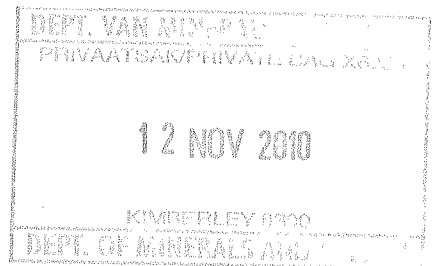


File number: NC-S 30/5/1/1/1952MP

DEPARTMENT OF MINERALS AND ENERGY

ENVIRONMENTAL MANAGEMENT PLAN

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



Application for a:

| | |
|---------------|--|
| Mining Permit | |
|---------------|--|

Applicant: Dart Mining CC Reg. No. 2004/066296/23

Farm: Portion 3 Macarthy No 559

District: Kuruman

Mineral: Clay (General)

Date: 14 October 2010

Contents

| | | |
|---|--|---------|
| Section A: | | |
| A.1 | Introduction | Page 3 |
| A.2 | Scope | Page 3 |
| A.3 | Purpose | Page 3 |
| A.4 | Use of the document | Page 4 |
| A.5 | Legislation/ Regulations | Page 4 |
| A.6 | Other relevant legislation | Page 5 |
| A.7 | Word definitions | Page 6 |
| | | |
| Section B: | | |
| B.1 | Biographical information about the applicant | Page 7 |
| | | |
| Section C: | | |
| C 1 - 5 | Environmental Impact Assessment/ information about the environment | Page 8 |
| C 6 | Specific Regulatory requirements | Page 12 |
| | | |
| Section D: | | |
| D | Scoring of the EIA | Page 18 |
| | | |
| Section E: | | |
| E | Undertaking by applicant | Page 19 |
| | | |
| Section F: | | |
| F | Environmental Management Plan | Page 20 |
| | | |
| Section G: | | |
| G | Specific additional requirements determined by the Regional Manager and agreed to by the Applicant | Page 41 |
| | | |
| Section H: | | |
| H | Undertaking | Page 42 |
| | | |
| Section J: | | |
| J | Approval | Page 43 |
| | | |
| Appendices: | | |
| Appendix 1: Plans | | |
| Appendix 2: Estimation of rehabilitation cost | | |
| Appendix 3: Consultation with interested and affected parties | | |

A.1 INTRODUCTION

This document aims to provide a standard for applicants for 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.

Typically, operations in this sector of the mining industry:

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

A.3 PURPOSE

This document aims to:

- Provide a national standard for the submission of Environmental Management Plans for the types of applications mentioned above.
- Ensure compliance with Regulation 52 of the MPRDA.
- Assist applicants by providing the information that the Department of Minerals and Energy (DME) requires in a simple language and in a structured, prescribed format, as contemplated in Regulation 52 (2) of the (MPRDA).
- Assist regional offices of the DME to obtain enough information about a proposed mining 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 supply applicants with guidance on environmental management matters pertaining to the mitigation of environmental impacts arising from their operations.

A.4 USE OF THE DOCUMENT:

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 scoring of these for the impact assessment rating is done in Section D.

Section F (the Environmental Management Plan) of the document is prescriptive and gives guidance to the miner 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 |

| Section of Act | Legislated Activity/ Instruction/ Responsibility or failure to comply | Penalty in terms of Section 99 |
|----------------|--|---|
| 26(3) | A person who intends to beneficiate any mineral mined in SA outside the borders of SA may only do so after notifying the Minister in writing and after consultation with the Minister. | R 500 000 for each day of contravention |
| 28 | Holder of a mining right or permit must keep records of operations and financial records AND must submit to the DG: monthly returns, annual financial report and a report detailing compliance with social & labour plan and charter | R 100 000 or two years imprisonment or both |
| 29 | Minister may direct owner of land or holder/applicant of permit/right to submit data or information | R 10 000 |
| 38(1)(c) | Holder of permission/permit/right MUST manage environmental impacts according to EMP and as ongoing part of the operations | R 500 000 or ten years imprisonment or both. |
| 42(1) | Residue stockpiles must be managed in prescribed manner on a site demarcated in the EMP | A fine or imprisonment of up to six months or both |
| 42(2) | No person may temporarily or permanently deposit residue on any other site than that demarcated and indicated in the EMP | A fine or imprisonment of up to six months or both |
| 44 | When any permit/right/permission lapses, the holder may not remove or demolish buildings, which may not be demolished in terms of any other law, which has been identified by the Minister or which is to be retained by agreement with the landowner. | Penalty that may be imposed by Magistrate's Court for similar offence |
| 92 | Authorised persons may enter mining sites and require holder of permit to produce documents/ reports/ or any material deemed necessary for inspection | Penalty as may be imposed for perjury |
| 94 | No person may obstruct or hinder an authorised person in the performance of their duties or powers under the Act. | Penalty as may be imposed for perjury |
| 95 | Holder of a permit/right may not subject employees to occupational detriment on account of employee disclosing evidence or information to authorised person (official) | Penalty as may be imposed for perjury |
| All sections | Inaccurate, incorrect or misleading information | A fine or imprisonment of up to six months or both |
| All sections | Failure to comply with any directive, notice, suspension, order, instruction, or condition issued | A fine or imprisonment of up to six months or both |

A.6 OTHER RELEVANT LEGISLATION

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

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

A.7 WORD DEFINITIONS

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

| | |
|----------------------|---|
| Act (The Act) | Mineral and Petroleum Resources Development Act, 2002 (Act 28 of 2002) |
| Borehole | A hole drilled for the purposes of prospecting i.e. extracting a sample of soil or rock chips by pneumatic, reverse air circulation percussion drilling, or any other type of probe entering the surface of the soil. |
| CARA | The Conservation of Agricultural Resources Act |
| EIA | An Environmental Impact Assessment as contemplated in Section 38(1) (b) of the Act |
| EMP | an Environmental Management Plan as contemplated in Section 39 of the Act |
| Fauna | All living biological creatures, usually capable of motion, including insects and predominantly of protein-based consistency. |
| Flora | All living plants, grasses, shrubs, trees, etc., usually incapable of easy natural motion and capable of photosynthesis. |
| Fence | A physical barrier in the form of posts and barbed wire and/or "Silex" or any other concrete construction, ("palisade" - type fencing included), constructed with the purpose of keeping humans and animals within or out of defined boundaries. |
| House | any residential dwelling of any type, style or description that is used as a residence by any human being |
| NDA | National Department of Agriculture |
| NWA | National Water Act, Act 36 of 1998 |
| Pit | Any open excavation |
| "Porrel" | The term used for the sludge created at alluvial diamond diggings where the alluvial gravels are washed and the diamonds separated in a water-and-sand medium. |
| Topsoil | The layer of soil covering the earth which- <ul style="list-style-type: none"> (a) provides a suitable environment for the germination of seed; (b) allows the penetration of water; (c) is a source of micro-organisms, plant nutrients and in some cases seed; and (d) is not of a depth of more than 0,5 metres or such depth as the Minister may prescribe for a specific prospecting or exploration area or mining area. |
| Trench | A type of excavation usually made by digging in a line towards a mechanical excavator and not pivoting the boom – a large, U-shaped hole in the ground, with vertical sides and about 6 – 8 metres in length. Also a prospecting trench. |
| Vegetation | Any and all forms of plants, see also Fauna |
| DWAF | The Department of Water Affairs and Forestry – both national office and their various regional offices, which are divided across the country on the basis of water catchment areas. |
| MPRDA | the Mineral and Petroleum Resources Development Act, 2002 (Act 28 of 2002) |
| EMPlan | An Environmental Management Plan as contemplated in Regulation 52 of the Mineral and Petroleum Resources Development Act, 2002 (Act 28 of 2002) – this document. |

B. BIOGRAPHIC DETAILS OF THE APPLICANT:

| | | | |
|---|--|--------------------|--|
| B 1.1 Full name of Cc applying for permit | Dart Mining CC | | |
| B 1.2 CC registration number | 2004/066296/23 | | |
| B 1.3 Postal address | P.O. Box 517 | | |
| | Upington | | |
| | 8800 | | |
| B 1.4 Physical/ residential address | 03 Moller Street | | |
| | Upington | | |
| | 8800 | | |
| B 1.5 Applicant's telephone number | 054 3311538 | | |
| B 1.6 Applicant's fax number | 086 5470905 | | |
| B 1.7 Alternative contact's name | C. M. Joubert | | |
| B 1.8 Alternative contact's cell phone numbers | 082 9698794 carinusjoubert @telkomsa.net | | |
| B 2.1 Full name of the property on which mining operations will be conducted | Ptn 3 Macarthy 559 | | |
| B 2.2 Name of the subdivision | N.A. | | |
| B 2.3 Approximate center of mining area: | Latitude | S27.93460 ° | |
| | Longitude | E23.01115 ° | |
| B 2.4 Magisterial district | Kuruman | | |
| B 2.5 Name of the registered owner of the property | Coenraad H. Kotze | | |
| B 2.6 Telephone number | | | |
| B 2.7 Postal address | P.O. Box 4 | | |
| | Postmasburg | | |
| | 8420 | | |
| B 2.8 Current uses of surrounding areas | | | |
| | Small stock farming | | |
| B 2.9 Are there any other, existing land uses that impact on the environment in the proposed mining area? | | | |
| | Agriculture and historic clay mining operations | | |
| B 2.10 What is the name of the nearest town? | | | |
| | Olifantshoek 25Km West | | |

C. ENVIRONMENTAL IMPACT ASSESSMENT:

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

| | | | |
|--|---|----------|---|
| C.1 DESCRIPTION OF THE ENVIRONMENT LIKELY TO BE AFFECTED BY PROPOSED MINING OPERATIONS: (REGULATION 52(2)(a)) | | | |
| C 1.1 What does the landscape surrounding the proposed operation looks like? | | | |
| Savanna type landscape. | | | |
| C 1.2 Describe the type of soil found on the surface of the site | White sand with clay 1 to 2 meters deep. | | |
| C 1.3 How deep is the topsoil? | 0 – 300mm | | 8 |
| | 300 – 600mm | | 4 |
| | 600mm + | X | 2 |

| | | | |
|---|-----|---|---|
| C 1.4 What <i>plants, trees and grasses</i> grow naturally in the area around the site? | | | |
| Typical Savanna dominated by grasses including <i>Stipagrostis ciliata</i> , <i>Panicum coloratum</i> , <i>Schmidtia kalahariensis</i> and <i>Eragrostis lehmanniana</i> with the tree component represented by <i>Acacia ereoloba</i> , <i>A. melifera</i> , <i>A. haematoxylon</i> , <i>Ziziphus micronata</i> and <i>Boscia albitrunca</i> . | | | |
| C 1.5 What <i>animals</i> naturally occur in the area? | | | |
| Various small mammals and reptiles. Larger herbivore species are only represented by migratory Kudu due to the conflicting land use. | | | |
| C 1.6 Are there any <i>protected areas</i> close to the proposed operation? | Yes | | 4 |
| | No | X | 0 |
| C 1.7 What mineral are you going to prospect or mine for? | | | |
| Clay | | | |
| C 1.8 Describe the type of equipment that will be used: | | | |
| The clay material would be excavated by hydraulic excavator and loaded onto a dumper. From the pit it will be transported and dumped at the clay plant which will be no more than 200m away. At the plant it will be loaded into an electric driven conveyor belt feeder bin which will feed the material into an electrical driven Hazemag Impactor which will break down the clay in size to a powder form. The powder will be fed into a mixer which will bring the moisture content to about 15% by mixing water into the clay. From the mixer it will be fed directly into an extruder which will compress and feed the now elastic clay into a sausage like form where the cutter will automatically cut the clay into the brick size and feed it onto a conveyor. From the conveyor the raw bricks will be hand stacked to dry in the sun. After drying the raw bricks will be stacked into combustion ovens and burnt with a percentage of coal to produce a hard burnt clay brick as we know it. | | | |

| C.2 HOW WILL THE PROPOSED OPERATION IMPACT ON THE NATURAL ENVIRONMENT? (REGULATION 52(2)(b)) | | | |
|--|---------------------------|------|------------|
| ENVIRONMENTAL ELEMENT/ IMPACTOR | VALUE | TICK | OFFICE USE |
| C 2.1 What will the ultimate depth of the proposed mining operations be? | 0 – 5m | X | 2 |
| | 6 – 10m | | 4 |
| | 10 – 25m | | 8 |
| | 25m + | | 10 |
| C 2.2 How large will the <i>total</i> area of all excavations be? | | | 1 Ha |
| C 2.3 How large will each excavation be before it is filled up? | <10 X 10m | | 2 |
| | <20 X 20m | | 4 |
| | >20 X 20m | X | 8 |
| C 2.4 How many <i>prospecting</i> boreholes or trenches will there be? | N.A. | | |
| C 2.5 Will employees prepare food on the site and collect firewood? | Yes | | 4 |
| | No | X | 0 |
| C 2.6 Will water be extracted from a river, stream, dam or pan for use by the proposed operation? | Yes | | 4 |
| | No | X | 2 |
| C 2.7 If so, what is the name of this water body? | N.A. | | |
| C 2.8 If water will not be extracted from an open surface source, where will it be obtained? | From borehole on the farm | | |

| | | | |
|--|-----------------------------|--------|--------|
| C 2.9 How much water per day will the <i>mineral processing</i> operation require? | 1000 – 10 000 Liters | X | 2 |
| | 20 000 – 40 000 L | | 3 |
| | 40 000 – 60 000 L | | 5 |
| | 60 000 – 100 000L | | 8 |
| | More | | 10 |
| C 2.10 How far is the operation from open water? | 0 – 15m | | 8 |
| | 16 – 30m | | 6 |
| | 31 – 60m | | 4 |
| | More than 60 meters | X | 2 |
| C 2.11 What is the estimate depth of the water table? | | 80-100 | meters |
| C 2.12 Water per day utilize for <i>employees</i> ? | | 200 | Liters |
| C 2.13 What toilet facilities will be made available to workers? | None | | 8 |
| | Pit latrine (longdrop) | | 4 |
| | Chemical toilet | X | 2 |
| C 2.14 Would it be necessary to construct roads to access the proposed operations? | Yes | | 4 |
| | No | X | 0 |
| C 2.15 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 | | 2 |
| | N.A. see 2.14 1,6 – 3 km | | 4 |
| C 2.16 Will trees be uprooted to construct these access road(s)? | Yes | | 4 |
| | No | X | 0 |
| C 2.17 Will any foreign material be placed on the road surface? | Yes | | 4 |
| | No | X | 0 |
| C.3 TIME FACTOR | | | |
| C 3.1 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 |

| C.4 IMPACT ON THE SOCIO-ECONOMIC ENVIRONMENT? (REGULATION 52(2)(b)) | | | |
|---|------------------|------|------------|
| ELEMENT/ IMPACTOR | VALUE | TICK | OFFICE USE |
| C 4.1 How many people will be employed? | • 15 | | |
| C 4.2 How many men? | • 10 | | |
| C 4.3 How many women? | • 5 | | |
| C 4.4 Where will employees be obtained? | Own | | 2 |
| | Local | X | 4 |
| C 4.5 How many hours per day will employees work? | Sunrise → Sunset | | 4 |
| | Less | X | 2 |
| | More | | 8 |
| C 4.6 Will operations be conducted within 1 kilometer from a residential area | Yes | | 6 |
| | No | X | 1 |

| | | | |
|---|--------------------|---|---|
| C 4.7 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 |

| | | | |
|---|-----|---|---|
| C.5 HOW WILL THE PROPOSED OPERATION IMPACT ON THE CULTURAL HERITAGE OF THE SURROUNDING ENVIRONMENT? REGULATION 52(2)(b) | | | |
| C 5.1 Are there any graveyards or old houses or sites of historic significance within 1 kilometer of the area? | Yes | | 8 |
| | No | X | 0 |
| <p>No fossils have yet been reported in the adjacent mining operation and there is very little chance of fossils being present. Should any fossils be discovered or unearthed in the process of mining, the permit holder will contact a South African Museum or University which employs palaeontologists so that the necessary palaeontological salvage operations can take place. No other heritage resources such as built structures over 60 years old, sites of cultural significance associated with oral histories, burial grounds and graves, graves of victims of conflict, and cultural landscapes or views are present on the 1.5 Ha mining area.</p> | | | |

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: | |
| Mining operation will have no impact on the quality of the air only the dust caused by the trucks transporting the bricks will have an insignificant impact. The impact will be managed by road maintenance and speed control to mitigate the impact. Smoke from the combustion ovens will also be minimal and will have no impact due to the remote locality of the brick yard. | |
| C.6.2 Fire Prevention (Regulation 65) | |
| Applicants for permits, rights or permissions involving <u>coal or bituminous rock</u> must: | |
| <ul style="list-style-type: none"> • 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 an application for <u>coal or bituminous rock</u> | |
| C.6.3 Noise control (Regulation 66) | |
| Indicate how much noise the operation will generate, and how it will impact on the surrounding environment, who might be influenced by noise from your operation. | |
| The excavator and dump trucks to be used will be equipped with approved silencers. The noise from the operation will be within the norm and due to the remoteness of the operation there will be no significant noise impact. | |
| C.6.4 Blasting, vibration and shock (Regulation 67) | |
| Please indicate whether any blasting operations will be conducted. | |
| Blasting: | No How often? |

C.6.5 Disposal of waste material (Regulation 69)

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

No mine residue will be generated during the mining operation so therefore no waste dumps will be constructed. Mining will take place in a cut and fill method were all overburden will be back rolled into the excavated areas and covered with topsoil. Suitable covered receptacles will be available at all times and conveniently placed for the disposal of domestic waste and will be disposed of on a regular basis at the municipal waste dump in Olifantshoek. No waste will be buried or burned on the site.

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

6.6.1 Indicate how topsoil will be handled on the area.

Mining will take place in a cut and fill method were all overburden will be back rolled into the excavated areas and covered with topsoil.

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

Accidental spillage can only occur while refuelling the excavator from the mobile fuel tanker. A PVC facility will be used while refuelling and in the case of accidental spillage the contaminated clay will be collected and used in the making of bricks. All major repairs will be done at the service station in Olifantshoek and minor repairs and service of the excavator will be done making use of a PVC lining.

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

None of the fluids will be stored at the site and will be transported from Olifantshoek as needed. Only a mobile fuel tanker will be used on site as fuel for the excavator. The trucks will be filled up in Kuruman or Olifantshoek during hauling operations.

| | |
|--|---|
| <p>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))</p> | <p>C.6.8 How will the negative impacts on the environment be mitigated or managed (as described in C 6.7 to the left? (Regulation 57(2)(c))</p> |
| <p>1 Section C1.1 Landscape: There will be a significant impact on the landscape due to the excavations.</p> | <p>The impact will only be temporary as the existing disturbances in the form of overburden dumps and excavations will be rehabilitated as part of this operation. New excavations will be in the form of cut and fill with no waste dumps present above surface. Waste bricks will be crushed and removed from the site to be used as gravel.</p> |
| <p>Section C1.4 Vegetation: There will be a significant impact on the vegetation, as it will be completely removed within the excavation area.</p> | <p>The impact will only be temporary as vegetation consists mainly of pioneer tree species that will re-establish itself after mining. Germination is promoted by disturbance and a seed bank is present in the surrounding area. The mitigating measures in the form of ripping of compacted areas and replacing of topsoil will also promote natural re-vegetation.</p> |

C.7 Financial provision: (Regulation 54)

The amount that is necessary for the rehabilitation of damage caused by the operation, both at 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 appendix 2. This amount will reflect how much will it cost the Department to rehabilitate the area disturbed in case of liquidation or abscondence.

| |
|---|
| Enter the amount of financial provision required here: R 30 000.00 (see appendix 2) |
|---|

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) | |

C.8.1 Monitoring and performance assessment.

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

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

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. Regular monitoring of all the environmental management measures and components shall be carried out to ensure that the provisions of this program are adhered to.

Inspections and monitoring shall be carried out on both the implementations of the program and the impact on the environment. Visual inspections on erosion and physical pollution shall be carried out on a regular basis.

Layout plans will be updated on a regular basis and updated copies will be submitted on a annual basis to the Regional Manager together with a performance assessment and update of the financial provision for rehabilitation.

Reports confirming compliance with various points identified in the environmental management program will be submitted to the Regional Manager on a regular basis and as decided by the said manager.

Any emergency or unforeseen impact will be reported as soon as possible. An assessment of environmental impacts that were not properly addressed or were unknown when this program was compiled shall be carried out and added as a corrective action.

An open line of communication will also be kept with all interested and affected parties including the landowner during the life of the operation and any new input will be communicated to DME and recorded and addressed in the EMP.

| |
|---|
| C.9 Closure and Environmental objectives: (Regulation 52(2)(f)) |
| C.9.1 Clearly state the intended end use for the area prospected/mined after closing of operations |
| The environment affected by the prospecting operations shall be rehabilitated, as far, as is practicable, to its natural state. Land use will be the same as before mining with the same production with regard to grazing. 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. |
| C.9.2 Describe, in brief terms, what the environment will look like after a closure certificate has been obtained. |
| All overburden including historic dumps will be back filled into the excavation and profiled to form an even depression. The area will then be covered with topsoil previously stored with erosion control measures to promote re-vegetation. The goal of rehabilitation with respect to the area where mining has taken place is to leave the area even, and in a natural state containing no foreign debris or other materials. All scrap and other foreign materials will be removed from the bed of the river and disposed of as in the case of other refuse, whether these accrue directly from the mining operation or are brought in from outside. Removal of these materials shall be done on a continuous basis and not only at the start of rehabilitation. An effective control program for the eradication of invader species and other exotic plants shall be instituted on a regular basis over the entire mining area under the control of the holder of the mining permit, both during mining and at the stage of final rehabilitation. All roads used will be repaired or rehabilitated if not needed by the landowner. All stockpiles will be removed and areas compacted by hauling operations will be ripped and profiled. |
| The proposed end-state of the area will be consulted with interested and affected parties in terms of Regulation 52(2)(g). Details of the acceptability of the end-state is attach as appendix 3. |

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.

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.

A list with the names of people or organisations likely to be influenced by the proposed operations is attached as appendix 3.

D SCORING OF EIA- FOR OFFICIAL USE ONLY

D 1.1 CALCULATION TABLE

| | | | | | | | | | | | | |
|--------------------------------|---|--------------------------------|---|--------------------------------|---|--------------------------------|---|-----------------|---|-----------------------------------|---|-----------------------------|
| Section C 1 Total | + | Section C 2 Total | + | Section C 4 Total | + | Section C 5 Total | = | <u>Subtotal</u> | X | Time Factor Section C 3 | = | 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:

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

Signed on this 19th day of October 2010 at Upington



.....
C.M. Joubert
Dart Mining CC

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 after approval of the Environmental Management Plan. **It is essential that this portion be carefully studied, understood, implemented and adhered to at all time.**

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 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.

F 1.1.2 DEMARCATING THE MINING AREA

- The mining 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 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 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 1.4 of the EMPlan and indicated on the layout plan.
- The holder of the mining permit will also be required to permanently demarcate the areas as specified in F 1.1.2.

F 1.2 RESTRICTIONS ON MINING

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

F 1.3 RESPONSIBILITY

- The environment affected by the mining 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 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 area outside the 1:50 flood level within the boundaries of the mining area.
- 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 area 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.
 - Watercourses 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.

F 2.2.2 Maintenance of access roads

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

F 2.2.3 Dust control on the access and haul roads

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

F 2.2.4 Rehabilitation of access roads

- Whenever a mining permit is suspended, cancelled or abandoned or if it lapses and the holder does not wish to renew the permit or right, any access road or portions thereof, constructed by the holder and which will no longer be required by the landowner/tenant, shall be removed and/or rehabilitated to the satisfaction of the Regional Manager.

- Any gate or fence erected by the holder which is not required by the landowner/tenant, shall be removed and the situation restored to the pre mining situation.
- Roads shall be ripped or ploughed, and if necessary, appropriately fertilised (based on a soil analysis) to ensure the regrowth of vegetation. Imported road construction materials which may hamper regrowth of vegetation must be removed and disposed of in an approved manner prior to rehabilitation.
- If a reasonable assessment indicates that the re-establishment of vegetation is unacceptably slow, the Regional Manager may require that the soil be analysed and any deleterious effects on the soil arising from the mining operation, be corrected and the area be seeded with a seed mix to the Regional Manager's specification.

F 2.3 OFFICE/CAMP SITES

F 2.3.1 Establishing office / camp sites

- Office and camp sites shall be established, as far as is practicable, outside the flood plain, above the 1 in 50 flood level mark within the mining area.
- The area chosen for these purposes shall be the minimum reasonably required and which will involve the least disturbance to vegetation. Topsoil shall be handled as described in F 2.1 above
- No camp or office site shall be located closer than 100 meters from a water body.
- No trees or shrubs will be felled or damaged for the purpose of obtaining firewood, unless agreed to by the landowner/tenant.
- Fires will only be allowed in facilities or equipment specially constructed for this purpose. If required by applicable legislation, a fire-break shall be cleared around the perimeter of the camp and office sites.
- Lighting and noise disturbance or any other form of disturbance that may have an effect on the landowner/tenant/persons lawfully living in the vicinity shall be kept to a minimum.

F 2.3.2 Toilet facilities, waste water and refuse disposal

- As a minimum requirement, the holder of a mining permit shall, at least, provide pit latrines for employees and proper hygiene measures shall be established.
- Chemical toilet facilities or other approved toilet facilities such as a septic drain shall preferably be used and sited on the camp site in such a way that they do not cause water or other pollution.
- The use of existing facilities must take place in consultation with the landowner/tenant.
- In cases where facilities are linked to existing sewerage structures, all necessary regulatory requirements concerning construction and maintenance should be adhered to.
- All effluent water from the camp washing facility shall be disposed of in a properly constructed French drain, situated as far as possible, but not less than 200 metres, from any stream, river, pan, dam or borehole.

- Only domestic type wash water shall be allowed to enter this drain and any effluents containing oil, grease or other industrial substances must be collected in a suitable receptacle and removed from the site, either for resale or for appropriate disposal at a recognised facility.
- Spills should be cleaned up immediately to the satisfaction of the Regional Manager by removing the spillage together with the polluted soil and by disposing of them at a recognised facility.
- Non-biodegradable refuse such as glass bottles, plastic bags, metal scrap, etc., shall be stored in a container at a collecting point and collected on a regular basis and disposed of at a recognised disposal facility. Specific precautions shall be taken to prevent refuse from being dumped on or in the vicinity of the camp site.
- Biodegradable refuse generated from the office/camp site, processing areas vehicle yard, storage area or any other area shall either be handled as indicated above or be buried in a pit excavated for that purpose and covered with layers of soil, incorporating a final 0,5 metre thick layer of topsoil (where practicable). Provision should be made for future subsidence of the covering.

F 2.3.3 Rehabilitation of the office/camp site

- On completion of operations, all buildings, structures or objects on the camp/office site shall be dealt with in accordance with section 44 of the Mineral and Petroleum Resources Development Act, 2002 (Act 28 of 2002).
- Where office/camp sites have been rendered devoid of vegetation/grass or where soils have been compacted owing to traffic, the surface shall be scarified or ripped.
- Areas containing French drains shall be compacted and covered with a final layer of topsoil to a height of 10cm above the surrounding ground surface.
- The site shall be seeded with a vegetation seed mix adapted to reflect the local indigenous flora.
- If a reasonable assessment indicates that the re-establishment of vegetation is unacceptably slow, the Regional Manager may require that the soil be analysed and any deleterious effects on the soil arising from the mining operation be corrected and the area be seeded with a vegetation seed mix to his or her specification.
- Photographs of the camp and office sites, before and during the mining operation and after rehabilitation, shall be taken at selected fixed points and kept on record for the information of the Regional Manager.

F 2.4 VEHICLE MAINTENANCE YARD AND SECURED STORAGE AREAS

F 2.4.1 Establishing the vehicle maintenance yard and secured storage areas

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

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

F 2.4.2 Maintenance of vehicles and equipment

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

F 2.4.3 Waste disposal

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

F 2.4.4 Rehabilitation of vehicle maintenance yard and secured storages areas

- On completion of mining operations, the above areas shall be cleared of any contaminated soil, which must be dumped as referred to in section F 2.4.3 above.
- All buildings, structures or objects on the vehicle maintenance yard and secured storage areas shall be dealt with in accordance with section 44 of the Mineral and Petroleum Resources Development Act, 2002.
- The surface shall then be ripped or ploughed to a depth of at least 300mm and the topsoil previously stored adjacent the site, shall be spread evenly to its original depth over the whole area. The area shall then be fertilised if necessary (based on a soil analysis).
- The site shall be seeded with a vegetation seed mix adapted to reflect the local indigenous flora.
- If a reasonable assessment indicates that the re-establishment of vegetation is unacceptably slow, the Regional Manager may require that the soil be analysed and any deleterious effects on the soil arising from the mining operation be corrected and the area be seeded with a seed mix to his or her specification.

F 3 OPERATING PROCEDURES IN THE MINING AREA

F 3.1 Limitations on mining

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

F 3.2 Mining operations within the riverine environment

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

- The mining for precious stones in the river or the banks of the river will be undertaken only after the Regional Manager has consulted with the Department of Water Affairs and Forestry.
- The canalisation of a river will not be undertaken unless the necessary permission has been obtained from the Department of Water Affairs and Forestry. Over and above the conditions imposed by the said Department, which conditions shall form part of this EMP, the following will also apply:
 - ❖ The canalisation of the flow of the river over different parts of the river bed shall be constructed in such a manner that the following are adhered to at all times:
 - ◆ The flow of the river may not be impeded in any way and damming upstream may not occur.
 - ◆ The canalisation of the flow may not result in scouring or erosion of the river-bank.
 - ◆ Well points or extraction pumps in use by other riparian users may not be interfered with and canalisation may not impede the extraction of water at these points.

- Access to the riverbed for the purpose of conducting excavations in the river-bed, shall be through the use of only one access at a time. The location of the access to the river channel across the river-bank shall be at a point of the river-bank where the least excavation and damage to vegetation will occur and shall not be wider than is reasonably required. The position of the river access together with all planned future access points, must be indicated on the layout plan.

F 3.2.1 Rehabilitation of access to river-bed

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

F 3.2.2 Rehabilitation of mining area in the bed of the river

- The goal of rehabilitation with respect to the area where mining has taken place in the river-bed is to leave the area level and even, and in a natural state containing no foreign debris or other materials and to ensure the hydrological integrity of the river by not attenuating or diverting any of the natural flow.
- All scrap and other foreign materials will be removed from the bed of the river and disposed of as in the case of other refuse (see section F 2.3.2 above), whether these accrue directly from the mining operation or are washed on to the site from upstream.
- Removal of these materials shall be done on a continuous basis and not only at the start of rehabilitation.
- Where reeds or other riverine vegetation have been removed from areas, these shall be re-established systematically in the approximate areas where they occurred before mining.

- An effective control programme for the eradication of invader species and other exotic plants, shall be instituted on a regular basis over the entire mining area under the control of the holder of the mining permit, both during mining and at the stage of final rehabilitation.

F 3.2.3 THE WATER USE LICENCE

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

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

F 3.3 EXCAVATIONS

F 3.3.1 Establishing the excavation areas

- Whenever any excavation is undertaken for the purpose of locating and/or extracting ore bodies of all types of minerals, including precious stone-bearing gravels, the following operating procedures shall be adhered to:
 - ❖ Topsoil shall, in all cases (except when excavations are made in the river-bed), be handled as described in F 2.1 above.
 - ❖ Excavations shall take place only within the approved demarcated mining area.
 - ❖ Overburden rocks and coarse material shall be placed concurrently in the excavations or stored adjacent to the excavation, if practicable, to be used as backfill material once the ore or gravel has been excavated.
 - ❖ Trenches shall be backfilled immediately if no ore or precious stone-bearing gravel can be located.

F 3.3.2 Rehabilitation of excavation areas

The following operating procedures shall be adhered to:

- The excavated area must serve as a final depositing area for the placement of tailings during processing.
- Rocks and coarse material removed from the excavation must be dumped into the excavation simultaneously with the tailings.
- Waste, as described in paragraph F 2.3.2 above, will not be permitted to be deposited in the excavations.
- Once excavations have been refilled with overburden, rocks and coarse natural materials and profiled with acceptable contours and erosion control measures, the topsoil previously stored, shall be returned to its original depth over the area.

- The area shall be fertilised if necessary to allow vegetation to establish rapidly. The site shall be seeded with a local or adapted indigenous seed mix in order to propagate the locally or regionally occurring flora.
- If a reasonable assessment indicates that the re-establishment of vegetation is unacceptably slow, the Regional Manager may require that the soil be analysed and any deleterious effects on the soil arising from the mining operation, be corrected and the area be seeded with a vegetation seed mix to his or her specification.

F 3.4 PROCESSING AREAS AND WASTE PILES (DUMPS)

F 3.4.1 Establishing processing areas and waste piles

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

F 3.4.2 Rehabilitation of processing areas

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

F 3.5 TAILINGS DAM(S) (SLIMES DAM)

The permission of the Regional Manager must be obtained should a tailings dam be constructed for the purpose of handling the tailings of the mining operations. The construction, care and maintenance of tailings dams have been regulated by Regulation 73 promulgated under the Mineral and Petroleum Resources Development Act, 2002 (Act 28 of 2002).

F 3.6 FINAL REHABILITATION

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

F 4 MONITORING AND REPORTING

F 4.1 Inspections and monitoring

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

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

Monitoring and performance assessments of environmental management programme or plan

- (1) *As part of the general terms and conditions for a prospecting right, mining right or mining permit and in order to ensure compliance with the approved environmental management programme or plan and to assess the continued appropriateness and adequacy of the environmental management programme or plan, the holder of such right must-*
 - (a) *conduct monitoring on a continuous basis;*
 - (b) *conduct performance assessments of the environmental management programme or plan as required; and*
 - (d) *compile and submit a performance assessment report to the Minister to demonstrate adherence to sub-regulation (b).*

- (2) *The frequency of performance assessment reporting shall be-*
 - (a) *in accordance with the period specified in the approved environmental management programme or plan, or, if not so specified;*
 - (b) *as agreed to in writing by the Minister; or*
 - (e) *biennially (every two years).*

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

F 4.2 Compliance reporting / submission of information

- Layout plans will be updated on a regular basis and updated copies will be submitted on a biennial basis to the Regional Manager
- Reports confirming compliance with various points identified in the environmental management programme will be submitted to the Regional Manager on a regular basis and as decided by the said manager .
- Any emergency or unforeseen impact will be reported as soon as possible.

- An assessment of environmental impacts that were not properly addressed or were unknown when the programme was compiled shall be carried out and added as a corrective action.

F 5 CLOSURE

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

F 5.1 ENVIRONMENTAL RISK REPORT

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

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

F 5.2 CLOSURE OBJECTIVES

Closure objectives form part of this EMPlan and must-

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

F 5.3 CONTENTS OF CLOSURE PLAN

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

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

F 5.4 TRANSFER OF ENVIRONMENTAL LIABILITIES TO A COMPETENT PERSON

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

- (1) An application to transfer environmental liabilities to a competent person in terms of section 48) of the Act, must be completed on Form O as set out in Annexure 1 to the Regulations and be lodged to the Minister for consideration.
- (2) The holder of a mining permit may transfer liabilities and responsibilities as identified in the environmental management plan and the required closure plan to a competent person as contemplated in Regulation 58.
- (3) When considering the transfer of environmental liabilities and responsibilities in terms of section 48) of the Act, the Minister must consult with any State department which administers any law relating to matters affecting the environment.

- (4) No transfer of environmental liabilities and responsibilities to a competent person may be made unless the Chief Inspector of Mines and the Department of Water Affairs and Forestry have confirmed in writing that the person to whom the liabilities and responsibilities is transferred to, have the necessary qualifications pertaining to health and safety and management of potential pollution of water resources.

F 5.5 NOTES ON LEGAL PROVISIONS

| | |
|--|---|
| NOTE: | The holder of a mining permit must also take cognisance of the provisions of other legislation dealing with matters relating to conservation, and which include, <i>inter alia</i> , the following: |
| * National Monuments Act, 1969 (Act 28 of 1969). | |
| * National Parks Act, 1976 (Act 57 of 1976) | |
| * Environmental Conservation Act, 1989 (Act 73 of 1989) | |
| * National Environmental Management Act, 1998 (Act No. 107 of 1998) | |
| * Atmospheric Pollution Prevention Act, 1965 (Act 45 of 1965) | |
| * The National Water Act, 1998 (Act 36 of 1998) | |
| * Mine Safety and Health Act, 1996 (Act 29 of 1996) | |
| * The Conservation of Agricultural Resources Act, 1983 (Act 43 of 1983). | |

G. SPECIFIC ADDITIONAL REQUIREMENTS DETERMINED BY THE REGIONAL MANAGER.
 Officials in regional offices may use the following matrix to determine the necessity for additional objectives to be included in this Section of the document:

| POTENTIAL ENVIRONMENTAL IMPACTS OF MINING | | | | | | | | | | |
|---|-------------|------|-------|-------|----------|-----------|-------|-----|-------|--------|
| Activity | Disturbance | | | | | Pollution | | | | Visual |
| | Landform | Soil | Flora | Fauna | Heritage | Land | Water | Air | Noise | |
| Mining | | | | | | | | | | |
| Access | | | | | | | | | | |
| Topsoil removal | | | | | | | | | | |
| Overburden removal | | | | | | | | | | |
| Mineral Extraction | | | | | | | | | | |
| Tailings disposal | | | | | | | | | | |
| Water Abstraction | | | | | | | | | | |
| Pipeline route | | | | | | | | | | |
| Transport | | | | | | | | | | |
| Accommodation | | | | | | | | | | |
| Waste Disposal | | | | | | | | | | |
| Electricity | | | | | | | | | | |
| Hydrocarbon storage | | | | | | | | | | |
| Workforce | | | | | | | | | | |

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

G. This section outlines the specific additional requirements that may be set for the operation by the Regional Manager. Additional requirements will only have been set if the Regional Manager is of the opinion that there are specific impacts on the environment which will not be adequately mitigated by the provisions set within the standard version of the Environmental Management Plan. These requirements form part of the Environmental Management Plan and all elements and instructions contained herein must be complied with by the applicant.

Performance assessments and update of the quantum of financial provision for rehabilitation must be done annually.

H. UNDERTAKING

I, C.M. Joubert, the undersigned on behalf of Dart Mining CC have studied and understand the contents of this document in its entirety and hereby duly undertake to adhere to the conditions as set out therein including the amendment(s) agreed to by the Regional Manager in Section G and approved.

Signed on this 19th day of October 2010 at Upington



C. M. Joubert
Dart Mining CC

J. APPROVAL

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

Signed at..... *KATMUN*this..... *11TH*day of..... *NOVEMBER*2010

.....
REGIONAL MANAGER

REGION: Northern Cape

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

The Director: Mine Environmental Management
 Private Bag X 59
 PRETORIA
 0001

Tel : 012 317 9288
 Fax: 012 320 6786
 E-mail: dorothy@mepta.pwv.gov.za

contemplated in regulation 2(2) read with regulation 2(3) of the Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002)

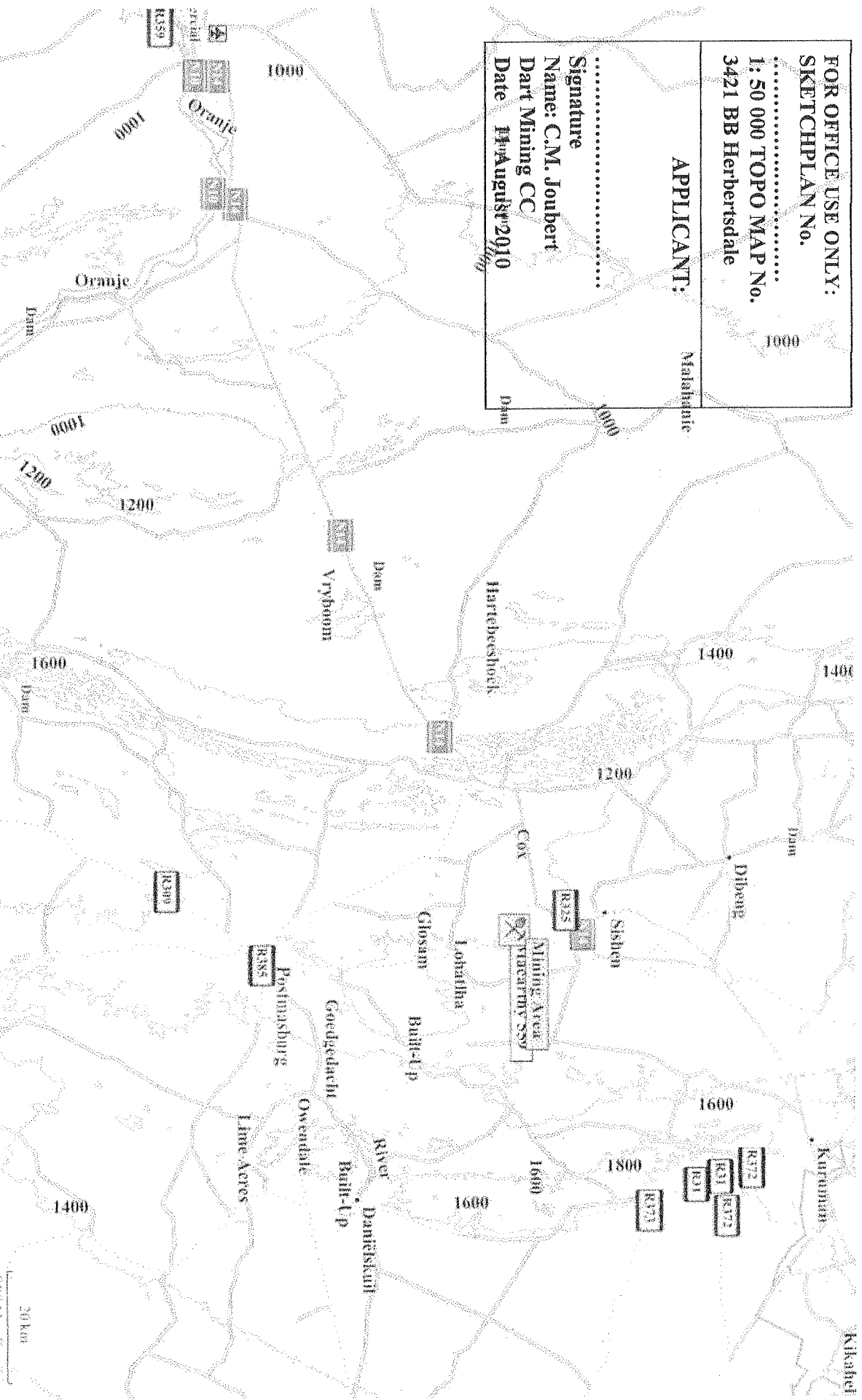
APPENDIX 1a Locality Plan

FOR OFFICE USE ONLY:
SKETCHPLAN No.

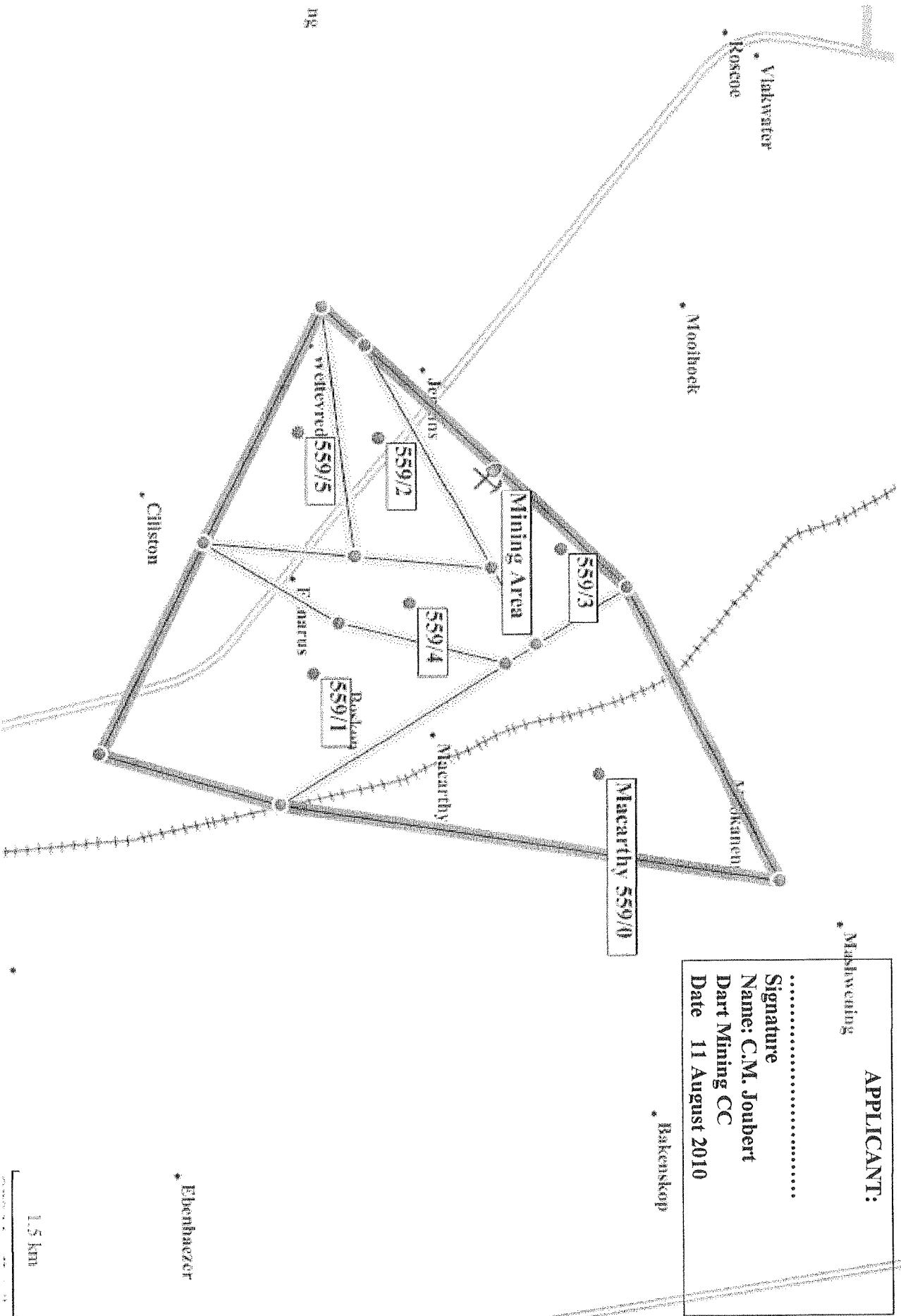
1: 50 000 TOPO MAP No.
3421 BB Herbertsdale

APPLICANT: Malahanie

Signature
 Name: C.M. Jonbert
 Dart Mining CC
 Date 14 August 2010



APPENDIX 1b Locality plan in relation to farm boundaries
 contemplated in regulation 2(2) read with regulation 2(3) of the Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002)



*** Mashwering**

APPLICANT:

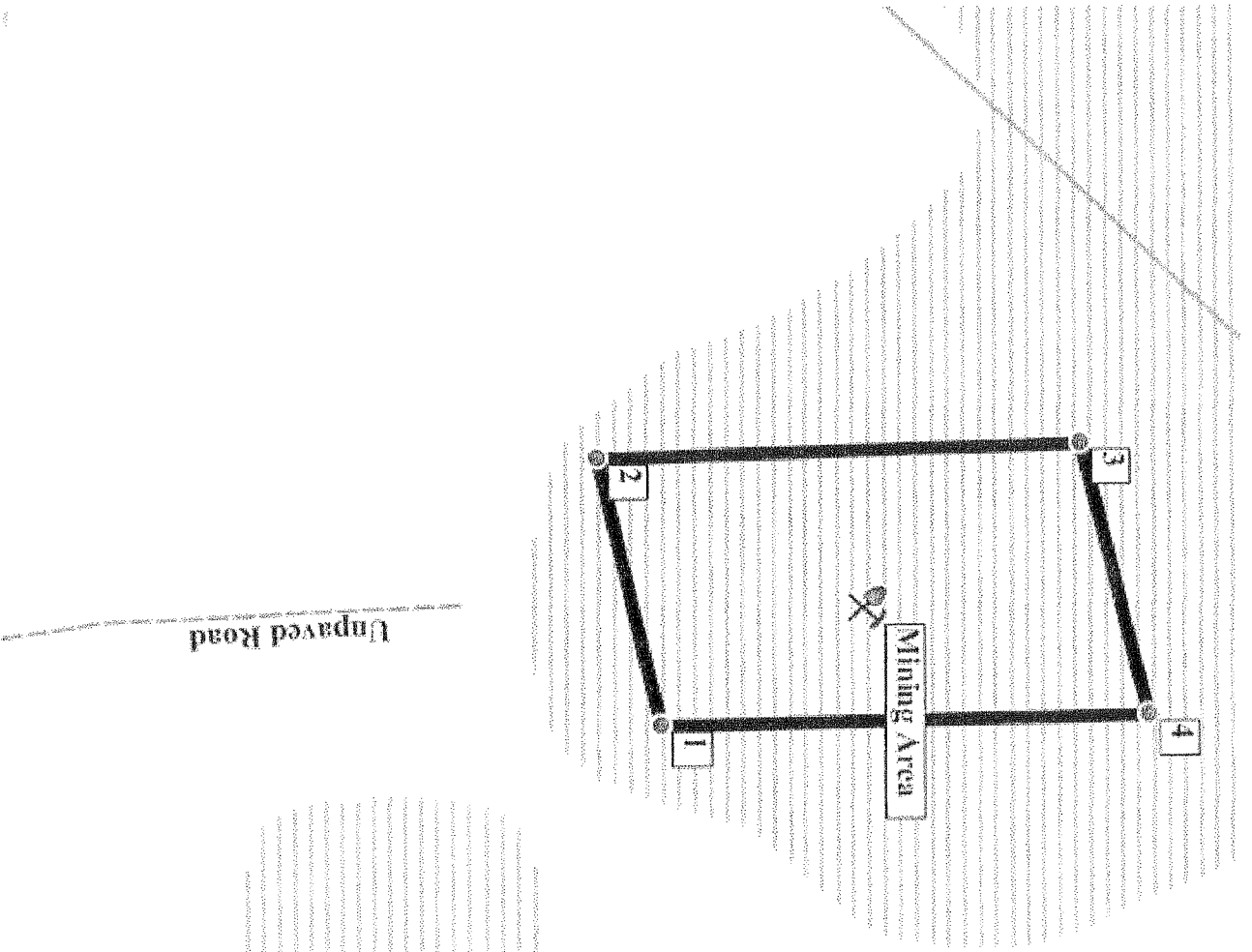
 Signature
 Name: C.M. Joubert
 Dart Mining CC
 Date 11 August 2010

*** Bakenstap**

*** Ebenhaezer**

1.5 km

APPENDIX 1c Layout plan
 contemplated in regulation 2(2) read with regulation 2(3) of the Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002)



559/3

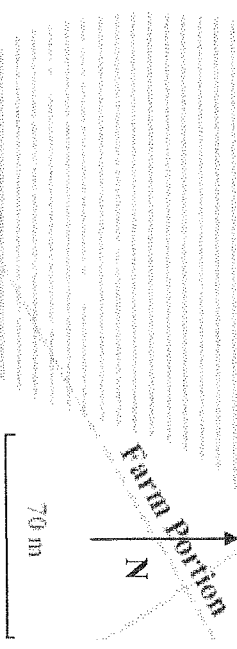
APPLICANT:

Signature
 Name: **C.M. Joubert**
 Dart Mining CC

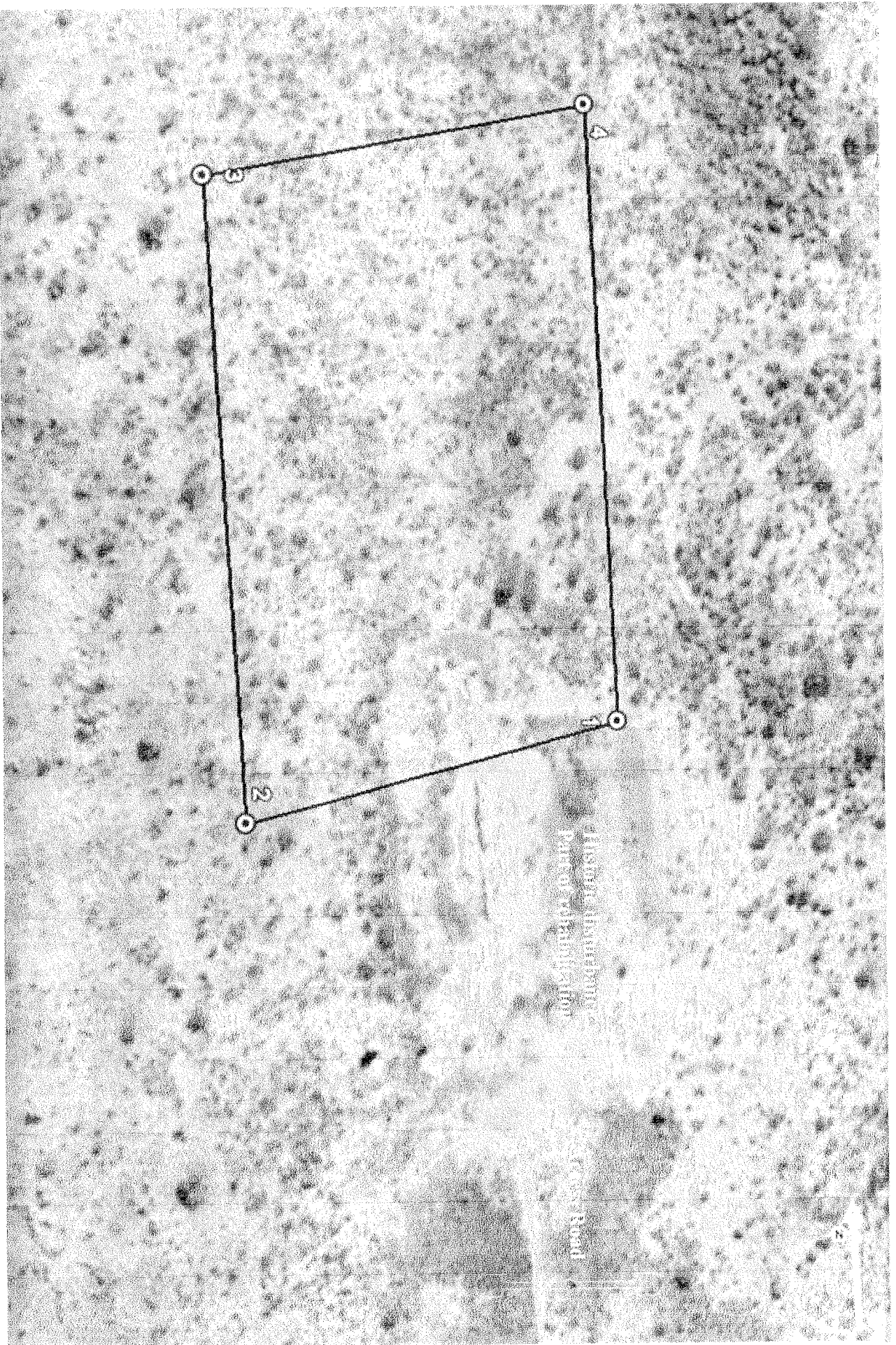
Date: **11 August 2010**

Mining Area
Figure 1, 2, 3, and 4
Extend 1,5Ha
Farm Ptn 3 MaCarthy 559
Admin. District: Kuruman

| Co-Ordinates WGS 84/84 | |
|------------------------|-------------------------|
| 1 | S27.93460 ° E23.01115 ° |
| 2 | S27.93480 ° E23.01010 ° |
| 3 | S27.93327 ° E23.01005 ° |
| 4 | S27.93305 ° E23.01112 ° |

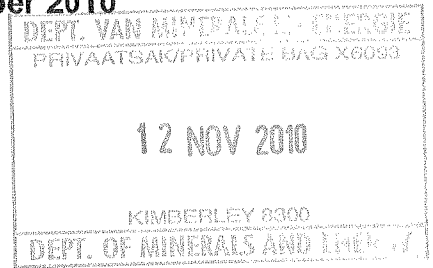


APPENDIX 1d Landscape



DART MINING CC.
P.O. Box 517
UPINGTON
8800
10 October 2010

The Landowner
Portion 3 of the Farm Macarthy No 559
Coenraad H. Kotze
P.O. Box 4
Postmasburg
8420



Consultation with regard to Mining Application in terms of the Minerals and Petroleum Resources Development Act, 2002 (Act 28 of 2002)

The Department of Minerals and Energy has accepted an application for a mining permit on a 1.5Ha area of Portion 3 of the Farm Macarthy No 559 lodged by Dart Mining CC for clay Reference NC 30/5/1/3/2/1952MP.

In accordance with section 27 of the Minerals and Petroleum Resources Development Act 28, 2002 you are required as the landowner or lawful occupier to submit inputs with regard to the EMP supplied.

Any inputs must be send to the following address:

Department Mineral Recourses
P/Bag X14
Springbok 8240

As applications are working according to a time schedule you only have 30 days from the date of this letter to summit your comments.

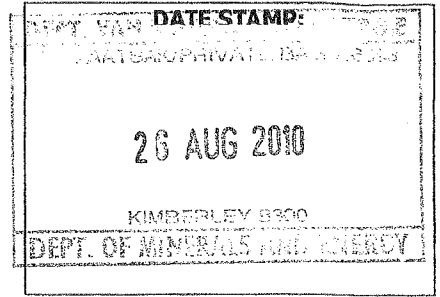
Best regards

Yours truly
Carinus Maritz Joubert
Dart Mining CC

*No OBJECTION AGAINST THE APPLICATION BY DART MINING CC
FOR CLAY
b. H. Kotze
390212 5004 083*

CHECK LIST

REQUIREMENTS FOR A MINING PERMIT



- 1. Prescribed application form
- 2. Financial and technical competence
- 3. Certified copy of Title Deed not older than 3 months in respect of the land
- 4. Details of mineral(s) to be removed
- 5. Prescribed fee of R100-00
- 6. Certified copy of identity document
- 7. Certified copy of incorporation
- 8. Certified copy to commence business
- 9. Resolution, if acting in a representative capacity
- 10. Details of the land or area applied for (sketch plan) – co-ordinates in digital format (ASCII)
- 11. Mine Health & Safety Act requirements
- 12. Other

Application checked by: Mmatsoqtsi Date: 26/08/2010 Time: 10:19

Signature of applicant: [Signature] Date: 26/08/2010 Time: 10:22

File No: (NC) 30/5/1/3/2/ 1952 MP B/2010/ 08 126 1001

Receipt issued by: Shangad Date: 2010/08/26 Time: 10:25

Application captured by: _____ Date: _____ Time: _____

Spatial captured by: _____ Date: _____ Time: _____

G.P.-S. 04/08

Z 1512 (52/12323)

RECEIPT AH 768366



REPUBLIC OF SOUTH AFRICA

DEPT. VAN WERKLOOSE EN INFRASTRUKTUR
 DEPT. OF WORKS AND ENERGY

Official date stamp
 2010-08-26

KIMBERLEY 8300

Received from

Name *SART Mining Co*

Address *P.O. Box 517*
Uitenhage

code *8300*

Description

App fee (new) 30/5/13/2/1952 MP

| | | | | |
|----------------------|----------|-----------|-----|-----|
| R A N D | Millions | Thousands | | |
| | One | Hundred | Ten | One |
| <i>[Crossed out]</i> | | | | |

Drawer

Cheque No.

Cheque date

Amount *R 100.00*

Payment method

Cash

Cheque

Postal orders

Other (specify)

| | | | | |
|------------|------------|------------|------------|------------|
| Hundred | | Cent | | |
| Hundred | Ten | One | Ten | One |
| <i>One</i> | <i>Nil</i> | <i>Nil</i> | <i>Nil</i> | <i>Nil</i> |

Shangana
issued by