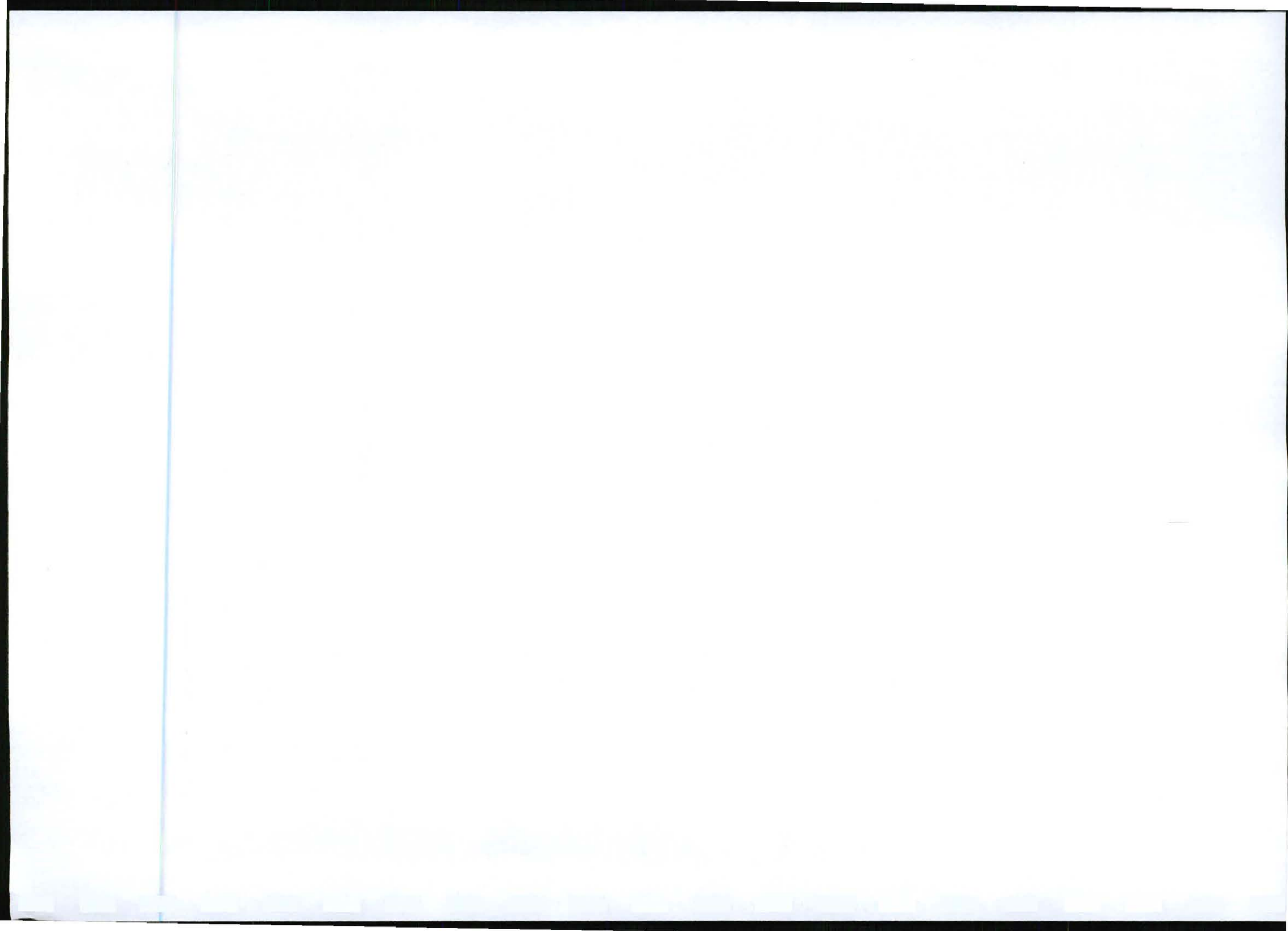
Mbewu Construction cc (MC) wishes to start a gold and antimony mine in the farm Dusseldorp 22 KT, in the Letaba magisterial district. The granite geology of the area is comprised of the Murchison Schists. The location of the mine is significantly south of the main Murchison linearment in Limpopo province of the Republic of South Africa. (see the locality map Fig 1).

The two mining areas for which this EMP refers are of a 1.439 Ha each and have been demarcated for mining by underground mining methods for deep seated deposit and open pit for near surface resources (see fig 2 and 3). Blasting will take place to break rock material using medium-high density explosives with economic considerations to get the required fragmentation.

There is already a network of access roads to the area, however a number of other roads will be constructed and the existing ones revamped. The site is about 2.5km from Tzaneen to Lydenburg road (R36) and 300m secondary road into the farm area off the main road. (See fig 1).

The initial civil works will include removal of the few shrubs and grass growing on the soil covered parts of the rock and diversion of storm water drains running towards the site earmarked.

Construction of surface infrastructure will then follow and eventually underground equipment and subsequent mining.



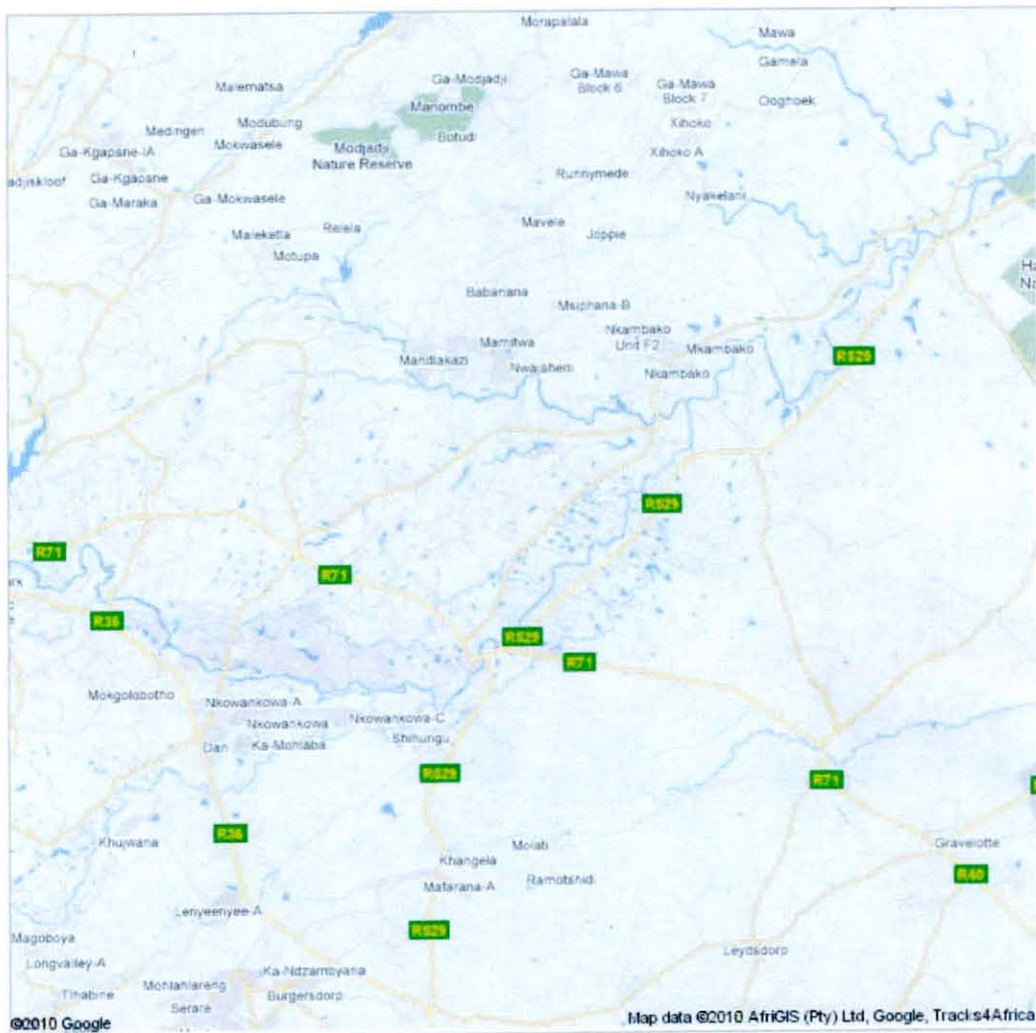
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Google Maps

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Notes



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Fig 1: Road Network Map around Farm Dusseldorp 22 KT

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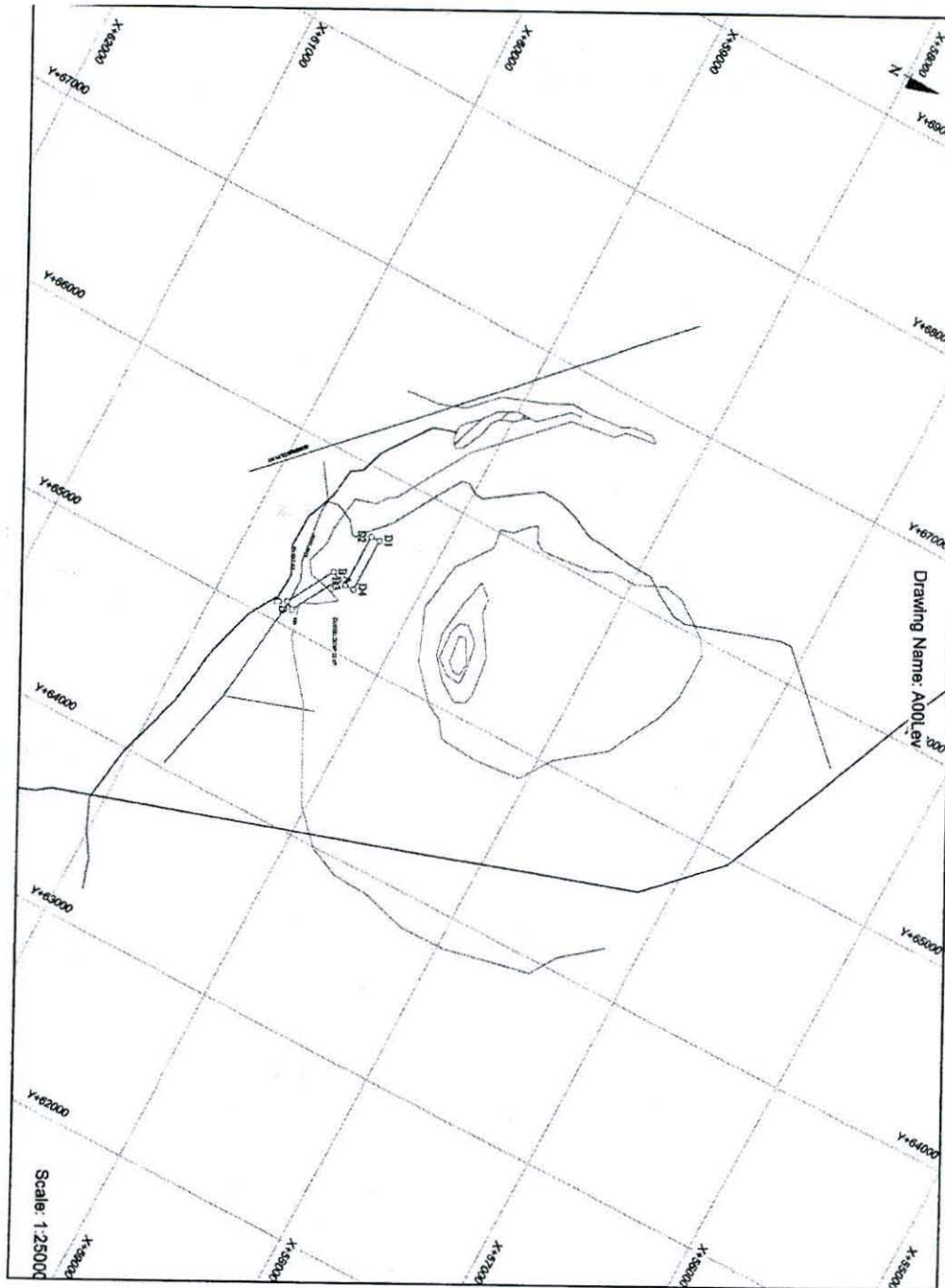
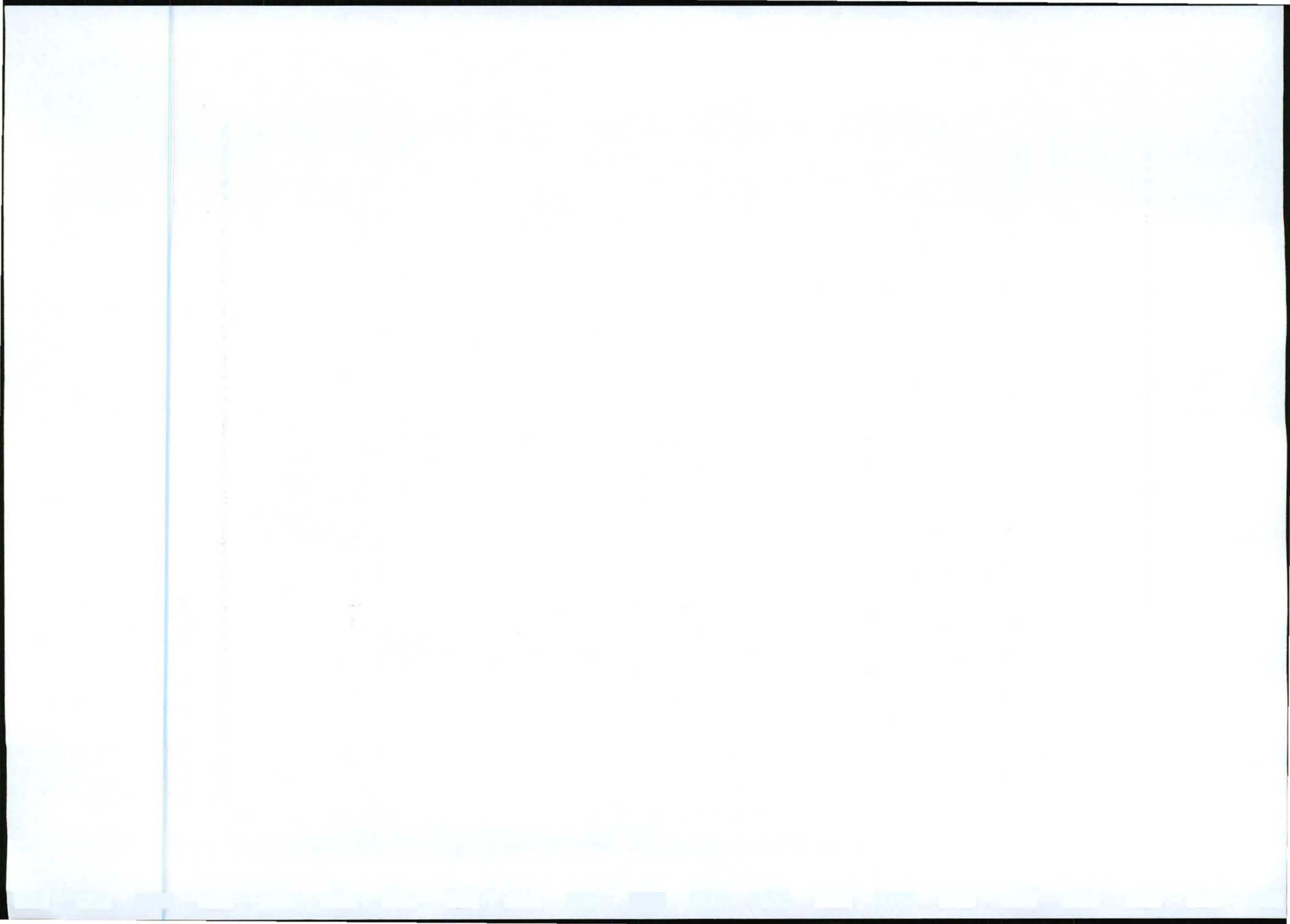


Fig 2: Survey Plan for the earmarked mining area.



5.2 Description of the Pre-Mining Environment

5.2.1 Land use

Savannah vegetation flourishes in the area earmarked for mining. Particularly, the flora species found in this area comprise of *Dichrostachys cineria* (sickle bush), *Combretum apicalatum* (Red Bush Willow), *Combretum zeyheri* (Bush Willow), *Smuts finger* and *White Buffalo grass*.

The faunal species present are the wild pigs, warthogs, Hedgehogs, Porcupines, Duiker Kudus, Impala, Hare, lower reptile species and insects.

There is no tilling of the land pegged currently. The land is mainly for grazing of the stated faunal species. There is the Selati river due south of the mining area and no resident community. The nearest settlement is a farm house about 2km from the pegged area and villages are about 10km away.

The land is currently of no economical value and the tenant has no agricultural use for it. As a result an open savannah forest flourishes along the stream. (See Fig 3-5)

5.2.2 Visual aspects

The locality is on a flat ground with a medium density forest vegetation of Savannah flourishing. A network of access roads is in place. The area is away from the main road and cannot be seen from a distance due to the bush, therefore there are no significant visual aspect issues foreseen.

5.2.3 Interested and affected Parties

- Department of Mineral Resources
- Department of Water Affairs and Forestry
- Department of Agriculture
- Department of Environmental Affairs and Tourism
- Department of Local Government and Housing
- Legal Occupant
- The commissioner on Restitution of Land rights.

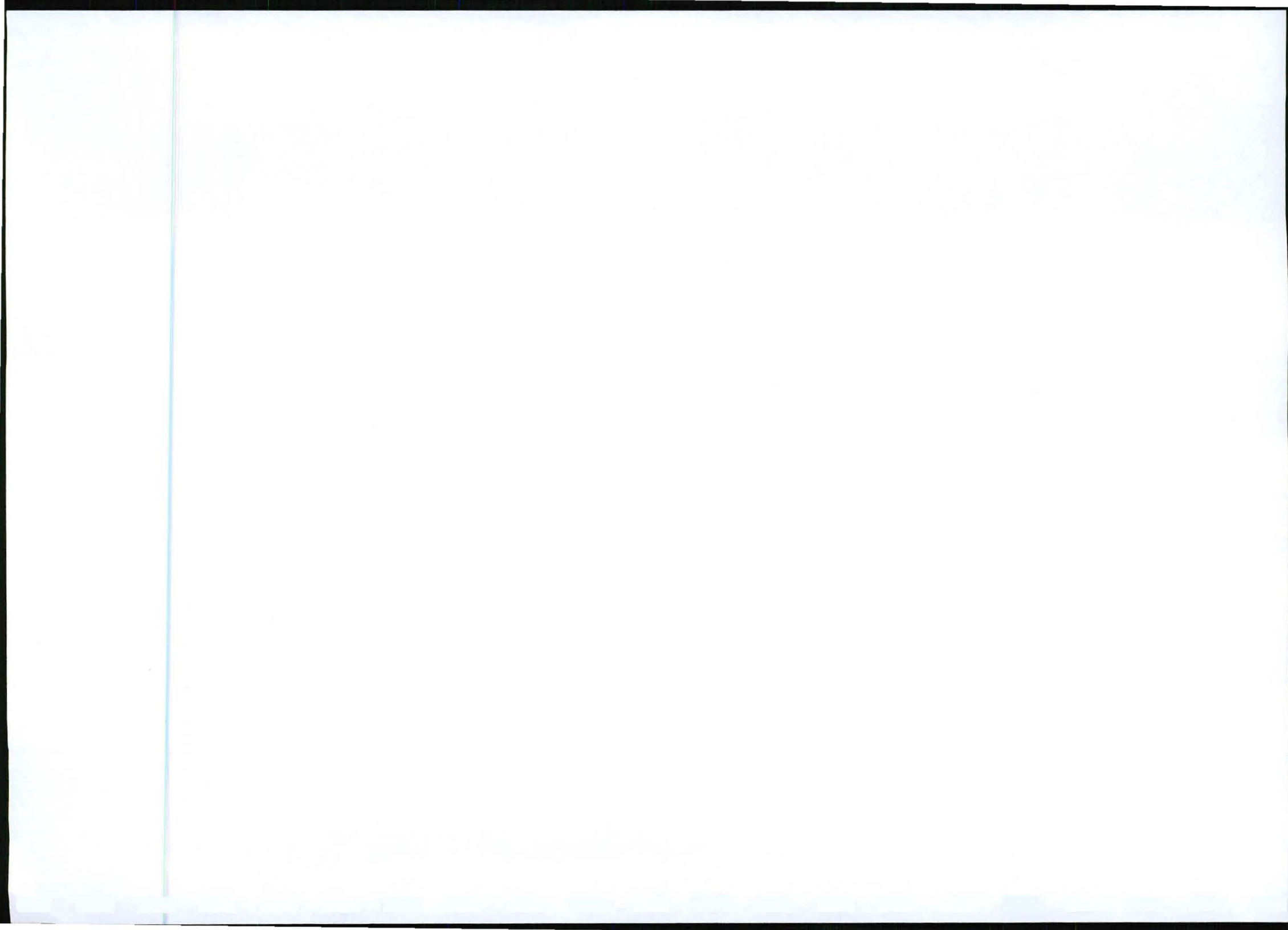




Fig 3:Pre-mining visual aspects of the target area.

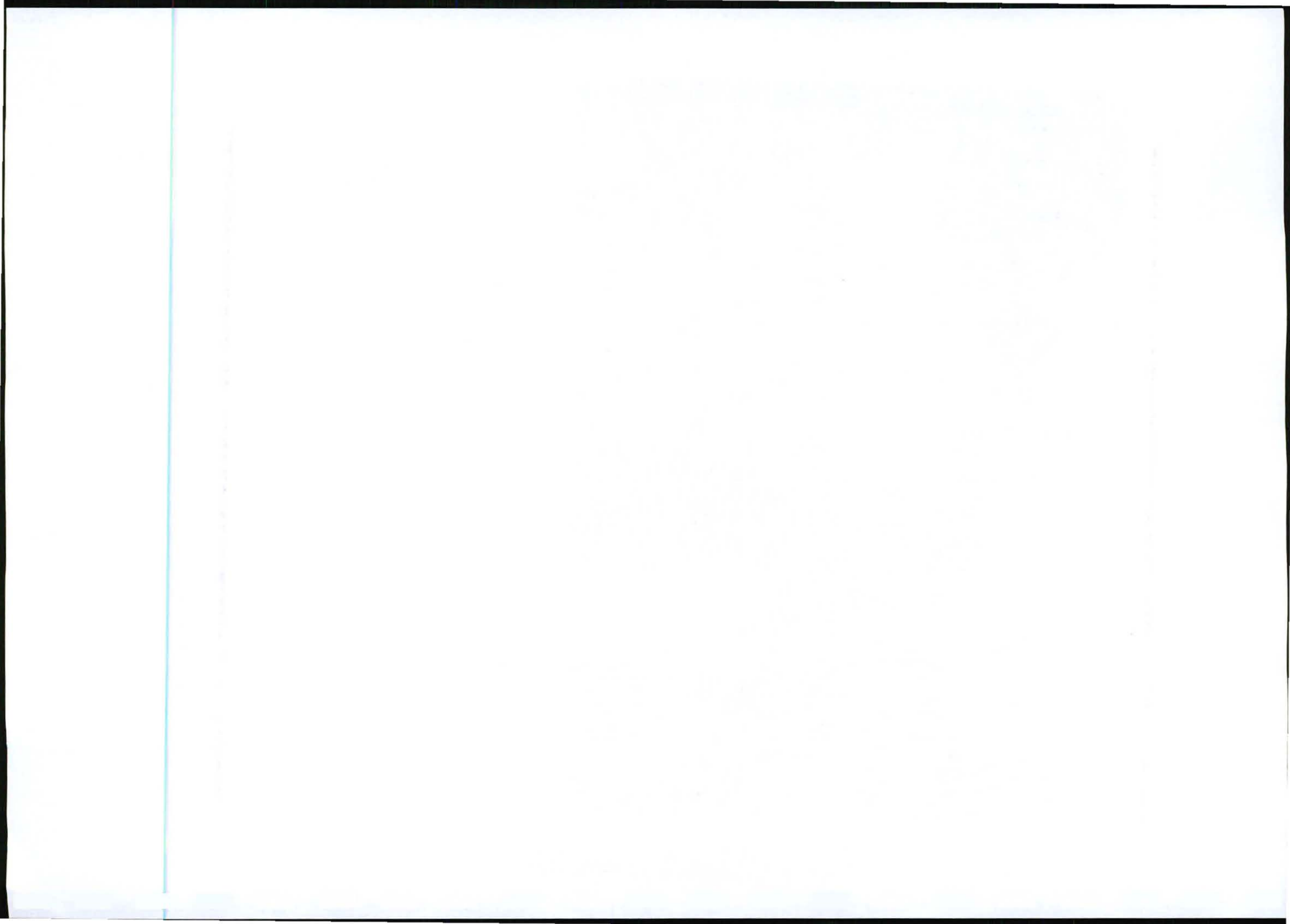




Fig 4:Pre-mining visual aspects of the target area.

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5.3 MOTIVATION FOR THE PROPOSED PROJECT

The proposed project if approved could be beneficial socially and economically.

5.3.1 Economic Benefits

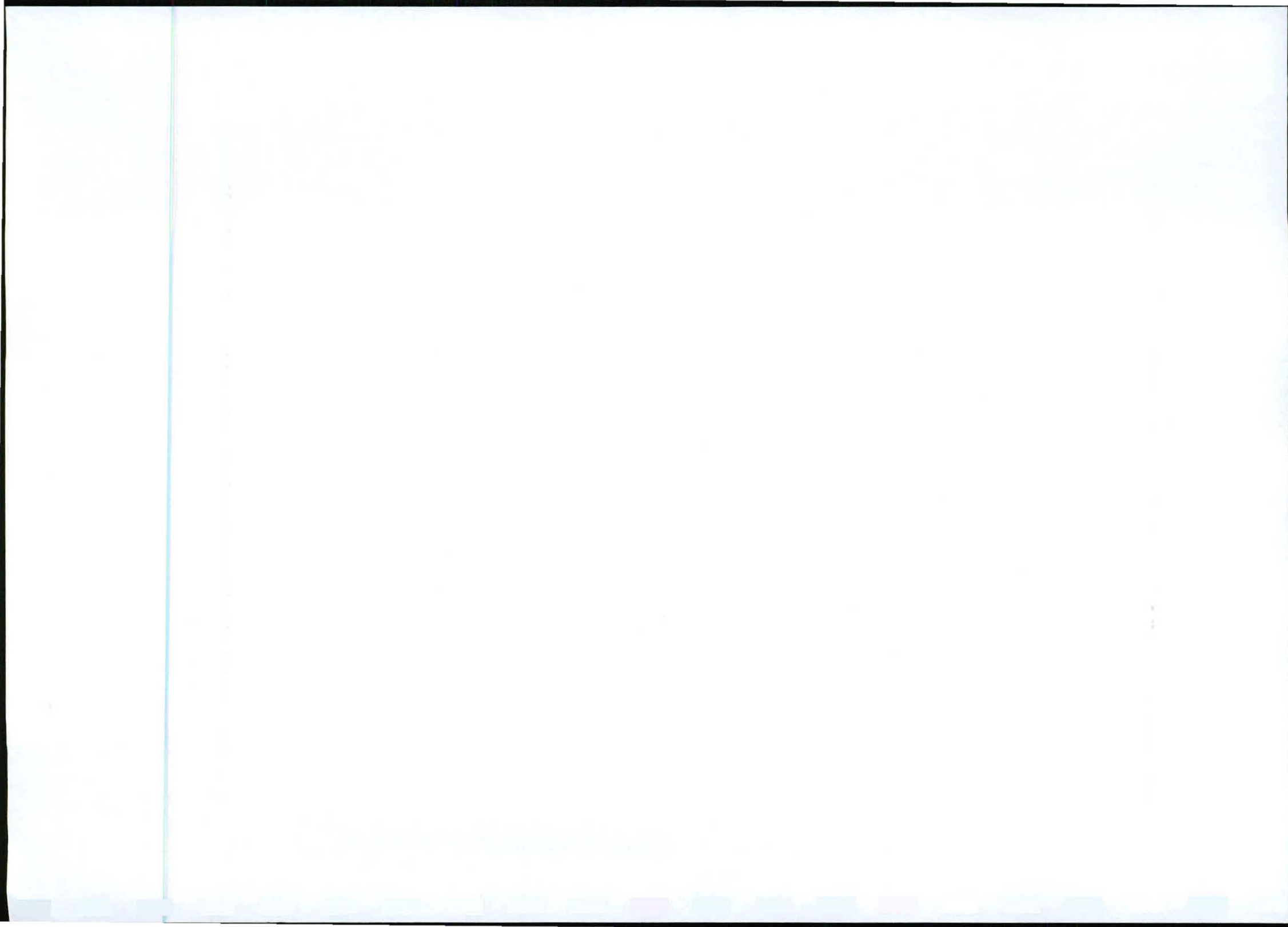
- The minerals mined will be exported leading to economic development of the country.
- Mbewu Construction cc could employ at least 100 people from the neighbouring Burgersdorp, Bonne and Lenyenye villages with potential growth of staffing with project growth thus easing the pressure on the government to better lives.
- The company is a registered tax payer and taxable profits will be made which will contribute to the national revenue plus the PAYE returns from the employees.
- The land is currently of no economical benefit. It could be turned into use of economical value.

5.3.2 Social Benefits

- Lifestyles will be improved due to better spending capacity of families employed by the company.
- Reduction of poverty
- Different tribes and nationalities are brought together due to employment at the company leading to new relations being established.
- At decommissioning, the settlement will probably be established which will continue as residential area for the mining families.

5.3.3 Environmental Benefits

- Soil enrichment due to new rock surfaces exposure.
- The pit will form a new habitat for the water dwelling fauna after decommissioning.



5.4. ENVIRONMENTAL IMPACT ASSESSMENT

5.4.1 Overview Process

The purpose of reviewing the EMP is to identify any new aspects of the site's activities likely to cause or which would have potential to cause environmental harm as well as aspects that may no longer be relevant due to cessation or change of activities. Activities within each operational process that could result in an environmental impact are reported in the format shown in Table 1 to determine the necessary EMP's.

Table 1 Environmental Aspects, Potential Impacts and Assessment

Activity	Aspects	Potential Impact	Assessment
Particular activity that could result in an on-site or off-site environmental impact	A listing of the elements of the site's activities which could have an adverse impact on the environment.	Impacts refer to the potential change that could take place in the environment as a result of the aspects.	The determination of any actual or likely environmental impact as identified from monitoring or complaints received by the site.



5.4.2 Determination of Significance

Significance is determined through a synthesis of impact characteristics. It is an indication of importance of the impact in terms of both physical extent and time scale and therefore indicates the level of mitigation required.

The classes are rated as follows:

1. *No significance*

The impact is not substantial and does not require any mitigation action.

2. *Low*

The impact is of little importance, but may require limited mitigation

3. *Medium*

The impact is of importance and therefore considered to have negative impact. Mitigation is required to reduce the negative impacts to acceptable levels.

4. *High*

The impact is of great importance. Failure to mitigate, with the objective of reducing the impact to acceptable levels could render the entire development option or entire project proposal unacceptable. Mitigation is therefore essential

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5.4.3 Environmental Aspects & Potential Impacts and Assessment

Based upon the above process an impact assessment has been carried out on those activities listed in Section 5.4.1. And 5.4.2, the outcome is shown in Table 2 below.

Table 2 Environmental Aspects and Impacts Assessments

Activity	Aspects	Potential Impact	Assessment
Vegetation clearing	Topography	Change of the scenic view of the area due to dumps and clearance of land	High Vegetation clearance for slimes dam construction and offices and residential premises construction is going to alter the topography to a highly significant extent.
	Land Use	Loss of habitat for faunal species and grazing land	Medium The area earmarked is relatively small compared to the remainder that is available for faunal proliferation. Small faunal species may however be displaced or killed for that matter without noticing them.

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	Air quality	Shift in the balance of atmospheric gases	Low The number of trees that will be cut is so insignificant as far as balance of gases is concerned. Potentially increase of carbon dioxide levels could be experienced and thus the green house effect, however this is perceivably of low significance.
Transportation	Air Quality	Dust from construction vehicles will deteriorate air quality. Exhaust fumes could also compromise air quality.	Medium Trucks will observe a general maximum speed limit of 60km/h plus roads will be maintained thus the impact will be of reduced significance. Maintenance of vehicles will ameliorate the impact.
	Soil Erosion	Trucks could loosen the soil and increase erosion	Medium Heavy vehicles will aggravate soil erosion.

	Noise	Earth moving machines are noisy	<p>Medium</p> <p>The nearby main road traffic already contributes noise to which the tenant is already accustomed. Absence of a village in the immediate surrounding makes the significance low. However the significance will grow to medium levels with establishment of a mining community.</p>
	Surface and Ground water	Oil spillages from machinery and trucks could contaminate ground and surface water	<p>Low</p> <p>Servicing of machinery and trucks will be done at the workshop to be constructed. Runoff from the workshop will be isolated to avoid contamination of surface water. Workshop will have paved surface thus drainage of oil into the ground is not anticipated. The impact should be of low significance given the low amounts of oil spillages expected.</p>
	Scenic view	No impact	<p>None Significant</p>

1. The first part of the document is a list of names and addresses of the members of the committee. The names are listed in alphabetical order, and the addresses are listed below each name. The list includes the names of the members of the committee, the names of the members of the sub-committee, and the names of the members of the advisory committee. The addresses are listed in the same order as the names.

	Fauna	Fauna could be killed by trucks	Low Low significance since a general speed limit of 60km/h will be observed. However lower faunal species could still be killed by trucks.
Blasting	Noise	Inconvenience to the communities especially if there are children of school going age that need to study	Low Villages are considerably far away to be inconvenienced to highly significant extents. The tenant on the property will be engaged on the proposed blasting times to ensure minimal inconvenience.
	Air quality	Dust generated by the blast	Low Low significance since there is vegetation that acts as a wind break. The mine will mainly be an underground operation.
	Vibrations	Ground movements and seismicity	Medium The shallow nature of the operation is not likely going to cause any ground vibrations of seismic magnitudes, however vibrations during blasting will be felt.
	Water quality	Contamination of ground and surface water	Medium Underground workings could potentially cause leaching of metals to water aquifers and contamination of ground

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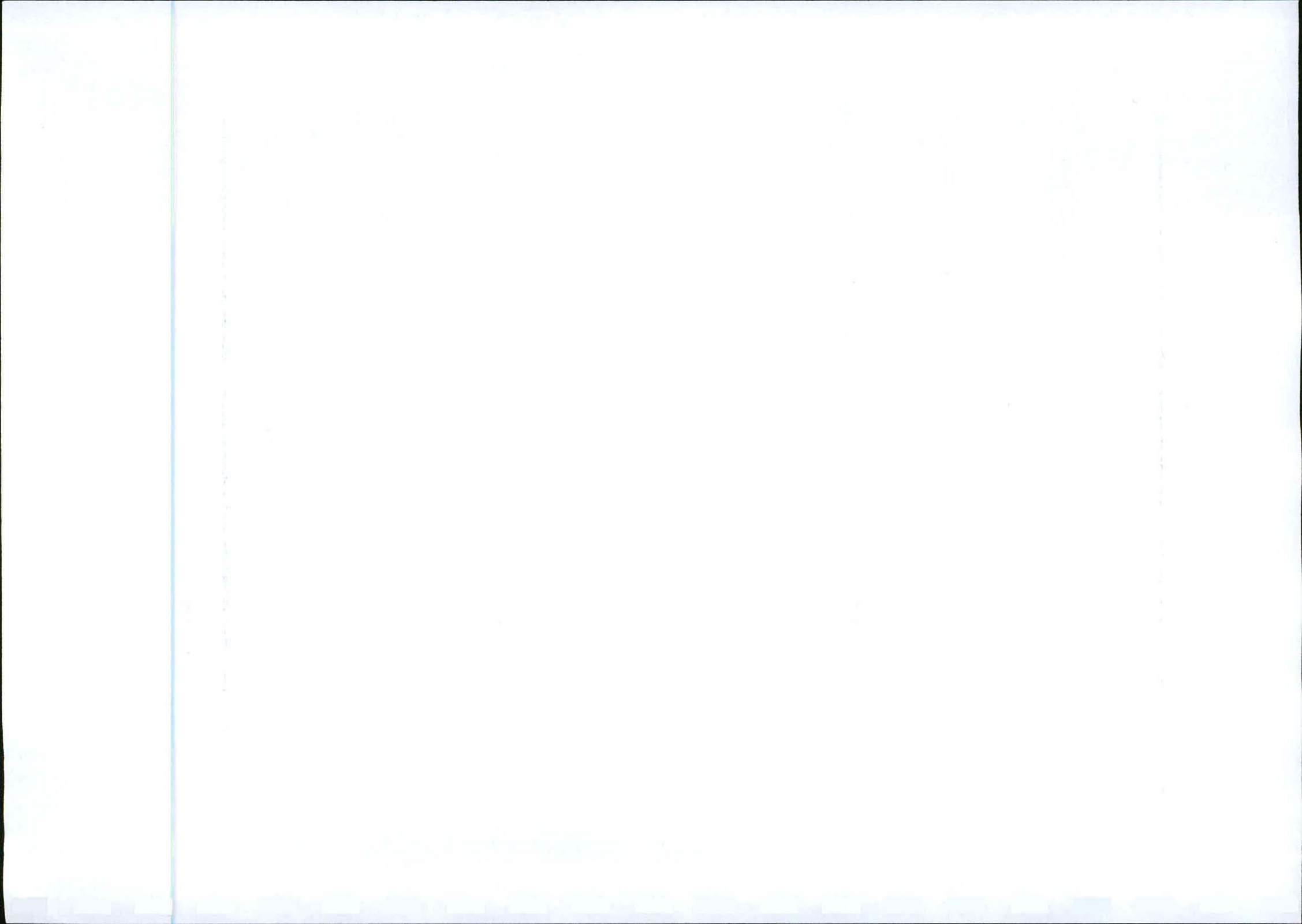
			water.
Blasting	Safety	Explosions could injure people	High The magnitude of the impact will be reduced by communication of blasting times and evacuation of people at blasting.
	Explosive Management	Crime, explosions	High Explosives could be stolen if no proper accounting is in place which could fuel a Bank ATM bombing Poor housekeeping could cause explosions. However the legislation that governs explosive use should reduce this significantly.
	Workers Health	Inhalation of gases from explosives after blasting.	Medium Observance of a 30 minute re-entry period after will reduce the significance of the impact.
Toilets	Water quality and Hygiene	Water could be contaminated by workers waste	Medium Chemical toilets will be set up which will be maintained in keeping with the occupational hygiene requirements of the law underground and at least pit latrines on surface.

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Mineral Beneficiation	Topography	Waste dumps and effluent could change the topography.	High Slimes dams will be constructed which will alter the topography.
	Water quality	Metallurgical waste water could contaminate surface and underground water bodies.	High Treatment of industrial water before re-use will be one remedial effort.
	Scenic View	Buildings and land clearance could alter the scenic view.	High Infrastructure will be put up which could remain as a footprint at decommissioning.
Rock crushing	Noise	Breaking the rock into the required sizes could be noisy	High Crushing units will be housed where economically feasible.
Security	Theft of mineral and illegal mining	Water contamination	Medium The mine will put all the security measures in place.



The table above lists the aspects that are specific to the Dusseldorp Mine. A register of environmental aspects for the Mine will be kept and managed by the SHE department of Mbewu Construction cc. The register will be updated annually.

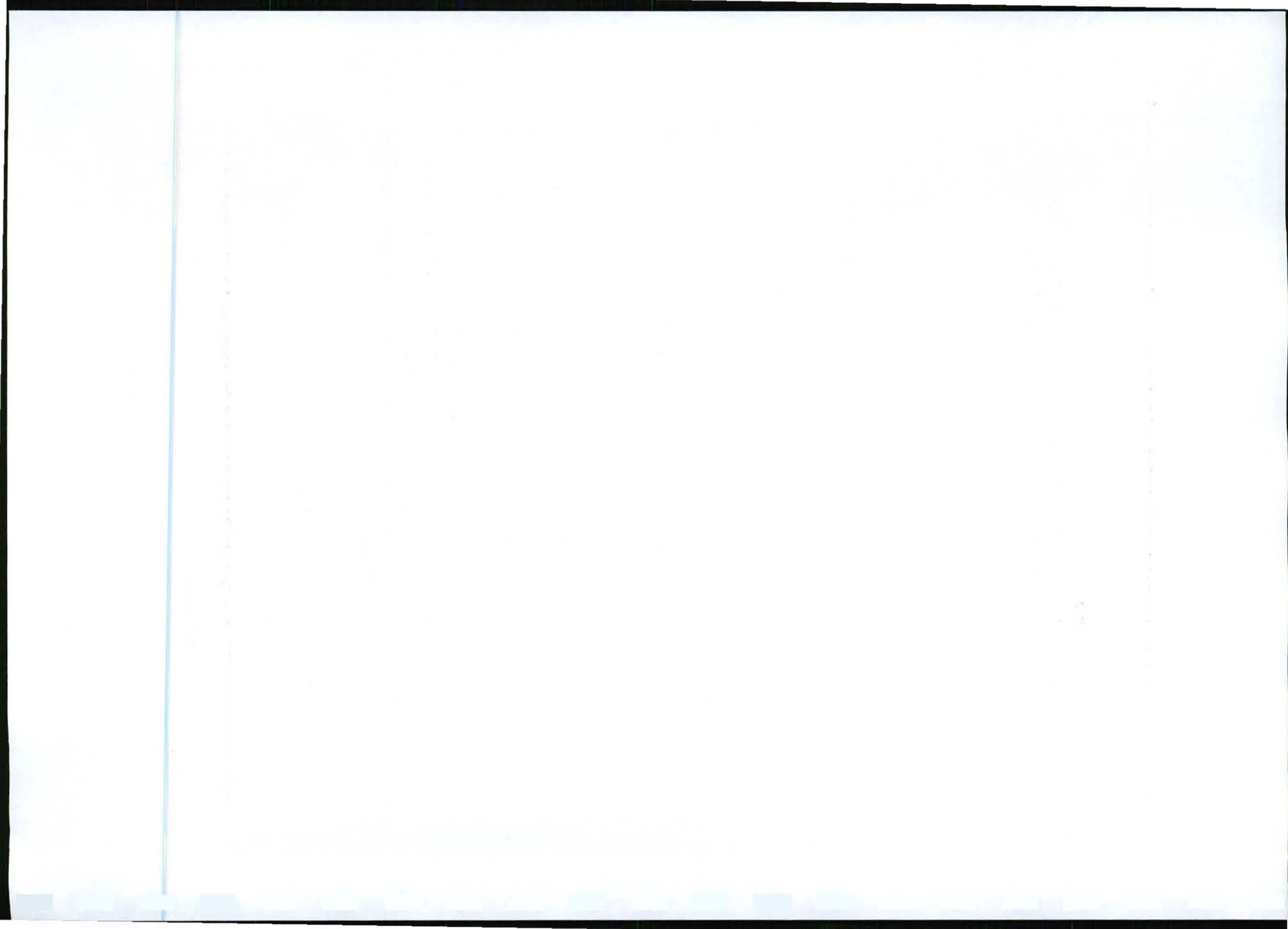
6. Environmental Management Plans

The EMP's in the following section have been developed specifically for use at the Dusseldorp Mine. The EMP's are designed to address potential impacts based upon discussions with site personnel, affected parties, and from a site visit. The following environmental issues that require EMP's based upon the potential impacts of the activities outlined in Section 5 are as follows:

- Air Quality
- Noise & Vibration;
- Waste Management;
- Water Quality and Quantity;
- Environmental Contingency Plan;
- Fauna and Flora Management.
- Explosives Management.

To ensure that the purpose of this EMP will be achieved, the environmental management plans will be established as follows based upon the identification of potential impacts established in Section 5.4.2:

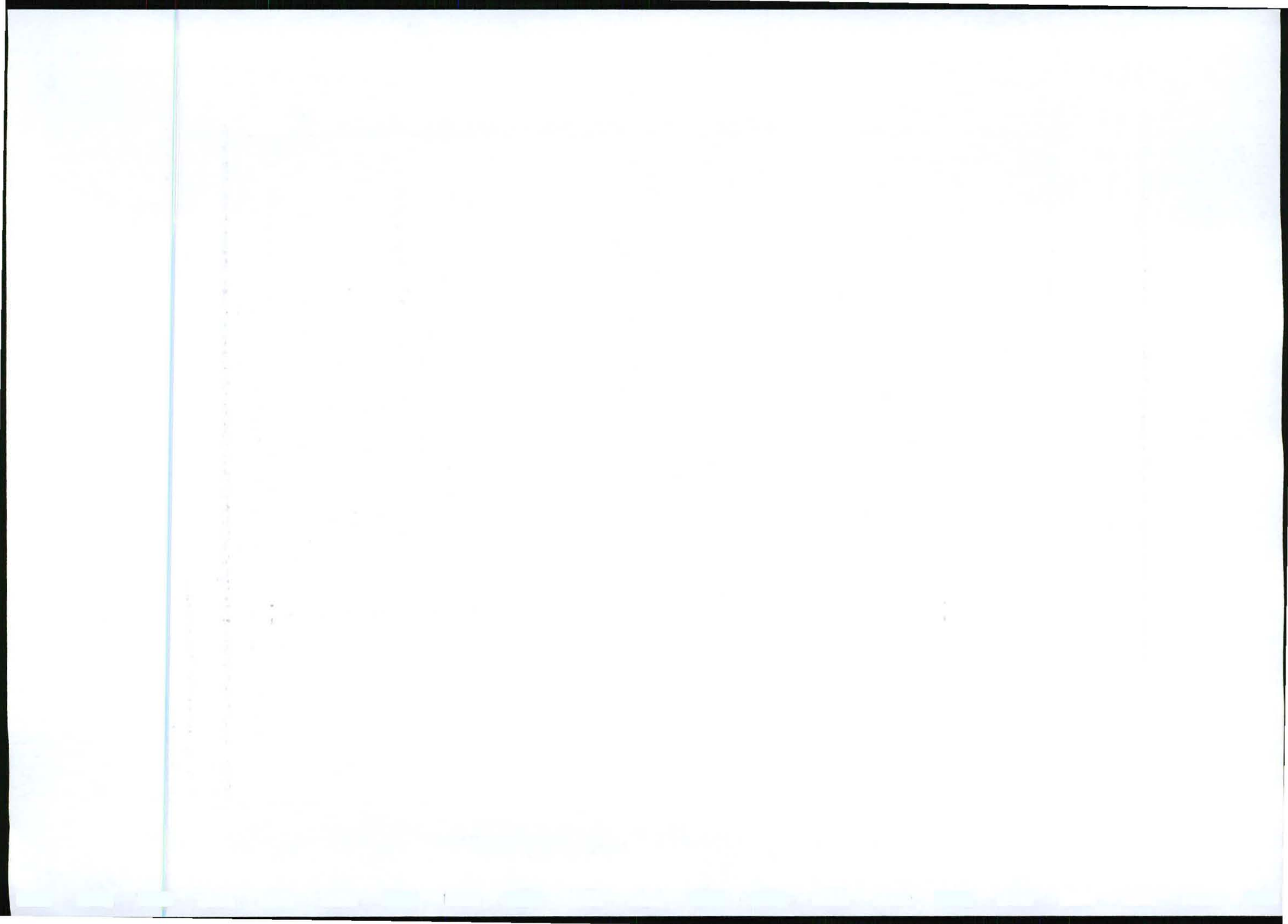
- Objective(s) to be achieved;
- Management strategies;
- Tasks;
- Responsibilities;
- Performance indicators;
- Frequency;
- Monitoring and reporting; and
- Corrective actions.



6.1 Air Quality Management Plan

The main source of air pollution to be managed is dust produced from operating earth moving equipment, blasting and haulage trucks. The plan excludes vehicle emissions.

<p>Performance Objective(s)</p>	<ul style="list-style-type: none"> <input type="checkbox"/> <input type="checkbox"/> To minimise the impact to air quality from site operations. <input type="checkbox"/> <input type="checkbox"/> Ensure the relevant provisions of the environmental Protection (Air) Policies are met.
<p>Management Strategies</p>	<p>The performance objectives above will be achieved by the following management strategies:</p> <ul style="list-style-type: none"> <input type="checkbox"/> <input type="checkbox"/> Use of improved technology where economically feasible to replace less efficient equipment. <input type="checkbox"/> <input type="checkbox"/> Ensure that all relevant licences are in place and being met through confirmation by measurement. <input type="checkbox"/> <input type="checkbox"/> Observing a general speed limit of 60km/hr <input type="checkbox"/> <input type="checkbox"/> Spraying water at the site to minimize impact on employees and use of PPE. <input type="checkbox"/> <input type="checkbox"/> No burning of any waste will be done on site except at the designated dump site. <input type="checkbox"/> <input type="checkbox"/> Observing a 30 minutes re-entry period into the pit and sections after blasts. <input type="checkbox"/> <input type="checkbox"/> Use of Gas detecting Instruments underground to determine air quality.



<p>Tasks</p>	<p>The following actions will be undertaken to implement the above management strategies.</p> <ul style="list-style-type: none"> <input type="checkbox"/> <input type="checkbox"/> EMS/EMP awareness training to be included as part of inductions. <input type="checkbox"/> <input type="checkbox"/> Complaints will be registered and minutes of meetings held will be filed.
<p>Responsibilities</p>	<ul style="list-style-type: none"> <input type="checkbox"/> <input type="checkbox"/> This EMP is the responsibility of the General Manager of Mbewu Construction cc. <input type="checkbox"/> <input type="checkbox"/> The actions outlined in this plan are the responsibility of Mine Management and staff where applicable.
<p>Performance Indicators</p>	<ul style="list-style-type: none"> <input type="checkbox"/> <input type="checkbox"/> Conformance with relevant provisions of the Environmental Protection (Air) Policy <input type="checkbox"/> <input type="checkbox"/> Nil Complaints relating to air quality management. <input type="checkbox"/> <input type="checkbox"/> Extraction equipment appropriately maintained as per site maintenance schedule.
<p>Frequency</p>	<ul style="list-style-type: none"> <input type="checkbox"/> <input type="checkbox"/> Complaints will be attended to promptly. <input type="checkbox"/> <input type="checkbox"/> Annual analysis of respiratory infection trends of site employees
<p>Monitoring & Reporting</p>	<ul style="list-style-type: none"> <input type="checkbox"/> <input type="checkbox"/> Any complaints as to the management of on-site air quality will be directed to the Mbewu Construction Reception for immediate action. <input type="checkbox"/> Complaints and any actions arising from a complaint will be recorded in a complaints register to be maintained by site management.
<p>Corrective Actions</p>	<ul style="list-style-type: none"> <input type="checkbox"/> <input type="checkbox"/> Adherence to prescribed speed limits.

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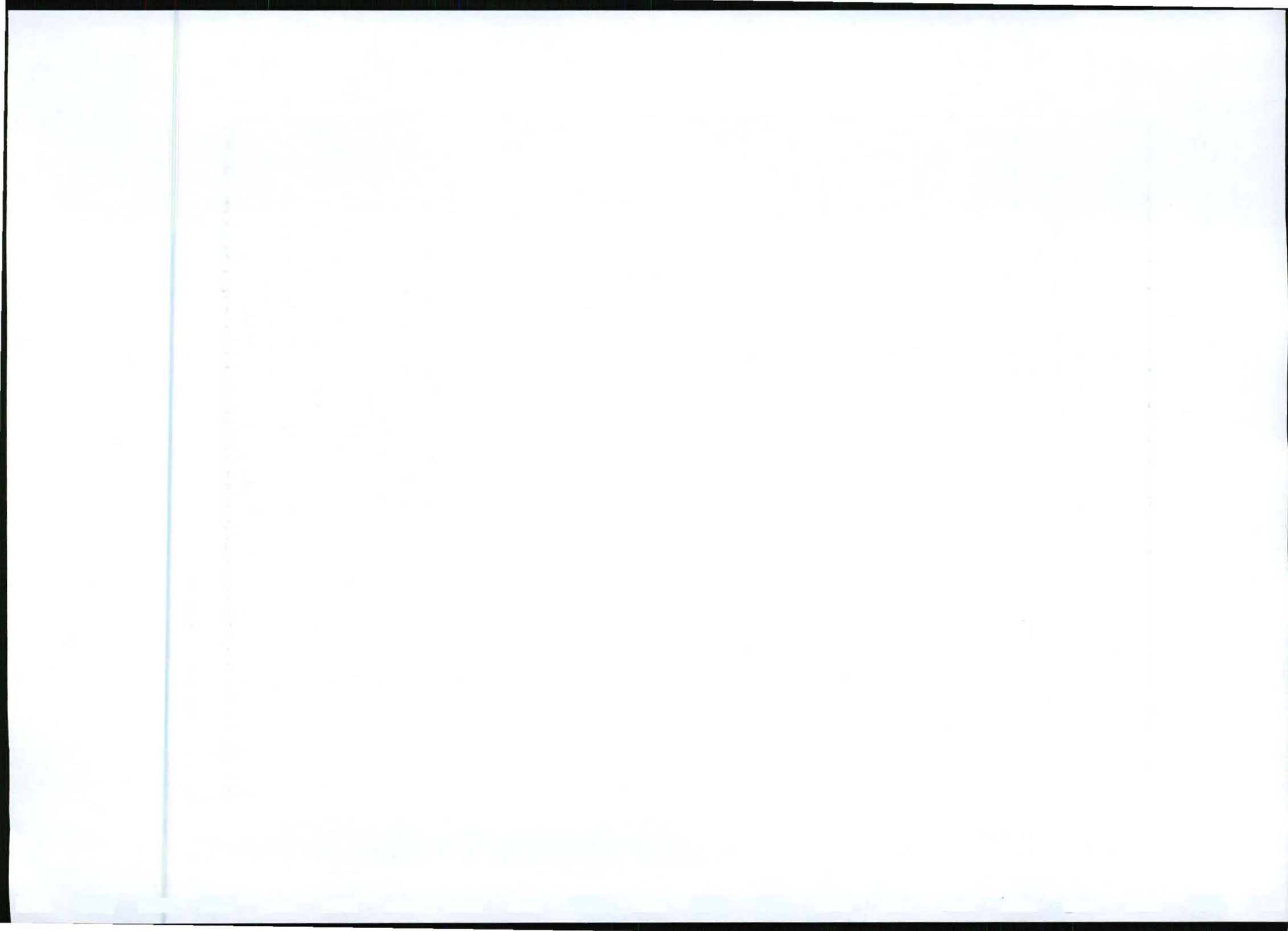
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6.2 Noise and Vibration Management Plan

The potential sources of noise identified were from operational plant such as drilling rigs, Trucks and Blasting. This EMP excludes emergency warning systems, off-site traffic or special activity authorized by an administering authority.

<p>Performance Objective(s)</p>	<ul style="list-style-type: none"> <input type="checkbox"/> <input type="checkbox"/> To meet requirements of the applicable Environmental Legislation <input type="checkbox"/> <input type="checkbox"/> To avoid noise nuisance to nearby residents and faunal habitats. <input type="checkbox"/> <input type="checkbox"/> To avoid vibration nuisance to nearby residents and faunal habitats.
<p>Management Strategies</p>	<p>The performance objectives above will be achieved by the following management strategies:</p> <ul style="list-style-type: none"> <input type="checkbox"/> <input type="checkbox"/> Activities that generate excessive noise will be restricted to hours permitted by the regulations of the Greater Tzaneen Municipality where applicable. <input type="checkbox"/> <input type="checkbox"/> Required explosives quantities will be used for blasting. <input type="checkbox"/> <input type="checkbox"/> Maintain on-site equipment including noise reduction equipment.
<p>Tasks</p>	<p>The following actions will be undertaken to implement the above management strategies: Construction can be undertaken from 6.30am to 6.30 pm Monday to Saturday.</p> <ul style="list-style-type: none"> <input type="checkbox"/> <input type="checkbox"/> Communication with the legal occupant of the land over blasting times to find the most convenient time for all parties involved <input type="checkbox"/> <input type="checkbox"/> Analysis of hearing related statistics



	<p>of mine employees annually.</p> <p><input type="checkbox"/> <input type="checkbox"/> Undertake EMS/EMP awareness training as part of inductions.</p>
Responsibilities	<p><input type="checkbox"/> <input type="checkbox"/> This EMP is the responsibility of the General Manager of Mbewu Construction cc</p> <p><input type="checkbox"/> <input type="checkbox"/> The actions outlined in this plan are the responsibility of Mine Management and staff where applicable.</p>
Performance Indicators	<p><input type="checkbox"/> <input type="checkbox"/> Nil Complaints relating to noise or vibration nuisance.</p> <p><input type="checkbox"/> <input type="checkbox"/> Low hearing loss incidents on mine employees.</p> <p><input type="checkbox"/> <input type="checkbox"/> Operating equipment and noise reduction equipment (silencers on trucks) correctly maintained.</p>
Frequency	<p><input type="checkbox"/> <input type="checkbox"/> Ongoing</p>
Monitoring & Reporting	<p><input type="checkbox"/> <input type="checkbox"/> Any complaints as to the management of noise on-site will be directed to Security and to Mbewu Construction cc reception for immediate action.</p> <p><input type="checkbox"/> <input type="checkbox"/> Complaints and any actions arising from a complaint will be recorded in complaints register to be maintained by site management.</p>
Corrective Actions	<p><input type="checkbox"/> <input type="checkbox"/> Immediate shutdown of noisy activity by on-site staff or security if unattended.</p> <p><input type="checkbox"/> <input type="checkbox"/> Investigate complaint immediately.</p> <p><input type="checkbox"/> <input type="checkbox"/> Maintain poorly performing equipment and noise reduction equipment.</p>

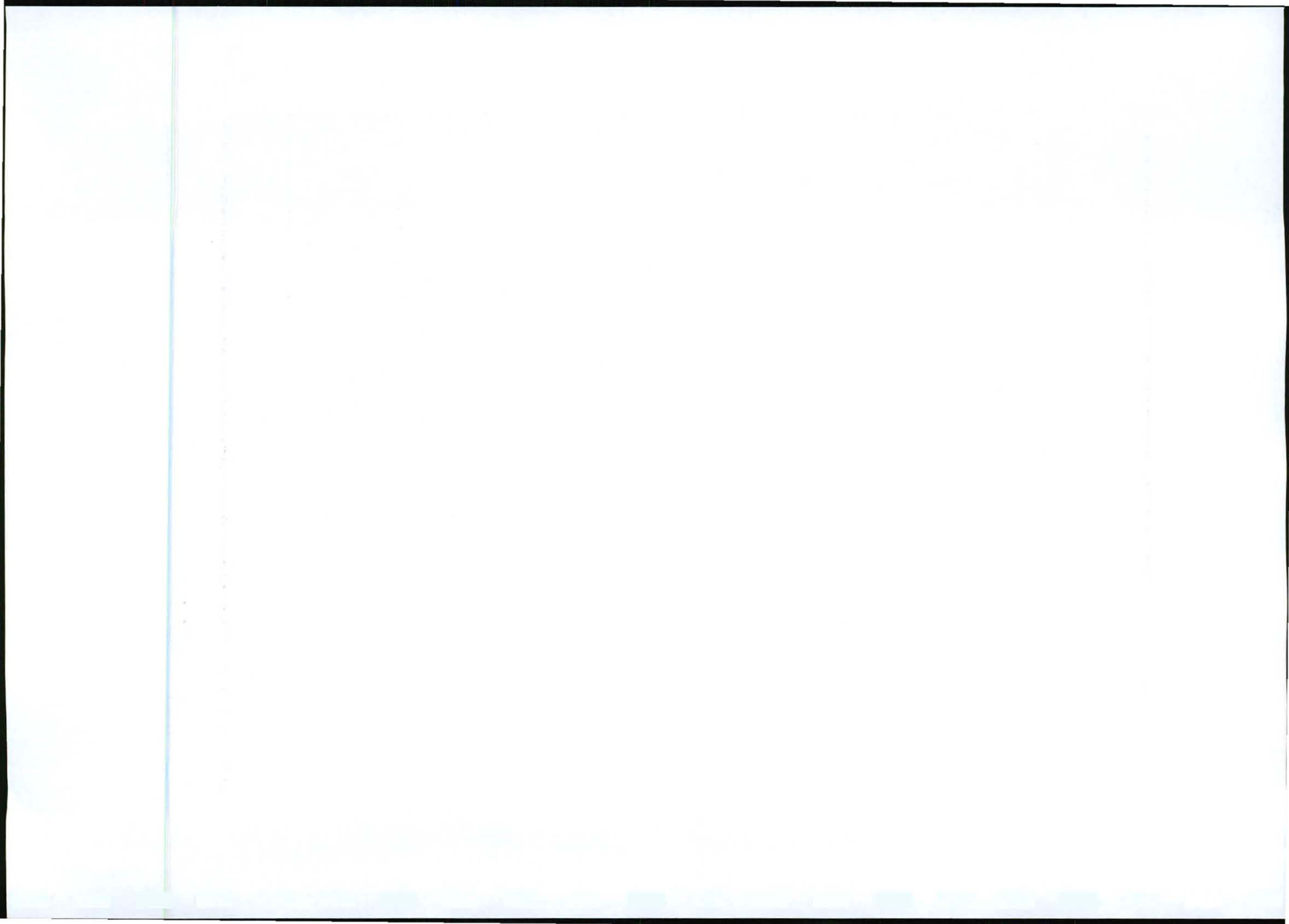
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6.3 Waste Management Plan

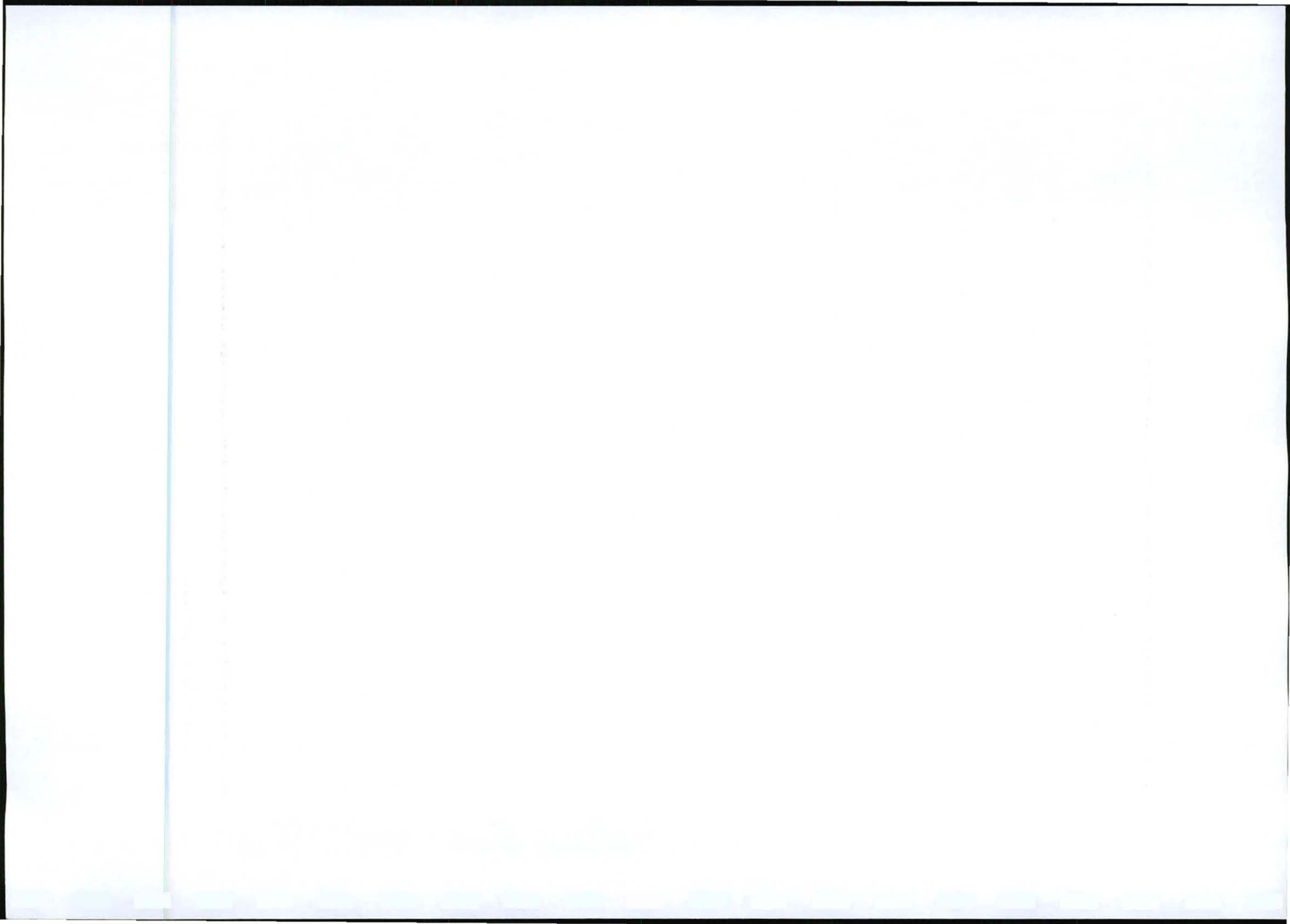
The main wastes likely to be produced from the La Dauphine Granite Mine site are:

- rock waste including metal ore fines; and
- Soil heaps
- Human waste
- Oil contaminated soil

Performance Objective(s)	<ul style="list-style-type: none"> <input type="checkbox"/> <input type="checkbox"/> To meet requirements of the Environmental Protection Legislation clauses on Waste Management <input type="checkbox"/> <input type="checkbox"/> To minimise waste generation by developing strategies for the management and disposal of all wastes produced in accordance with the principles of avoidance, reuse, recycling and disposal of waste. <input type="checkbox"/> <input type="checkbox"/> To manage wastes in a manner that is sustainable and sensitive to the environment.
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<p>Management Strategies</p>	<p>The performance objectives above will be achieved by the following management strategies:</p> <ul style="list-style-type: none"> <input type="checkbox"/> <input type="checkbox"/> Components of waste streams will be separated at source where possible to minimise contamination and maximise potential for reuse and recycling of materials. <input type="checkbox"/> <input type="checkbox"/> Waste will not be stored in areas where it could contribute to the generation of contaminated runoff. <input type="checkbox"/> <input type="checkbox"/> Suitably sized containers will be provided to separate and store recyclable components from the general waste stream. Appropriate transport of stored components will be organised. <input type="checkbox"/> <input type="checkbox"/> Recyclable materials will be collected and stored on-site and sent for recycling when viable quantities are accumulated. <input type="checkbox"/> <input type="checkbox"/> Waste storage will be away from ignition sources to minimise risk of fire. <input type="checkbox"/> <input type="checkbox"/> The offsite movement of regulated wastes will be recorded and kept for five years. Records to be kept by Mbewu Construction cc will include: <ol style="list-style-type: none"> 1. the date, quantity and type of waste removed; 2. name of the waste transporter and/or disposal operator that removed the waste; and 3. the intended treatment and/or disposal destination of the wastes. <input type="checkbox"/> <input type="checkbox"/> Licensed waste contractors will be used for the transportation /disposal of regulated wastes.
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	<ul style="list-style-type: none"> <input type="checkbox"/> <input type="checkbox"/> No waste will be burnt on site wantonly. <input type="checkbox"/> A Tailings dam will be constructed and managed to avoid runoff and contamination of surface water bodies by metallurgical wastes. <input type="checkbox"/> Monitoring boreholes will be drilled on a biannual basis to assess the impact on ground water quantities and qualities. <input type="checkbox"/> Disused dumps will be revegetated.
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<p>Responsibilities</p>	<p><input type="checkbox"/> <input type="checkbox"/> This EMP will be the responsibility of the General Manager of Mbewu Construction cc.</p> <p><input type="checkbox"/> <input type="checkbox"/> The actions outlined in this plan are the responsibility of Mine Metallurgical Department management and staff where applicable.</p>
<p>Performance Indicators</p>	<p><input type="checkbox"/> <input type="checkbox"/> Nil complaints relating to waste management.</p> <p><input type="checkbox"/> <input type="checkbox"/> No non-compliances identified in waste storage checks and/or audit.</p>
<p>Frequency</p>	<p><input type="checkbox"/> <input type="checkbox"/> Periodic waste storage checks (quarterly)</p> <p><input type="checkbox"/> <input type="checkbox"/> Waste audit as necessary.</p> <p><input type="checkbox"/> <input type="checkbox"/> Waste collections conducted as required (weekly for residential waste).</p>
<p>Monitoring & Reporting</p>	<p><input type="checkbox"/> <input type="checkbox"/> The Dusseldorp Mine Management will advise Mbewu</p>

	<p>Construction cc Management if it becomes aware that waste has been incorrectly disposed of from site.</p> <p><input type="checkbox"/> <input type="checkbox"/> Any complaints as to the management of waste on-site will be directed to the SHE officer for immediate action. Complaints and actions arising from a complaint will be recorded in a complaints register to be maintained by mine site management.</p>
<p>Corrective Actions</p>	<p><input type="checkbox"/> <input type="checkbox"/> The SHE department will recommend corrective actions in the event that waste is disposed of incorrectly or in an unsatisfactory manner.</p>

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6.4 Water Management Plan

The Water Management program is designed to manage:

- storm water;
- on site water usage
- Sediment

This management plan aims to protect surface and ground water sources contamination by the proposed mining activity. This will include the management of use of water from an open source.

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<p>Performance Objective(s)</p>	<ul style="list-style-type: none"> <input type="checkbox"/> <input type="checkbox"/> To comply with the <i>Environmental Protection Act</i>. <input type="checkbox"/> <input type="checkbox"/> To comply with DWAF Water Restriction Guidelines and Greater Tzaneen municipality regulations on water use. <input type="checkbox"/> <input type="checkbox"/> All sediment and erosion control work undertaken on site will be consistent with sound environmental management of storm water. <input type="checkbox"/> <input type="checkbox"/> To minimise potable water usage on site.
<p>Management Strategy</p>	<p>The performance objectives above will be achieved by the following management strategies:</p> <ul style="list-style-type: none"> <input type="checkbox"/> <input type="checkbox"/> Divert clean storm water runoff from site to prevent it from entering the operation areas. <input type="checkbox"/> <input type="checkbox"/> Collect runoff from process areas and divert to a sediment control facility where appropriate to avoid mixing of clean and contaminated water. <input type="checkbox"/> <input type="checkbox"/> Maintain site drains and reed bed. <input type="checkbox"/> <input type="checkbox"/> Restrict vehicle movements where practical to defined site roads/tracks. <input type="checkbox"/> <input type="checkbox"/> Routinely clean bitumen roadways to control potential contaminant transport. <input type="checkbox"/> <input type="checkbox"/> Ensure discharge of process water meets all waste licence requirements.

<p><input type="checkbox"/> <input type="checkbox"/> To raise awareness of the importance of conserving water at the Mine.</p> <p><input type="checkbox"/> Licensing for use of water from open sources will be obtained prior to such use if need should arise to use huge volumes of water.</p>	
<p>Tasks</p>	<p>The following actions will be undertaken to implement the above management strategies:</p> <ul style="list-style-type: none"> <input type="checkbox"/> <input type="checkbox"/> Rehabilitation should be maintained as required to control erosion. <input type="checkbox"/> <input type="checkbox"/> Undertake EMS/EMP awareness training as part of inductions. <input type="checkbox"/> <input type="checkbox"/> Maintain site drains and reed bed as required to maintain water flow and quality entering streams adjacent to the mine. <input type="checkbox"/> <input type="checkbox"/> Distribute awareness materials to the mine staff to raise consciousness over cleaner mining. <input type="checkbox"/> Drilling monitoring boreholes around the slimes dam at least every 5 years. <input type="checkbox"/> Water sample collection for analysis to quantify impact annually.
<p>Responsibility</p>	<ul style="list-style-type: none"> <input type="checkbox"/> <input type="checkbox"/> This EMP is the responsibility of the General Manager of Mbewu Construction cc. <input type="checkbox"/> <input type="checkbox"/> The actions outlined in this plan are the responsibility of Mine Management and staff where applicable.
<p>Performance Indicators</p>	<ul style="list-style-type: none"> <input type="checkbox"/> <input type="checkbox"/> Absence of complaints on contaminated water by nearby communities. <input type="checkbox"/> <input type="checkbox"/> No cases of faunal deaths in nearby

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	<p>water bodies</p> <p><input type="checkbox"/> Water sample result analysis showing no impact.</p>
Frequency	<p><input type="checkbox"/> <input type="checkbox"/> Water quality testing biannually or as per licence requirements/operating procedures.</p>
Monitoring & Reporting	<p><input type="checkbox"/> <input type="checkbox"/> The Dusseldorp Mine management will advise Mbewu Construction cc Management if it becomes aware that water has been incorrectly discharged from site.</p> <p><input type="checkbox"/> <input type="checkbox"/> Any complaints as to the management of water on-site will be directed to the Mbewu Construction cc reception for immediate action.</p> <p><input type="checkbox"/> <input type="checkbox"/> Complaints and any actions arising from a complaint will be recorded in a complaints register to be maintained by site management.</p>
Corrective Actions	<p><input type="checkbox"/> <input type="checkbox"/> Investigate any non-complying off-site discharges.</p>

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6.5 Environmental Contingency Plan

The potential emergency risk on this site is a fire event which could arise from electrical short circuits and random burning and cigarettes.

<p>Performance Objective(s)</p>	<ul style="list-style-type: none"> <input type="checkbox"/> Comply with all the applicable environmental legislation <input type="checkbox"/> Minimise the impact to the community and local environment.
<p>Management Strategy</p>	<p>The performance objectives above will be achieved by the following management strategies:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Minimise fire risk through risk evaluation processes and management of those risks i.e. fire prevention. <input type="checkbox"/> Restrict high-risk activities in accordance with local fire bans or times of high fire danger. <input type="checkbox"/> Maintain a plan for rapid and coordinated response to the outbreak of fire through an established fire response plan in conjunction with the local metropolitan fire brigade. <input type="checkbox"/> Avoid burning of waste material onsite.
<p>Tasks</p>	<ul style="list-style-type: none"> <input type="checkbox"/> Keep a fire extinguisher on site at every work place. <input type="checkbox"/> Undertake Fire Safety awareness training as part of site inductions. <input type="checkbox"/> Conduct fire drills once quarterly and record exercises and actions generated. <input type="checkbox"/> Conduct periodic fire equipment audits.

Responsibilities	<p><input type="checkbox"/> <input type="checkbox"/> This EMP is the responsibility of the General Manager of Mbewu Construction cc.</p> <p><input type="checkbox"/> <input type="checkbox"/> The actions outlined in this plan are the responsibility of Mine management and staff where applicable.</p>
Performance Indicators	<p><input type="checkbox"/> <input type="checkbox"/> No damage or loss or injury to personnel, equipment or infrastructure due to fire (including neighbouring properties).</p> <p><input type="checkbox"/> <input type="checkbox"/> Fire events recorded and corrective actions implemented.</p>
Frequency	<p><input type="checkbox"/> <input type="checkbox"/> Fire equipment inspections to be carried out on a monthly basis.</p> <p><input type="checkbox"/> <input type="checkbox"/> Fire drills conducted at least once every quarter.</p>
Monitoring & Reporting	<p><input type="checkbox"/> <input type="checkbox"/> Report all fire events to the Environmental Officer.</p>
Corrective Actions	<p><input type="checkbox"/> <input type="checkbox"/> Extinguish fire if safe to do so.</p> <p><input type="checkbox"/> <input type="checkbox"/> Notify fire brigade and Mine security immediately and implement evacuation procedure if appropriate.</p>

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6.5.1 Emergency Contacts

Fire Safety Issues	Fire Safety Officer, Property & Facilities- Division, Security Section	• 015 306 0329
Environmental	Environmental Officer,	• 015 306 0329
Contingency Issues Operation Coordination	SHE Officer Operations Manager	• 015 306 0329 • 083 511 0001
Hazards, Risks and emergency Issues Risk Management committee	Director, Occupational-Health & Safety Unit	• 083511 0001 • 015 306 0329
Advisory Coordinator Emergency	Security Shift Supervisor Property and Facilities Division, Security Section	• 015 306 0329 • 083 511 0001

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6.6 Fauna and Flora Management Plan

The purpose of this section of the management plan is to ensure that the floral and faunal species in the area earmarked for mining and immediate environment suffer minimal disturbance. This will be achievable by a careful design of the mine infrastructure to ensure that only ground that will be excavated or developed will be cleared.

The faunal species also shall not be killed for meat during the operation or by deliberate negligence. The table below details the measures that will be put in place to ensure minimal disturbance of plant and animal life.

<p>Performance Objective(s)</p>	<p><input type="checkbox"/> <input type="checkbox"/> To meet the obligations under the <i>Land Protection</i> and the <i>Vegetation Management Acts</i>.</p> <p><input type="checkbox"/> <input type="checkbox"/> To preserve where feasible the conservation values remaining on the site and maintain habitat of native species also present on site.</p>
<p>Management Strategy</p>	<p>The performance objectives above will be achieved by the following management strategies:</p> <p><input type="checkbox"/> <input type="checkbox"/> Minimise vegetation clearing and promote natural flora growth through revegetation where a more than 10 square metre area would have been cleared.</p> <p><input type="checkbox"/> <input type="checkbox"/> Identify and encourage native flora and fauna present on site and plant appropriate species.</p> <p><input type="checkbox"/> <input type="checkbox"/> Implement strategies to reduce fire hazards, erosion and overland flow.</p> <p><input type="checkbox"/> <input type="checkbox"/> Observance of a speed limit of 60km/h and due care will be taken to avoid knocking animals down.</p> <p><input type="checkbox"/> <input type="checkbox"/> Zero tolerance to poaching.</p> <p><input type="checkbox"/> <input type="checkbox"/> Control of invader floral species.</p>

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Tasks	<input type="checkbox"/> Record cases of faunal casualties due to the mining activity. <input type="checkbox"/> Investigation of causes of faunal deaths recorded.
Frequency	<input type="checkbox"/> Annual analysis of recorded statistics.
Responsibilities	<input type="checkbox"/> <input type="checkbox"/> The EMP is the responsibility of the General Manager of Mbewu Construction cc. <input type="checkbox"/> <input type="checkbox"/> The actions outlined in this plan are the responsibility of Mine Management and staff where applicable.

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6.7 Explosives Management Plan

The Explosive Management Plan has been prepared to minimise the impact on the environment. This is largely controlled by using low quantities of explosives during experiments. Accordingly, impacts from dust, noise and vibration on the local community and fauna are minimal.

Performance Objective(s)	<input type="checkbox"/> <input type="checkbox"/> To comply with the <i>Explosives Regulation Legislation</i> <input type="checkbox"/> <input type="checkbox"/> To minimise nuisance to the local community. <input type="checkbox"/> <input type="checkbox"/> To minimise the effects on local wildlife. <input type="checkbox"/> To avoid explosive theft by accurate accounting.
Management Strategy	<p>The performance objectives above will be achieved by the following management strategies:</p> <input type="checkbox"/> <input type="checkbox"/> Restrict access to explosives to authorised persons. <input type="checkbox"/> <input type="checkbox"/> Use explosives required quantities. <input type="checkbox"/> Account for explosive usage by filling an explosive log book.
Tasks	<input type="checkbox"/> <input type="checkbox"/> Observe experimental area to determine extent of noise, dust and vibration and adjust quantities accordingly if required.
Responsibilities	<input type="checkbox"/> <input type="checkbox"/> The EMP is the responsibility of the General Manager of Mbewu Construction cc.
Performance Indicators	<input type="checkbox"/> <input type="checkbox"/> No complaints from local residents. <input type="checkbox"/> Audit confirmation of compliance
Frequency	<input type="checkbox"/> <input type="checkbox"/> Random frequent explosive log book inspections and audits.

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Monitoring & Reporting	<input type="checkbox"/> <input type="checkbox"/> Report any environmental incidents involving explosives to the Mine Manager and to the Environmental Officer
Corrective Actions	<input type="checkbox"/> <input type="checkbox"/> Investigate any complaint(s) received. <input type="checkbox"/> Explosive control training refresher courses. <input type="checkbox"/> Involve the South African Police Service In cases involving explosive theft.

7. Community Management

7.1 Scope

The Community Management Program is applicable to all staff, and visitors to the Dusseldorp Mine.

7.2 Objectives

- To ensure the workers of Dusseldorp Mine act as responsible members of the Greater Tzaneen Community;
- To minimise disturbance to neighbours and the community through day to day operations, services and social activities run at and from the Mine site;
- To maintain the aesthetic values of the area and minimise the effects on neighbouring properties.
- To encourage staff to engage with the local community through education and learning activities such as the annual University Students Field Trip Visits.

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7.3 Community Management Issues

7.3.1 Noise

Dusseldorp Mine site is required to comply with all relevant noise legislation, i.e. the requirements under the Environment protection legislation.

Not excluding any of the detail in Section 8, no noise generated at the Mine shall impact on its neighbours after 10.00pm and before 6.00am.

Police will respond to all noise complaints.

7.3.2 Aesthetics

Dusseldorp Mine is to be kept clean and tidy at all times. All equipment shall be stored in appropriate areas. No equipment is to be left on site without proper housekeeping protocol.

7.3.3 Major Projects

From time to time Dusseldorp Mine may undertake major projects which have the potential to impact on local residents. To ensure that community concerns are addressed the mine will use one or more of the following methods of communication prior to project implementation

- Email
- Phone
- Memos.
- Meetings

The community are then able to raise concerns about the project which can then be addressed by Mine Management and staff.

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7.4 Feedback on Community Issues

Community representatives are able to contact the Mine to register a complaint. The complaints will be followed up by the Mine Manager or the Occupational Health and Safety Officer and referred to the appropriate Mine staff where applicable.

7.5 Responsibilities

Responsibilities for management of community issues lie with everyone at Dusseldorp Mine. Table 1 outlines these specific responsibilities.

Table 4. Community Management Responsibilities

Responsible Person	Duties
Mine workers	<input type="checkbox"/> Ensure awareness and understanding of the community issues associated with their activities. <input type="checkbox"/> To act responsibly and adhere to the procedures outlined in this procedure.
General Manager, Site Manager, Supervisors	<input type="checkbox"/> Ensure facilities and materials are available to limit the impact on the community and to allow compliance with this procedure. <input type="checkbox"/> Identification and review of new and existing community issues and updating the program on an annual basis.

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7.6 Records

The Dusseldorp Mine administration will hold all documents issued and kept in respect to the Community Management Program. The term documents for the purpose of this program include the following:

- Operational Procedures;
- Checklists;
- Notes;
- Letters;
- Reports and Registers.

7.7 Enquiries

For further information regarding community management contact the offices. Dusseldorp Mine.

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7.8 Decommissioning

Impact	Remedial Action
Access roads	<ul style="list-style-type: none"> • Roads that are not required by the land owner will be removed. • These will be ripped and ploughed. Foreign material which may hamper vegetation growth will be removed • Grass and tree seeds will be introduced to allow vegetation growth. • All efforts will be done to satisfaction of the Regional Manager.
Office Site and Buildings	<ul style="list-style-type: none"> • Buildings which are not going to be of use by communities around for residence or public use will be destroyed. • The rubble will be removed and re-vegetation will be done. • All efforts will be done to satisfaction of the Regional Manager.
Tailings Dumps	<ul style="list-style-type: none"> • Dumps of no economic valuation will be used to fill up excavations on surface. • Re-vegetation of the dumps will be done to avoid erosion and dust. • All efforts will be done to satisfaction of the Regional Manager.

THE UNIVERSITY OF CHICAGO LIBRARY

Impact	Remedial Action
<p>Vehicle Maintenance yard</p>	<ul style="list-style-type: none"> • All oil spillages and grease contaminated soil will be packed and disposed at a registered waste dump. • Buildings will be destroyed and ripped to encourage vegetation growth if they are not found of any post mining value to the land occupants. • All efforts will be done to satisfaction of the Regional Manager.
<p>Excavations</p>	<ul style="list-style-type: none"> • Excavations will be filled up with all rubble from destroyed buildings and tailings. • These will be levelled up and top soil will be spread over and re-vegetation will be done. • All efforts will be done to satisfaction of the Regional Manager.
<p>Litter</p>	<ul style="list-style-type: none"> • All litter will be removed from the site to a recognized land fill facility. • No litter will be buried or burnt on site.

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8. EMP Management

8.1 Audit and Review

One of the tools to proactively assess the performance of this EMP is to conduct internal audits of the respective EMPs. These audits will be organised by Dusseldorp Mine management and conducted on a time scale dependent upon incident or complaint reports and associated environmental risk.

8.2 Training Requirements

The activities involved in the proposed Dusseldorp Mine operation have the potential to impact on the environment in certain circumstances and hence all personnel involved in the operation of the mine facility will be briefed on the issues discussed in this document and made aware of the EMP's. The EMP's will only be successful if all those responsible for their implementation and review are conversant with its contents, interpretation and performance measures. They will be instructed in the requirements of relevant legislation and regulations and relevant personnel will be instructed in the basic tenets of the Environmental Legislation including matters relating to the prevention of environmental harm and the general environmental duty.

Similarly the management will be responsible for ensuring that personnel working on the site have sufficient knowledge and awareness to identify potential environmental issues. Personnel should be trained in appropriate corrective action in the event that they become aware of an environmental issue and the consulting professional will review the scope of the training course from time to time. An attendance file will be kept to show the employees details that would have undergone this training.

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8.3 Review and Update of the EMP

The EMP's will be reviewed as required to ensure that they address issues and changes in legislation, policies, guidelines and other requirements. This will be the responsibility of the Dusseldorp Mine management in liaison with the consulting professional.

The EMP has been developed as a document that will undergo continual change in response to changes in the site operation, environmental legislation and/or environmental management procedures and policies of the Dusseldorp Mine.

Awareness of these changes and the requirement to update superseded legislation and policy is the responsibility of the Dusseldorp Mine management in liaison with the consulting environmental professional. The current legislation copies will be kept at Dusseldorp Mine alongside with this document for effective application.

8.4 Emergency Situations

The environmental contingency procedure listed in section 6.5 of this document addresses the risk of fire at the Dusseldorp Mine site as this has been identified as a potential risk.

8.5 Reporting

It is important that all personnel are familiar with the procedures for the reporting of issues that may result in environmental degradation whether the incident has occurred or may occur in the future. An environmental incident and feedback form will be available on the EMS file for the recording of such events. The issue is to be investigated with corrective actions assigned and implemented.

8.6 Complaints

An external complaint can be registered on the incident form discussed in Section 6.5. The complaint is then to be treated as an incident and investigated with corrective actions provided and implemented.

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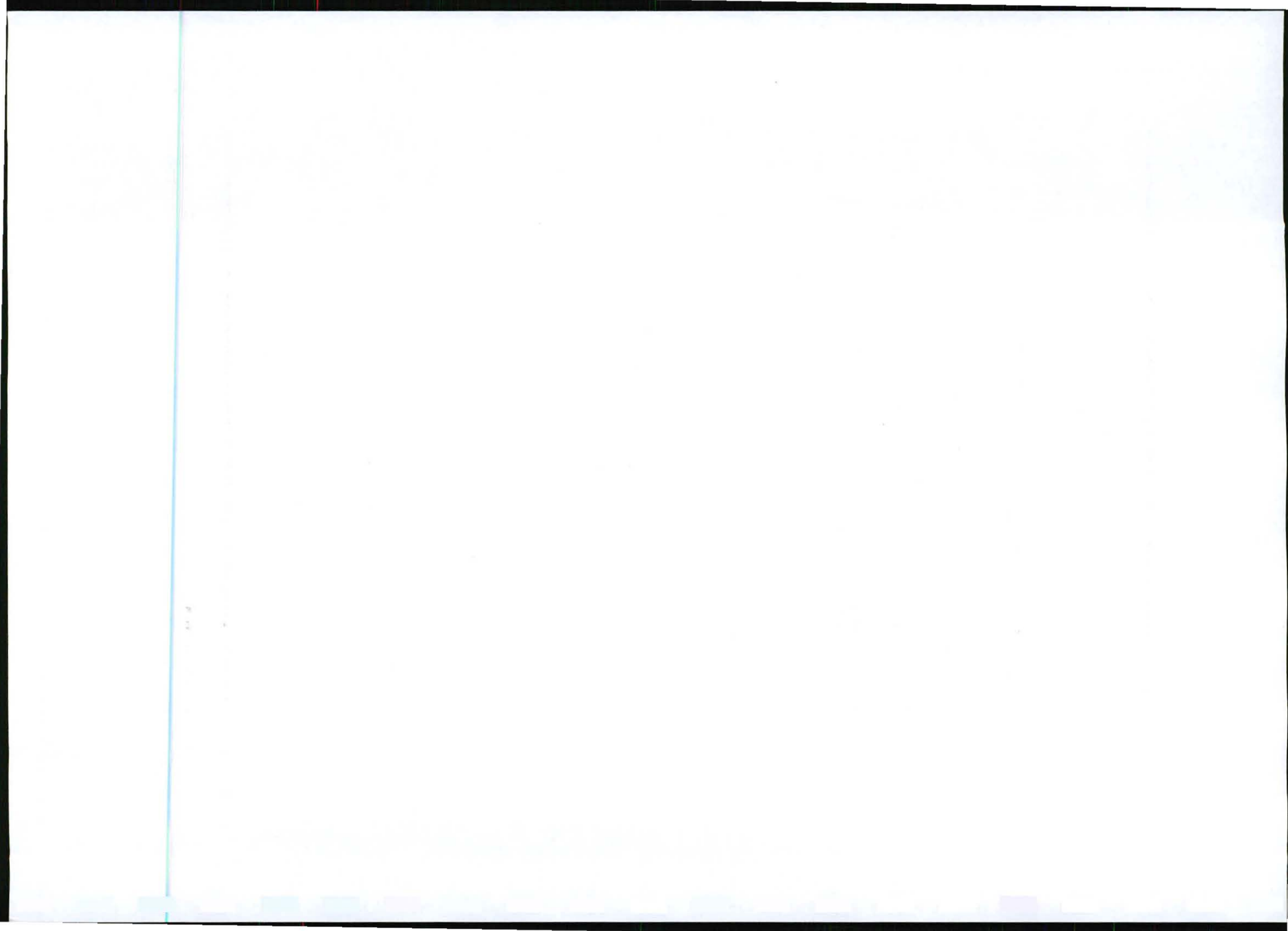
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Table 5 Information for Quantum calculation.

A rehabilitation trust fund will be established and proof thereof submitted to the Regional Manager in not later than 90 days of approval of this EMP.

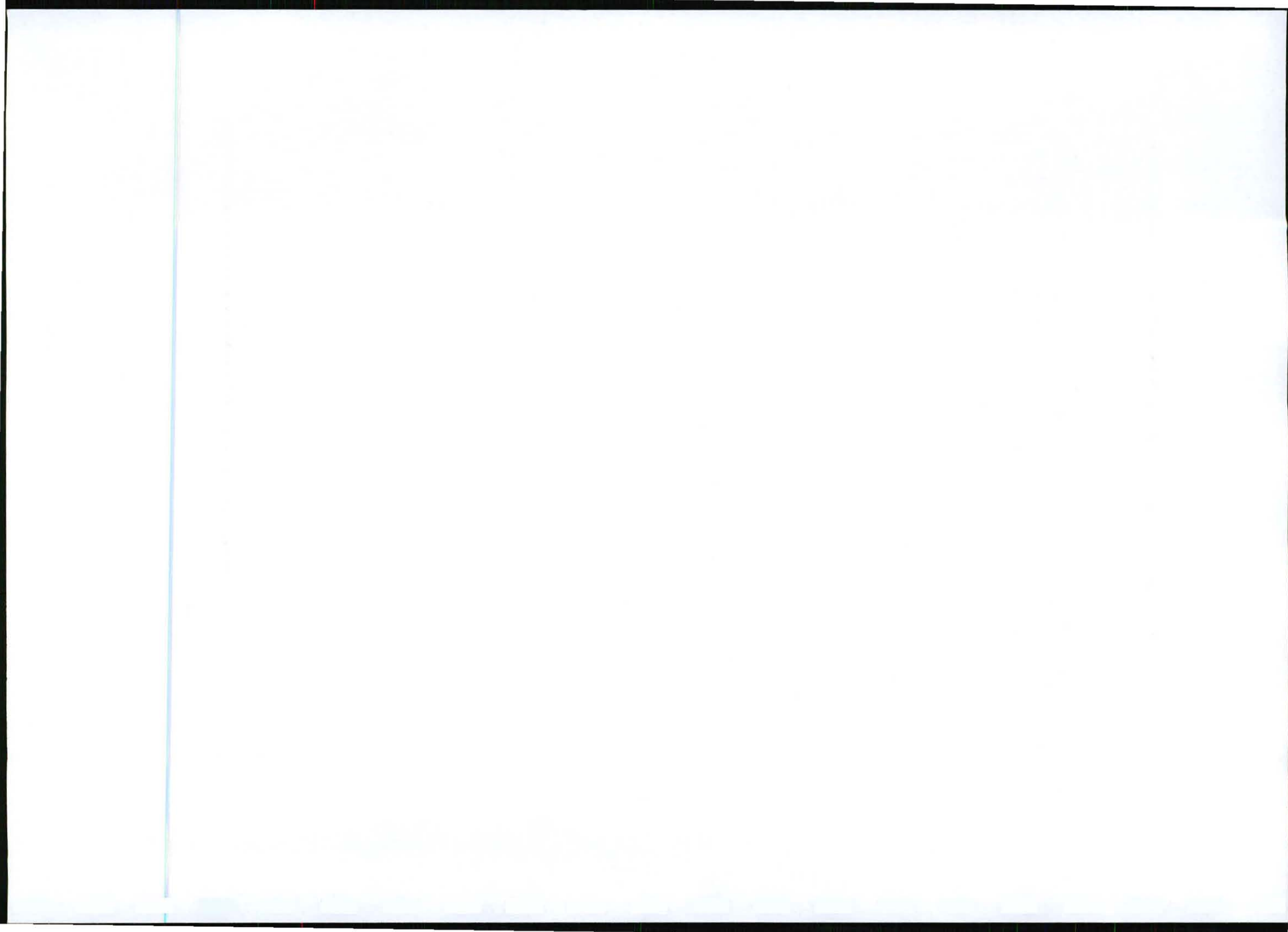
LIST OF ACTIVITY AREAS ON SITE	Mark with X where applicable		State the area of the activity in m ²	State the volume of the activity in m ³
	YES	NO		
Excavations	X		20 000	4 000 000
Stockpiles	X		10 000	
Discard dumps	X		10 000	
Discard dams	X		600	
Loading areas	X		600	
Water supply dams	X		600	
Accommodation areas	X		200 000	
Offices or buildings	X		15 000	
Workshops	X		1500	
Access roads			8000	
Other (Specify)				
TOTAL AREA and /or volume to be rehabilitated			66 300	4 000 000
Area to remain for social use			200 000	
Rehabilitation Insurance			R600 000.00	

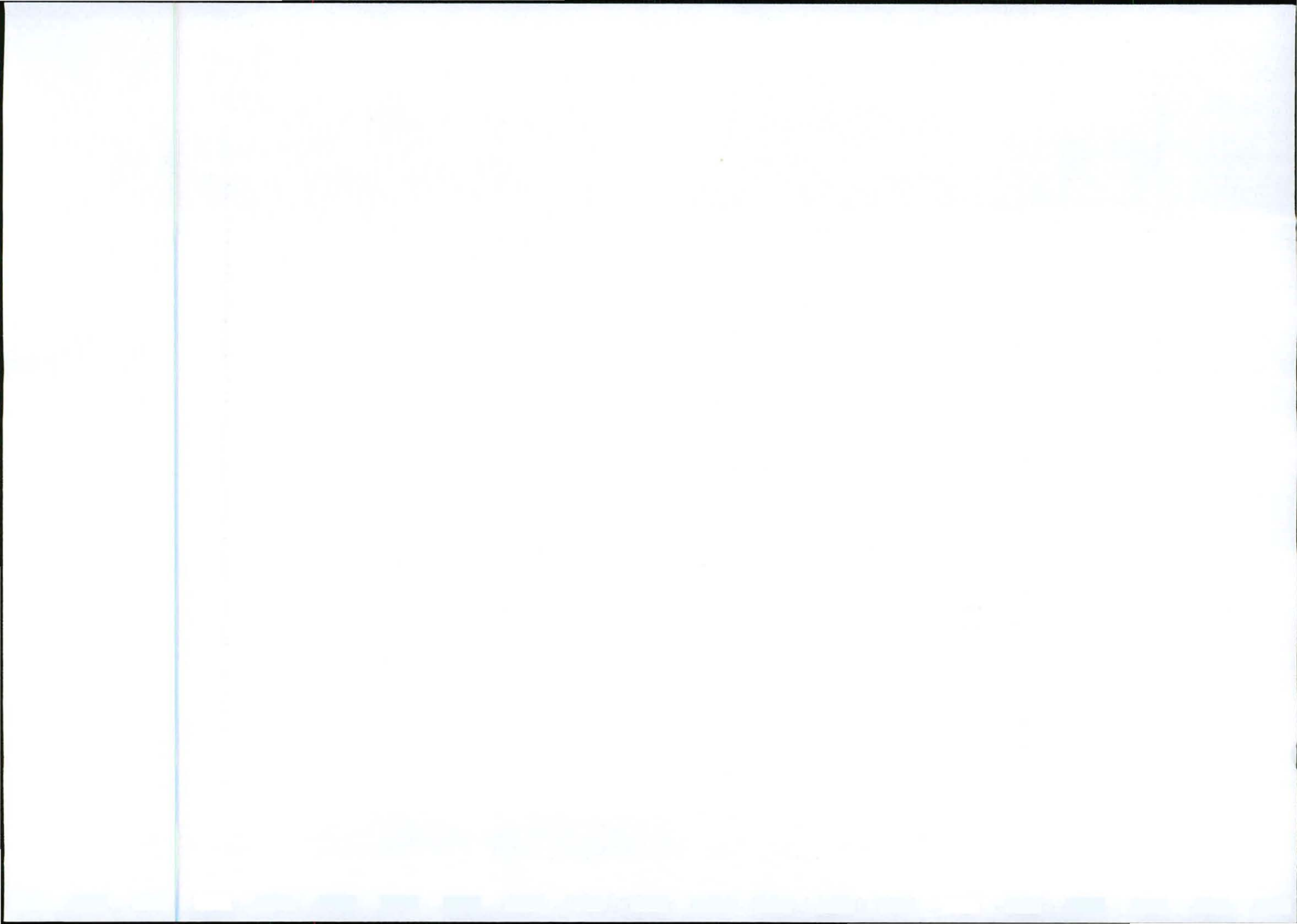


REGULATION 52 (2) (h): Undertaking to execute the environmental management plan.

Herewith I, the person whose name and identity number is stated below, confirm that I am the person authorised to act as representative of the applicant in terms of the resolution submitted with the application, I herewith confirm that the above report comprises the EMP compiled in accordance with directive, in terms of sections 29 of the Act contained herein, and that the Environmental management plan will be executed as proposed should the permit be issued. I acknowledge that since this Environmental Management Plan is specific to the scale of the mining operation in the hands of the applicant/holder, the operation of the mine specifically by the holder in the manner and scale proposed in the applicable financial and technical ability report and in this Environmental management plan constitute material terms and conditions of the permit, and any change in the scope of the work or the party operating the mine, albeit on a subcontracting or subletting basis, will constitute a contravention contemplated in section 47(1) of the Act.

Full Names and Surname	 Clive Somisa Mashele
Identity Number	6606170680084





10. APPROVAL

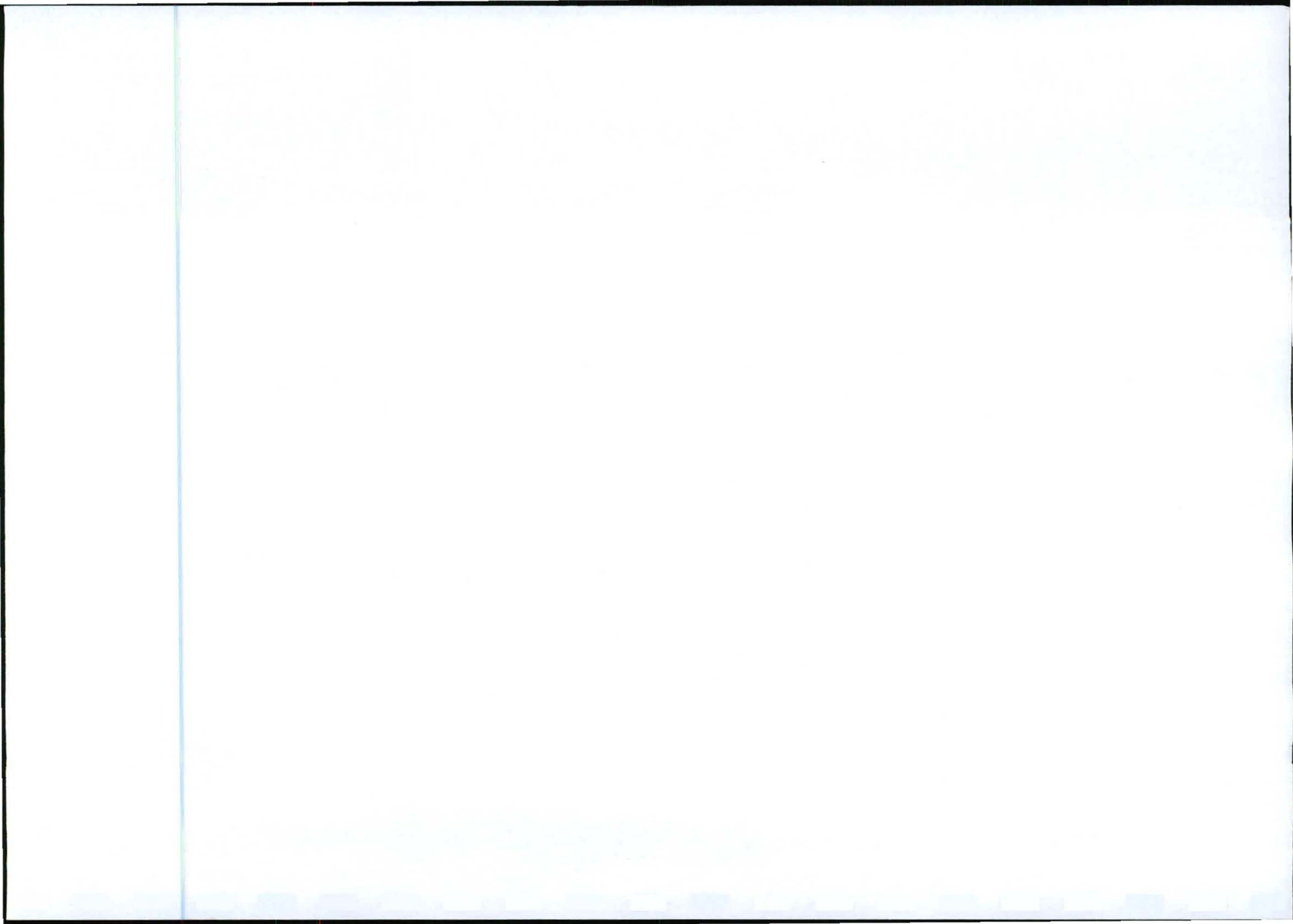
Approved in terms of Section 39(4) of the Mineral and Petroleum Resources Development Act, 2002 (Act 29 of 2002)

Signed at.....this.....day of.....2011

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REGIONAL MANAGER

REGION:



Appendix 1



Existing access road from R36 to mining area.

Appendix 1



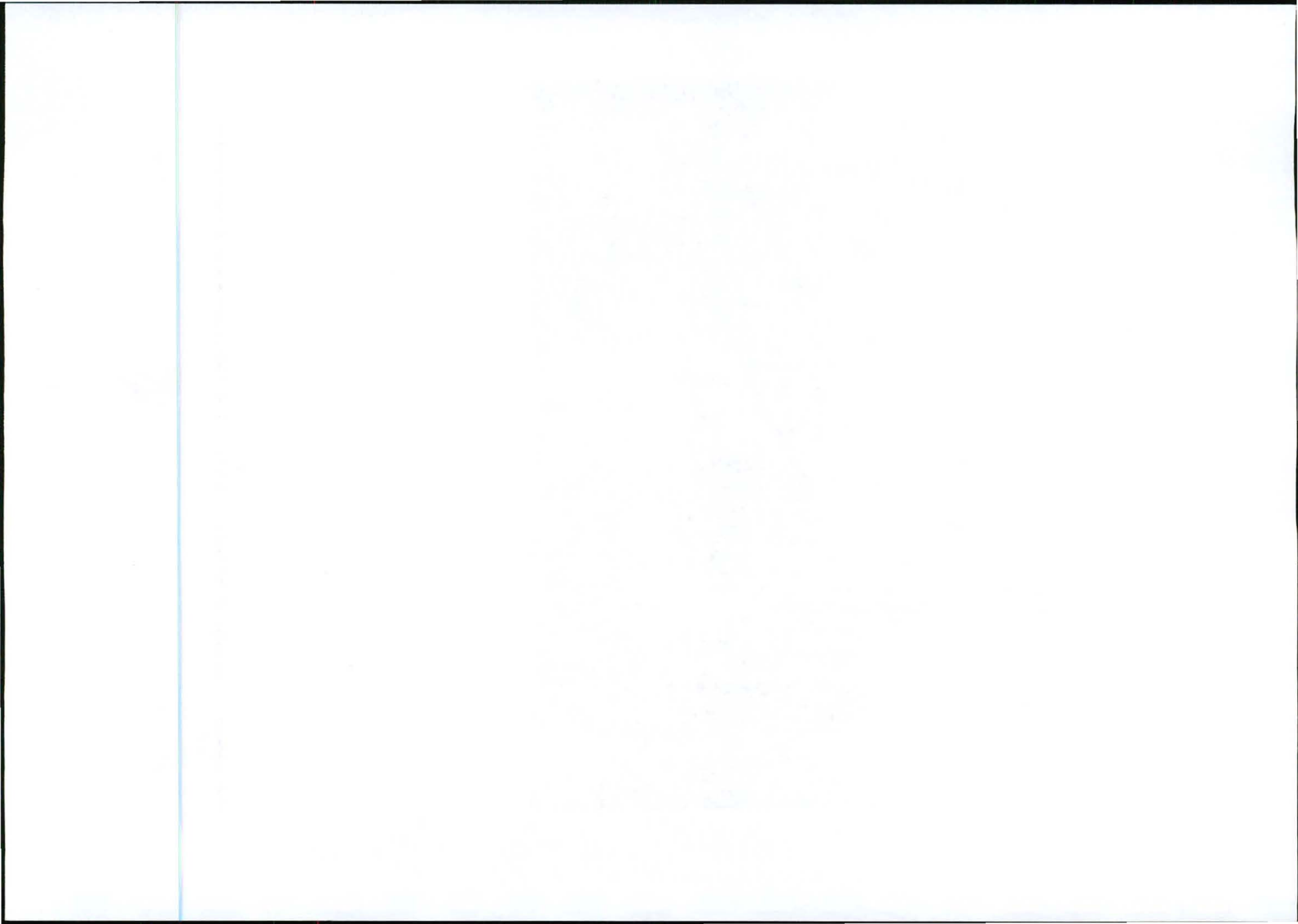
Existing access road from R36 to mining area.



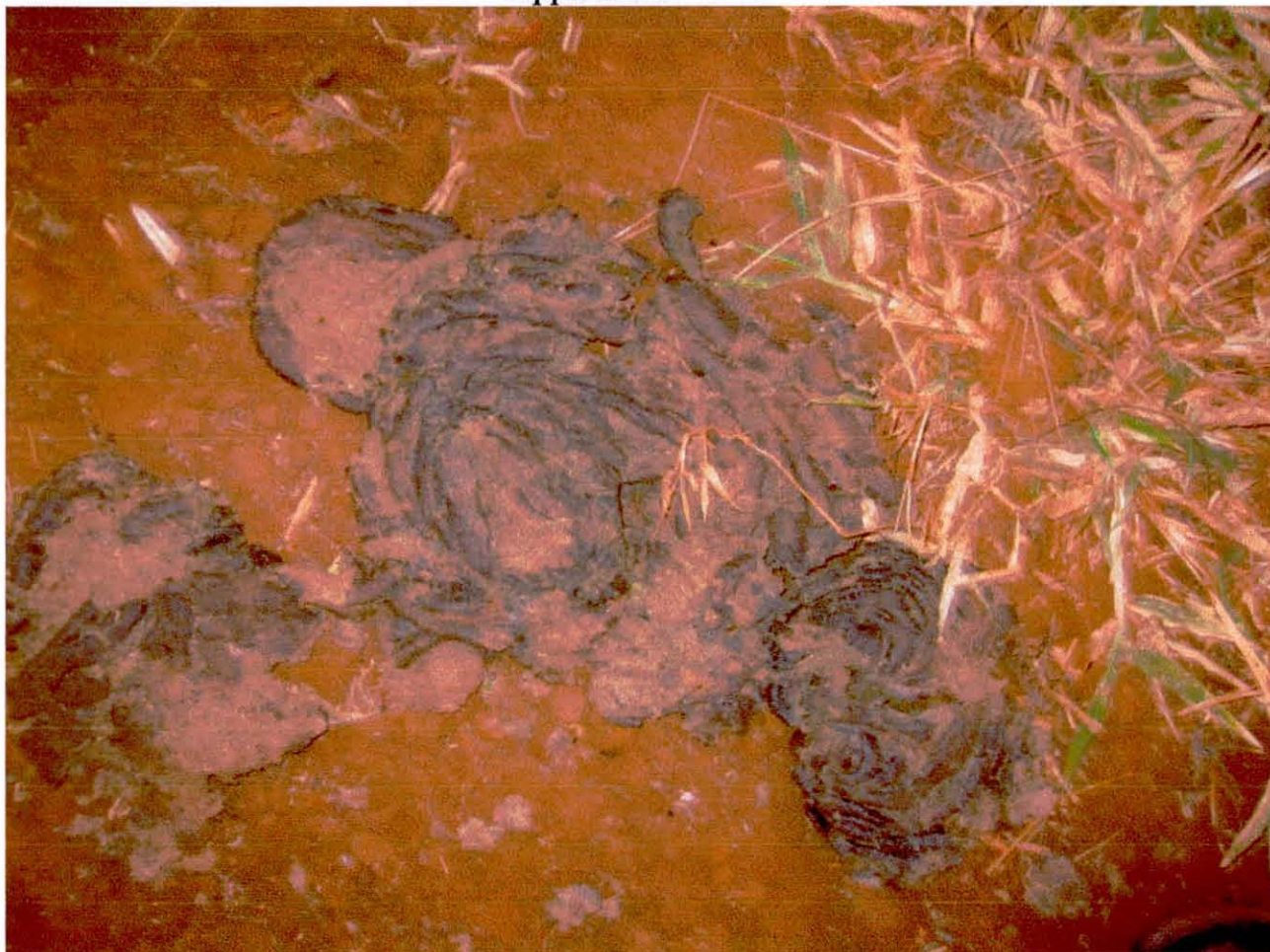
Appendix 2



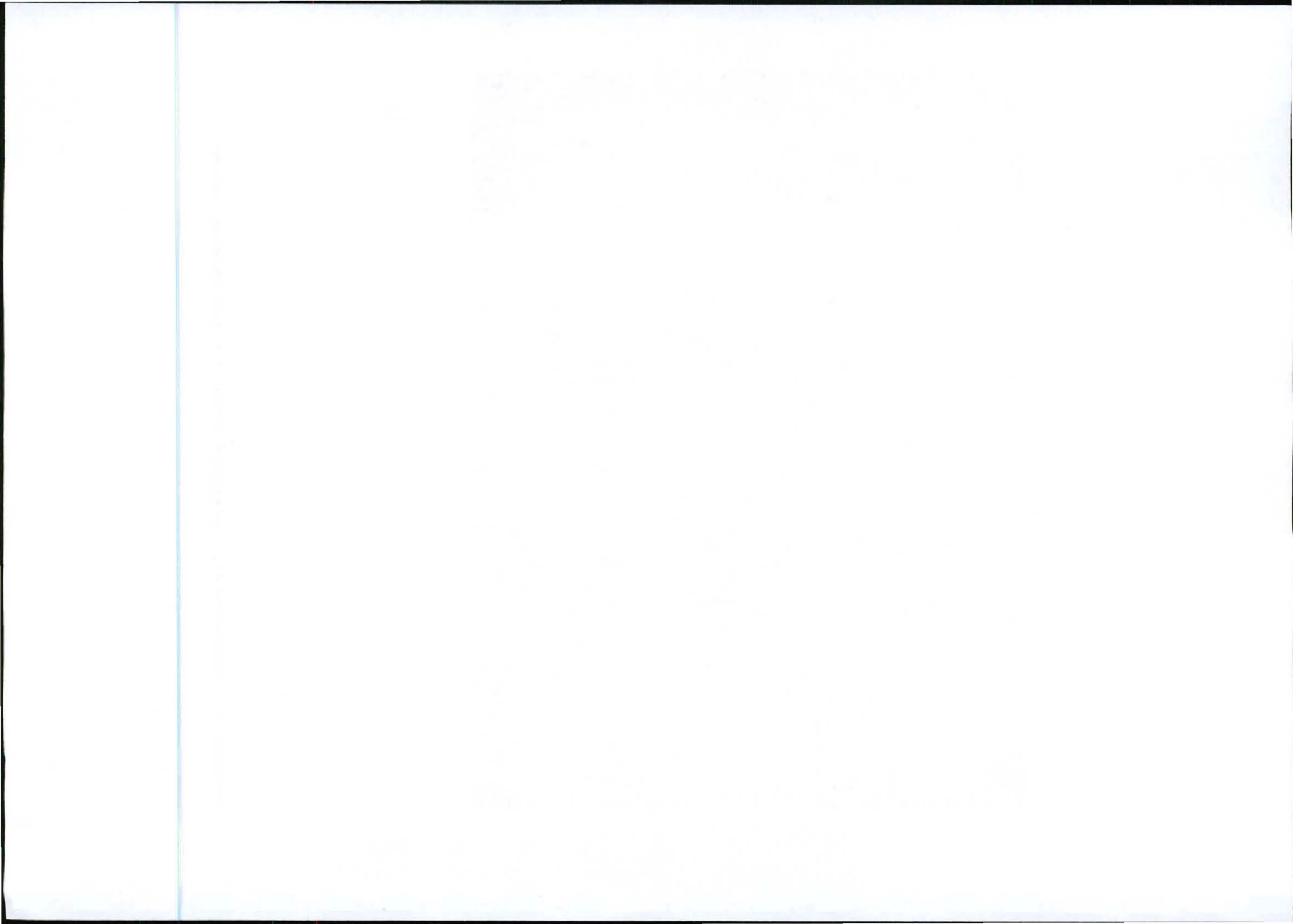
The Florishing Savannah vegetation.



Appendix 3



Predominant use of the land is for grazing.



Appendix 4



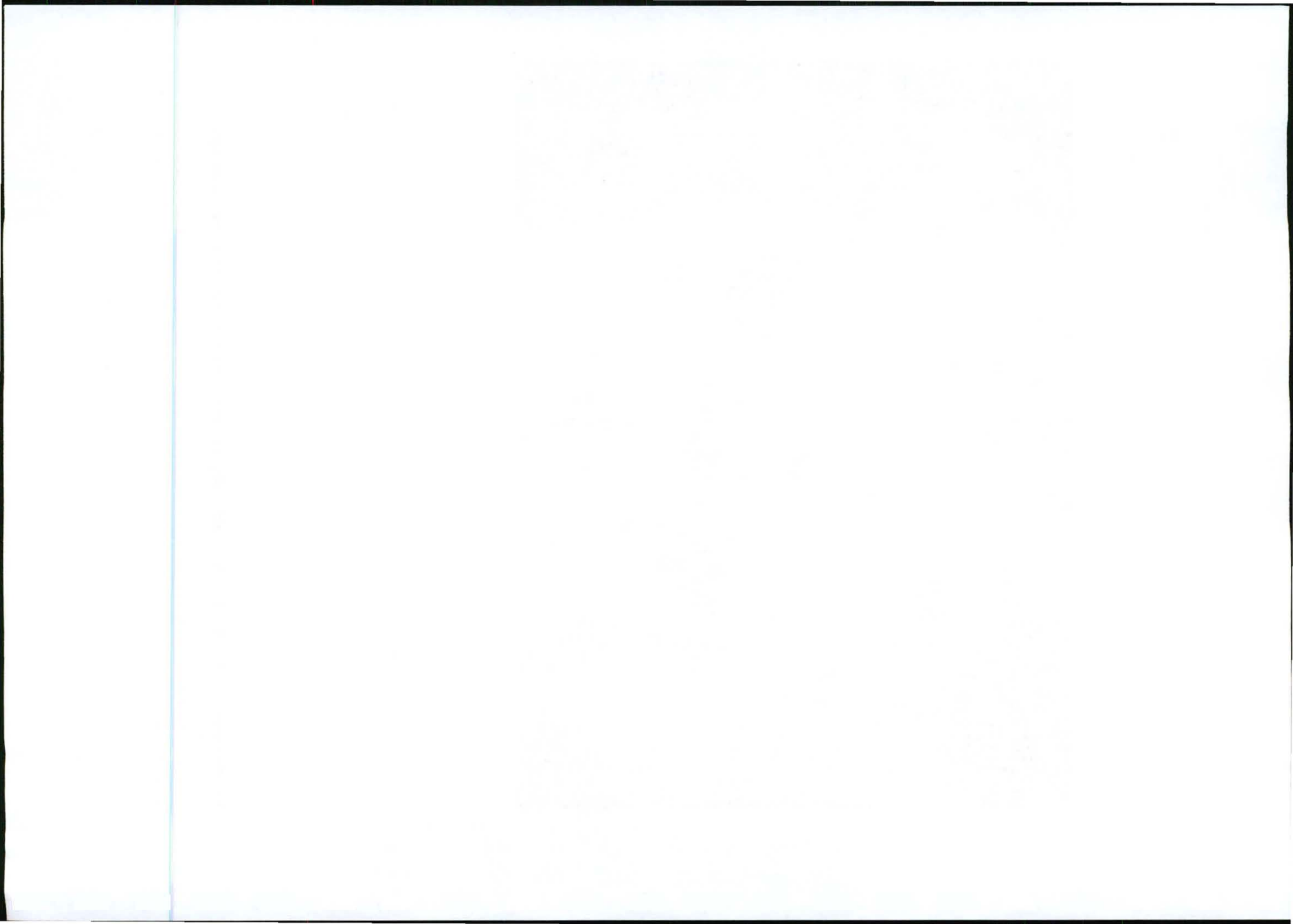
The Land is a habitat for some burrowing faunal species.



Appendix 5



Evidence to the existence of Kudu.



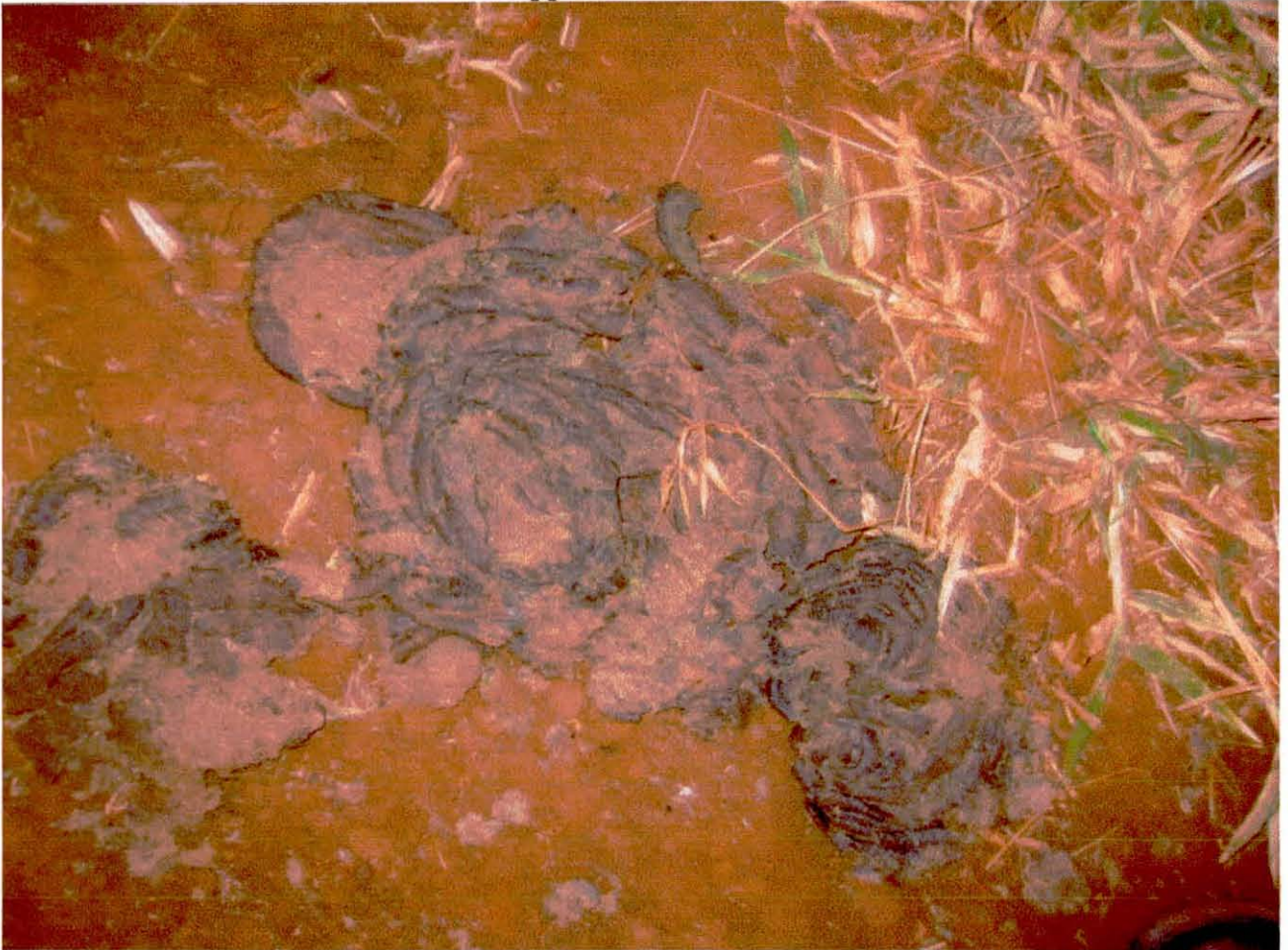
Appendix 2



The Florishing Savannah vegetation.

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Appendix 3



Predominant use of the land is for grazing.

Appendix 4



The Land is a habitat for some burrowing faunal species.

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Appendix 5



Evidence to the existence of Kudu.



