

NAME OF APPLICANT: EMANG MMOGO MINING RESOURCES (PTY) LTD

REFERENCE NUMBER: (NC) 30/5/1/2/2/10045 MR

SCOPING REPORT

**SUBMITTED WITH DUE REGARD TO
CONSULTATION WITH COMMUNITIES AND
INTERESTED AND AFFECTED PARTIES**

**AS REQUIRED IN TERMS OF REGULATION 49 OF THE MINERAL AND
PETROLEUM RESOURCES DEVELOPMENT ACT (ACT 28 of 2002), AND
IN ACCORDANCE WITH THE STANDARD DIRECTIVE FOR THE
COMPILATION THEREOF AS PUBLISHED ON THE OFFICIAL WEBSITE
OF THE DEPARTMENT OF MINERAL RESOURCES.**



mineral resources

Department:
Mineral Resources
REPUBLIC OF SOUTH AFRICA

A. Definitions

'consultation' means a two way communication process between the applicant and the community or interested and affected party wherein the former is seeking, listening to, and considering the latter's response, which allows openness in the decision making process.

'community' means a group of historically disadvantaged persons with interest or rights in a particular area of land on which the members have or exercise communal rights in terms of an agreement, custom or law: Provided that, where as a consequence of the provisions of the Act negotiations or consultations with the community are required, the community shall include the members or part of the community, directly affected by prospecting or mining, on land occupied by such members or part of the community.

'Interested and affected' parties include, but are not limited to; –

- (i) Host Communities
- (ii) Landowners (Traditional and Title Deed owners)
- (iii) Traditional Authority
- (iv) Land Claimants
- (v) Lawful land occupier
- (vi) The Department of Land Affairs,
- (vii) Any other person (including on adjacent and non-adjacent properties) whose socio-economic conditions may be directly affected by the proposed prospecting or mining operation
- (viii) The Local Municipality,
- (ix) The relevant Government Departments, agencies and institutions responsible for the various aspects of the environment and for infrastructure which may be affected by the proposed project.

STANDARD DIRECTIVE

All applicants for, mining rights, in terms of the provisions of Section 29 (a) and in terms of Regulation 49 (4) of the Mineral and Petroleum Resources Development Act, directed to submit report strictly in accordance with the following format and subject headings, and as informed by the guideline posted on the Departments Official Website, within 30 days of notification by the Regional Manager of the acceptance of such application.

1. The methodology applied to conduct scoping,

- 1.1. Name the communities as defined in the guideline, or explain why no such community was identified.

No homesteads are located within the proposed mining area.

The village of Glosam is located about a kilometer west of the proposed mining area. The village was constructed for use by Assmang during their mining operations on the property.

The village of Lohatla is located farther north east of the site.

- 1.2. State whether or not the Community is also the landowner.

No community landownership exists within the project area. Surface rights are currently held by a mining company and a commercial farmer. No land claims have been identified for the study area.

Portion 4 (A portion of Japies Rus) and Portion 5 (A portion of Marthaspoort) of the farm Magoloring 668 is owned by Assmang. Emang Mmogo is currently in negotiations with Assmang to acquire the surface rights of the property.

Portion 2 (A portion of Marthaspoort) of the farm Magoloring 668 is owned by Mr Awie Claasens.

- 1.3. State whether or not the Department of Land Affairs been identified as an interested and affected party

The Department of Agriculture, Land Reform and Rural Development (DALRRD) has been identified as relevant regulatory authority.

Mr. Thabo Mothibi is the contact person for the DALRRD. A notification was sent to his Kimberley office including a Background Information Document via registered mail.

- 1.4. State specifically whether or not a land claim is involved

Confirmation of any land claims is still being awaited from the Department of Land Affairs.

As interested and affected party, the said department will be included in future consultation and invited to participate in the development of the EIA process to ensure that any issues pertaining to land rights are captured accordingly.

- 1.5. Name the Traditional Authority identified by the applicant.

No Traditional Authority is involved.

The Tsantsabane Local Municipality has jurisdiction over the area under concern.

- 1.6. List the landowners identified by the applicant. (Traditional and Title Deed owners)

Assmang Limited is the owner of represented by Mr. M. Oosthuizen. Assmang owns Portion 4 (A portion of Japies Rus) and Portion 5 (A portion of Marthaspoort) of the farm Magoloring 668.

Mr Awie Claasens owns Portion 2 (A portion of Marthaspoort) of the farm Magoloring 668.

- 1.7. List the lawful occupiers of the land concerned

The land comprising the mining right application is not occupied by any communities, families or individuals.

- 1.8. Explain whether or not other persons' (including on adjacent and non-adjacent properties) socio-economic conditions will be directly affected by the proposed prospecting or mining operation and if not, explain why not.

The following persons may be affected by the proposed mining operations:

Mr. Bothma van de Wall & Partners - Landowner of japias Rus. They indicated in writing that they were not interested in being registered as I&AP - refer to the attached letter in Appendix 1: Public Participation.

Chrisjan Claassens -Neighbour on farm Aarkop. No comments received.

Christie Claassens - Neighbour on farm Marthaspoort. No comments received.

AW and Sara Claassens - Neighbour on farm Kouwater. No comments received.

Koot Claassens - Neighbour on farm Nabet. Boshof & Smuts will be acting on behalf of Mr. K. Claassens and would like to receive all project information.

The communities of Glosam and Lohatla - neighbouring villages.

The socio-economic conditions of the persons listed above have the potential of being impacted by the proposed mining activities either negatively or positively. The, proposed mine, if authorized, will positively stimulate the local economy and at the same breadth have negative socio-economic impacts.

Potential socio-economic impacts, including cumulative environmental impacts will be investigated in the EIA process.

- 1.9. Name the Local Municipality identified by the applicant.

The Municipal Manager of Tsantsabane has been consulted and are registered as interested and affected party. No

comments have been received from the Local municipality thus far.

The consultant appointed by Emang Mmogo to compile the social and labour plan is also in consultation with the relevant LED manager of Tsantsabane Municipality, Ms Mathapelo Mathetsa.

Postmasburg is the main town in the Tsantsabane municipality

- 1.10. Name the relevant Government Departments, agencies and institutions responsible for the various aspects of the environment , land and infrastructure which may be affected by the proposed project.

Department of Mineral Resources (DMR): Lead authority for the authorisation of the mining activities and approval of the environmental management programme in terms of the Mineral and Petroleum Resources Development Act.

A mining right is required before any mining activity can take place.

Northern Cape Department of Environment and Conservation (DENC): Lead Authority for authorisation of listed activities in terms of the National Environmental Management Act (NEMA) regulations.

An Environmental Authorization is required for listed activities triggered by the proposed mining establishment.

National Environmental Management: Waste Act (Act 59 of 2008) - A licence for waste handling, storage and disposal will be required.

Northern Cape Nature Conservation Adct (Act no. 9 of 2009) will be followed should certain fauna or flora be removed.

Provincial Department of Water Affairs (DWA): Lead Authority on Water Use Licensing in terms of the National Water Act.

A water use license (WUL) is required for the proposed project. Potential impacts of drainage lines, tailings storage, dewatering and waste water will be addressed under section 19 of the National Water Act, Act no 36 of 1998.

Department of Environmental Affairs (National) - National Environmental Management: Air Quality Act (Act no. 39 of 2004).

The impact of dust, depending on the levels of emissions on the mine, may trigger a requirement for atmospheric impact report Atmospheric Emissions Licence.

Regulations relating to listed threatened and protected species in terms of National Environmental Management: Biodiversity Act (Act no. 10 of 2004)

Department of Agriculture, Land Reform and Rural Development (DALRRD).

Conservation of Agricultural Resources Act (Act no. 43 of 1998) provides for the declaration of weeds (Category 1 plants) and invader plants (Category 2 and Category 3 plants).

Department of Agriculture, Forestry & Fisheries (DAFF): Authority on protected vegetation resources (trees) in terms of National Forests Act (Act 84 of 1998).

GN 1042 provides for a list of protected tree species.

National Veld and Forest Fire Act (Act no. 101 of 1998) provides for protection of land from veld fires in the event of mining and associated operations.

South African Heritage Resources Agency.

National Heritage Resources Act (Act no. 25 of 1999) provides for permitting should cultural and heritage features be identified and hence require protection;

South African National Roads Agency (SANRAL) and Provincial Department of Transport.

National Road Traffic Act and Regulations; including guidelines for granting of exemption permits for the Conveyance of Abnormal Loads and for other Events on Public Roads.

Department of Health.

Hazardous Substances Act (Act no. 15 of 1973) provides for the identification of Group I, II, III, IV and V hazardous substances that may be on site (use, storage and handling).

District and Local Municipalities

Environmental Conservation Act (Act no. 73 of 1998) - National Noise Control Regulations (GNR 154 of 10 January 1992)

Development Facilitation Act (Act no. 67 of 1995) - land development applications.

Subdivision of Agricultural Lands Act (Act no. 70 of 1970) - procedures regarding subdivision of land in case the applicant wishes to do so.

- 1.11. Confirm that evidence that the landowner or lawful occupier of the land in question, and any other interested and affected parties including all those listed above, were notified, has been appended hereto.

Evidence of consultation has been appended to this scoping report (refer to Appendix 1: Public Participation)

2. A description of the existing status of the cultural, socio-economic and biophysical environment, as the case may be, prior to the proposed mining operation; which description must include:-

A comprehensive description of the existing status of the cultural, socio-economic and biophysical environment is attached hereto (Appendix 2: Description of Environment to be Affected).

- 2.1. Confirm that the identified and consulted interested and affected parties agree on the description of the existing status of the environment.

Identified I&APs were provided with the project Background Information Document describing the proposed mining activity, the environment likely to be affected, the likely impacts envisaged, the consultation process to be followed, etc. I&APs were offered an opportunity to register their concern as a preliminary step. Thus far there has been little interest shown by the identified I&APs (refer to the comments column of Appendix 1: Public Participation).

Other than this scoping report in terms of the MPRDA, a parallel Draft Scoping Report was submitted to DENC in terms of NEMA. Comments received will be incorporated into the EIA process and addressed accordingly.

Public consultation is ongoing process, the broad objective being to provide I&APs with the opportunity to identify issues, concerns and opportunities regarding the proposed development. Information arising out of this process can be used to focus the EIA and to enable informed decision-making and planning. The participation process also assists in identifying ways in which concerns can be addressed and additional alternatives considered throughout the project's phases if authorisation is obtained. In this context it must be noted that the process of gathering input and comments is not closed, but actually just commenced. Therefore I&APs will continue to be engaged to receive information and provide input on the status of the environment and the envisaged or future end land use.

2.2. Describe the existing status of the cultural environment that may be affected

No aspects of significant cultural heritage; such as tangible culture (e.g. buildings, monuments, landscapes, books, works of art, and artifacts), intangible culture (e.g. folklore, traditions, language, and knowledge), and natural heritage (including culturally significant landscapes); have been observed on the site.

2.3. Describe the existing status of any heritage environment that may be affected

In terms of section 38 of the National Heritage Resources Act, 1999 (Act no. 25 of 1999), a Phase 1 Archaeological Impact Assessment was undertaken by David Morris from the McGregor Museum for the property prior to the commencement of the prospecting activity which precedes this mining right application by Emang Mmogo.

The Phase 1 Archaeological study was undertaken in order to establish if any localities of heritage significance were present on the property.

According to the report, none of the observed site in themselves proved to be of major significance, but collectively they provide insight into the Stone Age occupation of the area.

No post-Stone Age/Colonial era heritage traces were noted in the area examined and the farmer, Mr. Arrie Claassens, who grew

up as a boy and hunted baboons on the farm, knew of no such sites or features within the Portions 4 and 5 of Magoloring.

No heritage traces of the nineteenth-twentieth century were noted. The farmer, Mr. Claassens, who has known the farm for more than half a century, said that he knew of no graves of any nature in the valley.

2.4. Describe the existing status of any current land uses and the socio-economic environment that may be directly affected

The land comprising the application area is characterised by old mine sites. The study area was mined between 1960 and the early 1980s by Associated Manganese (Assmang). Mining operations ceased when Assmang's primary area of operation moved to the Kalahari Manganese Field. There are several deep and shallow pits abandoned after mining operations ceased in the area.

The area has been prospected to determine the resource reserve and distribution, information which was used to guide Emang Mmogo's mine works programme.

The area is also used as an illegal sumping site.

Existing infrastructure include:

(a) The railway line from Sishen to Postmasburg situated directly east of the properties;

(b) The Erstrand railway siding approximately 2.2 km south east of the project;

(c) Gamagara water pipeline which passes the study area west of the R325;

(d) A gravel road linking the study area to the main provincial road (R325);

(e) Access roads within the study area;

(f) Glosam mining village adjacent to the project site on the west;

(g) Lohatla village to the north east of the study area;

(h) Several prospecting boreholes (either backfilled and/or capped).

(i) fencing along farm boundaries; and

(j) There are presently two camps on the farm but some of the internal fences are in poor condition.

Surrounding Land Uses include:

The area around Mogoloring is characterised by mainly mining, otherwise most of the land is used for stock farming.

The following mining operations, although some are dormant, are found in the surrounding area (name and ownership):

Bishop Mine - PMG Mining

Lomoteng - Private

Lohatla - Chabua Minerals Limited

Drieboekspan - Maremane Mining Limited

Glosam - Assmang

Manganore - Union mines

2.5. Describe the existing status of any infrastructure that may be affected.

There are existing mine and farm roads within and without the project site, some of which may need to be upgraded and maintained.

There is an Eskom powerline passing through the farm. If adequate, this may be used as a main or supplementary source of power for the mining operations (linking to the proposed substaion).

Water pipelines, boreholes - water supply to existing mines and surrounding industries / farms. Existence of any pipelines, boreholes and other infrastructure that may be impacted upon must be confirmed.

The existing mine houses (Glosam) adjacent to the study area - may be utilized by Emang Mmogo if an agreement is reached with the current owner.

Fencing - may be altered to meet the requirements of the mining plan. This should be done in consultation with the land owner and neighbouring parties that may be affected.

2.6. Describe the existing status of the biophysical environment that will be affected, including the main aspects such as water resources, flora, fauna, air, soil, topography etc.

Refer to the detailed description (Appendix 2: Description of Environment to be Affected).

2.7. Provide any relevant additional information.

Ecological management Services, an independent environmental consultant, was appointed to undertake the scoping report and impact assessment study required as part of the process to apply for an environmental authorisation in terms of the National Environmental Management Act (NEMA).

A Draft Scoping Report (NEMA version) is available at the Postmasburg Library for information and electronic copies of same can be made available on request. The NEMA version scoping report is more comprehensive and may add value for those who have interest in the project.

3. Identification of the anticipated environmental, social or cultural impacts, including the cumulative impacts, where applicable.

3.1. Provide a description of the proposed project including a map showing the spatial locality of infrastructure, extraction area, and any associated activities.

Refer to Appendix 3: Spatial Locality & Infrastructure Maps

APPLICATION PROCESS AND PROJECT LOCALITY

Emang Mmogo Mining Resources (Pty) Ltd applied for a Mining Right in terms of section 22 of the MPRDA to mine manganese and iron ore, which application was accepted on 18 October 2013.

Emang Mmogo has also submitted an application to DENC for environmental authorisation for the proposed establishment of

an open-pit mine. The properties applied for are Portion 4 (a portion of Japies Rus) of the farm Magoloring 668; Portion 5 (a portion of Marthaspoort) of the farm Magoloring 668; and Portion 2 (a portion of Marthaspoort) of the farm Magoloring 668. The total extent of the applicatio narea is approximately 1668 ha.

The proposed project is located on the western limb of the Postmasburg Manganese Field. The area is characterized by low-medium grades manganese (<44%Mn).

HISTORICAL BACKGROUND

The area was previously mined by Associated Manganese Mines of South Africa (Assmang) Limited between 1960 and the 1980s. Assmang ceased their operations in the area after a discovery of high grade manganese (>44%Mn) on the Kalahari Manganese Field to the north and the mine was abandoned. No rehabilitation was undertaken after Assmang ceased their operations and large volumes of stockpile and open-pits still remain on site.

MINING AND PROCESSING

The project entails the mining or manganese and iron ore by means of open pit mining method. The ore will be mined using the conventional truck and shovel methods. Ore will be drilled and blasted in the open pit section, loaded onto haul trucks and transported to a crushing site .After crushing the ore will then be stockpiled and processed. The finished product will be transported off-site by rail and trucks.

CONSTRUCTION PHASE ACTIVITIES

The following construction activities are planned to take place during seven (7) months:

- (a) selective clearing of vegetation in areas designated for surface infrastructure;**
- (b) stripping and stockpiling topsoil and sub-soil;**
- (c) digging of foundations and trenches;**
- (d) drilling and blasting associated with the development of boxcut;**
- (e) dewatering, if required;**
- (f) establishment of new access roads;**
- (g) construction of mine infrastructure;**
- (h) construction of plant infrastructure including processing plant, stockpile pads, tailings facilities, etc.**
- (i) construction of services including storm water management facilities, solid wast management facilities, sewage plant, water supply infrastructure, power supply infrastructure, etc.**

Construction Phase Support Services

These facilities will either be removed at the end of the construction phase or incorporated into the layout of the proposed infrastructure.

Support services that will be required include:

- (a) contractors laydown areas;**
- (b) temporary handling and storage area for construction materials (paints, solvents, oils, grease);**
- (c) temporary storage area for non-mineralized waste prior to removal by appropriated contractor;**
- (d) temporary water supply will be supplied by borehole and/or trucks;**
- (e) power supply will be by temporary diesel-powered electricity generator;**
- (f) workshops and wash bays;**
- (g) fuel handling and storage area;**
- (h) temporary offices and temporary chemical toilets.**

Approximately 50 people will be employed during construction phase. Construction workers will be housed off-site and transported to site by the construction contractor to be appointed.

OPERATIONAL PHASE ACTIVITIES

The life of the mine is anticipated to be 23 years.

Mining:

The envisaged mining method will consist of drilling (76mm blastholes), blasting (slurry with boosters) and loading and hauling to the primary crusher. The drilling and blasting will be outsourced to competent blasting contractors. Blasting patterns for overburden/waste and RoM (run of mine) ore will differ as follows:

*** overburden/waste: 3 x 3.5 meter burden and spacing**

*** RoM ore: 3 x 3 or 3 x 2.5 meter burden and spacing**

Blasted waste rock will be loaded by excavators onto 30 ton articulated dump trucks and utilized in the construction of walls for the slimes dam during the first 3 months of overburden stripping. Any excess waste rock mined during the first three months will be dumped onto a waste dump situated to the immediate west of the box cut. All waste material mined after the initial 3 month period will be backfilled into the mined out section of the opencast pit as an ongoing rehabilitation programme.

All seed bearing soil overlying competent rock will be dozed into heaps, prior to drilling and blasting, loaded and transported to topsoil dumps at various points to the west of the pit as mining progresses. This material will be used to re-establish vegetation once mined-out sections have been

backfilled and profiled to the satisfaction of the mine manager and representatives of the DMR.

Blasted RoM ore will be loaded by excavator and hauled to the primary crusher for processing. All load and haul operations will be outsourced to a competent mining contractor who has to keep the following fleet:

- * 3 excavators**
- * 9 articulated dump trucks**
- * hydraulic rock hammer**
- * ancillary equipment kept on site will include a grader, water cart and a bull-dozer.**

Samples will be taken from the blast holes and analysed for Mn and Fe prior to blasting. These composite results will be used for grade control to distinguish between internal waste and RoM ore (Mn \geq 16%).

Big C Rock Engineering assessed the slope stability of the proposed opencast pit and came to the following conclusion and recommendations for pit design:

- * The overall slope angle must be 55**
- * Bench geometry used in the pit design are:
 - Bench Height - 13 meters**
 - Berm Width - 7.02 meters**
 - Bench Face angle - 70****
- * All new ramps were designed to a final width of 20 meters with a 1:10 gradient.**

Processing:

RoM ore (-200 mm) with an average feed grade of 21.65% Mn will be reduced by the primary crusher to -60mm. Oversize RoM ore from the feeder grizzly will be broken by a hydraulic rock hammer and added to the crusher feed with a front-end loader.

Crushed ore will be fed to a 60 mm vibratory screen. Oversize (+60 mm) material will be returned to the primary crusher while undersize ore (-60mm) will be stockpiled for further processing. The -60mm ore will be fed via a conveyor to a single deck (dry) vibratory 20 mm screen. The oversize ore (-60 + 20 mm) will be stockpiled as lumpy manganese product (estimated grade of +28% Mn and estimated recovery yield of 35%) while the -20 mm ore will be drawn from beneath using a direct feeder onto an underground conveyor for VSI (Vertical Spindle Impact) crushing to -1.6 mm. Crushed material will then be directly fed to a de-sliming cyclone where slimes (22%) are removed and pumped to a slimes dam. Estimated water consumption is anticipated to be 0.3 m³/t or 311 000 m³ annually.

The de-slimes material will be fed to a fines medium separator for removal of tailing to a stockpile. Stockpiled tailing will be loaded by a front-end loader and hauled to a mined-out section of the pit for profiling of areas backfilled with waste rock while the concentrated product will be compressed into briquettes (estimated grade of +32% Mn and estimated recovery yield of 42%).

Current planning is to operate the slimes dam for the first three years of production after which slimes will be redirected to a worked out section of the mine. Material in the slimes dam will also be loaded and used for rehabilitation purposes.

OPERATIONAL PHASE ACTIVITIES AND FACILITIES

Roads:

A good internal network of roads, from the mine to the plant, will be built. The external road network allows easy excess onto the property and to the rail siding.

Railways:

The railway siding will be used to dispatch ore to the Ngcura harbour at Port Elizabeth via the national railway system.

Electricity:

The mine will be supplied with electricity by ESKOM through the national grid system and the mine's own transformer system. The envisaged supply is 11 KVA.

Water:

The following sources of water supply are available

- Boreholes and water from the Gamagara pipeline, to the east of the property, used for drinking, production and domestic water purposes**
- Open cast mine used for dust suppression**

Communication Systems:

The communication system as provided by Telkom (National Telephone Communication Network - land line) and cellular-relay towers operated by MTN and Vodacom is adequate.

Security facilities: Security systems will be outsourced to a security contractor.

Offices:

The following buildings/offices will be constructed after the Mining Right have been awarded:

- Reception, administrative and financial**
- Workshops**

- **Temporary offices for blasting and mining contractors will be located at the mine.**

Slimes Dams:

Slimes produced during the first three years of crushing and screening operations will be pumped to the slimes dams

Housing:

No employees will be allowed to stay on the property.

Maintenance:

A full maintenance team will be employed by Emang Manganese to ensure maximum availability of plant by monitoring the equipment on a day to day basis to identify problems and initiate repairs when needed. Regular inspections and condition status assessments will be carried out on major / critical equipment and installations (i.e. transformers / substations and other process equipment) by independent specialist institutions.

Stores:

Spares supply agreements shall be negotiated with supply companies (OEM's) to deliver spares (with short to medium lead times) within 24 hours on order. Certain suppliers cater for immediate delivery of emergency spares upon breakdown. Major spares components and insurance spares (with long lead times) are provided for by keeping them in the mine stores. Spares availability is managed by utilising a min/max control and reorder system taking cognisance of delivery times.

Staffing:

Emang Mmogo will appoint suitably qualified and experienced persons in the following senior position directly responsible to the Board of Directors to operate the envisaged mine on a daily basis:

- **Mine and Engineering Manager; stationed in Postmasburg.**
- **Sales and Marketing; stationed in Kimberley**
- **Financial Manager; stationed in Kimberley**

Functions performed by Emang Manganese employees:

- **Management**
- **Financial**
- **Plant maintenance**

Outsourced functions performed by contractors:

- **Drilling and blasting**
- **Loading and hauling to primary crusher**
- **Metallurgy**
- **Security**

Emang Manganese will employ 15 permanent employees and 45 employees through contractors who perform outsourced functions.

DECOMMISSIONING PHASE ACTIVITIES

In broad terms, decommissioning activities associated with the proposed site includes the demolition and the removal of infrastructure, preparation of final land forms for closure and prompting vegetation growth in order to reduce the effects of soil erosion and to re-establish landscape functionality.

CLOSURE PHASE ACTIVITIES

After decommissioning, closure activities will include maintenance and aftercare that is required to ensure that rehabilitation is successful. In this regard, although closure objectives have not been finalised, one of the options that will be considered is rehabilitation to grazing potential land.

- 3.2. Describe any listed activities (in terms of the NEMA EIA regulations) which will be occurring within the proposed project.

Please refer to Appendix 4: Listed Activities

- 3.3. Specifically confirm that the community and identified interested and affected parties have been consulted and that they agree that the potential impacts identified include those identified by them.

Identified I&APs were provided with the project Background Information Document describing the proposed mining activity, the environment likely to be affected, the likely impacts envisaged, the consultation process to be followed, etc. I&APs were offered an opportunity to register their concern as a preliminary step. The listed activities were captured in the BID to inform I&APs of the nature of impacts to be envisaged. Thus far a few responses have been received and are appended hereto (Appendix 1).

- 3.4. Provide a list and description of potential impacts identified on the cultural environment.

- 3.4.1. Provide a list and description of potential impacts identified on the heritage environment, if applicable.

None of the observed sites proved in themselves to be of major significance, but collectively they provide insight into the Stone Age occupation of the area.

No post-Stone Age/colonial era heritage traces were noted in the area.

No graves of any nature are known to exist in the valley.

However the potential loss of or damage to paleontological, archaeological, heritage and cultural resources is always considered.

- 3.4.2. Provide a list and description of potential impacts identified on the socio-economic conditions of any person on the property and on any adjacent or non adjacent property who may be affected by the proposed prospecting or mining operation.

Land use: Impact on existing surrounding agricultural and residential uses.

Transportation Systems: Disturbance of roads by project-related traffic.

Blasting: damage from blasting.

Economic impacts: Job creation and impact on local & regional economy.

Social impacts: Influx of people and increased pressure on service infrastructure.

- 3.4.3. Provide a list of potential impacts (positive & negative) on: employment opportunities, community health, community proximity, and links to the Social and Labour Plan.

Economic impacts: Job creation and impact on local & regional economy.

Social impacts: Influx of people and increased pressure on service infrastructure.

- 3.4.4. Provide a list and description of potential impacts identified on the biophysical environment including but not be limited to impacts on: flora, fauna, water resources, air, noise, soil etc.

1. Geology: Loss and sterilisation of mineral resources.

2. Topography: Hazardous excavations and infrastructure.

3. Soil and Land Capability: Loss of soil and change in land capability through pollution, erosion or compaction.

4. Fauna & Flora: Loss of natural vegetation and animal life.

5. Surfacewater: Alteration of surface drainage patterns and contamination of surface water.

6. Groundwater: Reducing groundwater levels, availability, and contamination of groundwater.

7. Air Quality: Pollution from emissions to air.

8. Noise: Increase in disturbing noise levels.

9. Visual Aspects: Negative visual impacts

- 3.4.5. Provide a description of potential cumulative impacts that the proposed operation may contribute to considering other identified land uses which may have potential environmental linkages to the land concerned.

*** fauna and flora – loss of natural vegetation and animal life (only temporarily).**

*** surface water - alteration of surface drainage patterns or contamination of surface water.**

*** groundwater - reduction of groundwater levels and availability or contamination of groundwater.**

*** air quality - pollution from emissions to air.**

*** noise - increase in disturbing noise levels.**

*** visual - negative visual aspects.**

*** socio-economic impacts of the local and regional communities.**

*** traffic and road impacts on the existing road networks.**

*** Land use impacts on the current uses and neighbouring communities.**

4. Land use or development alternatives, alternative means of carrying out the proposed operation, and the consequences of not proceeding with the proposed operation.

4.1. Provide a list of and describe any alternative land uses that exist on the property or on adjacent or non-adjacent properties that may be affected by the proposed mining operation.

1. Alternative Mining Methods

The proposed mining method is open-pit. Underground mining would not be feasible given the nature of the ore body indicated by the prospecting results.

2. Alternative Mineral Processing Methods

Tecnological options to be explored during the EIA phase include: washing; gravity concentration - jigging, heavy media separation, spiralling and tabling; and magnetic separation and floatation

3. Alternative transport, power and water supply routes

Transport options include: Railing product in bulk from the Emang Manganese Project to Port Elizabeth down the existing bulk rail line; trucking product to Bloemfontein and then loading sea containers for railing to Port Elizabeth or Coega; and railing product to Durban or Richards Bay Dry Bulk Terminal for export in bulk carriers.

Ore and waste haulage options: conveyor belts and hau trucks.

Power supply options: Existing Eskom transmission power line that passing through the site; and diesel powered generators.

Water supply options: Water from the Vaal-Gamagara pipeline; water from boreholes; and dewatering from the open-pit sections.

4. No-go option

This option entails that the project will not take off.

- 4.2. Provide a list of and describe any land developments identified by the community or interested and affected parties that are in progress and which may be affected by the proposed mining operation.

No land developments have been identified for the area.

- 4.3. Provide a list of and describe any proposals made in the consultation process to adjust the operational plans of the mine to accommodate the needs of the community, landowners and interested and affected parties.

No proposal made as yet.

- 4.4. Provide information in relation to the consequences of not proceeding with proposed operation

The project area was previously mined and abandoned without rehabilitation. If the project does not proceed, the area will remain unrehabilitated with open-pits and large volumes of waste dumps on site posing a threat to livestock that graze on site as well as humans.

Given the current condition of the land in question, its agricultural potential has been rendered low for grazing and non-erable.

- 4.5. a description of the most appropriate procedure to plan and develop the proposed mining operation. The applicant must:-

IDENTIFY ISSUES

Issues identified during the scoping process must be assessed in the EIA phase.

EVALUATE ISSUES

The issues or impacts identified must be quantified using applicable rating models.

DEVELOP MITIGATION AND MANAGEMENT MEASURES

With the information gathered from the various investigations and specialist studies, the environmental impact assessment must be followed by a plan to manage all the identified significant impacts. The management plan will include a monitoring and review programme.

- 4.5.1. Provide information on its response to the findings of the consultation process and the possible options to adjust the mining project proposal to avoid potential impacts identified in the consultation process.

There have been no inputs towards the options to adjust the mining proposal, apart from the standard requirement to comply with the necessary legislative framework and regulations.

- 4.5.2. Describe accordingly the most appropriate procedure to plan and develop the proposed mining operation with due consideration of the issues raised in the consultation process.

The following tasks will be undertaken as part of the EIA and EMP development process in order to address the issues that may arise throughout the consultation process:

Specialist studies:

The specialist studies will be undertaken. Findings of the studies will be incorporated into the EIA for assessment and mitigation. Recommendations thereof will be included as part of impact management measures.

Public Participation Process:

Interested and Affected Parties will be provided with the draft scoping report and available additional information for review and comment.

The project will be announced via relevant media and parties will be invited to participate.

Advertisements and site notices will be published.

An open day will be held where all I&APs will be given an opportunity to discuss the draft reports, review same and comment.

Focus group meetings will be held with certain target groups or individual parties where necessary.

I&APs will be afforded further opportunities to comment on the project before submission to authorities for Record of Decision.

5. A description of the process of engagement of identified interested and affected parties, including their views and concerns

5.1. Provide a description of the information provided to the community, landowners, and interested and affected parties to inform them in sufficient detail of what the prospecting or mining operation will entail on the land, in order for them to assess what impact the prospecting will have on them or on the use of their land.

Refer to Appendix 1 for details provided to the I&APs regarding the project technical aspects as well as the process outline.

5.2. Provide a list of which of the identified communities, landowners, lawful occupiers, and other interested and affected parties were in fact consulted.

Refer to the list of I&APs included in Appendix 1

5.3. Provide a list of their views in regard to the existing cultural, socio-economic or biophysical environment, as the case may be,

Refer to Appendix 1: I&APs comments column

5.4. Provide a list of their views raised on how their existing cultural, socio-economic or biophysical environment potentially will be impacted on by the proposed prospecting or mining operation;

Refer to Appendix 1: I&APs comments column

5.5. Provide a list of any other concerns raised by the aforesaid parties.

None

5.6. Provide the applicable minutes and records of the consultations.

Refer to Appendix 1

5.7. Provide information with regard to any objections received.

No objections have been raised thus far.

6. Describe the nature and extent of further investigations required in the environmental impact assessment report, including any specialist reports that may be required.

Further identify additional stakeholders and inform currently registered Interested and Affected Parties (I&APs) about the proposed development, to make available to them all the information that they will require in order to actively participate in the process and to provide all I&APs with the opportunity to exchange information and express concerns and views.

To compile an issues trail for inclusion in the environmental impact assessment report of the concerns and questions raised by the I&APs

Undertake a site inspection and comprehensive literature review for the area to further the identification of the potential positive and negative environmental (both biophysical and social) impacts and evaluate their significance, in order to describe how the environment may be affected by the proposed project.

To identify and evaluate any viable alternatives for the proposed project.

To comprehensively assess all identified issues in terms of negative and positive impacts on both the biophysical and socio-economic environment

The EIA process involves further investigations of the receiving environment by means of the following specialist studies:

1. HYDROCENSUS:

To determine climatic data (including mean monthly and annual rainfall for the site and number of days per month with measurable precipitation, mean monthly, maximum and minimum temperatures, mean monthly evaporation);

To develop a baseline hydrological description of the site and immediate surrounds;

To determine flood peaks and volumes;

To have input into the identification and assessment of the potential surface water impacts; and

To provide input, together the technical project team, into surface water management measures going forward.

2. GEOHYDROLOGICAL STUDY:

To characterise the baseline geohydrological environment;

To model the dewatering impacts of the proposed mine;

To model the potential pollution dispersion associated with the mine and associated infrastructure;

To assess the significance of dewatering and contamination impacts;

To provide input, together with technical project team into project alternatives and groundwater management measures going forward;

To identify local groundwater users and determine their dependence on the groundwater resource; and

To determine the pre-project (baseline) groundwater quality.

3. NOISE IMPACT STUDIES

To qualify existing ambient noise conditions;

To assess the impact of the project on the existing environment;

To have input together with Emang Mmogo into management and mitigation measures.

4. BLASTING AND VIBRATION STUDIES:

To outline the expected environmental effects that blasting operations could have on the surrounding environment;

To investigate the effect of blasting operations and the related influences with regard to expected ground vibration, air blast, fly rock, and noxious fumes in relation to the surroundings of the blast site and possible influence on the neighbouring houses and owners or occupants;

To assess the impact on surrounding structures, people and animals; and

To recommend appropriate measures to mitigate blasting impacts.

5. HERITAGE, CULTURAL AND ARCHAEOLOGICAL STUDIES:

To determine whether there are any cultural or heritage resources on the surface as defined in the NHRA;

To assess the impact of the proposed project on any such resources; and

To recommend appropriate mitigation measures.

6. TRAFFIC IMPACTS STUDIES:

To assess the existing levels of the traffic on the R325;

To identify possible impacts of the proposed development on the road network;

To assess the capacity of the existing and future road network within the influence radius;

To evaluate road upgrading measures required to accommodate the proposed development; and

To assess the impact of haul trucks and delivery trucks on the existing traffic.

7. AIR QUALITY STUDIES:

To identify existing sources of emissions in the region and the characterisation of existing ambient pollution concentrations;

To assess the ambient air quality that may result in a range of impacts, which in turn, may cause a disturbance to nearby receptors;

To determine the key aspects of air pollution that may result from the construction, operation and decommissioning phases of the project and model the impact from these emission sources; and

To outline possible management and mitigation measures which could be implemented at the Site to manage any potential impacts.

8. SOCIAL & ECONOMIC IMPACT ASSESSMENT

To quantify the economic impacts of the project;

To conduct a comparative land economic value-add assessment; and sustainability analysis;

To understand the baseline social environment, including a baseline review of people residing adjacent to the proposed project;

To identify and assess both positive and negative social impacts; and have input together into management and mitigation measures

9. BIODIVERSITY ASSESSMENT STUDY

To identify and map different habitats in the proposed project area;

To conduct a review of the distribution lists (including Red Data species) of fauna and flora species to provide reference data against which the findings of the field surveys can be compared;

To survey the areas that are required for surface infrastructure; assign species to each habitat through various trapping and sampling methods;

To verify whether any Red Data species or any other sensitive species identified are located within the proposed project area. The locality of any identified sensitive species must be recorded and mapped;

To rank each habitat type based on conservation importance (in terms of provincial biodiversity priorities) and ecological sensitivity;

To identify potential impacts on ecology;

To have input into management and mitigation measures.

B. IDENTIFICATION OF THE REPORT

The report on the results of consultation must, at the end of the report include a certificate of identification as follows;

Herewith I, the person whose name and identity number is stated below, confirm that I am the person authorised to act as representative of the applicant in terms of the resolution submitted with the application, and confirm that the above report comprises the results of consultation as contemplated in Section 16 (4) (b) or 27 (5) (b) of the Act, as the case may be.	
Full Names and Surname	Godfrey Ikobeng Mfetoane
Identity Number	730728 5641 082

- END -

APPENDIX 1:

PUBLIC PARTICIPATION

APPENDIX 1 – PUBLIC PARTICIPATION

An application in terms of regulation 26 of Government Notice No. R 543 in terms of Chapter 5 of the National Environmental Management Act, 1998 (Act 107 of 1998) was submitted to the Northern Cape Department of Environment and Nature Conservation.

The aim of the public consultation process to date has been to notify I&AP's and the public about the application for environmental authorization for the proposed project and to provide I&AP's with an opportunity to raise any issues or concerns.

The database is being updated on an ongoing basis throughout the EIA process. Interested and/or affected parties groups involved in the environmental assessment process are listed below:

Regulatory authorities:

- Department of Environment and Nature Conservation (DENC)
- Department of Minerals Resources (DMR)
- Department of Water Affairs (DWA)
- Department of Agriculture, Land Reform Rural Development (DALRRD)

I&APs

- Landowners
- Direct neighbours
- South African Heritage Resource Agency (SAHRA)
- Wildlife and Environment Society of Southern Africa (WESSA)
- Eskom
- SANRAL
- Local municipality
- District municipality

A BID was compiled for this project. The purpose of the BID was to inform I&APs about the proposed project, the environmental assessment process, possible environmental impacts and how they could input into the environmental assessment process. The BID included a registration and response form, which provided I&APs with an opportunity to register as I&APs and comment on the proposed project.

The landowner and interested and affected parties were notified in writing and provided with a copy of the BID. In accordance with the Environmental Impact Assessment (EIA) regulations a notice was placed in the local newspapers to invite all interested and affected Parties to register. A notice was placed detailing the project and method of commenting in the DFA and the Kalahari Bulletin on the 14 June and 11 June 2013 respectively.

The Draft Scoping Report (DSR) will be made available for public review in order to provide the I&APs with an opportunity to obtain further information on the project and comment/expand on the issues identified. These comments will then be included in the Final Scoping Report (FSR) which will be submitted to DENC for comment. Issues identified during the scoping process can then be addressed during the Environmental Impact Assessment phase. The public consultation process will continue throughout the EIA phase.

Name		Address	Contact	Comments
Mr. Abe Abrahams	Northern Cape Department of Water Affairs	Private Bag X 6101, Kimberley 8301 Tel: 053 836 7600 abrahamsa@dwa.gov.za	Sent Notification and BID via email	No comments received to date
M. Ranwedzi	Northern Cape – Water Affairs: Upington	ranwedzim@dwa.gov.za	Sent Notification and BID via email	No comments received to date
Municipal Manager	Tsantsabane Local Municipality	PO Box 5, Postmasburg, 8420 PHYSICAL: 13 Springbok Street, Postmasburg TEL: 053 313 7300 FAX: 053 313 1602 EMAIL: tsantsabane.mm@lgnet.org.za	Sent Notification and BID via email	No comments received to date
Ms Mathapelo Mathetsa	Tsantsabane Local Municipality-LED Officer	Private Bag X 5, Postmasburg 8420 Tel: 053 313 7300 Fax: 053 313 1602	Sent Notification and BID via Registered mail	No comments received to date
Mrs. S. Erasmus	WESSA	P.O. Box 316, Kimberley 8300 Tel: 053 839 2713 Fax: 053 842 1433 wessanc@yahoo.com	Sent Notification and BID via email	No not have capacity to register as I&AP and comment on project
Katie Smuts	SAHRA	P.O. Box 1930, Kimberley 8300 Tel: (053) 831 2537 Fax: (053) 833 1435 Email: KSMUTS@sahra.org.za	Sent Notification and BID via email	No comments received to date
Ntsundeni Ravhungoni	DMR: Northern Cape-Acting Regional Head	Private Bag X6093, Kimberley 8300 Tel: 053 807 1700	Sent Notification and BID via	No comments received to date

		Fax: 053 830 0827 Ntsundeni.Ravhungoni@dmr.gov.za	email	
Mr. M. A Oosthuizen	Assmang Limited (Landowner)	P.O. Mancorp Mine 8423 Tel: (053) 311 6666	Sent Notification and BID via Registered mail	No comments received to date
Mr. D. Ngxanga	Siyanda District Municipality	Municipal Manager Private Bag X 239, Upington 8800 Tel: 054 337 28000 Fax: 054 337 28888 dngxanga@siyanda.gov.za	Sent Notification and BID via email	No comments received to date
A. van Gensen	Eskom – North Western Region: Environmental Management Practitioner	PO Box 356, Bloemfontein 9300 Tel: 051 404 2040 Fax: 051 404 2972 andrea.vangensen@eskom.co.za	Sent Notification and BID via Registered mail	No comments received to date
Mr. Thembelani Mtshaulana	DAFF	Private Bag X5018, Kimberley 8300 MtshaulanaT@daff.gov.za	Sent Notification and BID via email	No comments received to date
Thabo Mothibi	DALRRD: Northern Cape	Private Bag X5018, Kimberley 8300 Cfortune@agri.ncape.gov.za	Sent Notification and BID via Registered mail	No comments received to date
N.J. Toerien	DALRRD: Sustainable resource management	P.O. Box 52 Upington 8800 Email ntoerien1@gmail.com 054 3378000 07118607551		The Department of Agriculture foresee no problems in the development as long as the developer adheres to the articles of Act 43 of 1983
D. Rooi	Northern Cape – Transport, Roads & Public Works	PO Box 3132, Kimberley 8301 Tel: 053 839 2100 Fax: 053 839 2291 nfourie@ds.ncape.gov.za	Sent Notification and BID via Registered mail	No comments received to date
P. Seboko	Northern Cape – Economic Development	Private Bag X 6108, Kimberley 8300 Tel: 053 839 4002 Fax: 053 832 6805 alegrange@ncpg.gov.za	Sent Notification and BID via email	No comments received to date
A. Collet	National Department of Agriculture, Forestry & Fisheries	Tel: 012 319 7508 AnnelizaC@nda.agric.za	Sent Notification and BID via email	No comments received to date
Coleen Runkel	SANRAL – Western Region	Private Bag X 19, Bellville 7535	Sent Notification and BID via Registered mail	No comments received to date
Mr Bothma, Van de Wall &	Japies Rus (Landowner)	P O Box 294 , Kimberley 8300	Sent Notification	Sent reply that they were not interested

Partners (Kimberley)		Tel: (0)53 830 2900 Fax: (0)53 830 2936 Cell: 082 925 1133	and BID via Registered mail	in being registered as IA&P –see attached letter
Chrisjan Claassens	Farm Aarkop (Neighbour)	Farm Aarkop MncrpMn Postmasburg 8420 Tel: 053 311 4657	Sent Notification and BID via Registered mail	No comments received to date
Christie Claassens	Farm Marthaspoort (Neighbour)	Farm Marthaspoort MncrpMn Postmasburg 8420 Tel: 053 313 1580 Cell: 082 821 2728	Sent Notification and BID via Registered mail	No comments received to date
AW and Sara Claassens	Farm Kouwater (Neighbour)	Farm Kouwater MncrpMn Postmasburg 8420 Tel: 053 311 4649	Sent Notification and BID via Registered mail	No comments received to date
Koot Claassens	Farm Nabot (Neighbour)	Farm Nabot MncrpMn Postmasburg 8420 Tel: 053 311 0012 Cell: 082 481 4264	Sent Notification and BID via Registered mail	Boshof and Smuts will be acting on behalf of Mr K Claassens and would like to receive all project information see attached correspondence.
Mr. Gert Olivier	Emang	Cell: 082 494 4483 gertoli4@lantic.net	Sent Notification and BID via email	No comments received to date
Duncan	Emang	053 474 0596 info@kolong.co.za	Sent Notification and BID via email	No comments received to date

From: Natalie Birch <birch@hinet.co.za>
Subject: Notice of EIA
Date: 10 June 2013 12:58:23 PM SAST
To: abrahamsa@dwa.gov.za, ranwedzm@dwa.gov.za, tsantsabane.mm@lgnel.org.za, wessanc@yahoo.com, Ntsundeni.Ravhungoni@dmr.gov.za, dngxanga@siyanda.gov.za, andrea.vangensen@eskom.co.za, MtshulianaT@daff.gov.za, alegrange@ncpg.gov.za, AnnelizaC@nda.agric.za, gertol4@lantic.net, KSMUTS@sahra.org.za



3 Attachments 1 MB

Dear Interested and Affected Party

NOTIFICATION OF THE PROPOSED ESTABLISHMENT OF A MINE ON PORTION 4 (A PORTION OF JAPIES RUS) OF THE FARM MAGOLORING 668, PORTION 5 (A PORTION OF MARTHASPOORT) OF THE FARM MAGOLORING 668 AND PORTION 2 (A PORTION OF MARTHASPOORT) OF THE FARM MAGOLORING 668 BY EMANG MMOGO MINING RESOURCES.

Notice is hereby given in terms of Regulation 12 (2) (b) (i) of the regulations published in Government Notice No. R. 543, (in Government Gazette No. 33306 of 18 June 2010) under Section 24 of the National Environmental Management Act (NEMA) (Act no 107 of 1998) of the intention by Emang Mmogo Mining Resources to establish a mine on Portion 4 (A portion of Japies Rus) of Magoloring 668, Portion 5 (A portion of Marthaspoort) of Magoloring 668 and Portion 2 (A portion of Marthaspoort) of the farm Magoloring 668.

Ecological Management Services has been appointed by Emang Mmogo Mining Resources to act as the independent Environmental Consultants to undertake the required Environmental Impact Assessment for the activities listed under NEMA that are triggered as a result of the intended mining activities.

As an identified interested/affected party we would like to invite you to comment on the proposed project as part of the public participation section of the environmental impact assessment process. Attached is the background information document for the project which provides some information on the project.

Any objections or comments on the project should be submitted in writing (or the registration form can be filled in) and returned to:

Dr N Birch
P.O. Box 110470
Hadison Park
Kimberley
8308
Fax (053) 832 1561

Thank you for your participation in this process

Yc

[Emang Mmogo BID \(1 MB\)](#)



ECOLOGICAL MANAGEMENT SERVICES

Dr Natalie Birch
E mail: birch@hinet.co.za
Tel / Fax: +27 (0)53 832 1561



P.O. Box 110470
Hadison Park
8306
Tel/Fax 053 832 1561

10 June 2013

Dear Interested and Affected Party

NOTIFICATION OF THE PROPOSED ESTABLISHMENT OF A MINE ON PORTION 4 (A PORTION OF JAPIES RUS) OF THE FARM MAGOLORING 668, PORTION 5 (A PORTION OF MARTHASPOORT) OF THE FARM MAGOLORING 668 AND PORTION 2 (A PORTION OF MARTHASPOORT) OF THE FARM MAGOLORING 668 BY EMANG MMOGO MINING RESOURCES.

Notice is hereby given in terms of Regulation 12 (2) (b) (i) of the regulations published in Government Notice No. R. 543, (in Government Gazette No. 33306 of 18 June 2010) under Section 24 of the National Environmental Management Act (NEMA) (Act no 107 of 1998) of the intention by Emang Mmogo Mining Resources to establish a mine on Portion 4 (A portion of Japiies Rus) of Magoloring 668, Portion 5 (A portion of Marthaspoort) of Magoloring 668 and Portion 2 (A portion of Marthaspoort) of the farm Magoloring 668.

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Dr N Birch
P.O. Box 110470
Hadison Park
Kimberley
8306
Fax (053) 832 1561

Thank you for your participation in this process

Yours sincerely
Dr N Birch Pr Sci Nat.

List of REGISTERED LETTERS
Lys van GEREGISTREERDE BRIEWE
(with an insurance option/met 'n versekeringsopsie)
Full tracking and tracing/Volledige volg en spoor



Appoging/Assurance
 Algemene versigtigheid

EMU
 P.O. Box 110470
 Midrand, 2013

Enquiries/Navrae
 Toll-free number
 Tolvry nommer
0800 111 502

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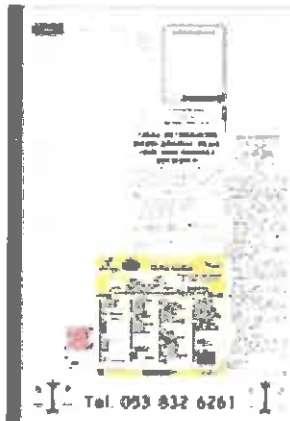
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Signature of accepting office
 Handtekening van aanvaarder/leantant

Date stamp
 Datumstempel

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Notice Of Environmental Impact Assessment

Notice is given in terms of Regulation 54(c) of the regulations published in Government Notice No R.33306 under Section 24 of the National Environmental Management Act (Act No 107 of 1998) and in terms of the Mineral and Petroleum Resources Development Act, 2002 (Act 28 of 2002) of the intention by Emang Mmogo Mining Resources (Pty) Ltd to establish a mine on Portion 4 (A portion of Japies Rus), Portion 5 (A portion of Marthaspoort) and Portion 2 (A portion of Marthaspoort) of the farm Magoloring 668, within the Siyanda District Municipality. The establishment of the mine will trigger activities that are listed in terms of the Environmental Impact Assessment Regulations (R543 to R547) published in the Government Gazette of 18 June 2010 under Section 24 of the National Environmental Management Act (Act no 107 of 1998) and is therefore subject to an environmental impact assessment process. In order to receive information about the project and comment on the project please ensure that you are identified as an interested and/or affected party by submitting your name, contact information and interest in the matter in writing within two weeks of publication of this notice to:

The Public Participation Consultant
Ecological Management Services
PO Box 110470
Hadison Park 8306
Fax (053) 832-1561
birch@hinet.co.za

KENNISGEWING VAN OMGEWINGSIMPAKSTUDIE

Hiermee word kennis gegee in terme van Regulasie 54 (c) van die regulasies gepubliseer in Regeringskennisgewing no. R 33306 kragtens artikel 24 van die Wet op Nasionale Omgewingsbestuur (Wet no. 107 van 1998) en in terme van die Minerale- en Petroleumontwikkelingswet, 2002 (Wet 28 van 2002), van die voorneme deur Emang Mmogo Mining Resources (Pty) Ltd, 'n myn op Gedeelte 4 ('n gedeelte van Japies Rus), Gedeelte 5 ('n gedeelte van Marthaspoort) en Gedeelte 2 ('n gedeelte van Marthaspoort) van die plaas Magoloring 668, in die Siyanda Distrik Munisipaliteit te vestig.

Die vestiging van die myn sal aktiwiteite aktiveer wat in terme van die Regulasies oor Omgewingsimpakbepaling gelys is (R543 tot R547) gepubliseer in die Staatskoerant van 18 Junie 2010 kragtens artikel 24 van die Wet op Nasionale Omgewingsbestuur (Wet no. 107 van 1998) en is dus onderhewig aan 'n omgewingsimpakstudieproses.

Ten einde inligting oor die projek te ontvang en kommentaar te lewer oor die projek kan u verseker dat u geïdentifiseer word as 'n belangstellende en/of geïnteresseerde party deur die indiening van jou naam, kontakbesonderhede en belang in die saak, skriftelik, aan:

**Die Openbare Deelname Konsultant
Ecological Management Services
PO Box 110470
Hadisonpark 8306
Faks 053 832 1561
birch@hinet.co.za**

SPORT Bulletin

JUMBO Inquainted

Richardson 73 School R99

Redvluguitslae n klub bekend

Soet én sout vir spelers

KENNISGEWING VAN OMGEWINGSIMPAKSTUDIE

BLOK

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SPARES WINKOR 156

Kalahari Bulletin notice



Site notices



Van De Wall & Vennote | Partners

Lid van die Phatsheane Henney Groep van Assosiasie Firms
Member of the Phatsheane Henney Group of Associated Firms

Our reference : JJ BOTMA/mva/C10634
Your reference : Dr H Birch
Date : 2013-06-14

ECOLOGICAL MANAGEMENT SERVICES
PO Box 110470
Hadlson Park
8306

VIA E-MAIL: blrch@hinet.co.za

Dear Sir

RE: CC & AM CLAASSENS PROSPEKTEERREG: EMANG MMOGO MINING RESOURCES

We refer to the above matter and your letter dated 31 May 2013.

We already forwarded to Mr Albie Van Zyl the Draft Land Service Agreement for the perusal of Emang Mmogo Mining Resources and their comments.

Please provide us with your comments in this regard.

We however do not wish to register on the project and the public participation and request that all communication and agreements to be entered into will be consulted between the parties and their representatives.

Yours faithfully

J J BOTMA
VAN DE WALL AND PARTNERS

Van de Wall & Partners - VAT no./BTW nr: 4588115384

t. (+27) 063 630 2900 | f. (+27) 063 630 2936

ansko@vanwall.co.za | www.prfirms.co.za/VdW

Ground Floor/Onsloer, Van De Wall Building/Gebou, 8 Southey Str, Kimberley, 8301, South Africa

PO Box/Postbus 294, Kimberley, 8300 | Doorn 3, Kimberley

partners/vennote

JJ Botma (B.Proc)

DR Henley (B.Proc, Dip. Constitutional

Litigation, Dip. Project Management)

KJ Spengenberg (B.Juris, LL.B)

LL. Molegare (LL.B)

B. Houbell (B.Proc)

O. Cronje (B.Juris, LL.B)

SM Adonis (LL.B)



Van De Wall & Vennote Partners

From: Natalie Birch <birch@hinet.co.za>
Subject: Re: CC & AM CLAASSENS // EMANG MMOGO MINING (PROSPECTING RIGHT)
Date: 04 July 2013 10:35:08 AM SAST
To: marilize <marilize@vanwall.co.za>



2 Attachments 11 KB

Van De Wall & Venote/Partners
Ref JJ BOTMA/mvz/C10534

ATT: Mr JJ Bothma & CF Moller

Dear Sir

Thank you for your communication received on 2 July 2013. I have requested a copy of the Draft Land Service Agreement from Emang Mmogo Mining Resources, in order to include any points from this agreement that may be relevant for Environmental Impact Assessment which we are undertaking for the activities listed under NEMA.

Should you have any additional comments for inclusion in the scoping process please forward to our office at your earliest convenience.

Your sincerely

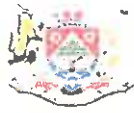
Dr N Birch



EMS

ECOLOGICAL MANAGEMENT SERVICES

Dr Natalie Birch
E mail: birch@hinet.co.za
Tel / Fax: +27 (0)53 832 1561



agriculture, land reform
& rural development
Department
agriculture, land reform & rural development
NORTHERN CAPE PROVINCE
REPUBLIC OF SOUTH AFRICA

Sub-Directorate: Sustainable Resource Management

PO Box 52, Upington, Northern Cape, 8800, Tel: (054) 3378000, 0718607551
Fax: (054) 3378001, E-mail: moenen1@gmail.com

Our Reference:
Your Reference:
NEAS REF No.

Enquiries: N.J. Toerien
Date: 29/07/2013

Dr N. Birch
Po Box 110470
Hadison Park
Kimberley
306

Attention : Dr N. Birch

PROPOSED ESTABLISHMENT OF A MINE

The proposed project involves the establishment of a mine and associated infrastructure on portion 4 (a portion of Japies Rust)of the farm Magoloring 668, portion 5 (a portion of Marthaspoort) of the farm Magoloring 668 and portion 2 (a portion of Marthaspoort) of the farm Magoloring 668 by Emang Mmogo mining resources in the Northern Cape province.

The Department of Agriculture, Land Reform and Rural Development is guided by Act 43 of 1983.
With the development of the abovementioned activities the developer must take care of the following:

Article 7.(3)b of Regulation 9238: CONSERVATION OF AGRICULTURE RESOURCES, 1983 (Act 43 of 1983)
Utilisation and protection of vlees, marshes, water sponges and water courses

7.(1) "..... no land user shall utilize the vegetation in a vlei, marsh or water sponge or within the flood area of a water course or within 10 meters horizontally outside such flood area in a manner that causes or may cause the deterioration of or damage to the natural agriculture resources."

(3)(b) "cultivate any land on his farm unit within the flood area of a water course or within 10 meters horizontally outside the flood area of a water course"

Take also care of the following: who is the current landowner, will it be a subdivision of land or a lease contract between the developer and the landowner?

Rezoning will also be applicable because the land use will change from the current agricultural status.

The Department of Agriculture, Land Reform and Rural Development foreseen no problems in the development as mentioned above as long as the developer adheres to the articles of Act 43 of 1983

Please contact the undersigned if any additional information is required.
Thank you

N.J. Toerien
SRM CONTROL TECHNICIAN
DEPT. OF AGRICULTURE, LANDREFORM AND RURAL DEVELOPMENT



Pretoria
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Cnr: Rabie & Glover Ave
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ankia@boshoffsmuts.co.za (Cape Town)
hanlie@boshoffsmuts.co.za

IN ASSOCIATION WITH CONVEYANCERS * IN ASSOSIASIE MET AKTE VERVAARDIGERS

Ons verw: J Smuts / jc / BC0510

U verw:

10 Julie 2013

Ecological Management Services

PER TELEFAKS: (053) 823-1561

EN

PER E-POS: blrch@hlnet.co.za

EN

PER E-POS: EMS4@TELKOMSA.NET

Geagte Meneer/Mevrou,

**IS: OMGEWINGSIMPAKSTUDIE: EMANG MMOGO MINING RESOURCES (EDMS) BPK
INTENSIE OM TE MYN OP GEDEELTE 4 ('N GEDEELTE VAN JAPIES RUD), GEDEELTE 5 ('N
GEDEELTE VAN MARTHASPOORT) EN GEDEELTE 2 ('N GEDEELTE VAN MARTHASPOORT)
VAN DIE PLAAS MAGOLORING 668, IN DIE SIANDA DISTRIK MUNISIPALITEIT**

Ons verwys na bogemelde aangeleentheid en bevestig dat ons namens Mnr Koot Claassens op
tree welke die grondeienaar is van die plaas Nabol in die omgewing.

Directors: Rudolph Marthinus Boshoff - B Proc (Unisa), Johannes Petrus de Clercq Smuts - LLB (UP)
Professional Assistant (Cape Town): Ankie Peiser - LLB (UP)
Office Manager: Hanlie Boshoff
Associates: F van Wyk Inc - Conveyancers/Notaries & Heymans & Associates
BOSHOFF SMUTS INCORPORATED: 2007/006650/21
VAT: 437 02 3638 4

Ons bevestig ook dat ons alle dokumente sal ontvang insake hierdie aansoek.

Indien dokumente per cd moet versend word kan u dit gerus stuur na ons posadres alternatiewelik kan enige verdere vorm van kommunikasie na skrywer se direkte faks en e-pos gestuur word.

Die uwe.

BOSHOFF SMUTS ING.

PER:

J SMUTS

Direkte faks: 086 529 2848

***Gedikteer / nie nagegaan / nie geteken dokument elektronies versend.
Dictation / not reviewed / not signed electronically sent.***

From: Natalie Birch [mailto:birch@hinet.co.za]
Sent: 15 July 2013 10:14 AM
To: johan@boshoffsmuts.co.za
Subject: Emang Mmgog EIA

Dear Sir

We confirm receipt of your email and have registered you on the I&AP database so that you will received the EIA documentation when it becomes available.

Thank you for your participation in the process

Regards
Dr N Birch



ECOLOGICAL MANAGEMENT SERVICES

Dr Natalie Birch
E mail: birch@hinet.co.za
Tel / Fax: +27 (0)53 832 1561

From: WESSA Northern Cape <wessanc@yahoo.com>
Re: Notice of EIA
Date: 08 July 2013 11:59:36 AM SAST
To: Natalie Birch <birch@hinet.co.za>
Reply-To: WESSA Northern Cape <wessanc@yahoo.com>

2 Attachments: 11 KB

TO WHOM IT MAY CONCERN

Unlike most other Regions, the Northern Cape Region of WESSA is unstaffed, and run by a group of volunteers. We currently have nobody on our Committee to handle the Conservation portfolio, and pressure of work means that we are not able to attend meetings or participate in Environmental Impact Assessments at this time. Please note that a lack of response does not mean that we condone this project; it simply means that we do not have the capacity to respond to all correspondence received.

In the interest of saving paper, trees and costs, please do not post any hardcopies or discs to us, unless specifically requested. We cannot currently deal with these and they will be destroyed.

Our fax 053 842 1433 belongs to the McGregor Museum, and should only be used under exceptional circumstances, and for single pages only. This is a communal machine, so please mark all documents clearly 'WESSA', or direct them to me by name. We prefer to communicate by e-mail.

Should your project fall outside the Northern Cape Province, consult our website www.wessa.org.za for the contact details of the relevant WESSA office.

Please do not hesitate to contact me should you require any further information.

Suzanne Erasmus
Chairperson
WESSA (Northern Cape Region)
PO Box 318
8300 Kimberley
Tel 053 839 2717 w
Fax 053 842 1433 w
Cell 082 846 7855
wessanc@yahoo.com
<http://www.wessa.org.za>

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Background Information Document

The proponent, Emang Mmogo Mining Resources (Pty) Ltd, proposes to establish a mine on portion 4 (A portion of Japies Rus), Portion 5 (A portion of Marthaspoort) and Portion 2 (A portion of Marthaspoort) of the farm Magoloring 668 in Tsantsabane Local Municipality, Siyanda District, Northern

Cape.

The proposed establishment of the mine will trigger certain listed activities in terms of the National Environmental Management Act, 1998 (Act 107 of 1998) and is therefore subject to an environmental impact assessment process.

YOUR ROLE

You have been identified as an interested and/or affected party (IAP) who may want to be informed about the proposed project and have input into the environmental assessment process. All comments will be recorded and presented to the project team. You will receive feedback on how your comments have been taken into account and the outcome of the assessment.

This project entails the mining of manganese and iron ore by means of open pit mining.

The ore will be mined from open pit section using conventional truck and shovel methods. Ore will be drilled and blasted in the open pit section, loaded onto haul trucks and transported to a crushing site. After crushing the ore will then be stockpiled and processed. The finished product will be transported off-site by rail or trucks.

The development is expected to include access roads, administration buildings, workshops, storage/ lay-down yards, open pits, processing plant, slimes dam, water dams, electricity substations and possibly a section of railway line.

The area has a long history of mining. The Postmasburg Manganese Field (PMF) was discovered in the early 1920's and The Manganese Corporation Ltd was formed in 1929 to mine the deposit. Mining in the area has been almost continuous since these times with Associated Manganese Mines of South Africa Ltd. (Assmang), South African Manganese Ltd. (later SAMANCOR) and Iron and Steel Corporation (ISCOR), together with

a number of smaller companies all exploiting these manganese fields.

The area under application was actively exploited during the 1960's and 70's by Assmang. Assmang and Samancor ceased their operations in the region during the early 80's in favour of the higher grade manganese deposits in the Kalahari Manganese Field. The mine was effectively abandoned without any form of rehabilitation being undertaken.

During 2007 the demand for manganese increased and due to constraints in supply from the KMF opportunities opened up for additional producers to enter the market. Also technology improvements in steel production now allow for ore with lower manganese content to be used leading to a favourable price for lower grade manganese. Together these facts have led to the revival of operations in the PMF and further exploration in the area and the proposed re-establishment of this mine.

Public Participation

The public participation provides Interested and Affected Parties (I&APs) with the opportunity to become actively involved in the project. The public participation process consists of identifying and registering I&APs. Allowing I&APs the opportunity to raise issues and concerns, ask questions and comment on the proposed project.

Construction of haul roads

The construction of haul roads, for hauling ore and providing supplies to the mine site

Site preparation and clearing

Areas will be cleared for the establishment of laydown areas, staging areas, offices, slimes dunes and the central processing area.

Disposal of overburden and waste rock

Ores buried under a layer of ordinary soil or rock (called 'overburden' or 'waste rock') will be moved or excavated to allow access to the ore deposit.

These wastes, will be deposited on-site, either in piles on the surface or as backfill in open pits.

Ore extraction

After the overburden, has been removed mineral ore will be extracted and transported to processing facilities using the haul roads

Rehabilitation

There will be concurrent rehabilitation as all the open pits will be immediately backfilled once the ore has been removed. Historically disturbed areas will also be filled and leveled as part of the mining process.



The area under application has been subjected to previous mining activity, however the mine was abandoned in the early 1980's without any rehabilitation and closer



Background Information Document



This initial phase of the EIA process consists of an Environmental Scoping Study (ESS). The environmental scoping phase has four key objectives:

1. To provide for the involvement of IAPs in the identification of issues to be addressed in the EIA
2. To identify reasonable alternatives.
3. To ensure that all key issues and environmental impacts that will be generated by the project are identified
4. To address these issues and impacts where possible, or ensure that the key issues are referred to the next phase, the Environmental Impact Assessment (EIA).

Once the scoping phase has been completed the second phase will be initiated which is the Environmental Impact Assessment phase. During this phase all the issues identified during scoping are assessed, and any specialist studies identified as necessary during scoping will be undertaken. The results of this study are presented in the Environmental Impact Report (EIR).

As part of the ESS and subsequent EIA a public participation process has to be undertaken, which will provide Interested and Affected Parties (I&APs) with the opportunity to become actively involved in the project.

This document, the Background Information Document (BID), is intended to provide information about the EIA being undertaken for the proposed development and provides:

- An overview of the project;
- An overview of the legislative context and a description of the manner in which the EIA will be undertaken;

- An indication of how interested and affected parties (IAPs) may become involved in the project; and
- Contact details of the person to whom IAPs may submit their issues and concerns associated

Potential Impacts may include:

- Dust Pollution
- Impact on surface water quality and quantity
- Impact on groundwater quality and quantity
- Temporary change in topography caused by the opencast operation, plant infrastructure and waste disposal facilities
- Road and traffic impacts
- Noise impacts
- Visual impacts
- Impact on archaeological and culturally significant sites
- Soil – erosion compaction & pollution
- Loss of biodiversity
- Potential change in post mining land use and land capability
- Investment in local and regional economy
- Employment opportunities
- Influx of migrant workers to the area
- Impact on the lifestyle and services of surrounding communities

HOW TO RESPOND

FILL IN THE COMMENTS/
REGISTRATION FORM.

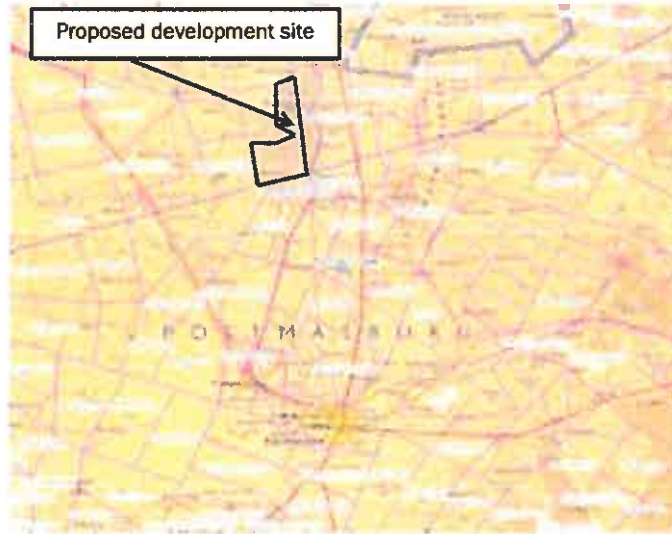
YOU CAN EMAIL, FAX OR
POST YOUR COMMENTS
AND/OR OBJECTIONS TO

**THE PUBLIC
PARTICIPATION
CONSULTANT**

PO BOX 110470
HADISON PARK 8306
FAX: (053) 832 1561
EMAIL: birch@hinet.co.za



Mine Locality



APPENDIX 2:

DESCRIPTION OF THE ENVIRONMENT TO BE AFFECTED

1. Baseline Environmental Situation

This section provides a description of the key characteristics of the biophysical and socioeconomic environment within which the proposed project is located. The description of the affected environment is based on relevant information presented in the scientific literature. Understanding of the affected environment was enhanced by a field trip conducted to the study area.

The Emang Mmogo project is located in the Northern Cape Province of South Africa, approximately 30km north of Postmasburg. The property is readily accessible from the R325, which is a tarred, provincial road leading from Kathu to Postmasburg. A gravel road provides access from the R325 to the village of Glosam. The village of Lohatla is located north east of the site.

The railway line from Sishen to Postmasburg is situated directly east of the properties. The Ertsrand railway siding is approximately 2.2km southeast of the project area. The Gamagara water pipeline passes the study site west of the R325.

1.1 Geology

The Emang Project is located within the Maremane Dome in the Northern Cape Province. The Manganese deposits belong to the bixbyite rich Western Manganese Belt of the Postmasburg Manganese Field. (Tenure Minerals Consultants, 2012).

The manganese deposits of the Postmasburg area are related to the unconformity between the Campbellrand Subgroup of the Ghaap Group and the Gamagara Formation of the Maremane dome. It has also been commented that the Campbellrand dolomite sequence and the Manganoore Iron Formation of the Ghaap Group outcrop on the dome. This is unconformably overlain by conglomerate or shale of the Gamagara formation. Supergene bixbyite rich manganese deposits are developed in the Sishen shale member of the Gamagara formation where the Gamagara formation rests on the manganiferous dolomite of the Reivilo Formation of the Campbellrand Subgroup.

The slumping of the manganese deposits took place in the sinkholes that formed in the Campbellrand Subgroup dolomites during a period of erosion, before the deposition of the Gamagara Formation. In the central part of the Maremane dome the palaeosinkholes were filled with alumina-rich shale and manganese wad. Thrust faulting in the region has caused that the Ongeluk lava of the Transvaal Supergroup is now overlying the Gamagara Formation (Tenure Minerals Consultants, 2012).

The manganese deposit at the Emang Mmogo Manganese Project is irregular in shape due to the formation conditions, where the manganese deposit slumped into palaeosinkholes. This caused topography of dolomite pinnacles with pockets of manganese deposits. The most common manganese mineral present is bixbyite, which also occurs in the recrystallized wad.

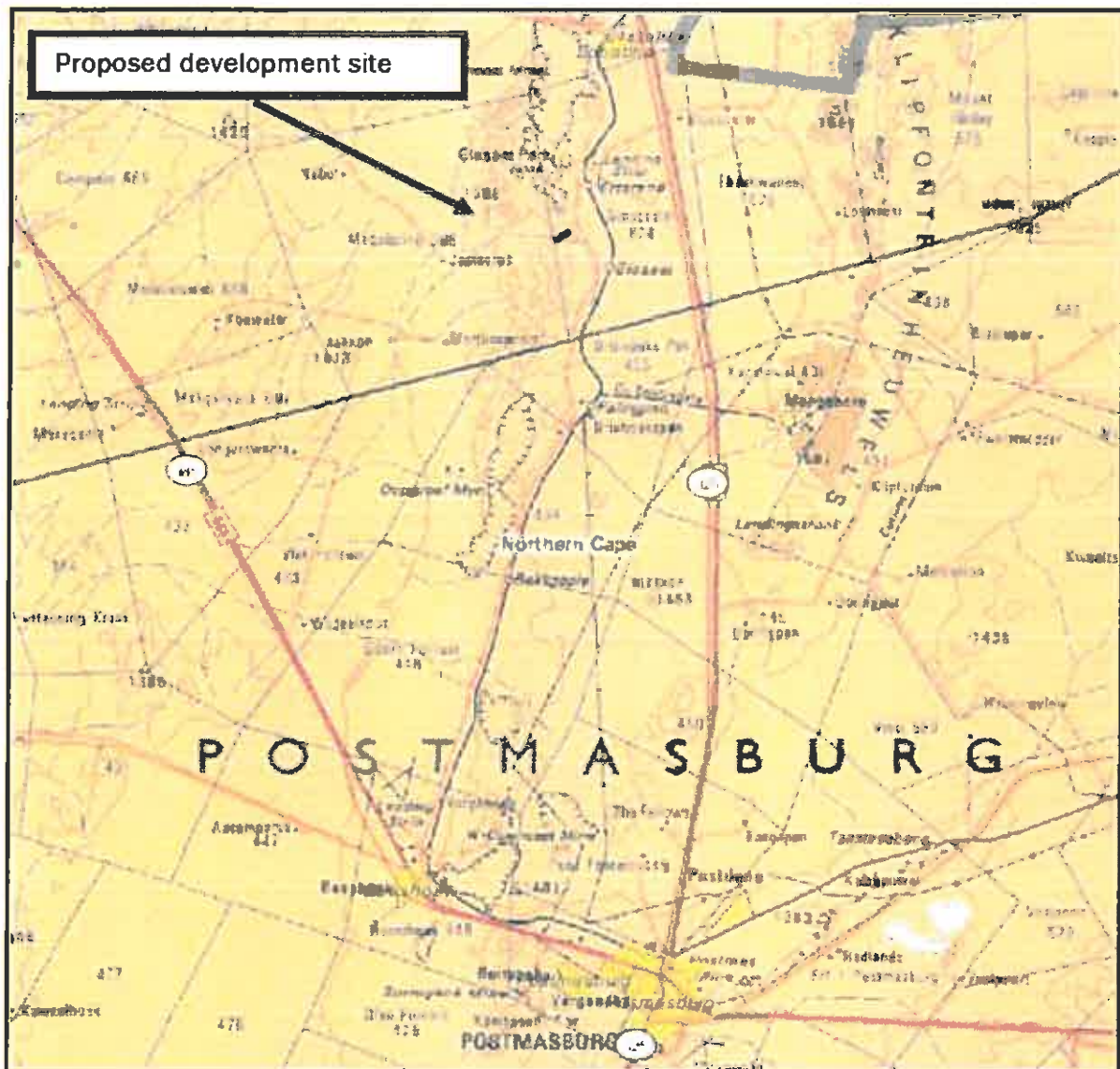


Figure 1.1: Locality map of the proposed mining development in relation to Postmasburg.

Palaeosinkhole development and supergene enrichment took place during an erosion period that preceded the emplacement of the Gamagara Formation. It would seem that the Manganore Iron-formation slumped into sinkholes. Brecciation and recrystallization took place (Tenure Minerals Consultants, 2012).

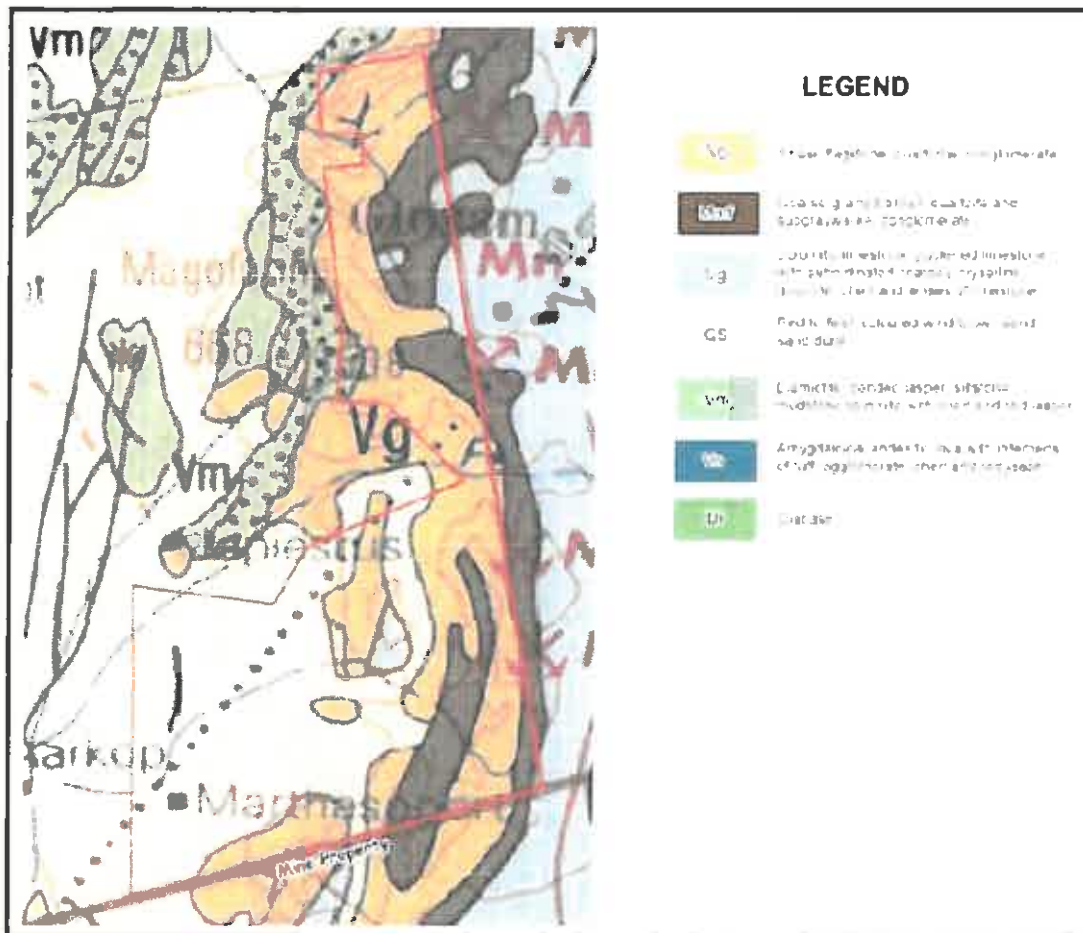


Figure 1.2: Geological map of the study area and immediate surrounds

1.2 Climate

The climate of the area is typical of a semi-desert with very hot summers and cold winters. Temperature data for Postmasburg (as supplied by the South African Weather Service) for the period 1998-2011 is summarized in Table 1.1.

January is the hottest month with an average maximum daily temperature of 32.7°C and July the coldest with an average maximum daily temperature of 19.5°C. During June and July the average minimum daily temperature drops to <3°C.

The maximum temperature recorded during this period was 39.8°C and the lowest 6.9°C.

The study area falls within the summer rainfall area with a mean annual precipitation (MAP) of 385.3 mm for the study area. The average monthly precipitation and standard deviation (SD) values for Lomoteng Mine just to the north of the proposed mine, are summarized in Table 1.2 below.

Table 1.1: Temperature data for Postmasburg (South African Weather Service)

Month	Ave Temp (°C)	Max Temp (°C)	Min Temp (°C)	Ave Rain (mm)
Jan	23.7	32.7	16.1	40.8
Feb	22.8	31.7	16.1	79.1
Mar	21.3	30.3	14.6	29.3
Apr	17.0	26.4	11.0	22.0
May	11.9	22.2	5.5	9.3
Jun	8.9	20.0	2.3	5.2
Jul	8.4	19.5	1.3	1.1
Aug	11.3	22.3	3.5	3.2
Sep	15.7	26.5	7.0	7.8
Oct	19.7	29.7	10.9	17.9
Nov	21.7	31.4	12.9	15.0
Dec	23.8	33.3	15.5	23.6
Mean Annual Precipitation (mm)				254.3
Absolute min temp recorded (26/07/2004)				-6.9 °C
Absolute max temp recorded (22/12/2009)				39.8 °C

Table 1.2: Precipitation statistics for Lomoteng (Source: South African Rain Atlas)

Average monthly precipitation for Lomoteng (Station coordinates: S28° 01' and E023°01')		
	Mean (mm)	SD (mm)
Jan	62.1	43.6
Feb	71.5	47.5
Mar	74.9	47.8
Apr	41.9	34.3
May	16.4	19.3
Jun	5.4	11.0
Jul	3.9	8.8
Aug	5.5	10.6
Sep	10.8	15.2
Oct	20.1	21.1
Nov	29.7	26.1
Dec	43.1	33.9
Annual	385.3	104.6

The table indicates that ~84% of the mean annual precipitation occurs during the months November to April. This phenomenon is characteristic of a summer rainfall area. March is the wettest month with an average precipitation of ~75 mm whilst July is the driest with <4 mm.

1.3 Topography, Land Type and Soil

The topography is mountainous with a gentle slope down towards the west, varying between approximately 1465 m amsl at the eastern boundary and 1507 m amsl at the western, with a non-perennial stream at approx. 1408 m amsl between the two topographic highs. The terrain is described as high open hills and ridges with an average slope angle of between 6 – 8%.

The topography of the study area has already been disturbed by previous mining activities. The study area was mined by Assmang Ltd in the 1960 to 1980's. Assmang did not undertake any rehabilitation on the site after they seized their operations, thus there are pits and large stockpiles all over the study area.

The study area falls with the Ag & Ib, land types (ARC – Institute for Soil Climate & Water), a land-type being an area that is uniform with respect to terrain form, soil patterns and climate. The soils within the Ag landtype are typically classified as EB soils, which are soils with minimal development, usually shallow on hard or weathering rock, with or without intermittent diverse soils. Lime is generally present in part or most of the landscape. They are non-calcareous < 450 mm deep with < 15% clay content.

The Ib landtype is a miscellaneous land class, and consists of miscellaneous soils and rocks. The most common soils are Hutton and Mispah soil formations (soils with High percentage rocks and bedrock-almost no A horizon) and are described as low potential soils.



Figure 1.3: The topography of the proposed development site on the western side.



Figure 1.4: The effects of previous mining activity on the topography of the proposed development site.

1.4 Land Capability

The area is described as non-arable low potential grazing land. The grazing capacity is between 16 -29 ha per LSU. Owing to the open pits and waste dumps currently on site the area is considered mostly unsuitable for stock farming.

1.5 Land Use

1.5.1 Pre-project land use

Historical mining on the project area occurred from 1960 to the early 1980's by Associated Manganese (Assmang). Mining operations ceased when Assmang's primary area of operation moved to the Kalahari Manganese Field. Some of the abandoned pits are being used as illegal dumping sites by surrounding land users. Some prospecting activity has recently taken place on site.



Figure 1.5: a) Dolomite intrusions visible from the previous mining activity, b) some of the waste dumps present on the property, c) the area contains numerous pits and dumps d) one of the pits being used as an illegal dumping site.

1.5.2 Existing structures

- The railway line from Sishen to Postmasburg is situated directly east of the properties.
- The Ertstrand railway siding is approximately 2.2km southeast of the project area.
- The Gamagara water pipeline passes the study area west of the R325
- A gravel road links the study area to the main provincial road (R325)
- There are existing access roads within the study area.
- The mining village of Glosam is adjacent the project development site on the west
- Lohatla village is located to the north east of the study site
- Landing strips exist in both Postmasburg and Kathu
- There are several boreholes which were part of the exploration research. None of these is however equipped for drinking water
- The northern boundary fence has diamond mesh while the remainder of the boundary fences consists of 1.2 m eight string stock proof fencing.
- There are presently 2 camps on the farm but some of the internal fences are in poor condition.

1.5.3 Surrounding land use

Most of the area immediately surrounding the study area is also subject to mining projects. The other land use is extensive domestic stock farming. The following is the list of mining operations that are currently being undertaken within the surrounding area.

Mine	Ownership
Bishop	PMG Mining
Lomoteng	Private
Lohatlha	Chabua Minerals Limited
Driehoekspan	Maremane Mining Limited
Glosam	Assmang
Manganore	Union Mines

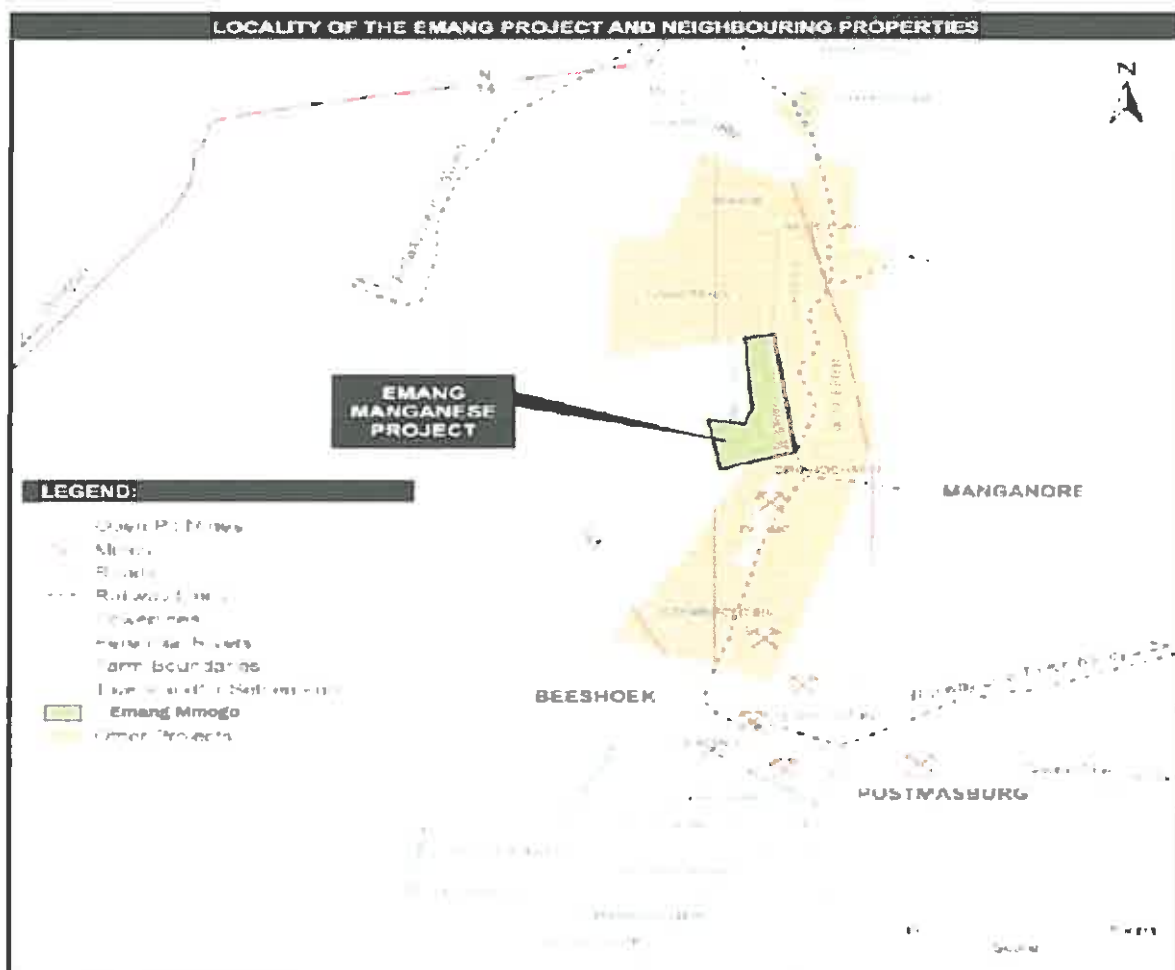


Figure 1.6: The location of other mining activities in the surrounding areas adjacent to the proposed development site.

1.6 Flora and Fauna

1.6.1 Vegetation description

The study area falls with three vegetation types, Kuruman Mountain Bushveld, Kuruman Thornveld and Olifantshoek Plains Thornveld (Mucina & Rutherford 2006).

The Kuruman Mountain bushveld is described as occurring on rolling hills with gentle to moderate slopes and hill pediments with an open shrubveld. The grass layer is generally well developed and the shrub layer is dominated by *Lebekia macrantha*. Other important taxa include, *Rhus lancea*, *Euclea crista*, *Rhus ciliata*, *Gomphocarpus fruticosus*, *Antheophora pubescens*, *Digitaria eriantha*, *Eustachys paspaloides*, *Geigeria omativa*, and *Helichrysum cerastiodes*.

The Kuruman Thornveld is typically found on flat rocky plains and some sloping hills. It has a very well developed closed shrub layer and well developed open tree stratum. Important taxa within this vegetation type includes, *Acacia erioloba*, *Acacia mellifera*, *Lycium hirsutum*, *Tarchonanthus camphoratus*, *Acacia hebeclada*, *Aristida meridionalis*, *Eragrostis lehmanniana*, *Dicoma schinzii*, *Limeum fenestratum* and *Nolletia ciliaris*.

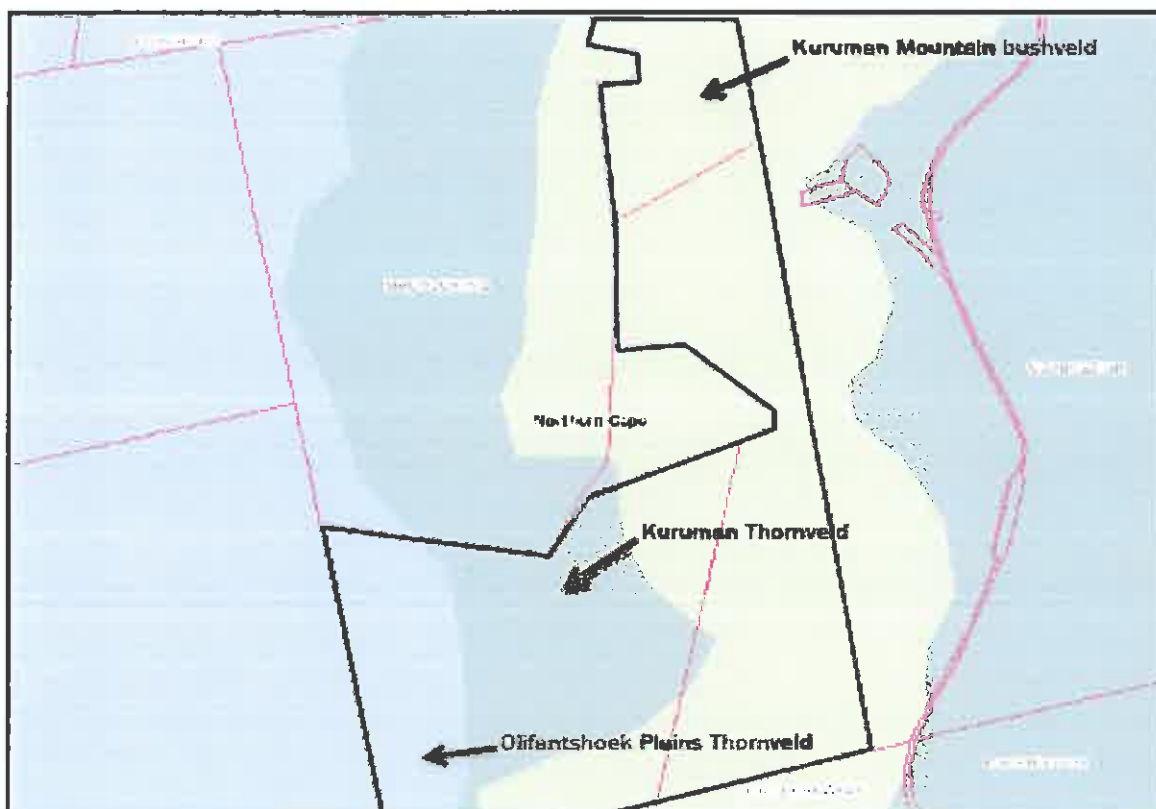


Figure 1.7: The vegetation map of the study area according to Mucina & Rutherford (2006).

The Olifantshoek Plains Thornveld is found on plains with an open tree and shrub layer, formed by species such as *Acacia luederitzii*, *Boscia albitrunca* and *Rhus tenuinervis*. The grass layer is usually sparse with species such as *Schmidtia pappophoroides*, *Stipagrostis uniplumis* and *Aristida congesta*.

The area has been subjected to previous mining activity that was not rehabilitated and consequently waste dumps and open pits cover much of the study area. Most of the disturbed areas have been re-colonised by vegetation. Although bare patches of exposed substrate are evident, there are many small trees and shrubs through the area. The vegetation within the disturbed areas is however considered secondary in nature.

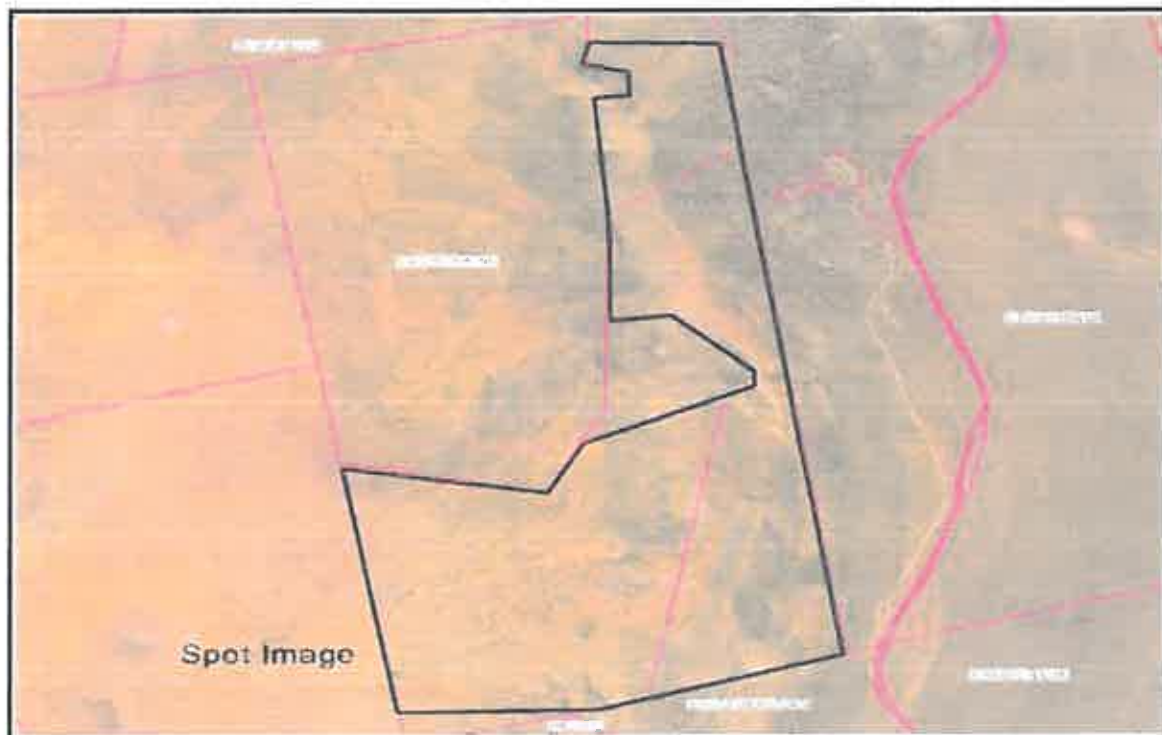


Figure 1.8: SPOT Image of the study area.

1.6.2 Floral species of conservation concern

Historical records of Red List plant species were consulted in order to determine the likelihood of any such species occurring in the study area. Lists of plant species previously recorded in the quarter degree grids in which the study area is situated were obtained from the South African National Biodiversity Institute. *Hereroa wilmaniae* L.Bolus a perennial succulent has been recorded within the quarter degree square 2823 AA in which the study area falls, this species is listed as data deficient (DDT). There have been no other species recorded on site or in the quarter degree grid that appear on the IUCN-Red Data List. Protected tree species that may occur on the property could include, *Acacia erioloba*, and *Boscia albitrunca*.

1.6.3 Faunal species of conservation concern

Protected faunal species found in habitat typical of the study area and surrounding areas that could have the potential for occurrence on site would include:

Scientific Name	Common Name	Threatened Status
<i>Pyxicephalus adspersus</i>	Giant Bullfrog	NT
<i>Python natalensis</i>	Southern African Python	VU
<i>Atelerix</i>	South African Hedgehog	NT
<i>Cloeotis Percivali</i>	Short-eared Trident Bat	CR
<i>Crocidura Cyanea</i>	Reddish-grey Musk Shrew	DD
<i>Crocidura hirta</i>	Lesser Red Musk Shrew	DD
<i>Elephantulus brachyrhynchus</i>	Short-snouted Elephant-shrew	DD
<i>Elephantulus intufi</i>	Bushveld Elephant-shrew	DD
<i>Hyaena brunnea</i>	Brown Hyaena	NT
<i>Laephotis botswanae</i>	Botswana Long-eared Bat	VU
<i>Lemniscomys rosalia</i>	Single-striped Mouse	DD
<i>Leptailurus Serval</i>	Serval	NT
<i>Manis temminckii</i>	Pangolin	VU
<i>Mellivora capensis</i>	Honey Badger	NT
<i>Miniopterus schreibersis</i>	Schreibers Long-fingered Bat	NT
<i>Pipistrellus rusticus</i>	Rusty Bat	NT
<i>Poecilogale albinucha</i>	African Weasel	DD
<i>Rhinolophus clivus</i>	Geoffroy's Horseshoe Bat	NT
<i>Rhinolophus darlingi</i>	Darling's Horseshoe Bat	NT
<i>Rhinolophus hildebrandtii</i>	Hildebrandt's Horseshoe	NT
<i>Suncus lixus</i>	Greater Dwarf Shrew	DD
<i>Tatera Leucogaster</i>	Bushveld Gerbil	D

The Kori Bustard, Lappet-faced Vulture, White-backed Vulture, Martial Eagle, Tawny Eagle and Secretary Bird are Red Listed Birds, which may also occur in the area.

1.7 Hydrology

1.7.1 Surface hydrology

The study area lies within Lower Vaal Water Management Area. Two sub-catchments have been identified for the study area to determine the drainage of water across the area:

- a) The Northern sub catchment and
- b) Southern sub catchment.

The northern sub-catchment (indicated in green in **Figure 1.9**) lies within the Drainage region D41J. The surface water drainage originates from the eastern and western boundaries of the proposed mining area. The flow follows the topographic low to the non perennial stream in the center of the study site and then flows north into the Dam (identified as BP01 in **Figure 1.9**, which is located outside the mining area). Water from this dam continues along the non-perennial stream towards the adjacent farms.

The southern sub catchment (indicated in blue in **Figure 1.9**) lies within the Drainage region D73J. The surface water drainage from the eastern boundary crosses the study area in a westerly direction. Water follows the topographic low from the eastern boundary to the west from where it follows the non perennial stream located to the south west of the mining area.

Surface water impoundments within the area have been identified as BP01 and BP02 in **Figure 1.9**. Both of these are constructed sand dams that hold water when water flows in the non-perennial water courses during periods of high rainfall.

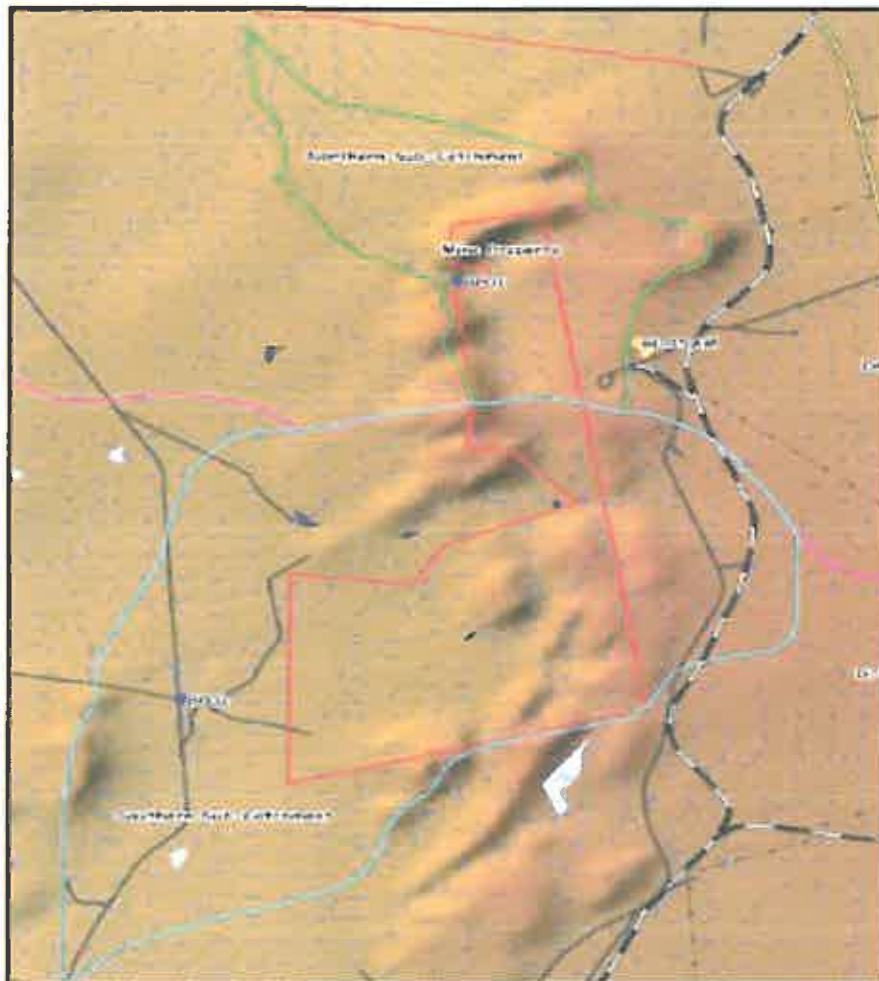


Figure 1.9: Surface catchment areas and drainage within and surrounding the study area.



Figure 1.10: The dams BP01 and BP02

1.7.2 Geohydrology

Groundwater in this area occurs in both secondary (or fractured rock) aquifers and primary aquifers. The first is formed by jointing and fracturing of the otherwise solid bedrock. These fractures are formed by faulting, cooling of magma outflows, intrusion of dolerite dykes, folding and other geological forces. Generally the harder rocks (quartzite, jasper and lava) fracture more easily under stress to form superior aquifers compared to the softer sediments like shale which rather deform than fracture under stress.

Dolomite of the Ghaap Group has generally good groundwater potential and yields in excess of 2 l/s are common. Groundwater can be developed from the fractures joints and solution cavities commonly associated with faults and diabase dykes as well as from fractured sub-ordinate carbonaceous shales beds. Faults and dykes can often easily be targeted due to the occurrence of calcrete mounds and trees along the structures. Solid structure less dolomite however should be avoided when siting boreholes.

There are a number of boreholes situated within and around the study area. Of these 7% are for both domestic and livestock purposes, 4% are used solely for domestic purposes, 27% for livestock purposes and 1% for irrigation. Most of the boreholes that have been drilled within and around the study area, have been drilled for exploration purposes.

The groundwater table depth in the area ranges between 13.66 and 60.5 mbgl. The water levels measured within the study area ranges between 13.66 and 60.5 mbgl. In general water quality in the area is within the standards for domestic use, there are some areas that have high manganese concentrations. This can be associated with natural occurrence of manganese in this area. The levels of NO₃-N concentration in some areas are also high which could be related to livestock farming activities.

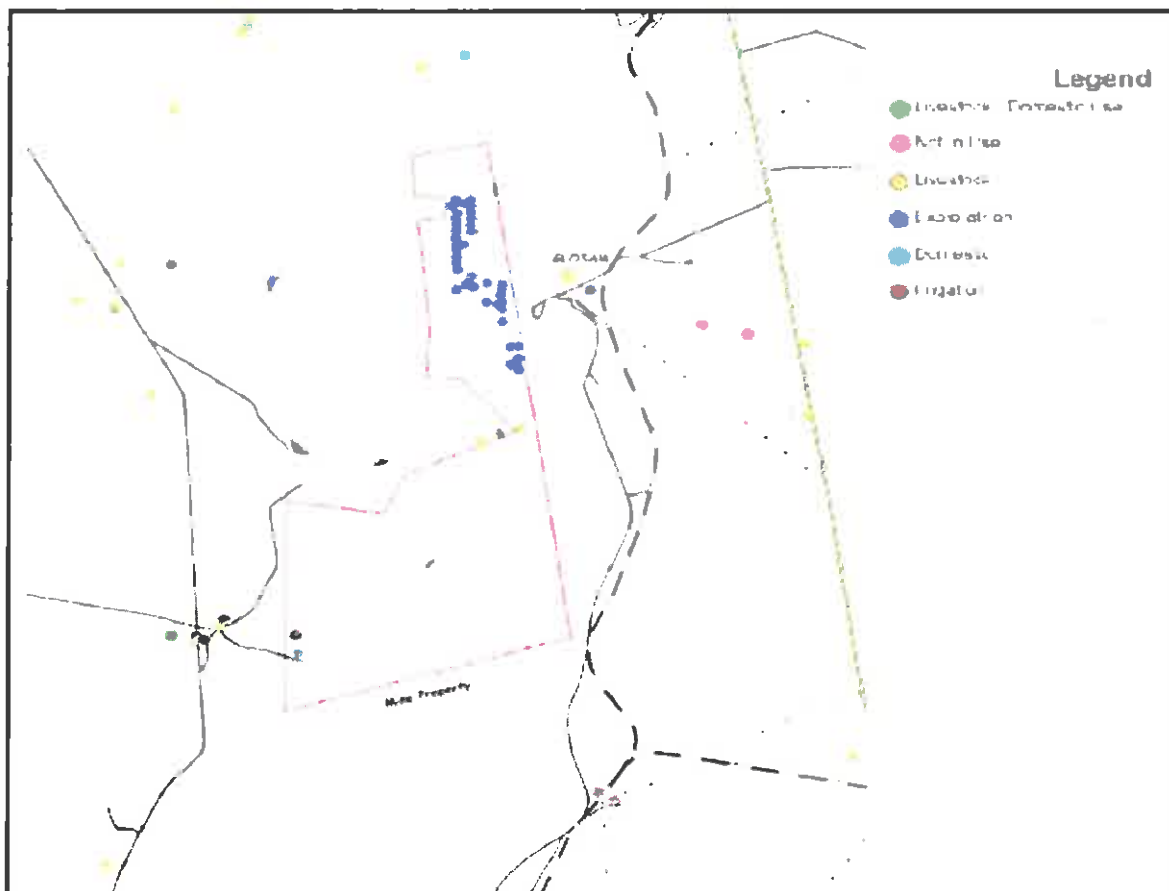


Figure 1.11: Location of boreholes with and around the study area

1.8 Sites of Archaeological and Cultural Interests

In terms of section 38 of the National Heritage Resources Act, 1999, (Act No. 25 of 1999), a Phase 1 Archaeological Impact Assessment was undertaken by David Morris from the McGregor Museum for the property prior to the commencement of prospecting activity, in 2008. A summary of this report is given below.

The study was undertaken in order to establish if any localities of heritage significance were present on the property.

None of the observed sites proved in themselves to be of major significance, but collectively they provide insight into the Stone Age occupation of the area.

No post-Stone Age/colonial era heritage traces were noted in the area examined and the farmer Mr. Arrie Claasens, who grew up on the farm, knew of no such sites or features within the Portions 4 and 5 of Magoloring.

No heritage traces of the nineteenth-twentieth century were noted. The farmer, Mr. Claasens, who has known the farm for more than half a century (he indicated that he had grown up there and as a boy hunted baboons in the hills), said that he knew of no graves of any nature in the valley.

1.9 Air Quality

Identification of existing sources of emissions in the region and the characterization of existing ambient pollution concentrations is fundamental to the assessment of cumulative air impacts. A change in ambient air quality can result in a range of impacts, which in turn, may cause a disturbance to nearby receptors.

Ambient air pollutant concentrations within the Postmasburg region occur not only due to local sources but also as a result of emissions from various remote sources. The most significant of these sources located within the region include:

- fugitive dust emissions from mining, tailings impoundments and mineral processing operations, which are associated with manganese and iron mining operations;
- vehicle tailpipe emissions-significant primary pollutants emitted by motor vehicles include CO₂, CO, hydrocarbons (HCs), NO_x, SO₂, particulate matter and lead;
- vehicle entrained dust from paved and unpaved roads;
- household fuel combustion by means of coal and wood;
- biomass and veld burning; and
- various miscellaneous fugitive dust sources, including: agricultural activities and wind erosion of open areas.

1.10 Noise

Some of the noise generating activities associated with the project may cause an increase in ambient noise levels in and around the site. This may cause a disturbance to nearby receptors. As a baseline, this section provides a brief description of pre-mining conditions in the area from which to measure changes as a result of project-related noise.

The proposed project site is located in a rural-type area characterised by farms and associated scattered residences with traffic on the R325 road (located approximately 5 km from the proposed mining area). Accordingly, the ambient noise climate is expected to exhibit noise levels as defined in South African national Standards (SANS) 10103 for rural areas. In this regard, noise levels are expected to be 40dBA and 35dBA for day-time and night-time levels respectively.

It should however be noted that levels of noise generated by specific distant sources, such as mines and roads, vary by a considerable margin with changes in wind direction and temperature profiles in the lower atmosphere.

1.11 Visual Aspects

Project-related activities have the potential to alter the landscape character of the site and surrounding area through the establishment of both temporary and permanent infrastructure. As a baseline, this section provides an understanding of the pre-mining visual character of the project area against which to measure potential change as a result of project infrastructure and activities.

The project area lies in an undulating Mountainous terrain. The area has been subjected to previous mining activity that was not rehabilitated and consequently waste dumps and open pit abound the study area. Most of the study area has been re-colonised by vegetation so although bare patches of exposed substrate are evident, there are many small trees and shrubs throughout the area.

Central to the visual character of an area are the concepts of sense of place and scenic quality. Sense of place is informed by the spatial form and character of the natural landscape taken together with the cultural transformations and traditions associated with the historic use and habitation of the area which lend that area its uniqueness and distinctiveness. The scenic quality of the project site and surrounding area is linked to the type of landscapes that occur within an area. In this regard scenic quality can range from high to low as follows:

- High – these include the natural features such as mountains and koppies and drainage systems.
- Moderate – these include agricultural activities, smallholdings, and recreational areas.
- Low – these include towns, communities, roads, railway line, industries and existing mines.

Numerous mining related activities exist in the area to the south and north of the project area. The undulating nature of the terrain within the proposed mining area however limits the extent of visual intrusions. The area has already been disturbed by previous mining activity the result is a landscape with a fairly poor sense of place and a moderate to low scenic quality.

1.12 Regional Socio-economic Structure

1.12.1 Magisterial district and local authorities

The study area falls within the Tsantsabane Municipality in the Siyanda District in the Northern Cape. The Northern Cape has five municipal districts, namely Frances Baard, Siyanda, Namaqua, Kgalagati and Pixely Ke Seme.

Siyanda District Municipality (SDM) forms the mid-northern section of the province on the frontier with Botswana. It covers an area of more than 100,000 square kilometers (almost 30% of the entire Province) out of which 65, 000 square kilometers comprise the vast Kalahari Desert, Kgalagadi Transfrontier Park and the former Bushman Land.

Siyanda District comprises six Local Municipalities namely: Mire; Kai Garb; Kara Hais; Tsantsabane, Kheis and Kgatelopele. Uppington is the district municipal capital where the municipal government is located. The whole area is managed by the Siyanda District Municipality, which is classified as a category C Municipality.

The Census report of 2001 showed a population of 202 160 and 238 063 in the 2007 Community Survey. (Census, 2001; Community Survey, 2007)

Table 1.5: Population survey of the Siyanda District

Municipality	Census 2001	Community Survey 2007	% of the Total Population	Difference	Area (km ²)	Persons/km ²
Mier	6844	7337	3 %	499	22468	0.3
Kai Gariep	55702	56501	24 %	793	26357	2.1
Khara Hais	75671	100920	42 %	25249	21780	4.6
Kheis	16123	18920	8 %	2797	11107	1.7
Tsantsabane	23987	28005	12 %	4018	18330	1.5
Kgatelopele	14743	21498	9 %	6755	2478	8.7
DMA	9090	4882	2 %	-4208		
Total	202160	238063	100 %	35903	102 520	2.3

The above table recorded an increase of 35 903 people that represents a 17, 8% increase in overall population when comparing the 2001 Census and 2007 Community Survey. Note the DMA has since been incorporated into the neighboring municipalities. The aforementioned table shows that the majority of the population is located in the Khara Hais Municipality (42%), followed by the Kai Garib Municipality (24%) and the Tsantsabane Municipality (12%). The Main settlements in the aforementioned municipalities are: Uppington, Keimoes; and Postmasburg, respectively.

There are five hospitals in the SDM. There are only two Community Health Facilities in the SDM. There are 52 clinics in the SDM the clinics are generally located in settlements along the main routes through the municipality, namely the N14 and the N10. It should be noted that medical staff are not stationed at all these facilities on a full time basis and in some cases the staff are on site only once a month. (IDP, 2007-2011).

Tuberculosis and HIV/AIDS are some of the infectious diseases that are receiving priority attention and that a shortage of staff hampers the delivery of health services in the SDM. In this region the greatest social problems are considered to be illiteracy and poverty.

According to the last socio-economic survey in 2000, approximately 60% of the inhabitants have a monthly household income of between R0 – R800. Poor health is often associated with factors such as malnutrition especially among the children. The malnutrition is often attributed to

insufficient funds to acquire adequate food. Malnutrition of children can also be attributed to the lack of education of parents who provide for the children. Adult literacy in the area is considered to be below standard.

Siyanda District Municipality accounts for about 30% of the Northern Cape economy. Siyanda's economy is largely dominated by mining and agriculture.

The proposed mining development falls within the Tsantsabane local municipality. The extent of the geographical area of the municipality is 5 887km².

The major routes running through Postmasburg include the R385 from Kimberley that runs through Beeshoek, the R309 and the R325 to Kathu. Tsantsabane Municipality is characterized by a mixture of land uses of which agriculture and mining is dominant land use within the rural areas. The residential areas vary from the relatively large town of Postmasburg to small scattered rural communities. Some of these communities are the remains of railway stations.

According to Statistics SA Census Data (2001) 47.6% of the population of Tsantsabane Municipality is male and 52.3% is female. Approximately 31% of the population is under 14 years and ±33% is between 15 and 34 years. The statistics show that approximately 17% of the population is illiterate. The median qualification is, between Grade 7 and Grade 9, which means that a large part of the population can perform unskilled or semi-unskilled work. Less than 15% of the population has a tertiary qualification or have completed Grade 12.

According to Statistics SA Census Data (2001) 41% of the total labour force in the area is unemployed. This statistic indicates that there is a low level of skills development and hence the serious need which exists for adult education and in-service training programmes. The most important employer in the Municipal Area is the mining sector.

Industry	Persons (2001)
Agriculture/Forestry/Fishing	513
Community/Social/Personal	1592
Construction	349
Electricity/ Gas/ Water	23
Financial/ Insurance/ Real Estate/ Business	357
Manufacturing	469
Mining/Quarrying	714
Other	0
Private Households	782
Transport/Storage/Communication	213
Undetermined	477
Wholesale/Retail	845

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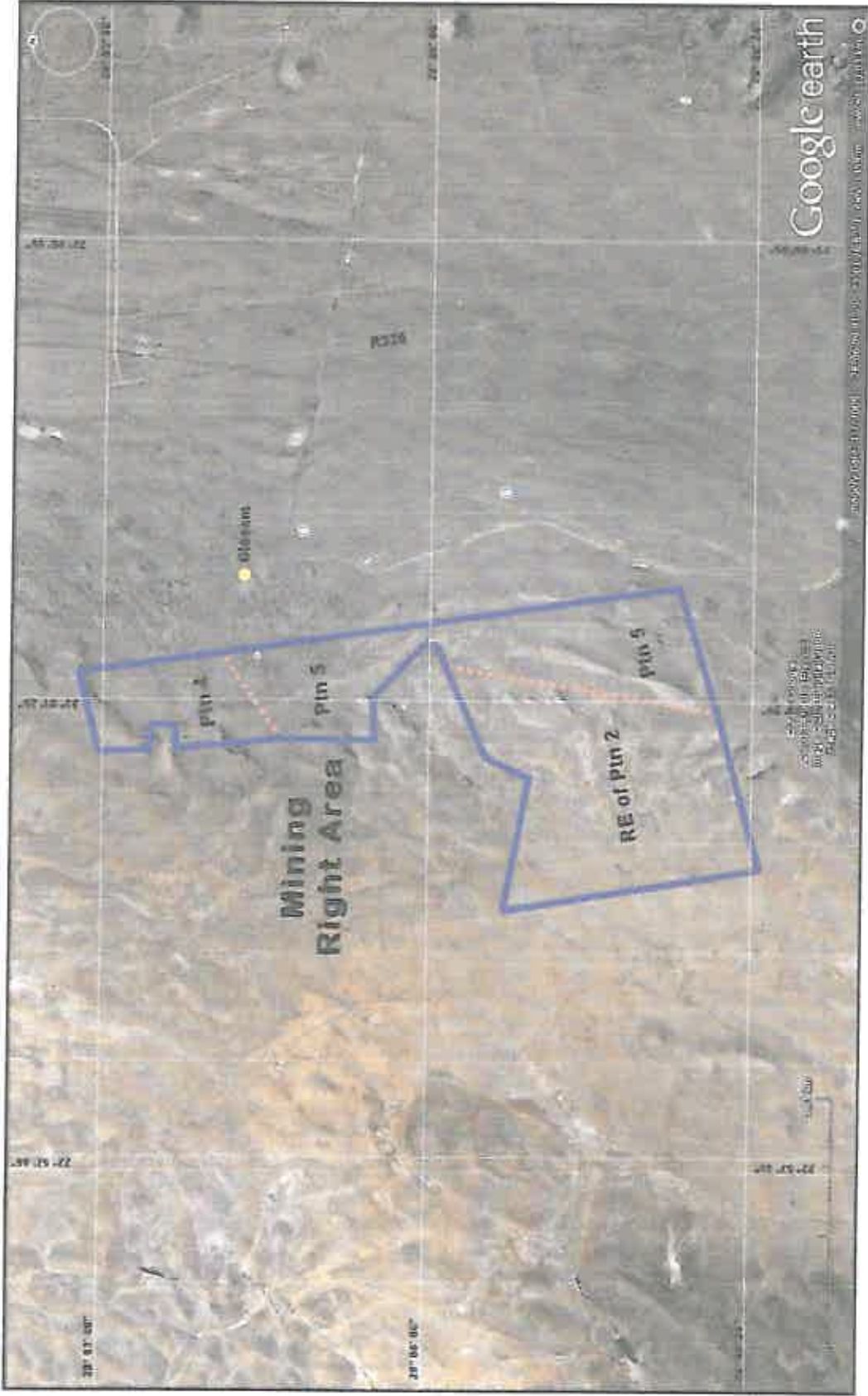
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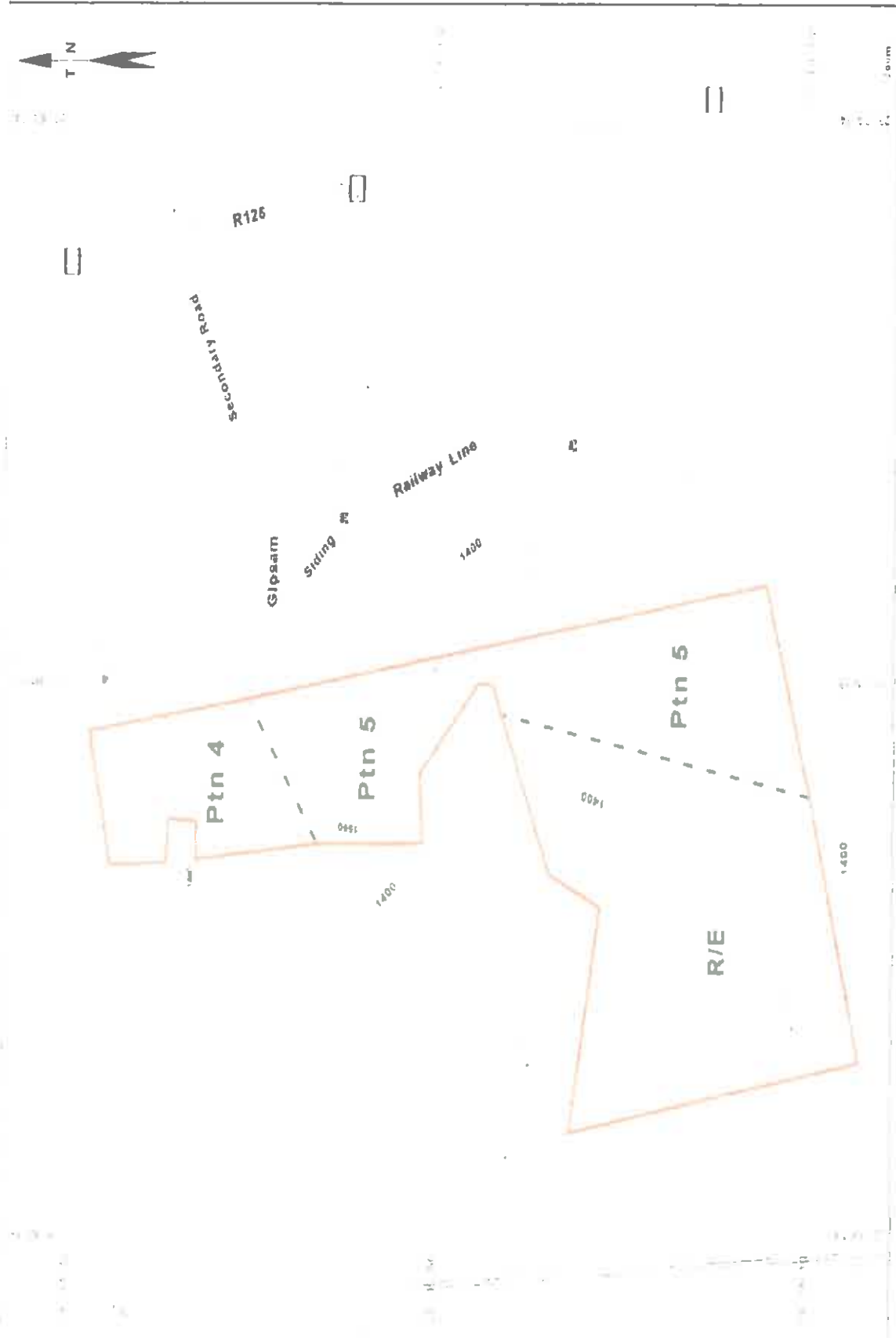
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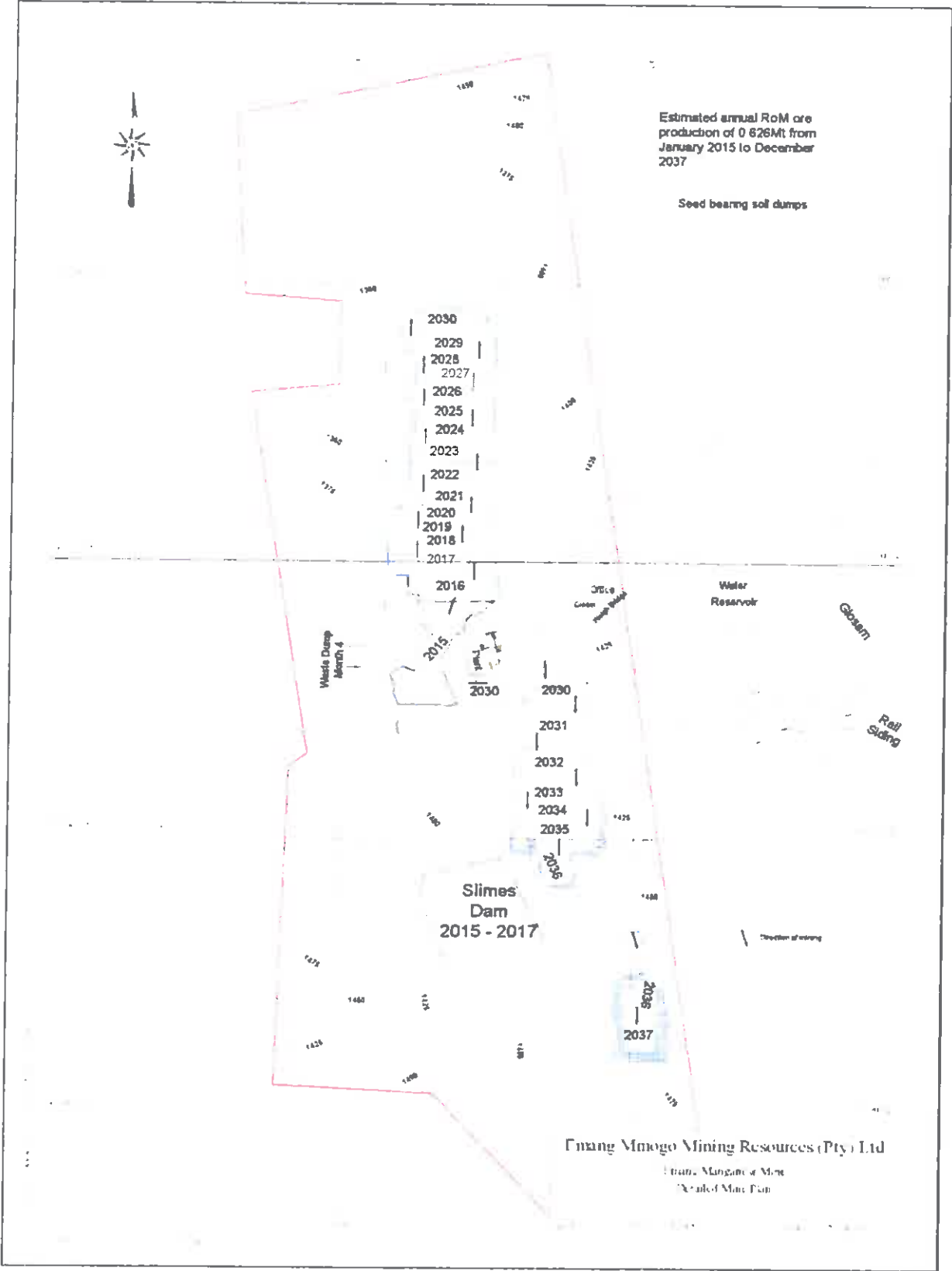
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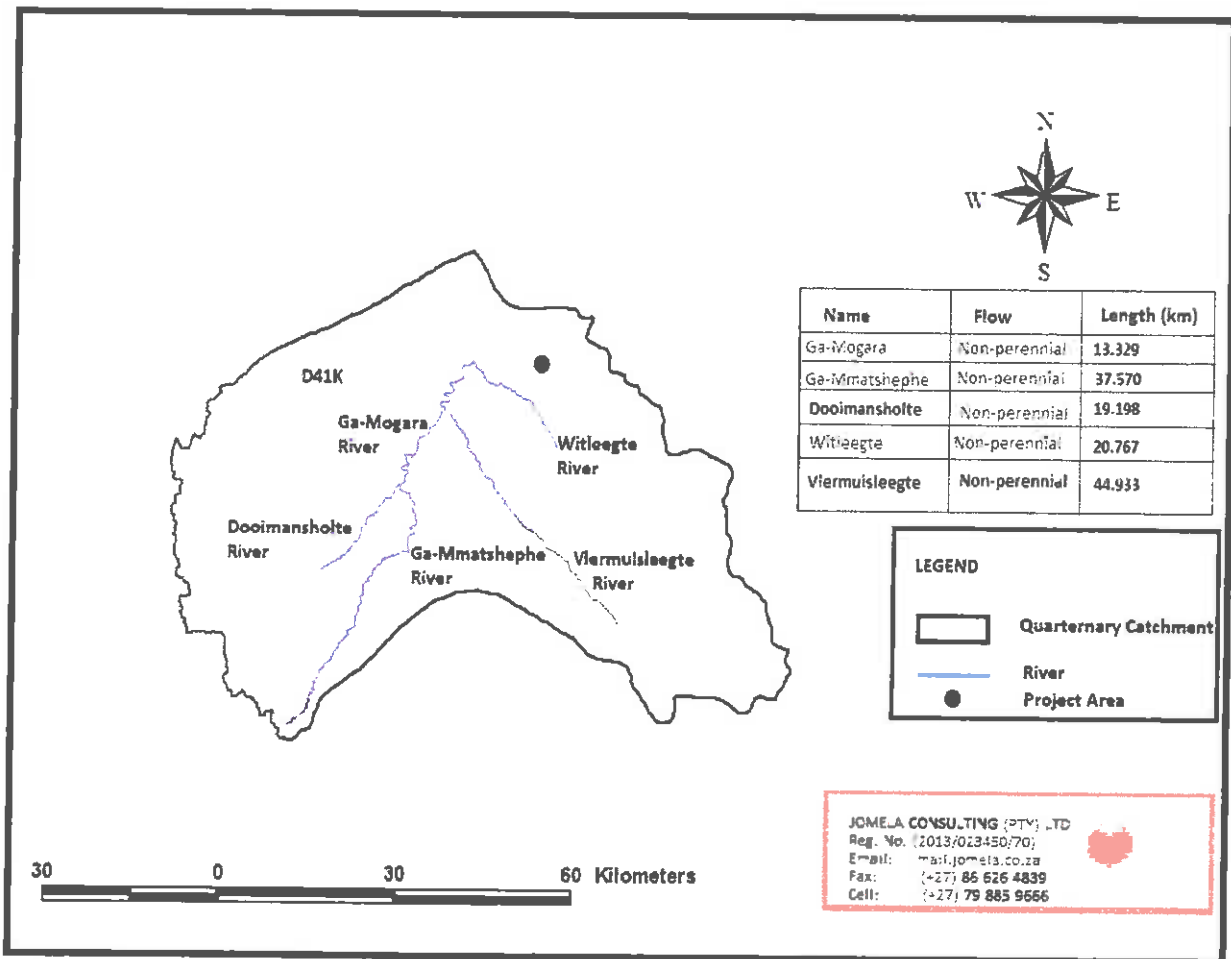
APPENDIX 3

SPATIAL LOCALITY AND INFRASTRUCTURE MAPS









APPENDIX 4

LISTED ACTIVITIES

NEMA Listed Activities for the Proposed Emang Mmogo Manganese Mine

Given that the proposed project is a mine, the relevant authority is the Department of Mineral Resources (DMR). In order to conduct mining activities, a mining right will be required which is issued by the DMR. However many of the related activities required to be conducted for mining operations (such as the construction of pipelines or roads) also require environmental authorisation under the National Environmental Management Act (NEMA) Environmental Impact Assessment (EIA) Regulations. An application for Environmental Authorisation was submitted on the 31 May 2013 to the Department of Environment and Nature Conservation the relevant authority for the NEMA related authorisation. The report has been compiled in terms of the National Environmental Management Act, 107 of 1998(NEMA), and the regulations there under (Regulation GNR544 and GNR545 of 18 June 2010). Environmental Authorisation has been applied for the following listed activities:

GNR 544 Listing Notice 1: Activities requiring an environmental authorisation subject to a Basic Assessment			
Number and date of the relevant notice	Activity no (In terms of relevant notice)	Description of the listed activity from the regulation	Relevance of the regulation to the project
GNR 544	1	The construction of facilities or infrastructure for the generation of electricity where: i. the electricity output is more than 10 megawatts but less than 20 megawatts; or ii. the output is 10 megawatts or less but the total extent of the facility covers an area in excess of 1 hectare.	<ul style="list-style-type: none"> • Construction of a substation to supply power to the processing plant and other associated infrastructure on site.
GNR 544	9	The construction of facilities or infrastructure exceeding' 1000metres in length for the bulk transportation of water, sewage or storm water (i) with an internal diameter of 0,36 metres or more; or (ii) with a peak throughput of 120 litres per second or more,	<ul style="list-style-type: none"> • Construction of a pipeline for Storm water runoff. • Construction of a pipeline to the Tailings storage facilities • Pipeline for the transportation of water from the Vaal-Gamagara pipeline which passes on the western side of the proposed site.
GNR 544	10	The construction of facilities or infrastructure for the transmission and distribution of electricity -(i) outside urban areas or industrial complexes with a capacity of more than 33 but less than 275 kilovolts; or	<ul style="list-style-type: none"> • Construction of overhead electricity power lines to transmit power from the existing Eskom servitudes to the substation to be built on site.
GNR 544	12	The construction of facilities or infrastructure for the off-stream storage of water, including dams and reservoirs, with a combined capacity of 50 000 cubic metres or more, unless such storage falls within the	<ul style="list-style-type: none"> • The construction of return water and storm water control dams.

		ambit of activity 19 of Notice 545 of 2010.	
GNR 544	13	The construction of facilities or infrastructure for the storage, or for the storage and handling, of a dangerous good, where such storage occurs in containers with a combined capacity of 80 but not exceeding 500 cubic metres;	<ul style="list-style-type: none"> • Diesel and petrol tanks installed on site.
GNR 544	18	The infilling or depositing of any material of more than 5 cubic metres into, or the dredging, excavation, removal or moving of soil, sand, shells, shell grit, pebbles or rock from(i) a watercourse;	<ul style="list-style-type: none"> • The water from the open pits may be deposited into the dry stream on site. • Access roads may be constructed on or pass through the dry steam on site.
GNR 544	22	The construction of a road, outside urban area, (ii) where no reserve exists where the road is wider than 8 metres, or (ii) where no reserve exists where the road is wider than 8 metres, or (iii) for which an environmental authorisation was obtained for the route determination in terms of activity 5 in Government Notice 387 of 2006 or activity 18 in Notice 545 of 2010.	<ul style="list-style-type: none"> • Access roads as well as haul roads will be constructed on site.

GNR 545 Listing Notice 2: Activities requiring an environmental authorisation subject to a Scoping and Environmental Impact Assessment.

Number and date of the relevant notice	Activity no (in terms of relevant notice)	Description of the listed activity from the regulation	Relevance of the regulation to the project
GNR 545	11	The construction of railway lines, stations or shunting yards,	<ul style="list-style-type: none"> • The ore is expected to be transported off site by rail, so a railway siding may be constructed from the site to be connected to the existing line
GNR 545	15	Physical alternation of undeveloped, vacant or derelict land for residential, retail, commercial, recreational, industrial or institutional use where the total area to be transformed is 20 hectares or more	<ul style="list-style-type: none"> • The proposed development area will exceed 20ha (The area covered will be approximately 1668ha).
GNR 545	19	The construction of a dam, where the highest part of the dam wall, as measured from the outside toe of the wall to the highest part of the wall, is 5 metres or higher or where the high-water mark of the dam covers an area of 10 hectares or more	<ul style="list-style-type: none"> • The proposed project will require the construction of a slimes dam and storm water control dams.

GNR 545	20	Any activity which requires a mining right or renewal thereof as contemplated in sections 22 and 24 respectively of the Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002).	<ul style="list-style-type: none"> • A mining right application has been lodged with the Department of Mineral Resources in terms of MPRDA, 2002 (Act no. 28 of 2002).
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