



**mineral resources**

Department:  
Mineral Resources  
REPUBLIC OF SOUTH AFRICA

NAME OF APPLICANT: BLUE LOUNGE TRADING 107 (PTY) LTD

REFERENCE NUMBER: (NC) 30/5/1/1/2/10985 PR

# **ENVIRONMENTAL MANAGEMENT PLAN**

**SUBMITTED  
IN TERMS OF SECTION 39 AND OF  
REGULATION 52 OF THE MINERAL AND  
PETROLEUM RESOURCES DEVELOPMENT  
ACT, 2002,  
(ACT NO. 28 OF 2002) (the Act)**

MARCH 2017

## **STANDARD DIRECTIVE**

Applicants for prospecting rights or mining permits, are herewith, in terms of the provisions of Section 29 (a) and in terms of section 39 (5) of the Mineral and Petroleum Resources Development Act, directed to submit an Environmental Management Plan strictly in accordance with the subject headings herein, and to compile the content according to all the sub items to the said subject headings referred to in the guideline published on the Departments website, within 60 days of notification by the Regional Manager of the acceptance of such application. This document comprises the standard format provided by the Department in terms of Regulation 52 (2), and the standard environmental management plan which was in use prior to the year 2011, will no longer be accepted.

**IDENTIFICATION OF THE APPLICATION IN RESPECT OF WHICH THE ENVIRONMENTAL MANAGEMENT PLAN IS SUBMITTED.**

<b>ITEM</b>	<b>COMPANY CONTACT DETAILS</b>
Name	<b><u>Blue Lounge Trading 107 (Pty) Ltd</u></b>
Tel no	<b><u>053 874 3820</u></b>
Fax no:	<b><u>053 874 3820 (Tel/Fax)</u></b>
Cellular no	<b><u>076 150 8054 – Mr. B.N. Ruiters</u></b> <b><u>083 516 1231 – Mr. T. Ruiters</u></b>
E-mail address	<b><u>bradleyruiters@gmail.com</u></b>
Postal address	<b><u>P.O. Box 1776</u></b> <b><u>Kimberley</u></b> <b><u>8300</u></b>

<b>ITEM</b>	<b>CONSULTANT CONTACT DETAILS (If applicable)</b>
Name	<b><u>M and S Consulting (Pty) Ltd</u></b>
Tel no	<b><u>053 861 1765</u></b>
Fax no:	<b><u>086 636 0731</u></b>
Cellular no	<b><u>084 444 4474 – Tanja Jooste</u></b>
E-mail address	<b><u>ms.consulting@vodamail.co.za</u></b>
Postal address	<b><u>P.O. Box 2473</u></b> <b><u>Kimberley</u></b> <b><u>8300</u></b>

**1 REGULATION 52 (2): Description of the environment likely to be affected by the proposed prospecting or mining operation**

**1.1 The environment on site relative to the environment in the surrounding area.**

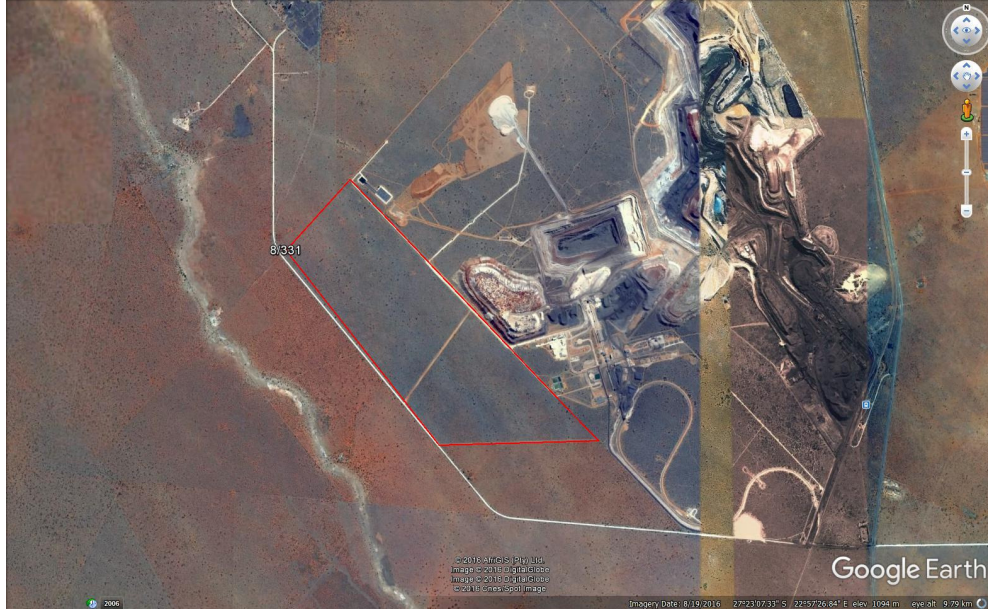


Figure 1 - Google image showing environment surrounding the application area.

It should be noted that this Google image is dated 19/08/2016 (the newest image available).

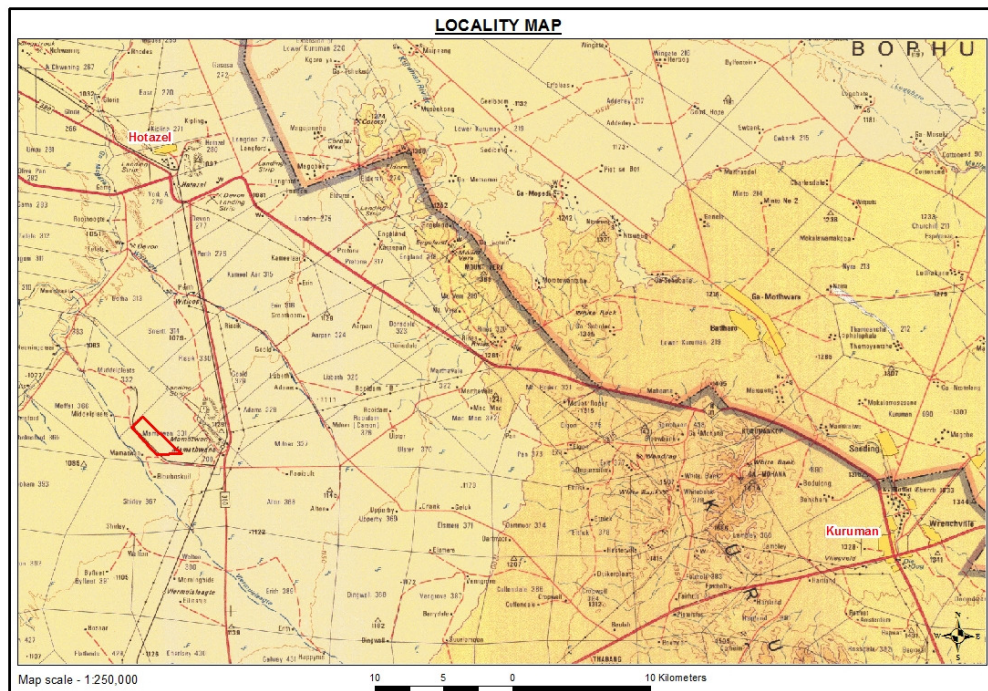


Figure 2 – Locality of the application area

- **Air quality:**

Current sources of impacts on air quality are:-

- Dust from the farm roads on the properties.
- Dust from the secondary gravel road in the area utilized by farm owners for access to and on their farms.
- Dust from whirl winds which are common in the area.
- Dust induced by wind and wind gusts.

The general air quality on the property is expected to be good.

The most commonly occurring wind direction for Kuruman region is SSE where the wind velocity is 3,0 m/s. Commonly the wind speed fluctuates between 1,6 m/s and 3,5 m/s although speeds in the range 3,6 m/s to 5,5 m/s are regularly recorded.

- **Archaeological, cultural & heritage environment:**

There is no known archaeological, cultural or heritage environment within the application area.

- **Climate:**

The area is located in a semi-arid region, receiving on average about 250mm of rain per annum. It is situated within the Sn climate region. The rainfall is largely due to showers and thunderstorms falling in the summer months October to March. The peak of the rainy season is normally March or February. The summers are very hot with cool winters.

Fog and snow are unlikely to occur in the area, and thunder showers irregularly occur in the summer months from October to March. The period during which frost can be expected lasts for about 120 days (May to August). With extreme minimum temperatures to below -8°C at night in the winter, frost development can be severe.

Hail is sometimes associated with thunderstorms and mainly occurs in early to late summer (November to February). It occurs on average three times a year and although these storms may sometimes be severe and cause much damage, they usually impact on a relatively small area.

High winds, in excess of 8,0 m/s, are likely to occur at a frequency of 0,6% (i.e. once in every 22 days of the year). This is common in the months of September and October.

Excessive temperatures (i.e. above 45 °C) can occur in the months of December and January. These frequently correlate with an excessively dry humidity score.

Rainfall in excess of 36 mm during a 60-minute period does not frequently occur.

Droughts are common and may vary from mild to severe. During these periods dust storms sometimes occur, depending mainly on denudation of the surface.

- **Fauna:**

Most large antelope species are absent from the area, although nomad game like Kudu and Springbok occasionally traverse the property. The normal array of small mammals and birds that are associated with the Kathu Bushveld Vegetation Type might be expected.

- **Flora:**

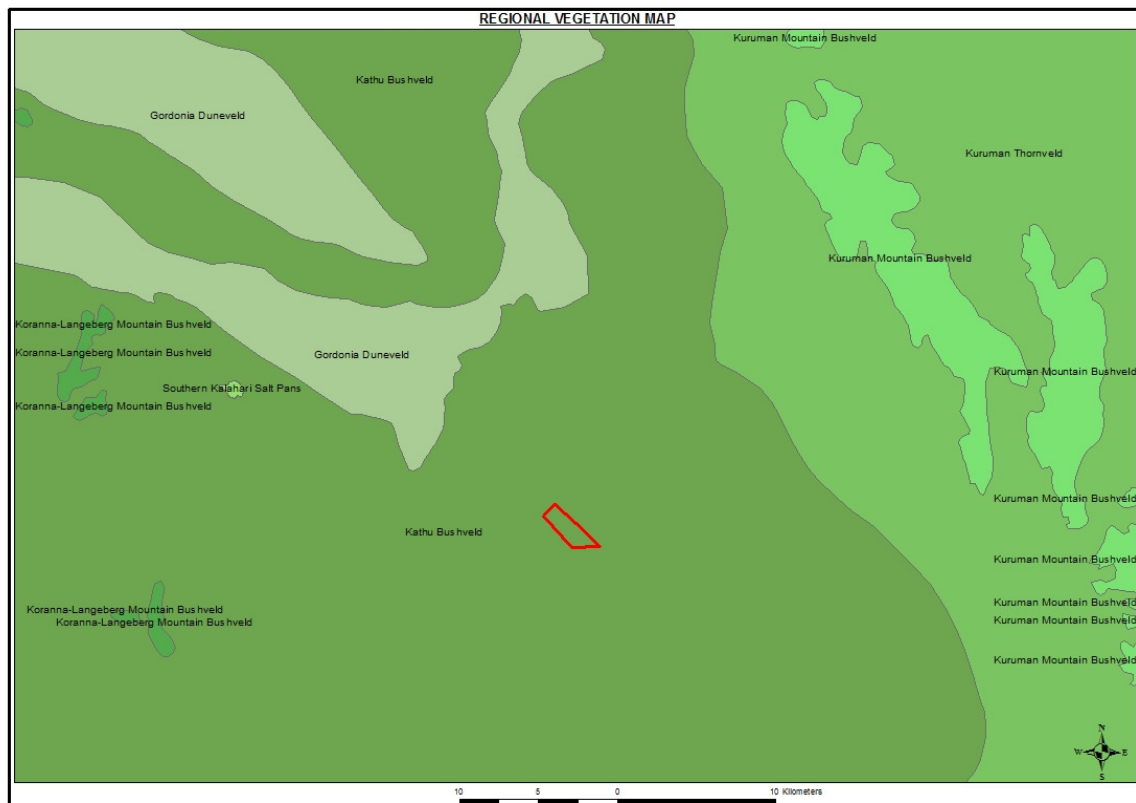


Figure 3 – Vegetation map

The area under application falls within the Kathu Bushveld Vegetation type, part of the Savannah Biome (SVk12).

The following is normally found under the Kathu Bushveld vegetation type:

- Tall tree: *Acacia erioloba* (d).
- Small trees: *Acacia mellifera* subsp. *detinens* (d), *Boscia albitrunca* (d), *Terminalia sericea*.
- Tall shrubs: *Diospyros lycioides* subsp. *lycioides* (d), *Dichrostachys cinerea*, *Grewia flava*, *Gymnosporia buxifolia*, *Rhigozum brevispinosum*.
- Low shrubs: *Aptosimum decumbens*, *Grewia retinervis*, *Nolletia arenosa*, *Sida cordifolia*, *Tragia dioica*.
- Graminoids: *Aristida meridionalis* (d), *Brachiaria nigropedata* (d), *Centropodia glauca* (d), *Eragrostis lehmanniana* (d), *Schmidtia pappophoroides* (d), *Stipagrostis ciliata* (d), *Aristida*

*congesta*, *Eragrostis biflora*, *E. chloromelas*, *E. heteromera*, *E. pallens*, *Melinis repens*, *Schmidtia kalahariensis*, *Stiparostis uniplumis*, *Tragus berteronianus*.

- Herbs: *Acrotome inflata*, *Erlangea misera*, *Gisekia africana*, *Heliotropium ciliatum*, *Hermbsaedtia fleckii*, *H. odorata*, *Limeum fenestratum*, *L. viscosum*, *Lotononis platycarpa*, *Senna italica* subsp. *arachoides*, *Tribulus terrestris*.

- **Geology:**

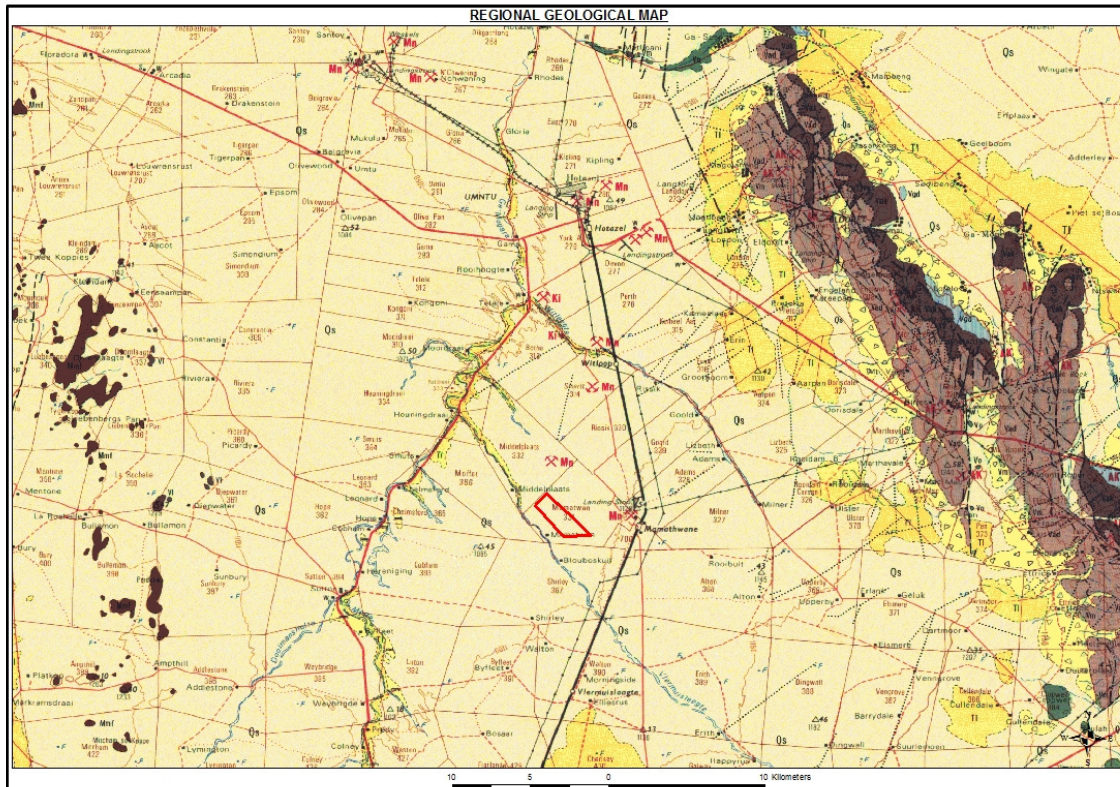


Figure 4 – Regional geological map

The basement to the target area encompasses rocks of the Transvaal Supergroup which forms part Griqualand West Sequence.

The Transvaal Supergroup lithologies were deposited in an extensive epeiric sea on the central part of the Kaapvaal Craton. The strata developed within two related basins of which the westernmost (the Griqualand West basin) is preserved in the Northern Cape Province. The Transvaal Supergroup, as preserved within the Griqualand West basin, comprises an extensive, basal carbonate platform sequence (the Campbell Rand Subgroup) conformably overlain by iron-formations of the Asbestos Hills Subgroup. South of Postmasburg, the BIF of the Asbestos Hills Subgroup are in turn overlain by a mixed chemical and clastic unit termed the Koegas Subgroup. The Koegas Subgroup is conformably overlain by diamictite of the Makganyene Formation upon which lavas belonging to the Ongeluk Formation have been subaqueously extruded. North of the Sishen Mine

area, the Ongeluk lava is in turn conformably overlain by BIF with interbedded manganese, the Hotazel Formation.

The base of the Hotazel Formation consists of a bright-red banded iron-formation bed (varying from massive to fine-grained specularite and/or euhedral magnetite crystals) overlying volcanic glass breccias and lavas of the Ongeluk Formation. The banded iron-formation units grade into microcrystalline kutnohoritic ovoid-rich braunite rock. The kutnohorite in this area is concentrated in ovoids, which represent partially compacted, early diagenetic concretions in hematite and braunite rock. The braunite rock bed of the lower section of the lowest of the three sedimentary cycles present in the Hotazel Formation, is between 5 and 45m thick.

- **Groundwater:**

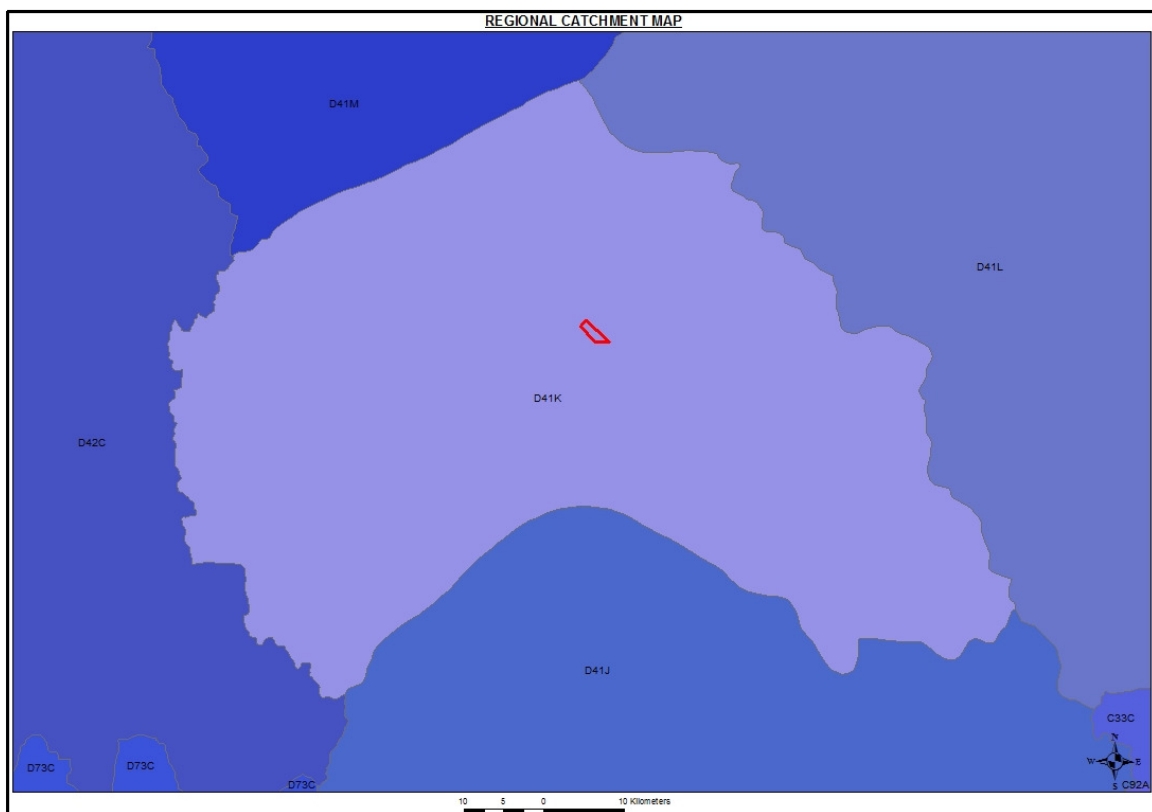


Figure 5 – Catchment map

The application area is located in the quaternary drainage region D41K. The drainage region forms part of the Lower Vaal Water Management Area (nr. 10 in terms of the National Water Act, 1998 (Act no. 36 of 1998) as published in the Government Gazette, 1 October 1999).

Water for domestic use by the surface owners at their residence and water for livestock watering is obtained from boreholes. The ground water quality is expected to be good.

The application area falls within Tshiping Water User Association's operational area.



- **Noise:**  
The main current noise sources in the area include:
  - Mining activities (blasting, hauling, crushing & screening) by mining operations situated in close proximity of the application area.
  - Traffic noise from the R380 secondary roads serving the area.
  
- **Sensitive landscapes:**  
"Sensitive environments" that have statutory protection are the following:
  - Limited development areas (section 23 of the Environment Conservation Act, 1989 (Act 73 of 1989).
  - Protected natural environments and national heritage sites.
  - National, provincial, municipal and private nature reserves.
  - Conservation areas and sites of conservation significance.
  - National monuments and gardens of remembrance.
  - Archaeological and palaeontological sites.
  - Graves and burial sites
  - Lake areas, offshore islands and the admiralty reserve.
  - Estuaries, lagoons, wetlands and lakes.
  - Streams and river channels, and their banks.
  - Dunes and beaches.
  - Caves and sites of geological significance.
  - Battle and burial sites.
  - Habitat and /or breeding sites of Red Data Book species.
  - Areas or sites of outstanding natural beauty.
  - Areas or sites of special scientific interest.
  - Areas or sites of special social, cultural or historical interest.
  - Declared national heritage sites
  - Mountain catchment areas.
  - Areas with eco-tourism potential

There are no known sensitive landscapes within the application area.

- **Socio-Economic:**  
The application area falls within the Gamagara Local Municipality. Census 2011 data can be summarised as follows:

Gamagara Local Municipality comprises an area of 2 619 square kilometers, and is located in the north-eastern sector of the Northern Cape on the N14 between Upington and Vryburg. It is approximately 200km north-east of Upington and 280km north-west of Kimberley.

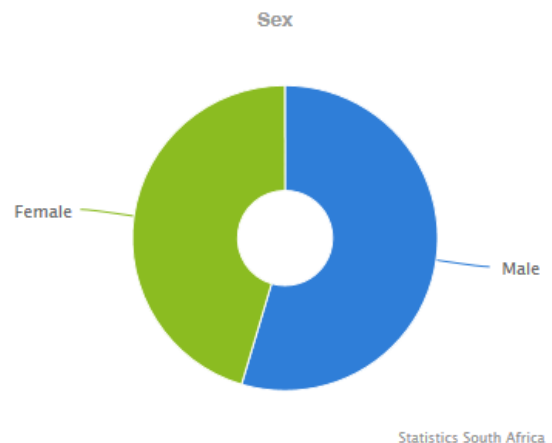
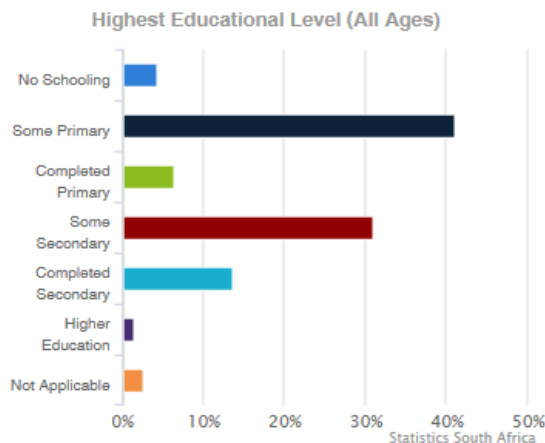
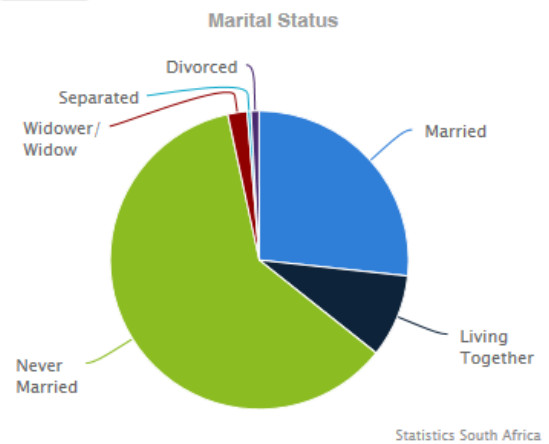
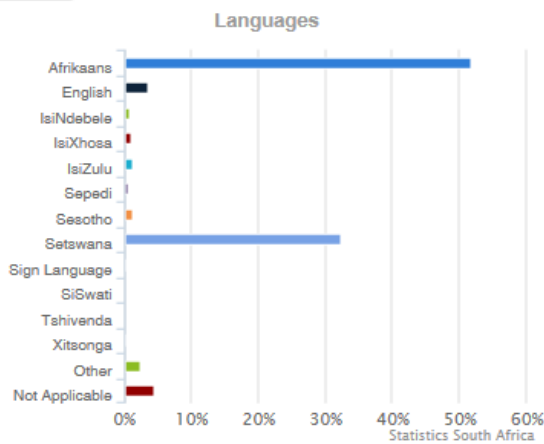
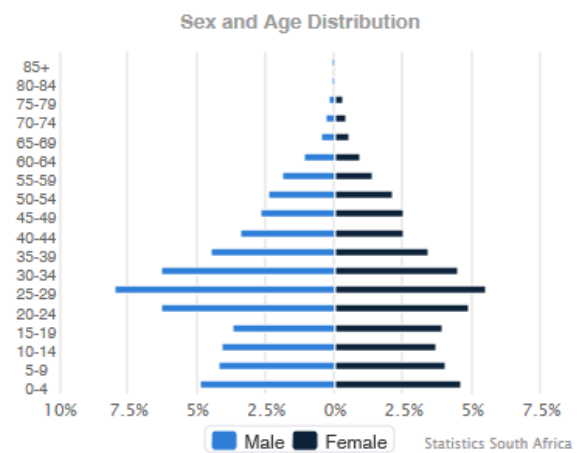
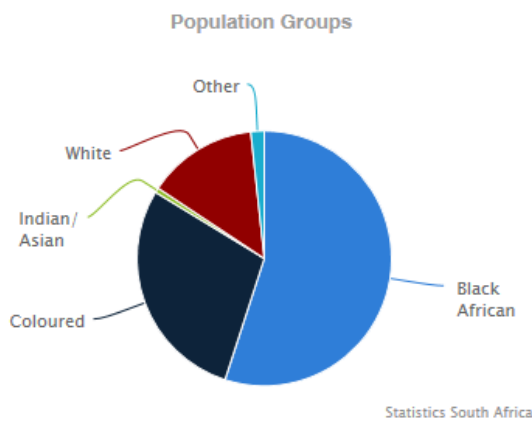
The municipal area of Gamagara consists of five towns: Kathu, Shesheng, Dibeng, Dingleton, and Olifantshoek, a large farming area and a considerable mining area. Kathu is the largest town within the municipality and is also the administrative center of the Gamagara Local Municipality. Olifantshoek is the second largest town and is located near the Gamagara River to the north-west of

Kathu. Dingleton is the smallest of the five towns and is located in the centre of the mining activities directly south of Kathu.

Gamagara Municipality has grown from 23 202 people in 2001 to 41 617 people in 2011 (Census 2011).

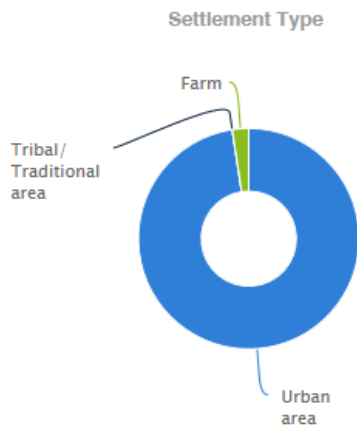
People:

The sex ratio is 120,1 males per 100 female, which indicates more males than females. There are 89,5% of the people who attended primary school, with a further 24,9% attaining matric and only 3,6% with higher education.

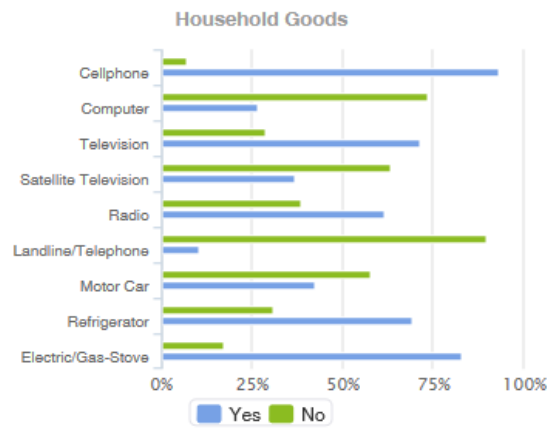


**Living conditions:**

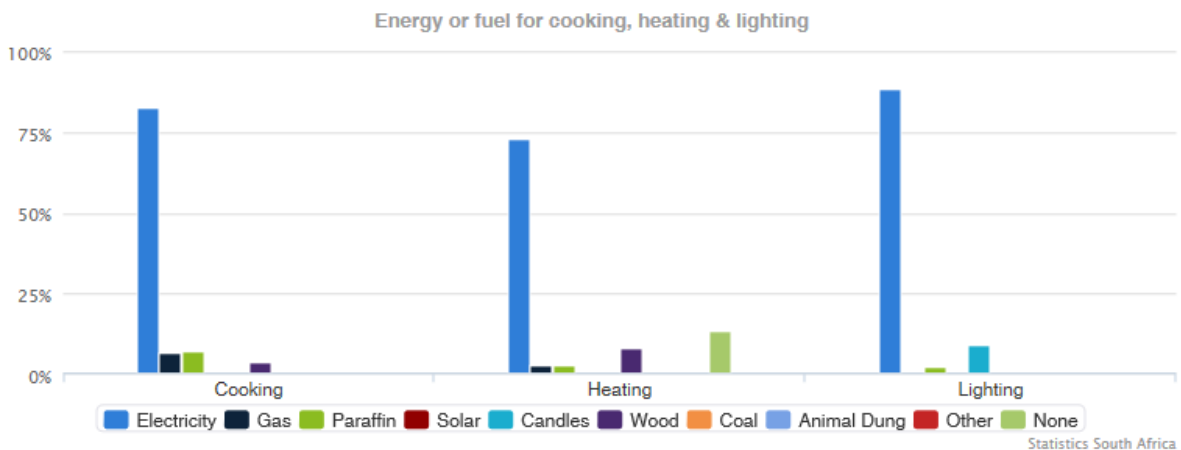
Of the households in the municipality, 87,6% have access to flush toilets, 97% have access to piped water.



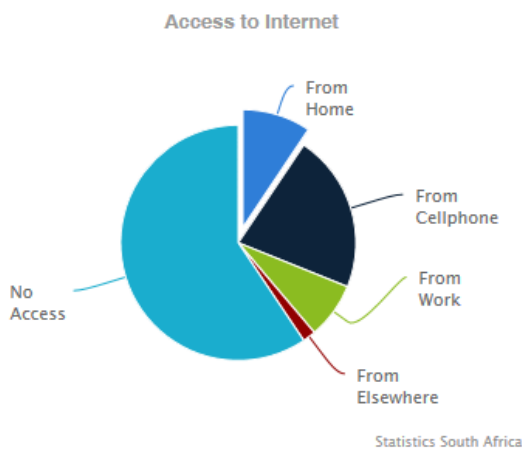
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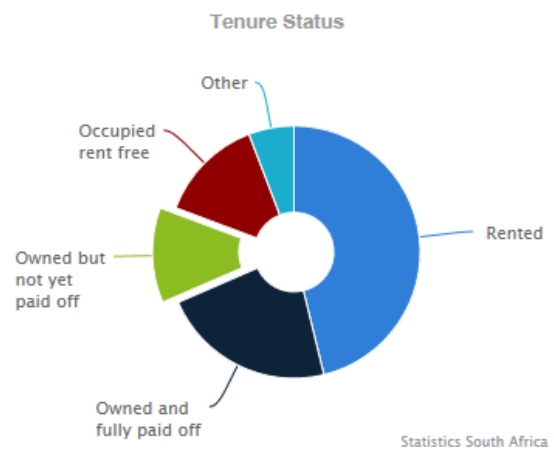
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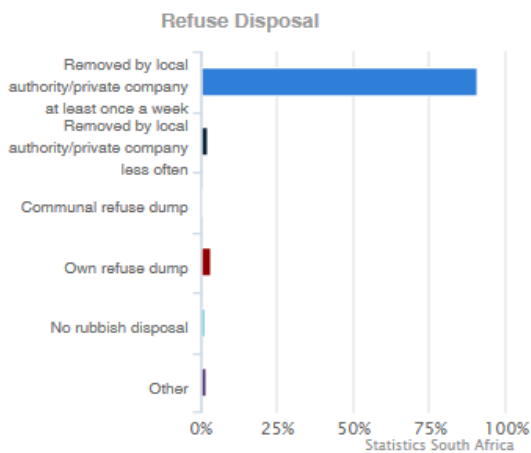
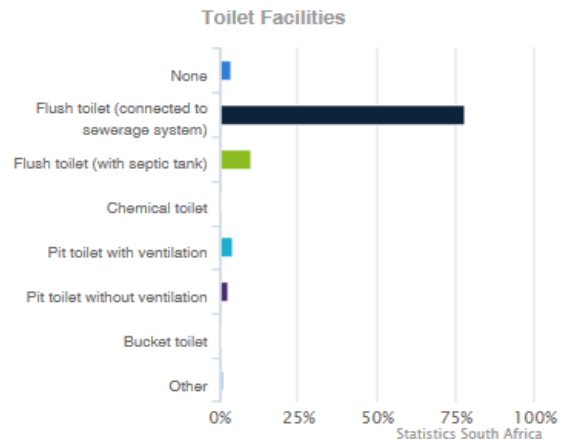
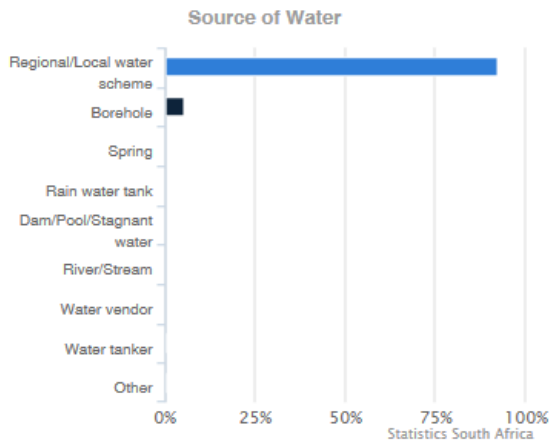
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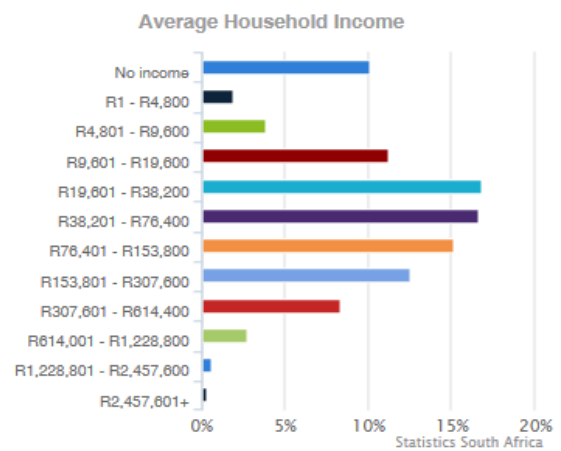
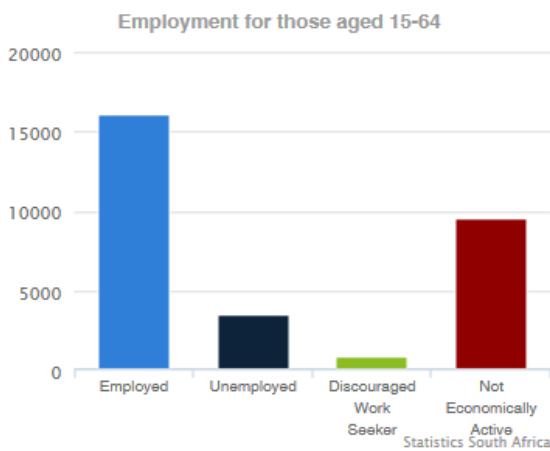


Statistics South Africa



Economic:

The single largest factor that has guided the development of the Gamagara area is the iron ore mine at Sishen. Not only does the mine provide jobs to thousands of people, but it was also the reason for the establishment of the town of Kathu. Youth unemployment in the area standing at 22,4%.



**Key statistics:**

Total population	41,617	Number of households	10,808
Young (0-14)	25,5%	Number of Agricultural households	1,201
Working Age (15-64)	71,9%	Average household size	3,4
Elderly (65+)	2,6%	Female headed households	27,7%
Dependency ratio	39	Formal dwellings	74,4%
Sex ratio	120,1	Housing owned/paying off	34,5%
Population growth rate	5,84% (2001-2011)	Flush toilet connected to sewerage	77,6%
Population density	16 persons/km <sup>2</sup>	Weekly refuse removal	90,6%
Unemployment rate	17,7%	Piped water inside dwelling	59,1%
Youth unemployment rate	22,4%	Electricity for lighting	87,9%
No schooling aged 20+	10,5%		
Higher education aged 20+	12,6%		
Matric aged 20+	26,5%		

- **Soil:**  
Aeolian red sand and surface calcrete, deep (>1.2m) sandy soils of Hutton and Clovelly soil forms. Land types mainly Ah and Ae, with some Ag.
- **Surface water:**  
The Vlermuisleegte non-perennial drainage line is situated approximately 1km west of the application area.

Surface run-off only occurs during short periods of exceptional rainfall or days with more than 10mm of precipitation. This can be expected as the annual rainfall is below 400mm and the annual evaporation is 2700mm to 3700mm. Using an average of 13 days per year with rainfall of more than 10mm will result in a rainfall of 130mm/year that will lead to a 10% run-off.

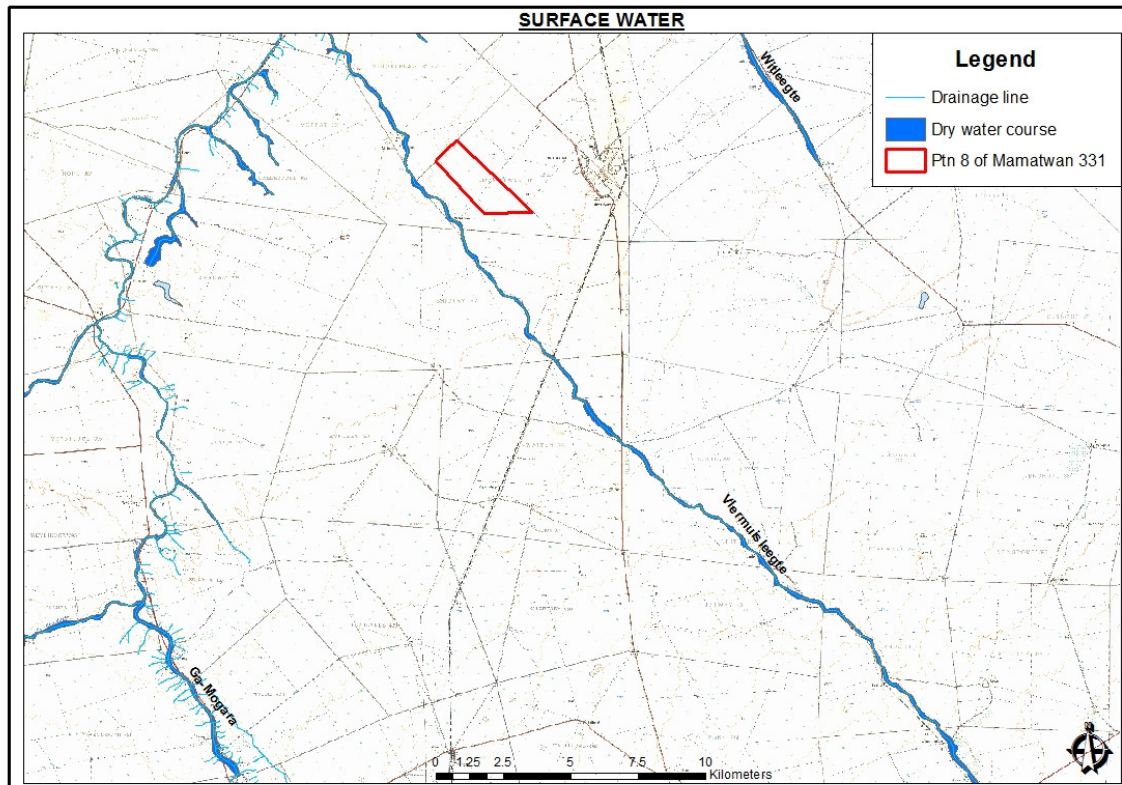


Figure 6 – Surface water map

- Topography:**  
 Gently sloping area with elevations in the order of 1144 - 1182 m.a.s.l. The application area has a medium-tall tree layer with *Acacia erioloba* in places, but mostly open and including *Boscia albitrunca* as the prominent trees. The Shrub layer is generally the most important with *A. mellifera*, *Diospyros lycioides* and *Lycium hirsutum*. The grass layer is variable in cover.

**1.2 The specific environmental features on the site applied for which may require protection, remediation, management or avoidance.**

There are no known sensitive landscapes within the application area.

**1.3 Map showing the spatial locality of all environmental, cultural/heritage and current land use features identified on site.**

Environmental:

There are no known sensitive landscapes within the application area.

Cultural / heritage:

There are no known cultural / heritage landscapes within the application area.

Current land uses:

The farm is utilized for livestock farming purposes.

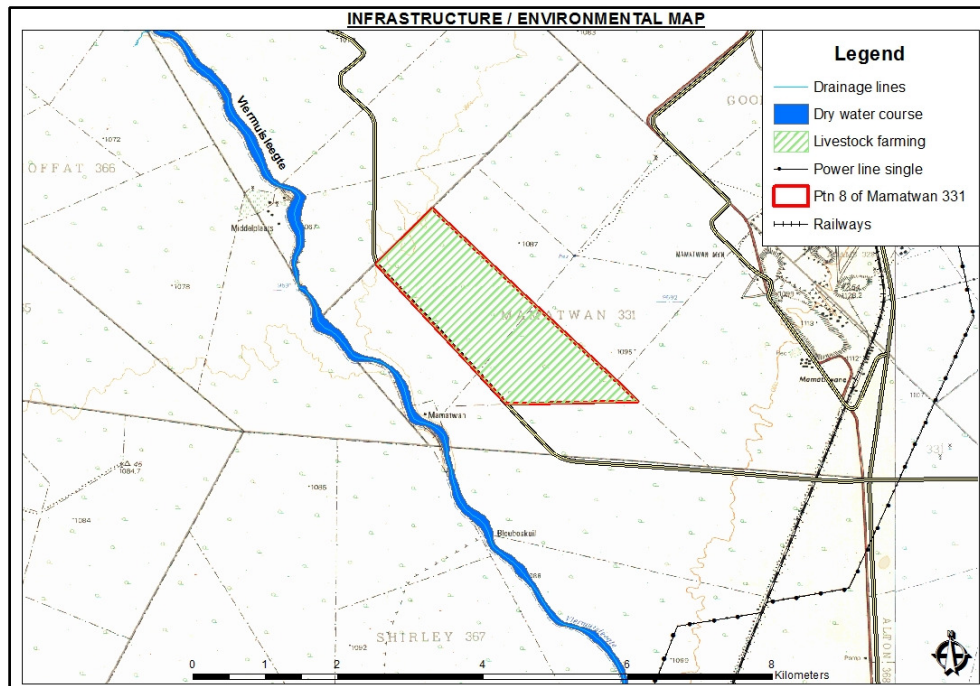


Figure 10 – Environmental, cultural/heritage and current land use features on application area

#### Infrastructure:

- The on-site gravel (farm) roads are in a good condition.
- The secondary gravel road accessing the planned prospecting operation is in a poor condition and will see a minimal increase in traffic.
- The R380, between Kathu and Hotazel, is situated approximately 3km to the east of the application area. The secondary road that provides access to the site turns from this road. As the prospecting activities of Blue Lounge will be on a small scale, no impact to this road is expected.
- The nearest towns are Kathu approximately 30km south-east and Hotazel, which is situated approximately 20km north of the application area. Contractors, and other specialists who will be contracted to conduct the prospecting activities, will reside in Kathu and/or Hotazel while active prospecting activities are taking place on site.
- It is not anticipated that Blue Lounge's planned prospecting operation will have an impact to the power grid, as Blue Lounge will make use of generators in their operation, if needed. There is an Eskom Power line situated approximately 4km east of the application area. There is no Eskom power on the site.
- There is a railway line approximately 2.5km east of the application area. The prospecting operation of Blue Lounge will not utilize this railway line.
- There are no residential areas on the application areas.

#### 1.4 Confirmation that the description of the environment has been compiled with the participation of the community, the landowner and interested and affected parties,

The surface owner of the property under application, all surrounding landowners and various other identified interested and affected parties were notified by means of registered post as well as by advertisements that were placed in the DFA (Local newspaper) and Volksblad (Regional newspaper). Attached as Annexure 'A' find hereto proof of the notification process.

No meeting has been held with the surface owner to date.

Property description	Owner	Description	Notification by
Portion 8 of the Farm Mamatwan 331	Tshipi E Ntle Manganese Mines (Pty) Ltd	Surface owner	Registered letter + newspaper + meeting
Remaining Extent of the Farm Mamatwan 331	Andries Mathys van den Berg	Surrounding owner	Registered letter + newspaper
Remaining Extent of Portion 1 of the Farm Mamatwan 331	Hotazel Manganese Mines (Pty) Ltd	Surrounding owner	Registered letter + newspaper
Remaining Extent of Portion 2 of the Farm Mamatwan 331	Hotazel Manganese Mines (Pty) Ltd	Surrounding owner	Registered letter + newspaper
Remaining Extent of Portion 3 of the Farm Mamatwan 331	Hotazel Manganese Mines (Pty) Ltd	Surrounding owner	Registered letter + newspaper
Remaining Extent of the Farm Middelplaats 332	Saltrim Ranches (Pty) Ltd	Surrounding owner	Registered letter + newspaper
Portion 4 of the Farm Middelplaats 332	Hotazel Manganese Mines (Pty) Ltd	Surrounding owner	Registered letter + newspaper
Gamagara Local Municipality	-	Local Municipality	Registered letter + newspaper
John Taolo Gaetsewe District Municipality	-	District Municipality	Registered letter + newspaper
ESKOM	-	Parastatal	Registered letter + newspaper
SANRAL	-	National Agency	Registered letter + newspaper
Transnet	-	Parastatal	Registered letter + newspaper
Department of Agriculture and Land Reform	-	Government Department	Registered letter + newspaper
Department of Public Works	-	Government Department	Registered letter + newspaper
Department of Rural Development and Land Reform	-	Government Department	Registered letter + newspaper
Department of Water Affairs	-	Government Department	Registered letter + newspaper

Responses received to date:

- Tshipi e Ntle Manganese Mining (Pty) Ltd (surface owner):  
A letter dated 9 September 2016 was received from Webber Wentzel, the legal representatives of Tshipi e Ntle Manganese Mining (Pty) Ltd. It was requested that the surface owner be registered as an Interested and Affected Party and that a number of documents be made available for perusal.
- Mr. van den Berg:  
An e-mail was received on the 20<sup>th</sup> of September 2016 listing the following concerns:
  - Who will be responsible for the maintenance of the access road and dust mitigation / monitoring?
  - What will the impact on the groundwater table be?
- Saltrim Ranches (Pty) Ltd:  
Mr. H.P. Venter confirmed that he is the representative of Saltrim Ranches (Pty) Ltd, which company is an adjacent surface owner.
- Transnet:  
An e-mail was received from Transnet on the 4<sup>th</sup> of October 2016 stating that Transnet has no objection against the application.



- Department of Rural Development and Land Reform:  
A letter dated 30 August 2016 was received from the Department stating that there are no restitution claims lodged against the property under application.
- Department of Water & Sanitation:  
The Department requested in a letter dated 7 February 2017 that an EMP / EIA be submitted and that an application for a water use license should be submitted.

No responses were received from the newspaper advertisements that were placed in the DFA and Volksblad.

Any other comments / concerns received will be submitted to DMR as and when it is received.

## 2 REGULATION 52 (2) (b): Assessment of the potential impacts of the proposed prospecting or mining operation on the environment, socio-economic conditions and cultural heritage.

### 2.1 Description of the proposed prospecting or mining operation.

#### 2.1.1 The main prospecting activities (e.g. access roads, topsoil storage sites and any other basic prospecting design features )

Phase	Activity <small>(what are the activities that are planned to achieve optimal prospecting)</small>	Skill(s) required <small>(refers to the competent personnel that will be employed to achieve the required results)</small>	Timeframe <small>(in months) for the activity)</small>	Outcome <small>(What is the expected deliverable, e.g. Geological report, analytical results, feasibility study, etc.)</small>	Timeframe for outcome <small>(deadline for the expected outcome to be delivered)</small>	What technical expert will sign off on the outcome? <small>(e.g. geologist, mining engineer, surveyor, economist, etc)</small>
1	Reconnaissance visit	Geologist	Month 1	Memorandum to address any problems	Month 2	Geologist
2	<ul style="list-style-type: none"> <li>• Desktop study</li> <li>• Geological Mapping</li> <li>• Report</li> </ul>	Geologist	Month 2 - 4	Maps/Plans and detailed report on available information	Month 5	Geologist
3	Percussion Drilling	Drilling contractor	Month 5 - 12	Drill logs	Month 12	Drilling contractor
4	Analysis of drill samples	Laboratory	Month 13 - 14	Analyses Sheets Laboratory Report	Month 14	Laboratory
5	Bulk sampling	Geologist	Month 15 - 22	Bulk sampling results	Month 23	Geologist
6	Consolidation and interpretation of all results/data	Geologist	Month 23 - 24	Detailed results and feasibility reports including resource statements and geological maps/plans	Month 24	Geologist

The planned prospecting operation will create the following:

- Ten drilling sites (each disturbing approximately 10m x 10m);
- Two trenches (for bulk sampling) (50m x 20m x 5m deep each)
- Dedicated topsoil storage area (temporary);
- Mobile plant & processing area;
- Slimes dam;
- Mobile office-, workshop- & storage area; and
- A minimum of haulage roads.

### 2.1.2 Plan of the main activities with dimensions

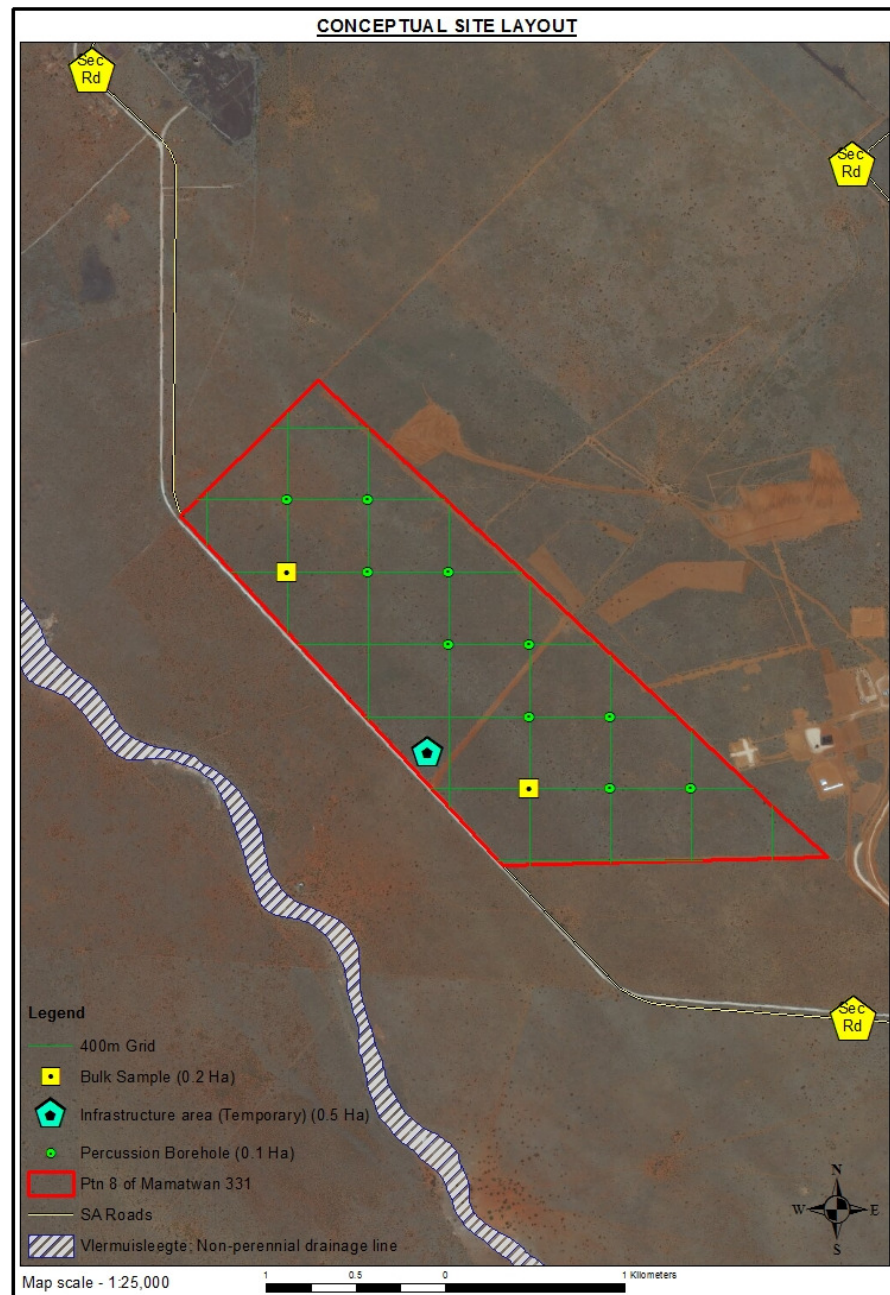


Figure 11 – Locality of planned prospecting activities

### 2.1.3 Description of construction, operational, and decommissioning phases.

- Construction phase:  
The only invasive prospecting activities planned are the percussion drilling and bulk sampling activities. These activities are planned for phases 3 and 5 of the prospecting work programme. The site establishment of the drilling phase will entail the moving of the drill rig to the identified borehole sites. The site establishment for the bulk sampling phase will entail the establishment of the mobile

plant and processing area, slimes dam and mobile office, workshop- and storage area for this operation.

Care will be taken to utilize existing roads as far as practically possible as to minimize the impact on the vegetation cover.

o Operational phase:

The operational phase will be conducted in six phases.

- Phase 1 – Reconnaissance visit:

A Geologist will be appointed to conduct a preliminary site visit. This phase will be conducted within the first month after granting and execution of the prospecting right.

- Phase 2 – Desktop study:

The appointed Geologist shall then conduct a comprehensive desktop study researching all available information. This study shall include the following:

- The geology of the area will be interpreted by using aerial photos and Landsat data to identify potential target areas on the property. The areas will then be mapped by a qualified and registered geologist.
- The compilation of a report making recommendations regarding further investigations of the potential mineralized areas.

This phase will be conducted during months 2 – 4 of the prospecting period.

- Phase 3 – Percussion drilling:

It is proposed that ten percussion boreholes be drilled on the property. The locality of the boreholes is dependent on the findings of the Geologist's report.

This phase will be an invasive prospecting method and will be conducted during months 5 - 12 of the prospecting period.

- Phase 4 – Analysis of drill samples:

The drill samples obtained during the drilling phase shall be sent to a laboratory for analysis. The drilling results shall then be provided to the appointed Geologist who will then compile a detailed results and drilling report, including geological maps.

Months 13 – 14 of the prospecting period will be set aside for the analysis of the drill samples.

- Phase 5 – Bulk sampling:  
It is proposed that a 10 000m<sup>3</sup> bulk sample is taken and processed to determine the grade of the material. The locality of the trenches is dependent on the findings of the Geologist's drilling report.

This phase will be conducted during months 15 - 22 of the prospecting period.

- Phase 6 – Results report:  
The Geologist shall then, during months 23 – 24 of the prospecting period, compile a detailed results and feasibility report, including a resource statement and geological maps.

- Processing method:

A mobile crushing and screening plant will be utilized for the processing of the bulk samples. This will be a dry process.

The following equipment will be hired for the operation:

- Drill rig (percussion)
- Excavator
- Dumper
- Front End Loader

Working hours will be kept between sun-up and sun-down.

- Decommissioning phase:

The decommissioning phase will only commence once all physical prospecting activities have been completed and the site rehabilitated.

During decommissioning all prospecting related infrastructure and equipment will be removed from the site and final backfilling and profiling rehabilitation of the disturbed areas will take place.

Blue Lounge Trading 107 (Pty) Ltd will apply for a Mining Right should the findings of the prospecting activities prove feasible. Should the outcome of the prospecting activities not prove feasible, Blue Lounge Trading 107 (Pty) Ltd will apply for a closure certificate.

#### **2.1.4 Listed activities (in terms of the NEMA EIA regulations)**

According to Listing Notice 1: List of activities and competent authorities identified in terms of Sections 24(2) and 24D of the National Environmental Management Act, 1998 (Act no. 107 of 1998) of Government Gazette no 38282, No. R. 983 the following activities are applicable according to NEMA EIA regulations:

GNR983 Activity 20	Any activity including the operation of that activity which requires a prospecting right in terms of Section 16 of the MPRDA, including associated infrastructure, structures and earthworks, directly related to prospecting of a mineral resource, including activities for which an exception has been issued in terms of Section 106 of the MPRDA.
GNR983 Activity 27	The clearance of an area of 1 hectares or more, but less than 20 hectares of indigenous vegetation, except where such clearance of indigenous vegetation is required for:- (i) the undertaking of a linear activity; or (ii) maintenance purposes undertaken in accordance with a maintenance management plan.

## 2.2 Identification of potential impacts

(Refer to the guideline)

### 2.2.1 Potential impacts per activity and listed activities.

Activity	Potential impact on:	Type of impact	Description
Bulk sampling activities	Air quality	Negative Medium	<ul style="list-style-type: none"> <li>Nuisance dust will be created by the prospecting equipment during bulk sampling activities.</li> </ul>
	Fauna	Negative High	<ul style="list-style-type: none"> <li>Where new excavations will be created the natural habitat of the animals will be disturbed and/or destroyed.</li> <li>Potential 'road' kills.</li> </ul>
	Flora	Negative High	<ul style="list-style-type: none"> <li>Where new excavations will be created the vegetation will be disturbed and/or destroyed.</li> </ul>
	Ground Water	Negative Low	<ul style="list-style-type: none"> <li>Possible hydrocarbon spills from vehicles and equipment in open excavations.</li> </ul>
	Noise	Negative Medium	<ul style="list-style-type: none"> <li>Noise from the prospecting equipment and vehicles during excavation activities.</li> </ul>
	Soil	Negative Medium	<ul style="list-style-type: none"> <li>Removal and disturbance of soil structure by excavation activities.</li> <li>Possible hydrocarbon spills from vehicles and equipment in and around open excavations.</li> </ul>
	Surface Water	Negative Low	<ul style="list-style-type: none"> <li>Collection of water in open excavations during and after thunderstorms.</li> <li>Possible hydrocarbon spills from vehicles and equipment in open excavations.</li> </ul>
	Topography	Negative low	<ul style="list-style-type: none"> <li>Minimal changing of natural slopes will take place.</li> </ul>
	Visual	Negative Low	<ul style="list-style-type: none"> <li>Changing of natural aesthetic view of environment could take place. The prospecting activities will only be visible to a small extent from the immediate surrounding area.</li> </ul>

Activity	Potential impact on:	Type of impact	Description
Drilling activities	Air quality	Negative Medium	<ul style="list-style-type: none"> <li>Nuisance dust will be created by the drill rig.</li> </ul>
	Fauna	Negative High	<ul style="list-style-type: none"> <li>Where new drill sites will be created the natural habitat of the animals will be disturbed and/or destroyed.</li> <li>Potential 'road' kills.</li> </ul>
	Flora	Negative High	<ul style="list-style-type: none"> <li>Where new drill sites will be created the vegetation will be disturbed and/or destroyed.</li> </ul>
	Ground Water	Negative Low	<ul style="list-style-type: none"> <li>Possible hydrocarbon spills from drill rig.</li> </ul>
	Noise	Negative Medium	<ul style="list-style-type: none"> <li>Noise from the drill rig.</li> </ul>
	Soil	Negative Medium	<ul style="list-style-type: none"> <li>Removal and disturbance of soil structure</li> <li>Possible hydrocarbon spills from the drill rig.</li> </ul>
	Surface Water	Negative Low	<ul style="list-style-type: none"> <li>Possible hydrocarbon spills from drill rig.</li> </ul>
	Topography	Not applicable	<ul style="list-style-type: none"> <li>No impact expected</li> </ul>
	Visual	Negative Low	<ul style="list-style-type: none"> <li>Changing of natural aesthetic view of environment could take place.</li> </ul>

Activity	Potential impact on:	Type of impact	Description
Haul Roads	Air quality	Negative Low	<ul style="list-style-type: none"> <li>Nuisance dust will be created by the prospecting equipment hauling material between the open excavation areas and the plant area.</li> </ul>
	Fauna	Negative High	<ul style="list-style-type: none"> <li>Where new haulage roads will be created the natural habitat of the animals will be disturbed and/or destroyed.</li> <li>Road kills.</li> </ul>
	Flora	Negative High	<ul style="list-style-type: none"> <li>Where new haulage roads will be created the vegetation will be disturbed and/or destroyed.</li> </ul>
	Ground Water	Negative Low	<ul style="list-style-type: none"> <li>Possible hydrocarbon spills from vehicles and equipment.</li> </ul>
	Noise	Negative Low	<ul style="list-style-type: none"> <li>Noise from the prospecting equipment on the haulage roads.</li> </ul>
	Soil	Negative Low	<ul style="list-style-type: none"> <li>Compaction of soil is expected on the roads that are used by the prospecting operation.</li> <li>Possible hydrocarbon spills from equipment and vehicles.</li> </ul>
	Surface Water	Negative Low	<ul style="list-style-type: none"> <li>If roads are not properly maintained, water erosion after thunder storms can occur.</li> <li>Possible hydrocarbon spills from equipment and vehicles.</li> </ul>
	Topography	Not applicable	<ul style="list-style-type: none"> <li>No impact to the topography is expected from the roads that will be created and used by the prospecting operation.</li> </ul>
Visual	Negative Low	<ul style="list-style-type: none"> <li>The haulage roads will visible to some extent from the immediate surroundings.</li> </ul>	

Activity	Potential impact on:	Type of impact	Description
Office-, workshop & storage area (mobile containers)	Air quality	Negative Low	<ul style="list-style-type: none"> <li>Vehicle and equipment emissions in these areas.</li> </ul>
	Fauna	Negative High	<ul style="list-style-type: none"> <li>The natural habitat of the animals will be disturbed and/or destroyed where these mobile containers will be placed.</li> <li>Potential 'road' kills in these areas.</li> </ul>
	Flora	Negative High	<ul style="list-style-type: none"> <li>The vegetation cover will be disturbed and / or destroyed in the areas where these mobile containers will be placed.</li> </ul>
	Ground Water	Negative Low	<ul style="list-style-type: none"> <li>Possible hydrocarbon spills from equipment and vehicles in these areas.</li> </ul>
	Noise	Negative Low	<ul style="list-style-type: none"> <li>Minimal noise impact.</li> </ul>
	Soil	Negative Low	<ul style="list-style-type: none"> <li>Disturbance of soil structure where the mobile containers will be placed.</li> <li>Possible hydrocarbon spills from vehicles and equipment in these areas.</li> </ul>
	Surface Water	Negative Low	<ul style="list-style-type: none"> <li>Potential pollution of surface water through hydrocarbon spills from vehicles and equipment in these areas during a rain event.</li> </ul>
	Topography	Not applicable	<ul style="list-style-type: none"> <li>No change in topography is expected.</li> </ul>
Visual	Negative Low	<ul style="list-style-type: none"> <li>Changing of natural view will take place.</li> </ul>	

Activity	Potential impact on:	Type of impact	Description
Processing Plant (Mobile)	Air quality	Negative Medium	<ul style="list-style-type: none"> <li>Nuisance dust will be created by the mobile plant operations.</li> <li>Nuisance dust will be created from vehicles and equipment in this area.</li> </ul>
	Fauna	Negative High	<ul style="list-style-type: none"> <li>The natural habitat of the animals will be disturbed and/or destroyed where the mobile processing plant will be established.</li> </ul>
	Flora	Negative High	<ul style="list-style-type: none"> <li>The vegetation cover will be disturbed and / or destroyed where the mobile processing plant will be established.</li> </ul>
	Ground Water	Netative Medium	<ul style="list-style-type: none"> <li>Groundwater will be utilized for processing purposes.</li> <li>Potential pollution of groundwater through hydrocarbon spills.</li> </ul>
	Noise	Negative High	<ul style="list-style-type: none"> <li>A high noise impact is expected inthe immediate vicinity of the processing plant.</li> </ul>
	Soil	Negative Low	<ul style="list-style-type: none"> <li>Disturbance of soil structure where the mobile processing plant will be established.</li> <li>Possible hydrocarbon spills from vehicles and equipment in these areas.</li> </ul>
	Surface Water	Negative Medium	<ul style="list-style-type: none"> <li>Potential pollution of surface water through hydrocarbon spills during a rain event.</li> </ul>
	Topography	Not applicable	<ul style="list-style-type: none"> <li>No change in topography is expected.</li> </ul>
	Visual	Negative Medium	<ul style="list-style-type: none"> <li>Changing of natural view will take place where the mobile processing plant will be established.</li> <li>Breaking of natural skyline.</li> </ul>

Activity	Potential impact on:	Type of impact	Description
Slimes dam	Air quality	Negative Low	<ul style="list-style-type: none"> <li>Nuisance dust will be created when the slimes dam is built.</li> <li>Nuisance dust will be experienced when the dam dries out and during rehabilitation thereof.</li> </ul>
	Fauna	Negative High	<ul style="list-style-type: none"> <li>The natural habitat of the animals will be disturbed and/or destroyed where the slimes dam will be established.</li> </ul>
	Flora	Negative High	<ul style="list-style-type: none"> <li>The vegetation cover will be disturbed and / or destroyed where the slimes dam will be established.</li> </ul>
	Ground Water	Positive Low	<ul style="list-style-type: none"> <li>Water collected in the slimes dam will infiltrate into the groundwater table and will have a potential positive effect on groundwater levels.</li> </ul>
	Noise	Not applicable	<ul style="list-style-type: none"> <li>No noise impact is expected.</li> </ul>
	Soil	Negative Low	<ul style="list-style-type: none"> <li>Disturbance of soil structure where the slimes dam will be established.</li> </ul>
	Surface Water	Not applicable	<ul style="list-style-type: none"> <li>No impact to surface water is expected.</li> </ul>
	Topography	Negative Low	<ul style="list-style-type: none"> <li>Changing of natural slopes.</li> </ul>
Visual	Negative Low	<ul style="list-style-type: none"> <li>Changing of natural view will take place.</li> </ul>	

Activity	Potential impact on:	Type of impact	Description
Topsoil storage site (Temporary)	Air quality	Negative Low	<ul style="list-style-type: none"> <li>Nuisance dust will be created by the vehicles and equipment in this area.</li> </ul>
	Fauna	Negative High	<ul style="list-style-type: none"> <li>The natural habitat of the animals will be disturbed/destroyed in this area.</li> </ul>
	Flora	Negative High	<ul style="list-style-type: none"> <li>The vegetation will be disturbed/destroyed in this area.</li> </ul>
	Ground Water	Negative Low	<ul style="list-style-type: none"> <li>Possible hydrocarbon spills by vehicles and equipment in this area.</li> </ul>
	Noise	Negative Low	<ul style="list-style-type: none"> <li>Noise will be created by the vehicles and equipment in this area.</li> </ul>
	Soil	Negative Low	<ul style="list-style-type: none"> <li>Disturbance of the soil structure.</li> </ul>
	Surface Water	Negative Low	<ul style="list-style-type: none"> <li>Possible hydrocarbon spills by vehicles and equipment in this area.</li> </ul>
	Topography	Negative Low	<ul style="list-style-type: none"> <li>Changing of natural slopes.</li> </ul>
	Visual	Negative Low	<ul style="list-style-type: none"> <li>Changing of natural view.</li> </ul>

**2.2.2 Potential cumulative impacts.**

Description	
Air Quality	<ul style="list-style-type: none"> <li>Nuisance dust created by prospecting activities.</li> <li>Nuisance dust created from the farm roads and gravel roads surrounding the property.</li> </ul>
Fauna	<ul style="list-style-type: none"> <li>Disturbance and/or destruction of habitat by prospecting activities.</li> <li>Potential road kills.</li> </ul>
Flora	<ul style="list-style-type: none"> <li>Disturbance and/or destruction of vegetation by prospecting activities.</li> </ul>
Ground Water	<ul style="list-style-type: none"> <li>Minimal utilization of groundwater for domestic and livestock watering purposes by the surface.</li> <li>Usage of groundwater for processing purposes by prospecting activities.</li> </ul>
Noise	<ul style="list-style-type: none"> <li>Noise created by prospecting activities.</li> <li>Noise from traffic on farm roads and surrounding gravel roads.</li> </ul>
Soil	<ul style="list-style-type: none"> <li>Removal and disturbance of soil structure by prospecting activities.</li> </ul>
Surface Water	<ul style="list-style-type: none"> <li>No impact is expected as there is no surface water in the application area, or in the immediate vicinity thereof.</li> </ul>
Topography	<ul style="list-style-type: none"> <li>Potential changing of natural slopes by prospecting activities.</li> </ul>
Visual	<ul style="list-style-type: none"> <li>Changing of natural view by prospecting activities.</li> </ul>

**2.2.3 Potential impact on heritage resources**

There is no known heritage environment within the application area.



#### **2.2.4 Potential impacts on communities, individuals or competing land uses in close proximity.**

(If no such impacts are identified this must be specifically stated together with a clear explanation why this is not the case.)

There are no communities or individuals residing in close proximity of the area under application who could be potentially impacted on.

The Mamatwan Mine is situated adjacent to the application area. Blue Lounge Trading's proposed prospecting operation will contribute an additional dust and noise impact to the immediate surrounding area.

The only competing land use on the application area is livestock farming. The only potential impact to these activities is the temporally limited dust and noise created by some of the prospecting activities.

#### **2.2.5 Confirmation that the list of potential impacts has been compiled with the participation of the landowner and interested and affected parties,**

No meeting has been held with the surface owner to date.

Responses received to date:

- Tshipi e Ntle Manganese Mining (Pty) Ltd (surface owner):  
A letter dated 9 September 2016 was received from Webber Wentzel, the legal representatives of Tshipi e Ntle Manganese Mining (Pty) Ltd. It was requested that the surface owner be registered as an Interested and Affected Party and that a number of documents be made available for perusal.
- Mr. van den Berg:  
An e-mail was received on the 20<sup>th</sup> of September 2016 listing the following concerns:
  - Who will be responsible for the maintenance of the access road and dust mitigation / monitoring?
  - What will the impact on the groundwater table be?
- Saltrim Ranches (Pty) Ltd:  
Mr. H.P. Venter confirmed that he is the representative of Saltrim Ranches (Pty) Ltd, which company is an adjacent surface owner.
- Transnet:  
An e-mail was received from Transnet on the 4<sup>th</sup> of October 2016 stating that Transnet has no objection against the application.
- Department of Rural Development and Land Reform:

A letter dated 30 August 2016 was received from the Department stating that there are no restitution claims lodged against the property under application.

- Department of Water & Sanitation:  
The Department requested in a letter dated 7 February 2017 that an EMP / EIA be submitted and that an application for a water use license should be submitted.

No responses were received from the newspaper advertisements that were placed in the DFA and Volksblad.

Any other comments / concerns received will be submitted to DMR as and when it is received.

#### **2.2.6 Confirmation of specialist report appended.**

(Refer to guideline)

There are no specialist reports appended.

### **3 REGULATION 52 (2) (c): Summary of the assessment of the significance of the potential impacts and the proposed mitigation measures to minimise adverse impacts.**

#### **3.1 Assessment of the significance of the potential impacts**

##### **3.1.1 Criteria of assigning significance to potential impacts**

###### **ASSESSMENT CRITERIA TERMINOLOGY**

The assessment of the impacts has been conducted according to a synthesis of criteria required by the integrated environmental management procedure.

###### **Nature of impact**

This is an appraisal of the type of effect the activity would have on the affected environmental component. Its description should include what is being affected, and how.

###### **Extent**

The physical and spatial size of the impact. This is classified as follows:

- **Local**  
The impacted area extends only as far as the activity, e.g. a footprint.
- **Site**  
The impact could affect the whole, or a measurable portion of the property.
- **Regional**  
The impact could affect the area including the neighbouring farms, transport routes and the adjoining towns.
- **Cumulative**  
The impact could have a cumulative effect with the surrounding land uses.

###### **Duration**

The lifetime of the impact which is measured in the context of the lifetime of the proposed phase (i.e. construction or operation).

- **Short term**  
The impact will either disappear with mitigation or will be mitigated through natural process in a short time period.
- **Medium term**  
The impact will last up to the end of the prospecting period, where after it will be entirely negated.
- **Long term**  
The impact will continue or last for the entire operational life of the operation, but will be mitigated by direct human action or by natural processes thereafter.

- **Permanent**

The only class of impact, which will be non-transitory. Mitigation either by man or natural process will not occur in such a way or in such a time span that the impact can be considered transient.

**Intensity**

This describes how destructive, or benign, the impact is. Does it destroy the impacted environment, alter its functioning, or slightly alter it. These are rated as:

- **Low**

This alters the affected environment in such a way that the natural processes or functions are not affected.

- **Medium**

The affected environment is altered, but function and process continue, albeit in a modified way.

- **High**

Function or process of the affected environment is disturbed to the extent where it temporarily or permanently ceases.

This will be a relative evaluation within the context of all the activities and the other impacts within the framework of the project.

**Probability**

This describes the likelihood of the impacts actually occurring. The impact may occur for any length of time during the life cycle of the activity, and not at any given time. The classes are rated as follows:

- **Improbable**

The possibility of the impact occurring is very low, due either to the circumstances, design or experience.

- **Probable**

There is a possibility that the impact will occur to the extent that provisions must be made therefore.

- **Highly probable**

It is most likely that the impacts will occur at some or other stage of the development.

- **Definite**

The impact will take place regardless of any preventative plans, and mitigation measures or contingency plans will have to be implemented to contain the impact.

**Determination of significance**

Significance is determined through a synthesis of impact characteristics. Significance is an indication of the importance of the impact in terms of both physical extent and time scale, and therefore indicates the level of mitigation required. The classes are rated as follows:

- **No significance**  
The impact is not likely to be substantial and does not require any mitigatory action.
- **Low**  
The impact is of little importance, but may require limited mitigation.
- **Medium**  
The impact is of importance and therefore considered to have a negative impact. Mitigation is required to reduce the negative impacts to acceptable levels.
- **High**  
The impact is of great importance. Failure to mitigate, with the objective to reduce the impact to acceptable levels, could render the entire development option or entire project proposal unacceptable. Mitigation is therefore essential.

**3.1.2 Potential impact of each main activity in each phase, and corresponding significance assessment**

Prospecting activity	Impact on	Extent	Duration	Intensity	Probability	Significance
Bulk sampling activities	Air quality	Site	Medium	Medium	Definite	Medium
	Fauna	Local	Long	High	Definite	High
	Flora	Local	Long	High	Definite	High
	Groundwater	Site	Short	Low	Improbable	Low
	Noise	Site	Medium	Medium	Definite	Medium
	Soil	Local	Long	Medium	Definite	Medium
	Surface water	Local	Short	Low	Improbable	Low
	Topography	Site	Long	Low	Definite	Low
	Visual	Regional	Long	Low	Definite	Low
	Prospecting activity	Impact on	Extent	Duration	Intensity	Probability
Drilling activities	Air quality	Site	Medium	Medium	Definite	Medium
	Fauna	Local	Long	High	Definite	High
	Flora	Local	Long	High	Definite	High
	Groundwater	Site	Short	Low	Improbable	Low
	Noise	Site	Medium	Medium	Definite	Medium
	Soil	Local	Long	Medium	Definite	Medium
	Surface water	Local	Short	Low	Improbable	Low
	Topography	N/A	N/A	N/A	N/A	N/A
	Visual	Regional	Long	Low	Definite	Low
	Prospecting activity	Impact on	Extent	Duration	Intensity	Probability
Haul Roads	Air quality	Site	Short	Low	Definite	Low
	Fauna	Local	Long	High	Definite	High
	Flora	Local	Long	High	Definite	High
	Groundwater	Site	Short	Low	Improbable	Low
	Noise	Site	Short	Low	Definite	Low
	Soil	Local	Medium	Low	Definite	Low
	Surface water	Local	Short	Low	Improbable	Low
	Topography	N/A	N/A	N/A	N/A	N/A
	Visual	Site	Long	Low	Definite	Low
	Prospecting activity	Impact on	Extent	Duration	Intensity	Probability
Office-, workshop & storage area (mobile containers)	Air quality	Local	Short	Low	Probable	Low
	Fauna	Local	Long	High	Definite	High
	Flora	Local	Long	High	Definite	High
	Groundwater	Site	Short	Low	Improbable	Low
	Noise	Site	Short	Low	Definite	Low
	Soil	Local	Medium	Low	Definite	Low
	Surface water	Local	Short	Low	Improbable	Low
	Topography	N/A	N/A	N/A	N/A	N/A
	Visual	Site	Long	Low	Definite	Low
	Prospecting activity	Impact on	Extent	Duration	Intensity	Probability
Processing Plant (Mobile)	Air quality	Site	Medium	Medium	Definite	Medium
	Fauna	Local	Long	High	Definite	High
	Flora	Local	Long	High	Definite	High
	Groundwater	Site	Short	Medium	Improbable	Medium
	Noise	Site	Medium	Medium	Definite	High
	Soil	Local	Medium	Medium	Definite	Low
	Surface water	Local	Medium	Medium	Definite	Medium
	Topography	N/A	N/A	N/A	N/A	N/A
	Visual	Regional	Long	High	Definite	Medium

Prospecting activity	Impact on	Extent	Duration	Intensity	Probability	Significance
Slimes dam	Air quality	Site	Short	Medium	Definite	Low
	Fauna	Local	Long	High	Definite	High
	Flora	Local	Long	High	Definite	High
	Groundwater	Local	Long	Low	Probable	Low
	Noise	N/A	N/A	N/A	N/A	N/A
	Soil	Local	Medium	Medium	Definite	Low
	Surface water	N/A	N/A	N/A	N/A	N/A
	Topography	Site	Medium	Medium	Definite	Low
	Visual	Regional	Long	Medium	Definite	Low
Prospecting activity	Impact on	Extent	Duration	Intensity	Probability	Significance
Topsoil storage site (temporary)	Air quality	Local	Short	Low	Probable	Low
	Fauna	Local	Long	High	Definite	High
	Flora	Local	Long	High	Definite	High
	Groundwater	Site	Short	Low	Improbable	Low
	Noise	Site	Short	Low	Definite	Low
	Soil	Local	Medium	Medium	Definite	Low
	Surface water	Local	Short	Low	Improbable	Low
	Topography	Site	Medium	Medium	Definite	Low
	Visual	Site	Long	Medium	Definite	Low

### 3.1.3 Assessment of potential cumulative impacts.

The only competing land use is small scale livestock farming. No impact to the environment is expected from the livestock farming activities.

The cumulative impact to the environment, before any mitigation measures are implemented, from both the prospecting activities and livestock farming activities can be summarised as follows:

Prospecting activity	Impact on	Extent	Duration	Intensity	Probability	Significance
Bulk sampling activities	Air quality	Site	Medium	Medium	Definite	Medium
	Fauna	Local	Long	High	Definite	High
	Flora	Local	Long	High	Definite	High
	Groundwater	Site	Short	Low	Improbable	Low
	Noise	Site	Medium	Medium	Definite	Medium
	Soil	Local	Long	Medium	Definite	Medium
	Surface water	Local	Short	Low	Improbable	Low
	Topography	Site	Long	Low	Definite	Low
	Visual	Regional	Long	Low	Definite	Low
Drilling activities	Air quality	Site	Medium	Medium	Definite	Medium
	Fauna	Local	Long	High	Definite	High
	Flora	Local	Long	High	Definite	High
	Groundwater	Site	Short	Low	Improbable	Low
	Noise	Site	Medium	Medium	Definite	Medium
	Soil	Local	Long	Medium	Definite	Medium
	Surface water	Local	Short	Low	Improbable	Low
	Topography	N/A	N/A	N/A	N/A	N/A
	Visual	Regional	Long	Low	Definite	Low
Haul Roads	Air quality	Site	Short	Low	Definite	Low
	Fauna	Local	Long	High	Definite	High
	Flora	Local	Long	High	Definite	High
	Groundwater	Site	Short	Low	Improbable	Low
	Noise	Site	Short	Low	Definite	Low
	Soil	Local	Medium	Low	Definite	Low
	Surface water	Local	Short	Low	Improbable	Low
	Topography	N/A	N/A	N/A	N/A	N/A
	Visual	Site	Long	Low	Definite	Low
Office-, workshop & storage area (mobile containers)	Air quality	Local	Short	Low	Probable	Low
	Fauna	Local	Long	High	Definite	High
	Flora	Local	Long	High	Definite	High
	Groundwater	Site	Short	Low	Improbable	Low
	Noise	Site	Short	Low	Definite	Low
	Soil	Local	Medium	Low	Definite	Low
	Surface water	Local	Short	Low	Improbable	Low
	Topography	N/A	N/A	N/A	N/A	N/A
	Visual	Site	Long	Low	Definite	Low
Processing Plant (Mobile)	Air quality	Site	Medium	Medium	Definite	Medium
	Fauna	Local	Long	High	Definite	High
	Flora	Local	Long	High	Definite	High
	Groundwater	Site	Short	Medium	Improbable	Medium
	Noise	Site	Medium	Medium	Definite	High
	Soil	Local	Medium	Medium	Definite	Low
	Surface water	Local	Medium	Medium	Definite	Medium
	Topography	N/A	N/A	N/A	N/A	N/A
	Visual	Regional	Long	High	Definite	Medium
Slimes dam	Air quality	Site	Short	Medium	Definite	Low
	Fauna	Local	Long	High	Definite	High
	Flora	Local	Long	High	Definite	High
	Groundwater	Local	Long	Low	Probable	Low
	Noise	N/A	N/A	N/A	N/A	N/A
	Soil	Local	Medium	Medium	Definite	Low
	Surface water	N/A	N/A	N/A	N/A	N/A
	Topography	Site	Medium	Medium	Definite	Low
	Visual	Regional	Long	Medium	Definite	Low
Topsoil storage site (temporary)	Air quality	Local	Short	Low	Probable	Low
	Fauna	Local	Long	High	Definite	High
	Flora	Local	Long	High	Definite	High
	Groundwater	Site	Short	Low	Improbable	Low
	Noise	Site	Short	Low	Definite	Low
	Soil	Local	Medium	Medium	Definite	Low
	Surface water	Local	Short	Low	Improbable	Low
	Topography	Site	Medium	Medium	Definite	Low
	Visual	Site	Long	Medium	Definite	Low

### 3.2 Proposed mitigation measures to minimise adverse impacts.

#### 3.2.1 List of actions, activities, or processes that have sufficiently significant impacts to require mitigation.

- Air quality
  - Nuisance dust created by prospecting activities.
  - Nuisance dust created from the farm roads and gravel roads surrounding the property.
- Fauna
  - Disturbance and/or destruction of habitat by prospecting activities.
  - Potential road kills.
- Flora
  - Disturbance and/or destruction of vegetation by prospecting activities.
- Groundwater
  - Minimal utilization of groundwater for domestic and livestock watering purposes by the surface.
  - Usage of groundwater for processing purposes by prospecting activities.
- Noise
  - Noise created by prospecting activities.
  - Noise from traffic on farm roads and surrounding gravel roads.
- Soil
  - Removal and disturbance of soil structure by prospecting activities.
- Surface water
  - No impact is expected as there is no surface water in the application area, or in the immediate vicinity thereof.
- Topography
  - Potential changing of natural slopes by prospecting activities.
- Visual
  - Changing of natural view by prospecting activities.

### 3.2.2 Concomitant list of appropriate technical or management options

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

- Air quality:  
To limit the creation of nuisance dust the following management guidelines will be followed:
  - Avoidance of unnecessary removal of vegetation;
  - Routine spraying of unpaved site areas and roads utilized by the prospecting operation with water;
  - Speed limits of vehicles inside the application area will be strictly controlled to avoid excessive dust or the excessive deterioration of the roads to be used.
  - All cleared, disturbed or exposed areas to be re-vegetated as soon as practically possible to prevent the formation of additional sources of dust.
  
- Fauna  
Most large antelope species are absent from the area, although nomad Kudus occasionally traverses the property. The normal array of small mammals and birds that are associated with the Kimberley Thornveld Vegetation Type might be expected.  
  
To ensure a minimum of impact to these animals the following management guidelines will be followed:
  - Speed limits of vehicles inside the application area will be strictly controlled to avoid road kills.
  - Continuous backfilling of open excavations (created by the bulk sampling activities).
  - Operational areas will be low angled as a preventative measure to ensure an escape route for animals.
  - No hunting (snares) will be allowed at the application area.
  
- Flora
  - No trees or shrubs will be felled or damaged for the purpose of obtaining firewood.
  - Management will take responsibility to control declared invader or exotic species on the site. The following control methods will be used:
    - "The plants will be uprooted, felled or cut off and can be destroyed completely."
    - "The plants will be treated with an herbicide that is registered for use in connection therewith and in accordance with the directions for the use of such an herbicide."



- Valid permits from Northern Cape Nature Conservation will be obtained before any protected plant species are removed.
  - Continuous backfilling of open excavations (created by bulk sampling activities) and spreading of previously stored topsoil over the rehabilitated areas.
  - All rehabilitated areas, where applicable and possible, will be seeded with a vegetation seed mix adapted to reflect the local indigenous flora that was present prior to prospecting activities commenced, if the natural succession of vegetation is unacceptably slow.
  - Fires will only be allowed in facilities or equipment specially constructed for this purpose. If required by applicable legislation, a firebreak will be cleared around the perimeter of the site.
  - The end objective of the re-vegetation program will be to achieve a stable self-sustaining habitat unit.
- Groundwater
    - Vehicle- and equipment maintenance will only be allowed within the maintenance area. Only emergency breakdowns will be allowed in other areas.
    - The following procedure will be followed if a vehicle or piece of equipment would break down inside an excavation and outside of the maintenance area. Drip pans will be placed at all points where diesel, oil or hydraulic fluid may drip and in so doing contaminate the soil.
    - All efforts will be made to move the broken down vehicle or piece of equipment to the maintenance area.
    - If the vehicle/piece of equipment cannot be moved, the broken part will firstly be drained of all fluid. The part will then be removed and taken to the maintenance area.
    - No repairs will be allowed outside the maintenance area except for emergencies.
    - Equipment used as part of the proposed operation will be adequately maintained so as to ensure that oil, diesel, grease or hydraulic fluid does not leak during operation.
    - Fuel and other petrochemicals will be stored in steel receptacles that comply with SANS 10089-1:2003 (SABS 089-1:2003) standards. An adequate bund wall, 150% of volume of the largest storage receptacle, will be provided for fuel and diesel areas to accommodate any spillage or overflow of these substances. The area inside the bund wall will be lined with an impervious lining to prevent infiltration of

the fuel into the soil (and ultimately groundwater). The latter will be covered by an approved bacterial hydrocarbon digestion agent that is effective in water.

- Proper sanitation facilities will be provided for employees. No person will pollute the workings with faeces or urine, misuse the facilities provided or inappropriately foul the surrounding environment with faeces or urine. Acceptable hygienic and aesthetic practices will be adhered to.
- Noise
  - Working hours will be kept between sunrise and sunset as far as possible.
  - As a minimum, ambient noise levels emanating from the prospecting activities will not exceed 82 dBA at the site boundary.
  - Blue Lounge will comply with the occupational noise Regulations of the Occupational Health and Safety Act, Act 85 of 1993.
  - Blue Lounge will comply with the measures for good practice with regard to management of noise related impacts during construction and operation.
  - The management objective will be to reduce any level of noise, shock and lighting that may have an effect on persons or animals, both inside the plant area and that which may migrate outside the plant area.
  - When the equivalent noise exposure, as defined in the South African Bureau of Standards Code of Practice for the Measurement and Assessment of Occupational Noise for Hearing Conservation Purposes, SABS 083 as amended, in any place at or in any mine or works where persons may travel or work, exceeds 82 dB (A), the site manager will take the necessary steps to reduce the noise below this level.
  - Hearing protection will be available for all employees where attenuation cannot be implemented.
  - If any complaints are received from the public or state department regarding noise levels the levels will be monitored at prescribed monitoring points.

#### Mechanical equipment:

- All mechanical equipment will be in good working order and vehicles will adhere to the relevant noise requirements of the Road Traffic Act.
- All vehicles in operation will be equipped with a silencer on their exhaust system.
- Safety measures, which generate noise such as reverse gear alarms on large vehicles, will be appropriately calibrated/adjusted.

Screening/Migration control:

- Appropriate measures will specifically be installed and or employed at the plant to act as screen and to reflect/reduce the noise.
  - Appropriate non-metallic washers/insulation will be used with any joining of apparatus made from materials such as corrugated iron. Such apparatus will be maintained in a fixed position.
- Soil
    - In all places of development the first 300mm of loose or weathered material found will be classified as a growth medium. The topsoil will be removed, where possible, from all areas where physical disturbance of the surface will occur.
    - In all areas where the above growth medium will be impacted on, it will be removed and stockpiled on a dedicated area. The maximum height of stockpiles will be 2 meters.
    - The growth medium/topsoil will be used during the rehabilitation of any impacted areas, after sloping in order to re-establish the same land capability.
    - If any soil is contaminated during the life of the prospecting period, it will either be treated on site or be removed together with the contaminant and placed in acceptable containers to be removed with the industrial waste to a recognized facility or company.
    - Erosion control in the form of re-vegetation and contouring of slopes will be implemented on disturbed areas in and around the site.
    - Topsoil will be kept separate from overburden and will not be used for building or maintenance of access roads.
    - The stored topsoil will be adequately protected from being blown away or being eroded.
    - Compacted areas will be ripped to a depth of 300mm, where possible, during the continuous rehabilitation, decommissioning and closure phases of the operation in order to establish a growth medium for vegetation.
    - Vehicle movement will be confined to established roads for as far as practical in order to prevent the compaction of soils.
  - Surface water
    - The disposal of oil, grease and related industrial waste will be transported to the stores area where it will be stored in steel containers supplied by an oil recycling contractor. All oil and grease will be removed on a regular basis from the operation by a registered approved contractor.

- All refuse and waste from the different sections will be handled according to NEMA Guidelines. Recycling of waste is encouraged in all the consumer sections of the operation, where recyclable materials will be collected before dumping them in the domestic waste disposal area.
  - All non-biodegradable (recyclable) refuse such as glass bottles, plastic bags and metal scrap will be stored in a container in the waste area and collected on a regular basis and disposed of at a recognized disposal facility.
  - Erosion and storm water control measures will be implemented.
  - The slimes dam will have a bund wall to prevent overflow/spillages.
  - An application for an Integrated Water Use License will be submitted at the Department of Water Affairs for all actions to be performed which requires authorization in terms of water uses.
  - Vehicle repairs will only take place within the maintenance area for vehicles. Repairs within open excavations will be limited to emergency break downs with drip trays.
  - Re-fuelling will only take place in the re-fuelling area. If this is found not be practical, drip trays will be used whenever re-fuelling takes place outside of this area.
  - During rehabilitation the applicant will endeavour to reconstruct flow patterns in such a way that surface water flow is in accordance with the natural drainage of the area as far as practically possible.
- Topography
    - All open excavations will be backfilled if and when possible and made safe so as to reflect as far as possible the pre-prospecting topography of the area.
    - All temporary features, e.g. plant, containers and stockpiling, will be removed and handled in the prescribed manner during rehabilitation.
- Visual
    - Open excavations will be subject to progressive backfilling and made safe (including the re-establishment of vegetation).
    - Permanent structures or features that are part of the proposed prospecting operation will be kept neat and well presented.
    - Waste material of any description will be removed from the prospecting area upon completion of the operation and be disposed of at a recognized landfill facility.

- All the plant and equipment will be removed from the site upon completion of the prospecting operation.

### 3.2.3 Review the significance of the identified impacts

(After bringing the proposed mitigation measures into consideration).

Prospecting activity	Impact on	Extent	Duration	Intensity	Probability	Significance (without mitigation)	Significance (with mitigation)	
Bulk sampling activities	Air quality	Site	Medium	Medium	Definite	Medium	Low	
	Fauna	Local	Long	High	Definite	High	Medium	
	Flora	Local	Long	High	Definite	High	Medium	
	Groundwater	Site	Short	Low	Improbable	Low	Low	
	Noise	Site	Medium	Medium	Definite	Medium	Low	
	Soil	Local	Long	Medium	Medium	Definite	Medium	Low
	Surface water	Local	Short	Low	Improbable	Low	Low	
	Topography	Site	Long	Low	Definite	Low	Low	
	Visual	Regional	Long	Low	Definite	Low	Low	
Drilling activities	Air quality	Site	Medium	Medium	Definite	Medium	Low	
	Fauna	Local	Long	High	Definite	High	Medium	
	Flora	Local	Long	High	Definite	High	Medium	
	Groundwater	Site	Short	Low	Improbable	Low	Low	
	Noise	Site	Medium	Medium	Definite	Medium	Low	
	Soil	Local	Long	Medium	Definite	Medium	Low	
	Surface water	Local	Short	Low	Improbable	Low	Low	
	Topography	N/A	N/A	N/A	N/A	N/A	N/A	
	Visual	Regional	Long	Low	Definite	Low	Low	
Haul Roads	Air quality	Site	Short	Low	Definite	Low	Low	
	Fauna	Local	Long	High	Definite	High	Medium	
	Flora	Local	Long	High	Definite	High	Medium	
	Groundwater	Site	Short	Low	Improbable	Low	Low	
	Noise	Site	Short	Low	Definite	Low	Low	
	Soil	Local	Medium	Low	Definite	Low	Low	
	Surface water	Local	Short	Low	Improbable	Low	Low	
	Topography	N/A	N/A	N/A	N/A	N/A	N/A	
	Visual	Site	Long	Low	Definite	Low	Low	
Office-, workshop & storage area (mobile containers)	Air quality	Local	Short	Low	Probable	Low	Low	
	Fauna	Local	Long	High	Definite	High	Medium	
	Flora	Local	Long	High	Definite	High	Medium	
	Groundwater	Site	Short	Low	Improbable	Low	Low	
	Noise	Site	Short	Low	Definite	Low	Low	
	Soil	Local	Medium	Low	Definite	Low	Low	
	Surface water	Local	Short	Low	Improbable	Low	Low	
	Topography	N/A	N/A	N/A	N/A	N/A	N/A	
	Visual	Site	Long	Low	Definite	Low	Low	
Processing Plant (Mobile)	Air quality	Site	Medium	Medium	Definite	Medium	Low	
	Fauna	Local	Long	High	Definite	High	Medium	
	Flora	Local	Long	High	Definite	High	Medium	
	Groundwater	Site	Short	Medium	Improbable	Medium	Low	
	Noise	Site	Medium	Medium	Definite	High	Medium	
	Soil	Local	Medium	Medium	Definite	Low	Low	
	Surface water	Local	Medium	Medium	Definite	Medium	Low	
	Topography	N/A	N/A	N/A	N/A	N/A	N/A	
	Visual	Regional	Long	High	Definite	Medium	Low	
Slimes dam	Air quality	Site	Short	Medium	Definite	Low	Low	
	Fauna	Local	Long	High	Definite	High	Medium	
	Flora	Local	Long	High	Definite	High	Medium	
	Groundwater	Local	Long	Low	Probable	Low	Low	
	Noise	N/A	N/A	N/A	N/A	N/A	N/A	
	Soil	Local	Medium	Medium	Definite	Low	Low	
	Surface water	N/A	N/A	N/A	N/A	N/A	N/A	
	Topography	Site	Medium	Medium	Definite	Low	Low	
	Visual	Regional	Long	Medium	Definite	Low	Low	
Topsoil storage site (temporary)	Air quality	Local	Short	Low	Probable	Low	Low	
	Fauna	Local	Long	High	Definite	High	Medium	
	Flora	Local	Long	High	Definite	High	Medium	
	Groundwater	Site	Short	Low	Improbable	Low	Low	
	Noise	Site	Short	Low	Definite	Low	Low	
	Soil	Local	Medium	Medium	Definite	Low	Low	
	Surface water	Local	Short	Low	Improbable	Low	Low	
	Topography	Site	Medium	Medium	Definite	Low	Low	
	Visual	Site	Long	Medium	Definite	Low	Low	

**4 REGULATION 52 (2) (d): Financial provision.** The applicant is required to-

**4.1 Plans for quantum calculation purposes.**

(Show the location and aerial extent of the aforesaid main mining actions, activities, or processes, for each of the construction, operational and closure phases of the operation).

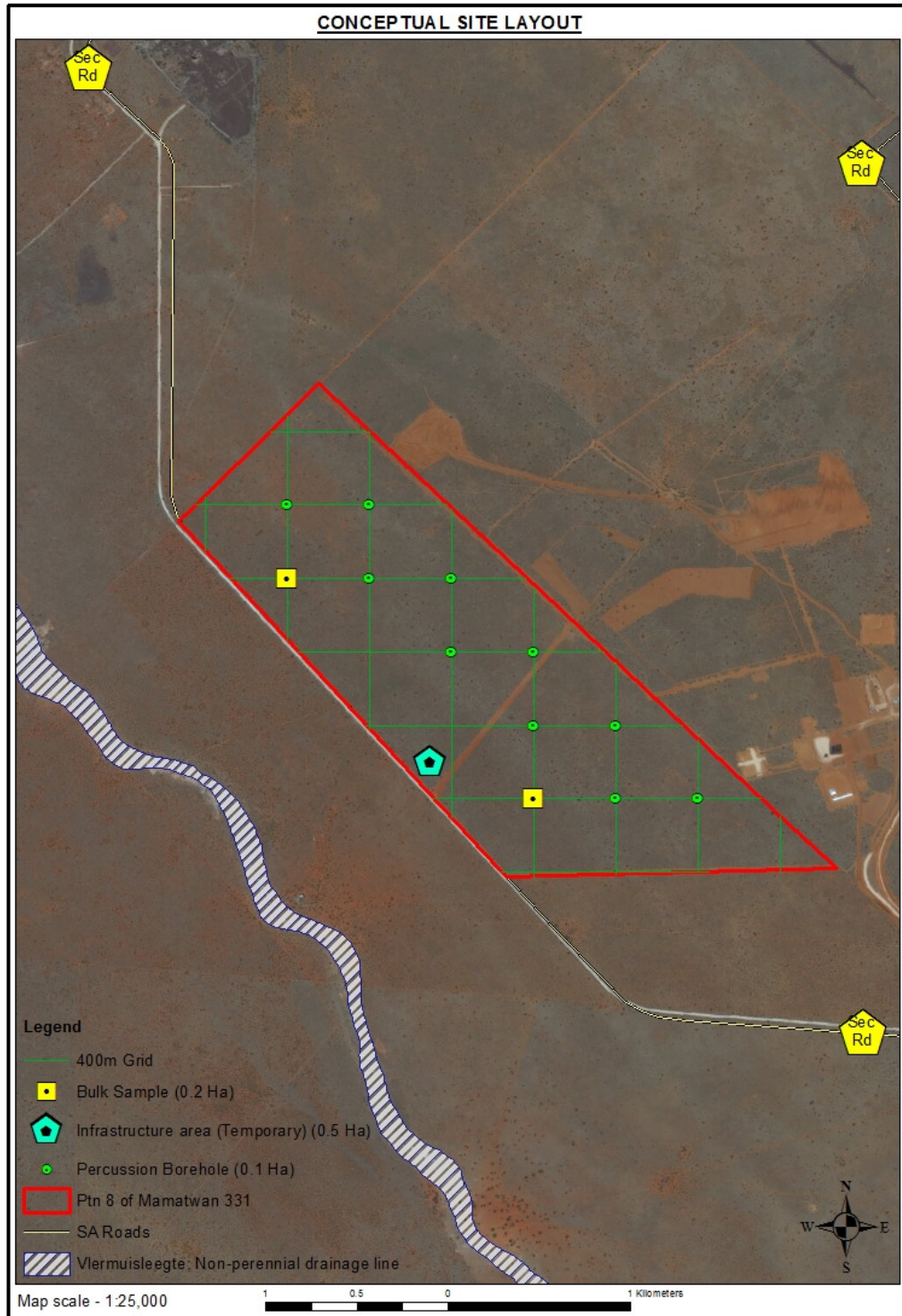


Figure 12 – Conceptual site layout

No	Description	Quantity
1	Dismantling of processing plant and related structures (including overland conveyors and powerlines)  Not applicable – The processing plant will be mobile.	0
2(A)	Demolition of steel buildings and structures  Not applicable – There will be no steel buildings and structures on the site.	0
2(B)	Demolition of reinforced concrete buildings and structures  Not applicable – There will be no reinforced concrete buildings or structures on the site.	0
3	Rehabilitation of access roads  The operation shall utilize existing farm roads as far as possible.  Provision is made for 250m roads x 4m wide.	1 000m <sup>2</sup>
4(A)	Demolition and rehabilitation of electrified railway lines  There are no electrified railway lines on the site.	0
4(B)	Demolition and rehabilitation of non-electrified railway lines  There are no non-electrified railway lines on the site.	0
5	Demolition of housing and/or administration facilities  Not applicable – There will be no housing and/or administration on the site.	0
6	Opencast rehabilitation including final voids and ramps  Two trenches (50 x 20 x 5m deep each)	0.20 Ha
7	Sealing of shafts adits and inclines  There will be no shafts, adits or inclines on the site.	0
8(A)	Rehabilitation of overburden and spoils  Topsoil and waste rock storage sites	0.02 Ha
8(B)	Rehabilitation of processing waste deposits and evaporation ponds (non-polluting potential)  Not applicable – There will be no processing waste deposits and evaporation ponds on the site.	0
8(C)	Rehabilitation of processing waste deposits and evaporation ponds (polluting potential)  Not applicable – There will be no processing waste deposits and evaporation ponds on the site.	0
9	Rehabilitation of subsided areas There are no subsided areas on the mine	0

10	General surface rehabilitation - Boreholes (10 boreholes: 10m x 10m disturbance each) - Plant and processing area (including mobile containers)	0.1 Ha 0.5 Ha
11	River diversions There are no rivers on the site.	0
12	Fencing There will be no fences established on the site.	0
13	Water management There are no areas where water management is necessary	0
14	2 to 3 years maintenance and aftercare Not applicable – Due to the small size of the operation no aftercare and maintenance is proposed.	0
15 (A) & 15(B)	Specialist study All specialist studies have been conducted and paid	0

#### 4.2 Alignment of rehabilitation with the closure objectives

(Describe and ensure that the rehabilitation plan is compatible with the closure objectives determined in accordance with the baseline study as prescribed).

##### Closure objectives:

- The main closure objective of Blue Lounge's planned prospecting operation is to restore the site to its current land capability in a sustainable matter.
- To prevent the sterilization of any ore reserves.
- To prevent the establishment of any permanent structures or features.
- To manage and limit the impact to the surface and groundwater aquifers in such a way that an acceptable water quality and yield can still be obtained, when a closure certificate is issued.
- The prospecting operation also has the objective to establish a stable and self sustainable vegetation cover in areas affected by the prospecting activities.
- To limit and rehabilitate any erosion features caused by the prospecting activities and prevent any permanent impact to the soil capability thereof.
- To limit and manage the visual impact of the prospecting activities.
- To safeguard the safety and health of humans and animals on the site.
- To close the prospecting operation efficiently, cost effectively and in accordance with Government Policy.



Rehabilitation Plan:○ Infrastructure areas

On completion of the prospecting operation, the various surfaces, including the access roads, the office area, storage areas and the plant site, will finally be rehabilitated as follows: All tailings or other material on the surface will be removed to the original topsoil level. This material will then be backfilled into the open excavations. Any compacted area will then be ripped to a depth of 300mm, where possible, the topsoil or growth medium returned and landscaped.

All infrastructure, equipment, plant, and other items used during the operational period will be removed from the site.

On completion of operations, all buildings, structures or objects on the office site will be dealt with in accordance with Regulation 44 of the Minerals and Petroleum Resources Development Act, 2002, which states:

Regulation 44:

1. *When a prospecting right, mining right, retention permit or mining permit lapses, is cancelled or is abandoned or when any prospecting or mining operation comes to an end, the holder of such right or permit may not demolish or remove any building, structure or object-*
  - (a) *which may not be demolished or removed in terms of any other law;*
  - (b) *which has been identified in writing by the Minister for purposes of this section; or*
  - (c) *which is to be retained in terms of an agreement between the holder and the owner or occupier of the land, which agreement has been approved by the Minister in writing.*
2. *The provision of subsection (1) does not apply to bona fide mining equipment, which may be removed.*

○ Rehabilitation of the mobile office, workshop & storage areas

On completion of the prospecting operation, the mobile containers will be removed from site where after the above areas will be cleared of any remaining contaminated soil which will be placed in acceptable containers and removed with the industrial waste to a recognized disposing facility or by a waste removal company.

All buildings, structures or objects in the secured storage areas shall be dealt with in accordance with Regulation 44 of the Minerals and Petroleum Resources Development Act, 2002.

The surface will be ripped or ploughed to a depth of at least 300mm, where possible, and the topsoil, previously stored adjacent the site, distributed evenly to its original depth over the whole area.

The site will be seeded, should the need arise, with a vegetation seed mix adapted to reflect the local indigenous flora.

Any other disturbed areas will be rehabilitated as described under the relevant activities.

- Residue deposits
  - Disposal facilities  
Waste material of all description inclusive of receptacles, scrap, rubble and tyres will be removed entirely from the prospecting area and disposed of at a recognized landfill facility. It will not be permitted to be buried or burned on the site.
  - Ongoing seepage, control of rain water.  
No monitoring of ground or surface water will take place, except if so requested by the DWA - Kimberley.
  - Long term stability and safety  
It will be the objective of prospecting management to ensure the long term stability of all rehabilitated areas including the backfilled excavations. This will be done by the monitoring of all areas until a closure certificate has been issued.
  - Final rehabilitation in respect of erosion and dust control  
Self sustaining vegetation will result in the control of erosion and dust and no further rehabilitation is planned.
- Rehabilitation of dangerous excavations  
Due to the removal of surface ore material, excavations will be created that can be classified as dangerous. All available material will be used during backfilling to avoid the existence of dangerous open excavations.
- Final rehabilitation of opencast haul ramps and roads and final voids  
After rehabilitation has been completed, all roads will be ripped or ploughed, providing the landowner does not want them to remain that way and with written approval from the Director Mineral Development of the Department of Mineral Resources.
- Submission of information  
Reports on rehabilitation and monitoring will be submitted annually to the Department of Mineral Resources - Kimberley, as described in Regulation 55.
- Maintenance (Aftercare)  
Maintenance after closure will mainly concern the regular inspection and monitoring and/or completion of the re-vegetation programme.

The aim of this Environmental Management Plan is for rehabilitation to be stable and self-sufficient, so that the least possible aftercare is required.

The aim with the closure of the prospecting operation will be to create an acceptable post-prospecting environment and land-use.

Therefore all agreed commitments will be implemented by Prospecting Management.

- After-effects following closure
  - Acid drainage  
No potential for bad quality leach ate or acid drainage development exists.
  - Long term impact on ground water and / or surface water.  
No after effect on the groundwater yield or quality or surface water quality is expected.
  - Long-term stability of rehabilitated land  
One of the main aims of any rehabilitated ground will be to obtain a self-sustaining and stable end result. As the open excavations will be backfilled these areas will have long term stability.

**4.3 Quantum calculations.**

(Provide a calculation of the quantum of the financial provision required to manage and rehabilitate the environment, in accordance with the guideline prescribed in terms of regulation 54 (1) in respect of each of the phases referred to).

**CALCULATION OF THE QUANTUM**

Applicant: **BLUE LOUNGE TRADING 107 (PTY) LTD** Ref No: **NC 10985 PR**  
 Date: **AUGUST 2016**

No.	Description	Unit	A	B	C	D	E=A*B*C*D
			Quantity	Master Rate	Multiplication factor	Weighting factor 1	Amount (Rands)
1	Dismantling of processing plant and related structures (including overland conveyors and powerlines)	m3	0.00	13.24	1	1	0.00
2 (A)	Demolition of steel buildings and structures	m2	0.00	184.47	1	1	0.00
2(B)	Demolition of reinforced concrete buildings and structures	m2	0.00	271.86	1	1	0.00
3	Rehabilitation of access roads	m2	1 000.00	33.01	1	1	33 011.03
4 (A)	Demolition and rehabilitation of electrified railway lines	m	0.00	320.40	1	1	0.00
4 (A)	Demolition and rehabilitation of non-electrified railway lines	m	0.00	174.76	1	1	0.00
5	Demolition of housing and/or administration facilities	m2	0.00	368.95	1	1	0.00
6	Open cast rehabilitation including final voids and ramps	ha	0.20	187 774.49	1	1	37 554.90
7	Sealing of shafts adits and inclines	m3	0.00	99.03	1	1	0.00
8 (A)	Rehabilitation of overburden and spoils	ha	0.020	125 053.54	1	1	2 501.07
8 (B)	Rehabilitation of processing waste deposits and evaporation ponds (non-polluting potential)	ha	0.00	160 588.94	1	1	0.00
8 (C)	Rehabilitation of processing waste deposits and evaporation ponds (polluting potential)	ha	0.00	466 426.40	1	1	0.00
9	Rehabilitation of subsided areas	ha	0.00	107 965.48	1	1	0.00
10	General surface rehabilitation	ha	0.60	102 140.00	1	1	61 284.00
11	River diversions	ha	0.00	102 140.00	1	1	0.00
12	Fencing	m	0.00	116.51	1	1	0.00
13	Water management	ha	0.00	38 836.50	1	1	0.00
14	2 to 3 years of maintenance and aftercare	ha	0.000	13 592.78	1	1	0.00
15 (A)	Specialist study	Sum	0.00			1	0.00
15 (B)	Specialist study	Sum	0.00			1	0.00
<b>Total of 1 - 15 above</b>							<b>134 351.00</b>

<b>weighting factor 2</b>
1

<b>Subtotal 1</b>	<b>134 351.00</b>
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1	Preliminary and General	8 061.06	8 061.06
2	Contingencies	13 435.10	13 435.10
<b>Subtotal 2</b>			<b>155 847.16</b>

VAT (14%)	21 818.60
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<b>Grand Total</b>	<b>177 665.76</b>
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**4.4 Undertaking to provide financial provision**

(Indicate that the required amount will be provided should the right be granted).

Blue Lounge Trading 107 (Pty) Ltd shall provide the required amount as calculated in the financial quantum upon granting of the prospecting right.

## **5 REGULATION 52 (2) (e): Planned monitoring and performance assessment of the environmental management plan.**

### **5.1 List of identified impacts requiring monitoring programmes.**

- Air quality will have to be monitored throughout the life of the operation to ensure that the levels are within the prescribed Legislation levels.
- Flora will have to be monitored throughout the life of the operation to ensure that the land capability returns to its current state.
- Noise will have to be monitored throughout the life of the operation to ensure that the levels are within the prescribed Legislation levels.

### **5.2 Functional requirements for monitoring programmes.**

- Air quality
  - The National Environment Management: Air Quality Act, 2004 (Act No.39 of 2004) (All Sections of this Act, except Section 21,22,36 to 49, 51 (1)(e), 51(1)(f), 51(3), 60 and 61 have taken effect on 11 September 2005);
  - The Atmospheric Pollution Prevention Act, 1965 (Act No. 45 of 1965) (This Act will be repealed by the national Environment management: Air Quality Act, 2004 (Act No. 39 of 2004);
  - Regulations to the Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002) – Regulation 64.
  - The Mining Health and Safety Act, 1996 (Act No. 29 of 1996) as amended; and
  - The Occupational Diseases in Mines and Works Act, 1973 (Act No 78 of 1973).
- Flora
  - The Mine Health and Safety Act, 1996 (Act No. 39 of 1996) as amended;
  - The National Forests Act, 1998 (Act No. 84 of 1998), as amended;
  - The Conservation of Agricultural Resources Act, 1983 (Act No. 43 of 1983) – Section 7(1);
  - Government Notice No. 27306 of 18 February 2005, issued in terms of Section 56(1) of the National Environmental Management: Biodiversity Act, 2004 (Act No. 10 of 2004)
  - Nature Conservation Ordinance, Ord 19 of 1974
- Noise
  - The Occupational Health and Safety Act, 1993 (Act No. 85 of 1993) – Section 7.
  - The Mine Health and Safety Act, 1996 (Act No. 39 of 1996) as amended.
  - The Road Traffic Act, 1997 (Act No. 93 of 1997);
  - The National Environmental Management: Air Quality Act, 2004 (Act No. 39 of 2004) – Section 34. and

- Regulations of the Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002) – Regulation 66.

### **5.3 Roles and responsibilities for the execution of monitoring programmes.**

The Operations Manager will be responsible for the execution of the air quality, flora and noise monitoring programmes.

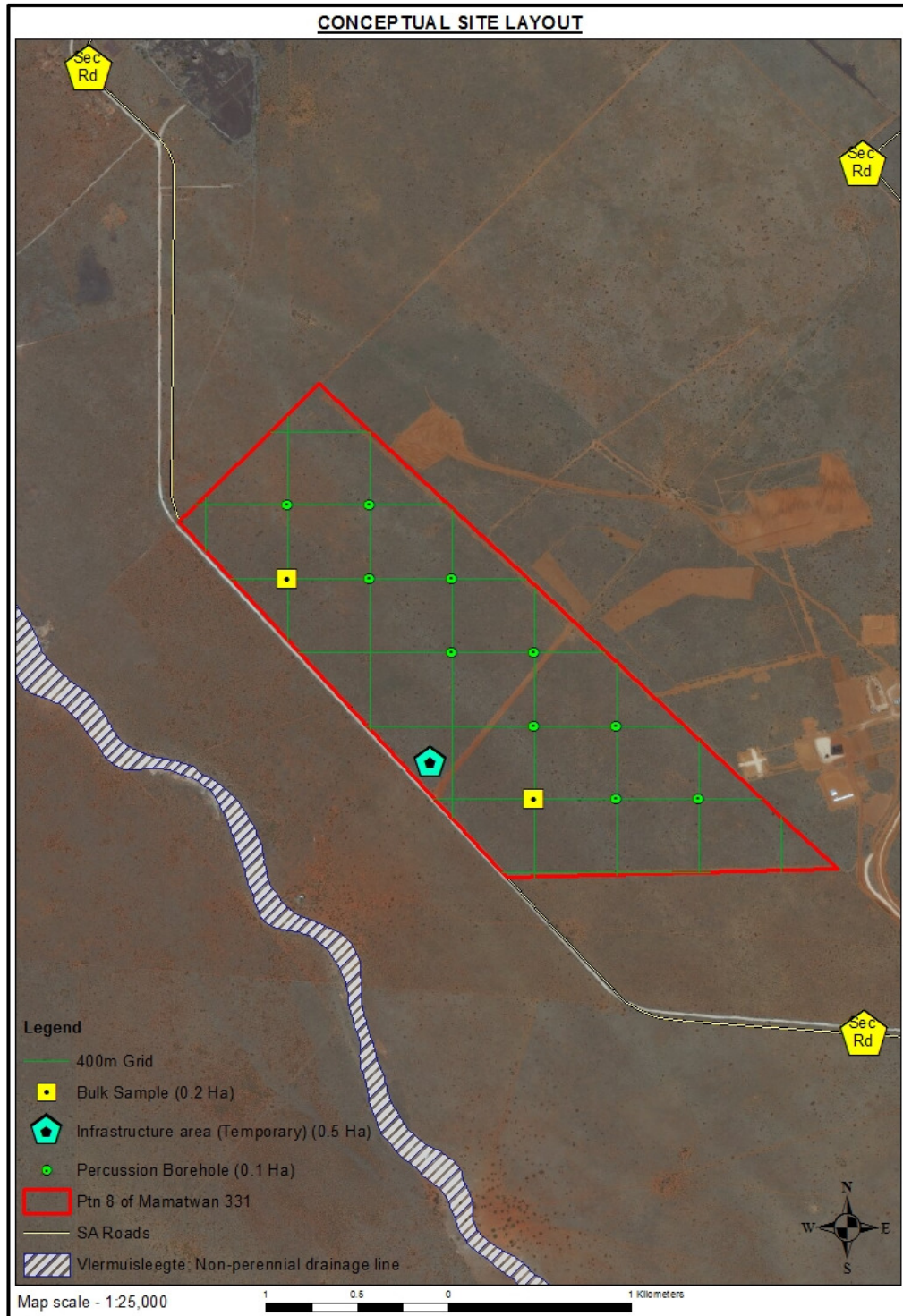
### **5.4 Committed time frames for monitoring and reporting.**

Quarterly monitoring of air quality and noise will be conducted as required by Legislation. The results of these studies will be compiled into annual reports and forwarded to the Principle Inspector of Mine Health and Safety, Department of Mineral Resources, Kimberley.

**6 REGULATION 52 (2) (f): Closure and environmental objectives.**

**6.1 Rehabilitation plan**

(Show the areas and aerial extent of the main prospecting activities, including the anticipated prospected area at the time of closure).



*Figure 13 - Conceptual site layout map indicating the prospecting activities to be rehabilitated*



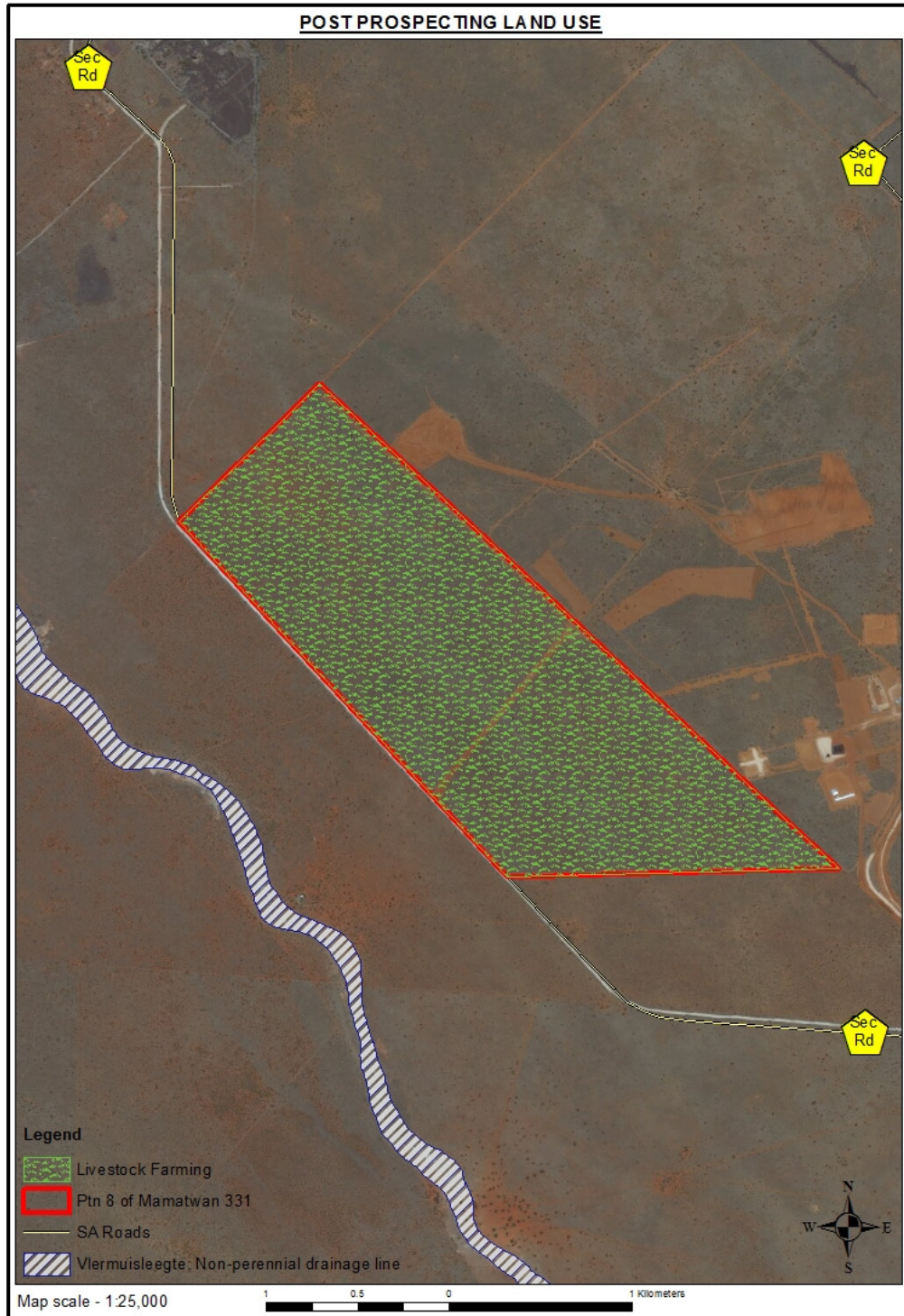


Figure 14 - Post-closure land use

Blue Lounge undertakes to rehabilitate all areas impacted on by its prospecting activities to allow the land use to return to livestock grazing.

## 6.2 Closure objectives and their extent of alignment to the pre-prospecting environment.

### Closure objectives

- The main closure objective of Blue Lounge's planned prospecting operation is to restore the site to its current land capability in a sustainable matter.
- To prevent the sterilization of any reserves.
- To prevent the establishment of any permanent structures or features.
- To manage and limit any impact to the surface and groundwater aquifers in such a way that an acceptable water quality and yield can still be obtained, when a closure certificate is issued.
- The prospecting operation also has the objective to re-establish the vegetation cover on affected areas.
- To limit and rehabilitate any erosion features caused by the prospecting activities and prevent any permanent impact to the soil capability thereof.
- To limit and manage the visual impact of the prospecting operation.
- To safeguard the safety and health of humans and animals on the site.
- To close the prospecting operation efficiently, cost effectively and in accordance with Government Policy.

The closure objectives are aligned in such a manner as to ensure the current land capability is achieved upon closure.

## 6.3 Confirmation of consultation

(Confirm specifically that the environmental objectives in relation to closure have been consulted with landowner and interested and affected parties).

The surface owner of the property under application, all surrounding landowners and various other identified interested and affected parties were notified by means of registered post as well as by advertisements that were placed in the DFA (Local newspaper) and Volksblad (Regional newspaper). Attached as Annexure 'A' find hereto proof of the notification process.

No meeting has been held with the surface owner to date.

Responses received to date:

- Tshipi e Ntle Manganese Mining (Pty) Ltd (surface owner):  
A letter dated 9 September 2016 was received from Webber Wentzel, the legal representatives of Tshipi e Ntle Manganese Mining (Pty) Ltd. It was requested that the surface owner be registered as an Interested and Affected Party and that a number of documents be made available for perusal.
- Mr. van den Berg:  
An e-mail was received on the 20<sup>th</sup> of September 2016 listing the following concerns:

- Who will be responsible for the maintenance of the access road and dust mitigation / monitoring?
- What will the impact on the groundwater table be?
  
- Saltrim Ranches (Pty) Ltd:  
Mr. H.P. Venter confirmed that he is the representative of Saltrim Ranches (Pty) Ltd, which company is an adjacent surface owner.
  
- Transnet:  
An e-mail was received from Transnet on the 4<sup>th</sup> of October 2016 stating that Transnet has no objection against the application.
- Department of Rural Development and Land Reform:  
A letter dated 30 August 2016 was received from the Department stating that there are no restitution claims lodged against the property under application.
  
- Department of Water & Sanitation:  
The Department requested in a letter dated 7 February 2017 that an EMP / EIA be submitted and that an application for a water use license should be submitted.

No responses were received from the newspaper advertisements that were placed in the DFA and Volksblad.

Any other comments / concerns received will be submitted to DMR as and when it is received.

## 7 REGULATION 52 (2) (g): Record of the public participation and the results thereof.

### 7.1 Identification of interested and affected parties.

(Provide the information referred to in the guideline)

#### 7.1.1. Name the community or communities identified, or explain why no such community was identified.

There are no communities residing on the property under application.

#### 7.1.2. Specifically state whether or not the Community is also the landowner.

There are no communities residing on the property under application.

The surface owner of the farm under application is:

Farm	Owner	Title deed
Portion 8 of the Farm Mamatwan 331	Tshipi E Ntle Manganese Mines (Pty) Ltd	T770/2011

#### 7.1.3. State whether or not the Department of Land Affairs has been identified as an interested and affected party.

Yes, the Department of Rural Development and Land Reform has been identified as an interested and affected party. A notification letter, regarding the acceptance of the prospecting right application by Blue Lounge Trading 107 (Pty) Ltd, was sent to the Department by registered post.

#### 7.1.4. State specifically whether or not a land claim is involved.

The Department confirmed that there are no restitution claims against the property under application.

#### 7.1.5. Name the Traditional Authority identified.

Not applicable - There is no Traditional Authority on the property under application.

#### 7.1.6. List the landowners identified by the applicant. (Traditional and Title Deed owners).

The surface owner of the farm under application is:

Farm	Owner	Title deed
Portion 8 of the Farm Mamatwan 331	Tshipi E Ntle Manganese Mines (Pty) Ltd	T770/2011

**7.1.7. List the lawful occupiers of the land concerned.**

Tshipi E Ntle manganese Mines (Pty) Ltd occupies Portion 8 of the Farm Mamatwan 331 lawfully, although no one currently resides on the property.

**7.1.8. 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.**

Yes. Socio-economic upliftment will take place due to the creation of employment opportunities as well as economic support to the surrounding business community.

**7.1.9. Name the Local Municipality identified by the applicant.**

Gamagara Local Municipality

**7.1.10. 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.**

- (i) Gamagara Local Municipality
- (ii) John Taolo Gaetsewe District Municipality
- (iii) The Department of Agriculture and Land Reform
- (iv) The Department of Public Works
- (v) The Department of Rural Development and Land Reform
- (vi) The Department of Water Affairs
- (vii) South African National Roads Agency Ltd
- (viii) Eskom
- (ix) Transnet

**7.1.11. Submit 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.**

The surface owner of the property under application, all surrounding landowners and various other identified interested and affected parties were notified by means of registered post as well as by advertisements that were placed in the DFA (Local newspaper) and Volksblad (Regional newspaper).

Attached as Annexure 'A' find hereto proof of the notification process.

## 7.2 The details of the engagement process.

### 7.2.1 Description of the information provided to the community, landowners, and interested and affected parties.

The surface owner of the property under application and all surrounding landowners were notified by means of registered post. Each registered letter had a Background Information Document attached providing the interested and/or affected parties with background information pertaining to the application.

### 7.2.2 List of which parties identified in 7.1 above that were in fact consulted, and which were not consulted.

All of the below parties have been notified of the prospecting right application:

Property description	Owner	Description	Notification by
Portion 8 of the Farm Mamatwan 331	Tshipi E Ntle Manganese Mines (Pty) Ltd	Surface owner	Registered letter + newspaper + meeting
Remaining Extent of the Farm Mamatwan 331	Andries Mathys van den Berg	Surrounding owner	Registered letter + newspaper
Remaining Extent of Portion 1 of the Farm Mamatwan 331	Hotazel Manganese Mines (Pty) Ltd	Surrounding owner	Registered letter + newspaper
Remaining Extent of Portion 2 of the Farm Mamatwan 331	Hotazel Manganese Mines (Pty) Ltd	Surrounding owner	Registered letter + newspaper
Remaining Extent of Portion 3 of the Farm Mamatwan 331	Hotazel Manganese Mines (Pty) Ltd	Surrounding owner	Registered letter + newspaper
Remaining Extent of the Farm Middelpplaats 332	Saltrim Ranches (Pty) Ltd	Surrounding owner	Registered letter + newspaper
Portion 4 of the Farm Middelpplaats 332	Hotazel Manganese Mines (Pty) Ltd	Surrounding owner	Registered letter + newspaper
Gamagara Local Municipality	-	Local Municipality	Registered letter + newspaper
John Taolo Gaetsewe District Municipality	-	District Municipality	Registered letter + newspaper
ESKOM	-	Parastatal	Registered letter + newspaper
SANRAL	-	National Agency	Registered letter + newspaper
Transnet	-	Parastatal	Registered letter + newspaper
Department of Agriculture and Land Reform	-	Government Department	Registered letter + newspaper
Department of Public Works	-	Government Department	Registered letter + newspaper
Department of Rural Development and Land Reform	-	Government Department	Registered letter + newspaper
Department of Water Affairs	-	Government Department	Registered letter + newspaper

No meetings have been held with the surface owner or any other interested and/or affected party to date.

### 7.2.3 List of views raised by consulted parties regarding the existing cultural, socio-economic or biophysical environment.

Responses received to date:

- Tshipi e Ntle Manganese Mining (Pty) Ltd (surface owner):  
A letter dated 9 September 2016 was received from Webber Wentzel, the legal representatives of Tshipi e Ntle Manganese Mining (Pty) Ltd. It was requested that the surface owner be registered as an Interested and Affected Party and that a number of documents be made available for perusal.

- Mr. van den Berg:  
An e-mail was received on the 20<sup>th</sup> of September 2016 listing the following concerns:
  - Who will be responsible for the maintenance of the access road and dust mitigation / monitoring?
  - What will the impact on the groundwater table be?
- Saltrim Ranches (Pty) Ltd:  
Mr. H.P. Venter confirmed that he is the representative of Saltrim Ranches (Pty) Ltd, which company is an adjacent surface owner.
- Transnet:  
An e-mail was received from Transnet on the 4<sup>th</sup> of October 2016 stating that Transnet has no objection against the application.
- Department of Rural Development and Land Reform:  
A letter dated 30 August 2016 was received from the Department stating that there are no restitution claims lodged against the property under application.
- Department of Water & Sanitation:  
The Department requested in a letter dated 7 February 2017 that an EMP / EIA be submitted and that an application for a water use license should be submitted.

No responses were received from the newspaper advertisements that were placed in the DFA and Volksblad.

Any other comments / concerns received will be submitted to DMR as and when it is received.

#### **7.2.4 List of views raised by consulted parties on how their existing cultural, socio-economic or biophysical environment potentially will be impacted on by the proposed prospecting or mining operation.**

Responses received to date:

- Tshipi e Ntle Manganese Mining (Pty) Ltd (surface owner):  
A letter dated 9 September 2016 was received from Webber Wentzel, the legal representatives of Tshipi e Ntle Manganese Mining (Pty) Ltd. It was requested that the surface owner be registered as an Interested and Affected Party and that a number of documents be made available for perusal.
- Mr. van den Berg:  
An e-mail was received on the 20<sup>th</sup> of September 2016 listing the following concerns:

- Who will be responsible for the maintenance of the access road and dust mitigation / monitoring?
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- Department of Water & Sanitation:  
The Department requested in a letter dated 7 February 2017 that an EMP / EIA be submitted and that an application for a water use license should be submitted.

No responses were received from the newspaper advertisements that were placed in the DFA and Volksblad.

Any other comments / concerns received will be submitted to DMR as and when it is received.

#### **7.2.5 Other concerns raised by the aforesaid parties.**

None

#### **7.2.6 Confirmation that minutes and records of the consultations are appended.**

Find attached hereto as Annexures 'A' and 'B' the consultation process conducted regarding the prospecting right application of Blue Lounge Trading 107 (Pty) Ltd.

#### **7.2.7 Information regarding objections received.**

No objections were received.

### **7.3 The manner in which the issues raised were addressed.**

No issues / comments / concerns and/or objections regarding this prospecting right application have been received to date. Should any be received, Blue Lounge will address them within 14 days of receipt thereof.



Blue Lounge hereby undertakes to adhere to all sections of this document throughout the life of its prospecting operation.

## 8 SECTION 39 (3) (c ) of the Act: Environmental awareness plan.

### 8.1 Employee communication process

(Describe how the applicant intends to inform his or her employees of any environmental risk which may result from their work).

- An environmental, health and safety induction programme will be provided to all employees prior to commencing work, and they will sign acknowledgement of the induction.
- A monthly “toolbox talk” will be held prior to commencing work, which will include discussions on health, safety and environmental considerations. The toolbox talks should be led by the site manager.

### 8.2 Description of solutions to risks

(Describe the manner in which the risk must be dealt with in order to avoid pollution or degradation of the environment).

- Establish the context
  - Strategic
  - Organisational
  - Risk management
- Identify risks
- Analyse risks
  - Consequences
  - Likelihood
- Assess and prioritise risks
  - Acceptability
  - Priorities for treatment
- Treat risks
  - Eliminate
  - Reduce
  - Transfer
  - Manage
- Monitor and review

### 8.3 Environmental awareness training.

(Describe the general environmental awareness training and training on dealing with emergency situations and remediation measures for such emergencies).

#### **ENVIRONMENTAL AWARENES TRAINING PROGRAMME PROCEDURE**

Natural resources are limited and not always renewable and it is the responsibility of management to ensure that all employees are trained to understand the impacts of their tasks on the environment and to reduce them wherever possible.

Environmental awareness training must be given to new employees on site and any contractors who may come onto site for a short period of time. Refresher training must be given to permanent employees on an annual basis.

The objective of this procedure is to ensure that all employees on the, including contractors, are competent to perform their duties, thereby eliminating negative impacts on their safety, health and the environment.

The Environmental topics to be covered in awareness training should include the following:

- **RESOURCE MANAGEMENT**
  - a. The importance of saving water
    - i. South Africa is a water scarce country and rivers are polluted
    - ii. Do not throw litter into river or water drains
    - iii. Do not dispose of oils in sewers
  - b. Air pollution - Climate change
    - i. The use of fossil fuels is increasing the amount of greenhouse gases that are discharged to the atmosphere. Share transport or use public transport
    - ii. Don't burn any rubbish, the smoke pollutes the air
    - iii. Plant trees, they clean the air, provide us with oxygen and remove the greenhouse gas carbon dioxide from the air.
  - c. Soil conservation
    - i. Prevent overgrazing of farmlands, keep vegetation on the surface of the land to prevent soil erosion
    - ii. Plant trees
- **HAZARDOUS SUBSTANCE USE AND STORAGE**
  - a. Solvents, petrol, diesel, insecticides, chlorine, detergents, chemical fertilisers are harmful to the environment and to your health. Use them sparingly and do not let them get into the water systems. Containers must be disposed of to a licensed hazardous waste disposal facility
  - b. Hazardous substances must be stored and used correctly
  - c. Ensure that 16 point Material Substances Safety Data Sheets (MSDS) are available at point of store
  - d. Compressed gas storage requirements
  - e. Flammable substances store requirements
- **INCIDENT & EMERGENCY REPORTING**
  - a. The company must have an emergency / incident reporting system whereby environmental incidents can be reported and actioned to mitigate and follow up on.
- **OIL / DIESEL/ PETROL SPILL CLEAN UP**
  - a. All employees who work with machines and vehicles must be instructed how to prevent and clean up an oil or diesel spill appropriately. Spill kits must be available on site, drip trays must be used when servicing vehicles
- **CONSERVATION OF WATER**
  - a. Campaign to save water on site

- b. Clean water is expensive and potable water must be used carefully
- c. Prevent pollution of water by preventing spills and dispose of wastes properly

- **CONSERVATION OF VEGETATION**

Plants, grasses and trees are very important to our existence on the earth, they provide food, fuel, shelter, raw materials and they clean the air. Indigenous plants are especially important for muti and the whole ecology of life. Some human activities are destroying the natural forests of the earth. The natural forests are the “lungs” of the planet and unfortunately they are being cleared faster than they can be regenerated.

- a. EIA's are to be done before virgin bush can be cleared
- b. Vegetation cover reduces water and topsoil loss from the ground, do not clear vegetation unnecessarily
- c. Indigenous trees provide shade, attract wild birds
- d. Do not chop down indigenous trees without good reason
- e. Implement a tree planting programme
- f. Remove alien invasive trees in your area such as Prosopis, Syringa and Pepper trees, cactus plants.

- **WASTE MANAGEMENT**

- a. Employees must be instructed on how to tell the difference between hazardous waste and general waste
- b. They must know how to separate hazardous and general waste and where to dispose of these wastes in the correct way
- c. Examples of hazardous waste which must be recycled or sent to Waste Tech for disposal:
  - iii. Oil, diesel, batteries, acids, paint, thinners, electronic waste
  - iv. Pesticides, Jik, handy Andy
  - v. Old oil, old oil filters, old paint is hazardous and must not be disposed of to a general land fill. Oilkol will collect old oil.
  - vi. Mercury in fluorescent light bulbs is hazardous, fluorescent lights must be handled with great care so as not to break the glass and release the mercury vapour into the air which you breathe.
- d. Examples of general wastes which can go to the municipal landfill:
  - vii. Wood, paper, plastic, glass, old PPE
- e. Recycle, Reuse, Reduce, Recover where ever possible

- **CONCLUSION**

The management of Blue Lounge will utilize the Environmental Awareness Plan to assure that all employees and contractors are aware of the environment and know how to manage it correctly.

**9 SECTION 39 (4) (a) (iii) of the Act: Capacity to rehabilitate and manage negative impacts on the environment.**

**9.1 The annual amount required to manage and rehabilitate the environment.**

(Provide a detailed explanation as to how the amount was derived)

The total cost to manage and rehabilitate the environment was calculated to R177 665.76 in the financial quantum.

**9.2 Confirmation that the stated amount correctly reflected in the Prospecting Work Programme as required.**

The rehabilitation cost was included in the costing schedule contained in Table 9.1 Prospecting Work Programme as was submitted with Blue Lounge's Prospecting Right application.

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

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

<b>Full Names and Surname</b>	<b>BRADLEY NATHAN RUITERS</b>
<b>Identity Number</b>	<b>870311 5048 085</b>

**-END-**