

SCOPING REPORT

FOR LISTED ACTIVITIES ASSOCIATED WITH MINING RIGHT AND/ OR BULK SAMPLING ACTIVITIES INCLUDING TRENCHING IN CASES OF ALLUVIAL DIAMOND PROSPECTING

SUBMITTED FOR ENVIRONMENTAL AUTHORISATIONS IN TERMS OF THE NATIONAL ENVIRONMENTAL MANAGEMENT ACT, 1998 AND THE NATIONAL ENVIRONMENTAL MANAGEMENT WASTE ACT, 2008 IN RESPECT OF LISTED ACTIVITIES THAT HAVE BEEN TRIGGERED BY APPLICATIONS IN TERMS OF THE MINERAL AND PETROLEUM RESOURCES DEVELOPMENT ACT, 2002 (MPRDA) (AS AMMENDED)

NAME OF APPLICANT: Samin Group Pty Ltd

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FILE REFERENCE NUMBER SAMRAD: LP 30/5/1/1/2/13050 EM

1. IMPORTANT NOTICE:

In terms of the Mineral and Petroleum Resources Development Act (MPRDA), No. 28 of 2002 as amended, the Minister must grant a prospecting or mining right if among others the mining "will not result in unacceptable pollution, ecological degradation or damage to the environment". Unless an Environmental Authorisation can be granted following the evaluation of an Environmental Impact Assessment (EIA) and an Environmental Management Programme (EMP) report in terms of the National Environmental Management Act (No. 107 of 1998) (NEMA), it cannot be concluded that the said activities will not result in unacceptable pollution, ecological degradation or damage to the environment.

In terms of Regulation 16(3)(b) of the EIA Regulations, 2014, any report submitted as part of an application must be prepared in a format that may be determined by the Competent Authority and in terms of Regulation 17(1)(c) the competent Authority must check whether the application has taken into account any minimum requirements applicable or instructions or guidance provided by the competent authority to the submission of applications.

It is therefore an instruction that the prescribed reports required in respect of applications for an environmental authorisation for listed activities triggered by an application for a right or a permit are submitted in the exact format of, and provide all the information required in terms of, this template.

Furthermore please be advised that failure to submit the information required in the format provided in this template will be regarded as a failure to meet the requirements of the Regulation and will lead to the Environmental Authorisation being refused.

It is furthermore an instruction that the Environmental Assessment Practitioner must process and interpret his/her research and analysis and use the findings thereof to compile the information required herein. (Unprocessed supporting information may be attached as appendices). The EAP must ensure that the information required is placed correctly in the relevant sections of the Report, in the order, and under the provided headings as set out below, and ensure that the report is not cluttered with un-interpreted information and that it unambiguously represents the interpretation of the applicant.

OBJECTIVE OF THE SCOPING PROCESS

- 1) The objective of the scoping report is to, through a consultative process:
 - a) Identify the relevant policies and legislation relevant to the activity
 - b) Motivate the need and desirability of the proposed activity, including the need and desirability of the activity in the context of the preferred location
 - c) Identify and confirm preferred activity and technology alternative through an impact and risk assessment and ranking process;
 - d) Identify and confirm the preferred site, through a detailed site selection process, which includes an impact and risk assessment process inclusive of cumulative impacts and a ranking process of all the identified alternatives focusing on the geographical, physical, biological, social, economic and cultural aspects of the environment
 - e) Identify the key issues to be addressed in the assessment phase
 - f) Agree on the level of assessment to be undertaken, including the methodology to be applied, the expertise required as well as the extent of further consultation to be undertaken to determine the impacts and risks the activity will impose on the preferred site through the life of the activity, including the nature, significance, consequence, extent, duration and probability of the impacts to inform the location of the development footprint within the preferred site; and
 - g) Identify suitable measures to avoid, mange, or mitigate identified impacts and to determine the extent of the residual risks that need to be managed and monitored.

SCOPING REPORT

2) Contact person and correspondence address

i. Details of:

(i) The EAP who prepared the report

Name of Practioner: Naledzi Environmental Consultants CC

Contact persons: Marissa Botha and Khangwelo Desmond Musetho

Physical address: 145 Thabo Mbeki Street, Fauna Park, Polokwane

Postal address: Suite 320, Postnet Library Gardens, P/Bag X 9307, Polokwane, 0700

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Email: botham@naledzi.co.za and dmusetsho@naledzi.co.za

(ii) Expertise of the EAP

1) Qualifications of EAP

Mr Khangwelo Desmond Musetsho:

- Master of Environmental Management Degree from UNIVEN
- Certificate in Environmental Auditing from Aspects International (UK)
- Accredited Environmental Scientist by SAIEES (registration number 277),
- Registered Environmental Scientist with SACNASP (400287/16).
- The Certification Board for Environmental Assessment Practitioners South Africa recognise him as fully Certified EAP.

Mrs Marissa Botha:

- 13 years working experience
- Candidate for SACNASP registration in the field of Environmental Science substantiated by Recognition of Prior Learning.

(See Appendix 1 for CV of EAPs).

2) Summary of EAPs experience

- Mr Musetsho has 14 years' experience in environmental management.
- Ms Botha has 13 years' experience in environmental management.

(See Appendix 1 for CV of EAPs).

ii. Description of property

Table 1: Property Description

Farm name:	Un-surveyed stated owned land 440MT and 442 MT
	(Malale village, Sigonde village, Gumbu village, Tshenzhelani)
Application area:	42 628 Hectares
Magisterial District:	Magisterial District of Musina
	District Municipalities of Mopani & Vhembe
Distance& direction	91km east of Musina town
to nearest town	
21 digit Surveyor	RE/440 MT - T0MT0000000044000000
General code for	RE/442 MT - T0MT00000000044200000
each farm portion	

iii. Locality Map

Refer to Figure 1 for a Locality Map of the Prospecting Right area indicating the direction from nearest towns in Limpopo Province.

Refer to Figure 2 for a Google Earth Locality Map showing the extent of the Prospecting Right area in relation to villages.

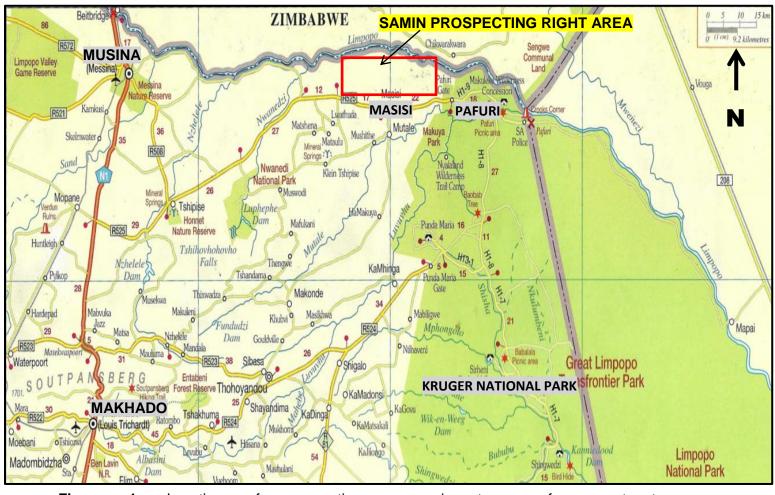
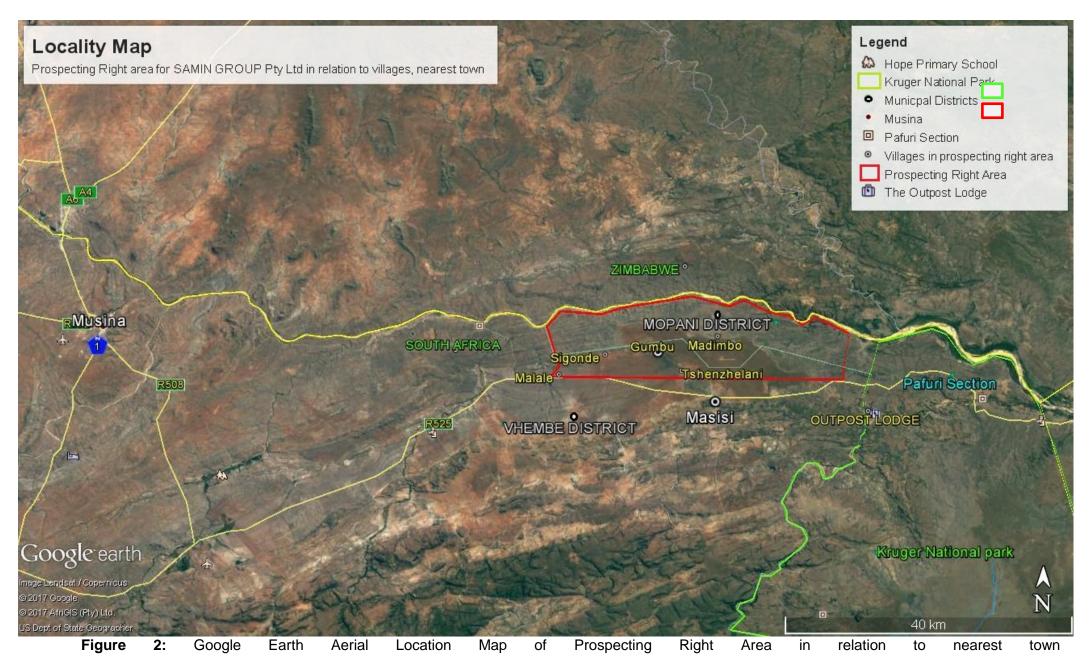


Figure 1: Location of prospecting area in terms of nearest towns



iv. Description of the scope of proposed overall activity:

(i) Listed and specified activities

A Site Plan indicating the location, area in hectares of all specified main and listed activities, and infrastructure to be placed on site is attached under Appendix 2. Table 2: Listed and specified activities

NAME OF ACTIVITY (All activities including activities not listed) (Eg. Excavations, blasting, stockpiles, discard dumps or dams, loading and hauling and transport, water supply dams and boreholes, accommodation, offices, ablution, stores, workshops, processing plant, stormwater control, berms, roads, pipelines, power lines, conveyors etc etc etc)	AERIAL EXTENT OF ACTIVITY IN Ha or m ²	LISTED ACTIVITY Mark with X where applicable or affected	APPLICABLE LISTING NOTICE (GNR 983, 984 or 985) / NOT LISTED	WASTE MANAGEMENT AUTHORISATION (Indicate if an authorisation is required ito Waste Management Act). (Mark with an X)
Prospecting Right Application in terms of Section 16 of MPRDA	42628 Ha	X	GNR 983 Activity 20	N/A
Non-invasive preparations – surface geological mapping, literature review	42628 Ha			
Invasive prospecting methods				
Access routes	(existing)			N/A
Clearing of indigenous vegetation for drilling, trenching / bulk sampling, including clearing thereof in priority biodiversity areas	5 ha	X	GNR 983 Activity 27 GNR 985 Activity 12	
Bulk sampling trenches	25x0.5x1m (12.5m ²) (50 trenches – 625m ²)	X	GNR 984 Activity 19	N/A
Drill sites	3500m ² /3.5 ha (7 drill sites - 500m ² each)	X	GNR 983 Activity 20	N/A
Site camp, ablution facilities, site office, accommodation, equipment storage	0.5 ha (5000m²)	X	GNR 983 Activity 27	N/A
Overburden piles/stockpiles	None due to outcropping			N/A
Decommissioning and Rehabilitation				
 Backfilling of trenches, capping of boreholes Removal of alien vegetation Ripping of compacted ground, sloping trenched areas Encouragement of indigenous vegetation 	5 ha			
Non-invasive Mine Feasibility Reporting				
 Prefeasibility Study Bankable Feasibility Study Planning for Mining License 	42628 Ha			

ii) Description of activities to be undertaken

It is the intention of SAMIN Group Pty Ltd to identify whether there are economically exploitable concentrations of Brytes, Chrome ore, Coal, Cobalt, Copper ore, Diamond, Gold ore, Graphite, Iron Ore and Nickel ore minerals, with focus on Graphite within the application area. The prospecting programme will assess the potential to feasibly mine Graphite or any of above mentioned minerals (whichever is feasible) within the proposed prospecting right area.

Graphite has been previously exploited at the project area at the old Gumbu Mine. Prospecting activities will commence at the old 'Gumbu Mine' and spread out to the rest of the prospecting right area. Prospecting will include both non-invasive and invasive methods. See Table 3 for the summary of activities to be undertaken.

Table 3: Summary of activities to be undertaken

ACTIVITY	TIME FRAME	OUTCOME	TIME FRAME FOR OUTCOME			
Phase 1a: Non-invasive methods						
Surface Geological mapping, old mine works mapping and channel sampling	1 month	Detailed Geological map of structural controls of mineralisation (thickness, dips, strike, depth)	Month 2			
Literature review, desktop study and conceptual study	1 month	Estimate of potential mineral inventory	Month 3			
Phase 1b: Invasive methods						
Trenching and Bulk Sampling	3 months	Assay results & grade of mineralisation. Bulk sample and Metallurgical test work results	Month 8			
Phase 2a: Non-invasive methods						
Prefeasibility Study	4 months	Geology model, Resource model and mining options	Month 14			
Phase 2b: Invasive methods						
Exploration Drilling	6 Months	Drill sample results and confirmation of depth of mineralisation	Month 22			
Phase 3: Non-invasive methods						
Feasibility Study and preparation for Mining License / EIA	12 Months	Bankable Feasibility Study with resource and reserves and financial model	Month 36			
Phase 4 Preparation for Mining License	1 Month	Mining Permit	Month 37			

Prospecting and bulk sampling activities will mainly comprise:

- Site planning & preparation: Geological Mapping of area including mapping of old mine works and channel sampling trenches;
- Trenching, bulk sampling, drilling and logging (invasive)
- Decommissioning and Rehabilitation of prospecting infrastructure, excavations and affected areas

Site Planning and Preparation

Geological mapping of both surface and current adit will be carried out by a qualified geologist. Rock and chip samples will be collected and analysed where applicable. Orebody structural controls will be defined including strike dip and true thickness. Thereafter desktop studies and

conceptual studies will be undertaken to create a mineral inventory as informed by historical data and current work. Hereafter geological mapping will be completed and a trench plan will be formulated and localities finalised.

Site preparation will follow by establishing a site camp, mobile office including ablution facilities and an equipment storage area. The areas designated for infrastructure will be cleared of vegetation and fenced off. An excavator, survey and geological equipment, drilling rigs, trucks will be brought to site.

Initial trench positions will be cleared by dozing off vegetation where necessary (most of the minerals form outcrops on the project area). The areas designed for drilling of surface boreholes associated sumps and parking bays will be removed of vegetation and topsoil. The truck mounted drill rig will be placed on site. The drill unit is diesel powered and require storage a low volumes of diesel and oil next to the drill unit. Small sumps would be excavated and lined for the purposes of drilling water. Drill water will be trapped and stored in sumps for reuse in the drilling process.

Trenching, bulk sampling

After detailed geological mapping, a trench plan will be formulated on the variability and complexity of the geology and trenching density. Trench sites will be fenced off with barrier tape to control access.

Trenches will be dug either manually or mechanically depending on depth of terrain. This will include digging of 5 trenches in the initial phases and later increasing to approximately 50 trenches (25m x 0.50m x 1m in dimension) 200m apart on a 10km strike in a phased manner. Topsoil will be stockpiled next to site and spoil material will be placed alongside excavations. Trenches will be mapped and samples collected where mineralisation is intersected. Channel sampling will be done where underground exposure allows. Bulk sampling at a selected grid depending on orebody variability will be carried-out. Each trench will be immediately rehabilitated on completion of sampling.

Bulk samples will be collected from trenching spoil if sufficient size can be collected. Mineral Samples will be tested and a result and grade of mineralisation will be determined. Depending on sample quality required exploration drilling will be planned as informed by trenching and bulk sampling results.

Prefeasibility stage

Next, a prefeasibility study will be carried out to define the geological model, mineral resource and reserves. Mining options will be tested and the most suitable method will be selected. Hereafter required exploration drilling will be planned as informed by trenching and bulk sampling results.

Drilling of Surface Boreholes

Once drilling positions have been finalised, drill sites will be fenced off or demarcated with barrier tape to control access. 7 Surface boreholes will be drilled spaced at 5km from each other. Core samples will be taken for results and confirmation of depth of mineralisation. Core drilling, reverse circulation or percussion drilling will be considered. Each boreholes site will have a lined sump and will be capped / rehabilitated after sampling. A borehole is capped by placing a steel casing to a suitable depth and concrete cap on top of the borehole.

Feasibility Study

At feasibility stage a bankable resource/reserve will be produced with human resource and financial models.

Decommission and Rehabilitation

Once the excavations, drilling, sampling and logging process is completed infrastructure and equipment will be removed from site. Firstly trenches sites will be backfilled with spoil material, topsoil replaced and landscaped. Boreholes will be capped. The site camp, mobile office, ablution facilities and equipment storage areas will be removed from site and disturbed areas will be ripped to promote rehabilitation to pre-prospecting state. Any bare soils left post prospecting will be re-vegetated.

v. Policy and Legislative Context

(a description of the policy and legislative context within which the development is proposed including identification of all legislation, policies, plans, guidelines, spatial tools, municipal planning frameworks and instruments that are applicable to this activity and are to be considered in the assessment process)

Table 4: Policy and Legislative context applicable to application

APPLICABLE LEGISLATION AND GUIDELINES USED TO REFERENCE WHERE APPLIED COMPLETE THE REPORT **LEGISLATION** Constitution of Republic of South Africa Act (Act 108 of 1996) NEMA is designated within the Section 24 of the Constitution states that every person has the right framework of the Constitution. An to an environmental that is not harmful to their health or well-being application for environmental and to have the environment protected for the benefit of present authorisation has been lodged for the and future generations through legislative measures that prevent project. Prospecting activities will be pollution, environmental degradation, promote conservation and undertaken in accordance with an secure ecological sustainable development. approved Environmental Management Programme (EMPr) aimed to manage and minimize environmental impacts on the project site and ensure rehabilitation of affected areas to preprospecting state. National Environmental Management Act (Act 107 of 1998) The principles of NEMA have been (NEMA) considered. The Scoping Report aims NEMA has been designated within the framework of the to scope the potential environmental Constitution to promote sustainable development. It requires that impacts that need to be investigated as part of the environmental impact development must be socially, environmentally and economically assessment and is prepared in sustainable by taking measures to prevent pollution and ecological degradation; promote conservation and secure ecologically compliance with NEMA. sustainable development while promoting environmental justice. It requires that social, economic and environmental impacts of activities are considered, assessed and evaluated and the impact on people must be anticipated and prevented. Section 28 of NEMA imposes the 'polluter pays' principle whereas the person who causes the pollution must pay for its remediation. Section 24 (5) of NEMA provides for specific listed activities which require environmental authorisation prior to their commencement. Environmental impacts of such activities must be considered, assessed, evaluated and where possible managed, minimized or prevented. The EIA Regulations of 2014 published in GNR 983, 984 and 985 under NEMA lists such developments which require authorisation. A prospecting right activity is subject to application for environmental authorisation. It triggers an activity under GNR 984 and is subject to a full Scoping and EIA Process. The applicant must submit the following to the authorisation authority for decision

making:

- Application for Environmental Authorisation
- Conduct Public Participation Process
- Submit a Scoping Report
- Submit an Environmental Impact Report & Environmental Management Programme (EIR & EMPr).

NEMA Environmental Impact Assessment (EIA) Regulations of 2014

The EIA Regulations, GNR 982 of 4 December 2014, Regulation 21-26 and Regulation 39-44 set out the process required to undertake the Scoping and EIA Process including the public participation process to be undertaken as part of the EIA.

Mineral and Petroleum Resources Development Act (Act 28 of 2002) (MPRDA) and its amendments

In terms of the MPRDA all mining related activities require environmental authorisation, rights and or permits before any mineral is removed or activity commenced with. The proposed prospecting activities and bulk sampling for Brytes, Chrome ore, Coal, Cobalt, Copper ore, Diamond, Gold ore, Graphite, Iron ore and Nickel requires a prospecting right application in terms of Section 16 and 20 of the MPRDA.

The MPRDA has also been amended to align with specific environmental legislation associated mining activities and NEMA has been aligned with the MPRDA to provide for one environmental system. The DMR is therefore the authorising authority for environmental authorisations.

National Water Act (Act 36 of 1998)

The principles and objectives of the NWA are to guide the protection, use, development, conservation, management and control of water resources in a sustainable and equitable manner for the benefits of all persons.

Section 19 of the NWA deals with prevention and remedying effects of pollution in particular where pollution of water resources occur/might occur as a result of activity on land. The person who owns controls, occupies or uses the land in question is responsible for taking measures to prevent pollution of water resources.

Chapter 4 of the NWA requires licensing of 11 listed water uses which are captured in Section 21.

Mine Water Regulations 704 of 1999

The "Mine-water Regulations" is aimed at ensuring the protection of water resources through restrictions on locality, material, and the design, construction, maintenance and operation of separate clean and dirty water systems related to mining activities. Restrictions to locality refers specifically to placement of mine infrastructure and pollution control above the 1: 50 and 1: 100 year flood zones or within a horizontal distance of 100m of any watercourse or estuary, borehole or well.

Detailed regulations on the use of water for mine-related activities were issued in 1999 under the National Water Act framework.

National Environmental Management: Biodiversity Act (Act 10 of 2004) (NEM:BA)

The NEMBA provides for the management and conservation of South Africa's biodiversity within the framework of NEMA and the protection of species and ecosystems that warrant national protection. A list of threatened and protected species, categorised as critically endangered (CR), endangered (EN), vulnerable (VU) or protected has been issued in terms of Section 56 (1) of the NEMBA. South Africa also uses the internationally endorsed World Organisation-International Union for Conservation of Nature (IUCN)

A Scoping and EIA Study is being followed in terms of the EIA Regulations. This report forms part of the scoping phase of the EIA being undertaken.

An application has been lodged for a prospecting right with bulk sampling to the DMR in terms of Section Section 16 and 20 of the MPRDA.

An application for environmental authorisation has simultaneously been lodged with the prospecting right application to the DMR. The environmental authorisation is subject to an EIA Process. This Scoping Report is being prepared as part of and EIA Study in support of the Prospecting Right application with bulk sampling.

No water use license will be required for the project.

No drilling or trenching activities will be located within 100m of a watercourse or wetland.

Prospecting infrastructure will not be placed within 100m of a watercourse of wetland.

Clearing of vegetation will be required for trenches and boreholes sites as well as site infrastructure. An Ecological Specialist Investigation will be conducted to determine the impact of the project on ecology and presence of possible threatened or protected species. The specialist will present findings and management measures if conservation concern

IUCN Red List Categories and Criteria in the Red List of South African plants.

A list of threatened and protected ecosystems has been gazetted in 2011 in terms of Section 52 (1) of the same act. The ecosystems are categorised as critically endangered (CR), endangered (EN), and vulnerable (VN) or protected.

species do exist on site. A licence to disturb protected flora will be obtained from the Department of Agriculture Fisheries and Forestry. Protected flora out of the prospecting areas will be marked and left intact as much as possible.

The list and extent of the 20111 NEMBA listed ecosystems have been studied through SANBI BGIS. The proposed prospecting right area does not fall within a nationally threatened and or protected ecosystem.

National Environmental Management: Waste Act (Act 58 of 2008) (NEM:WA)

NEMWA is the principal act governing waste management within South Africa since 2009. The objectives of the act involve the protection of health, wellbeing and the environment. It provides measures for to avoiding and minimising the generation of waste, reducing, recycling and recovering waste, and treating and safely disposing of waste. It further requires that all waste management activities must be licensed. GNR 633/2015 recently inserted residue deposits resultant from prospecting as a Category A activity which requires a WML under the provisions of NEM: WA. Accordingly no person may undertake a waste management activity, without a waste management license. The DMR is the authorising authority for waste management activities related to prospecting, exploration and or mining.

No waste management license is required for the prospecting right application. It is stated in the project prospecting works programme that no mine waste will be created as the minerals to be tested outcrop onto the surface hence no overburden is anticipated.

National Heritage Resources Act (Act 25 of 1999) (NHRA) NHRA protects all structures and features older than 60 years (Section 24), archaeological sites and material (Section 35) and graves and burial sites (Section 36). Section 38 indicates that any person intending on undertaking any form of development which involves the activities listed below must, at the earliest stage of initiation, notify the South African Heritage Resources Association (SAHRA):

The Limpopo Heritage Resources Agency (LIHRA) and the South African Heritage Resources Agency will be informed of the application.

 Construction of road, wall, power line, pipeline, canale/similar form of linear development / barrier exceeding 300m in length; The prospecting activities will aim to avoid any Heritage or Paleontological features on the project site.

Construction of a bridge/similar structure exceeding 50m in length

A Heritage and Paleontological Investigation would be commissioned during the EIA Phase to establish whether any of protected features exist and whether such heritage or paleontological resourced will be affected, if so, also determine possible mitigation measures. No Heritage features will be disturbed without prior consultation with LIHRA/SAHRA.

- Any development or other activity which will change the character of the site
 - o Exceeding 5000m² in extent or
 - Involving 3 or more existing erven / subdivision thereof or:
 - The re-zoning of a site exceeding 10 000m² in extent; or
 - Any other category of development provided for in regulations by SAHRA / provincial heritage resources agency.

National Environmental Management: Air Quality Act (Act 39 of 2004) (NEM:AQA)

NEM: AQA regulates air quality to protect the environment by providing measures for prevention of pollution and ecological degradation and securing ecological sustainable development while promoting justifiable economic and social development; to provide for national norms and standards regulating air quality monitoring. Government Notice 893 of 22 November 2013 provides a list of

No Air Emission License (AEL) will be required for the prospecting activities as no listed activities are triggered under NEM:AQ.

atmospheric emission activities in terms of Section 21 of NEM: AQA which require licensing. The notice further establishes minimum emission standards for the listed activities.

NEMAQA places the responsibility for air quality management on district authorities tasked with baseline characterisation, management and operation of ambient monitoring networks, licensing of listed activities and emission reduction strategies.

National Forest Act, (Act 84 of 1998)

In terms of Section 15(1) of the act, no person may cut, disturb, damage or destroy any protected tree or possess, collect, remove, transport, export, purchase, sell, donate or in any other manner acquire or dispose of any protected tree or any forest product derived from a protected tree, except under a licence or exemption granted by the Minister to an applicant and subject to such period and conditions as may be stipulated.

If any protected trees require removal from a development site a Protected Tree Permit needs to be obtained from the Department of Agriculture Forestry and Fisheries (DAFF) prior to such removal. The prospecting activities would avoid removal of protected trees as far as possible. In stances where it cannot be avoided, a permit for removal will be obtained from DAFF.

PROVINCIAL LEGISTLATION & MANAGEMENT PLANS, GUIDELINES

Limpopo Environmental Management Act (Act 7 of 2003) (LEMA)

LEMA) was written to consolidate and amend the environmental management legislation of the Province. It includes Regulations which call for the protection of indigenous plants, animals which require a permit from provincial authority, LEDET for its pick, sell, removal, donate, in and or export in the province. The lists of plants and animals are itemized under Schedule 8, 11 and 12 of the act.

2013 Limpopo Conservation Plan version 2.

LEDET is the custodian of the environment in the Limpopo Province and primary implementing agent of the Limpopo Conservation Plan version 2. This is done by providing a map of biodiversity priority areas, referred to as Critical biodiversity Areas (CBAs) and Ecological Support Areas (ESAs), with accompanying land use planning and decision making guidelines.

The project site covers large transacts of ecological areas namely ecological support areas (ESA) and critical biodiversity areas (CBA) earmarked by the Limpopo Conservation Plan of 2013. The 7 boreholes sites and trench sites fall within both ESA and CBA areas.

An Ecological Impact Assessment will be undertaken to determine if any such species are located within the sites focussed for trenching and drilling. If such species or identified within the targeted area removal permits applications will be submitted to LEDET.

The impact on the ecology including the biodiversity priority areas will be considered during the EIA Process.

Mining and Biodiversity Guideline 2013 (MBG)

The MBG identifies and categorizes biodiversity priority areas sensitive to mining in order to main stream biodiversity issues in decision making into the mining sector. It provides direction as to where mining-related impacts are legally prohibited, where biodiversity priority areas may present high risks for mining projects, and where biodiversity may limit the potential for mining.

The MBG 2013 has been consulted through the SANBI BGIS online mapping system. The majority of the project area is not affected however the Limpopo Riverine Forest along the Limpopo River towards the KNP is of highest biodiversity importance and is to be protected from prospecting/mining. The MBG will be used to inform the biophysical environment characterisation in this report.

Musina Integrated Development Plan 2016/2017 - 2021/2022

The Integrated Development Plan is a strategic tool for governance and planning at the municipal sphere of government. It is used as a delivery tool that integrates the functions of three spheres of government in a given municipal space. As such, IDPs are a collective expression of the developmental intentions of all three spheres of government in a given municipal space based on local needs.

The IDP has been referred during the preparation of this Scoping Report.

Mutale Spatial Development Framework

The project area falls within the former Mutale Spatial Development Framework. The Musina Spatial development Framework is silent on the Masisi, Gumbu and hence referral is made to the former Mutale SDF. An SDF is a core component of the Municipality's economic, sectorial, spatial, social, institutional, environmental vision.

The Mutale SDF has been consulted in the compilation of this Scoping Report. The northern part of the prospecting right area within the Mopani District, bordering the Limpopo River, is earmarked as 'Mutale Biosphere Reserve/Park'. The southern part of the application area comprises settlements and is not earmarked for these purposes as indicates areas of cultivation.

SANBI BGIS Online Mapping System (www.bgis.sanbi.org)Online biodiversity mapping system by SANBI used to determine sensitive environmental features across South Africa which are sensitive to surface impacts from developments.

The SANBI BGIS system has been used to determine the baseline environmental conditions of the project site.

vi. Need and Desirability of the proposed activities

(Motivate the need and desirability of development including need and desirability of the activity in context of the preferred location)

Historic exploitation of graphite at the Gumbu Mine indicates extracting of 45 tonnes of graphite per month between the years 1942 to 1978, which makes this a good prospect for future mining. Graphite flakes of up to 4mm have been reported at Gumbu mine. The carbon content, flake size and the resource size are the main attributes that determine viability of extraction.

Prospecting activities need to be undertaken through invasive prospecting methods to confirm historic information of the mineral resource including occurrence of other viable mineral resources; and if a viable mineral deposits still exists within the project site. This will confirm the information obtained through field mapping, desktop studies and literature review. It will allow the preparation of Geological Modelling and a resource estimation which confirms if the identified mineral resource/s can be feasibility mined in future in an environmentally, socially and economically viable manner.

If the prospecting activities prove that the mineral deposit can be optimally mined, a new mine will be developed with the potential to contribute to the provincial and local economy as well as generate employment for the local communities.

vii. Period for which the environmental authorisation is required

The environmental authorisation is required for a period of 5 years as per the validity of a prospecting right.

viii. Description of process followed to reach proposed preferred site

• The prospecting right application area was identified by review of historic information & former mineral exploitation in the area

The site was selected based on the underlying geology. Historic information indicates the presence of graphite within the Gumbu formation. The deposit is hosted in the Metamorphic rocks of Musina metamorphic belt. Geological series map number 2230 Messina shows occurrence of graphite within the application area. Furthermore, the mineral has been exploited earlier during 1942 – 1978 at the project site. There is an old Graphite mine at Gumbu with associated old shaft, existing mined areas, old mine lands and existing trenches on site. Based

on the historic data and physical evidence of historic exploitation non-invasive activities will be applied to the entire prospecting right area under application.

The preferred site targeted for invasive prospecting activities

The prospecting activities will commence at the old Graphite mine at Gumbu and spread out to the rest of the application from there. Fiver initial trench locations have been identified based on the old mine works and existing channel sampling trenches on site. The rest of the trench locations will be identified based on the non-invasive desktop study and literature review during the prospecting programme. The planned 7 surface borehole locations have been identified at 10km intervals to cover all the sections of the project area. The drilling locations will be finalised as informed by trenching and bulk sampling results.

(i) Details of alternatives considered

(a) The property on which / location where it is proposed to undertake the activity

The site was selected based on the underlying geology and location of the mineral reserve. The location of the invasive activities of drilling, trenching and bulk sampling are determined by the location of the old mine workings and channel sampling areas and location of the mineral reserve.

No alternative locations for the drill, trench and sampling sites have been considered. The information gathering of the 1st Phase of the prospecting programme will determine the finalised locations of invasive prospecting activities.

(b) The type of activity to be undertaken

No activity alternatives were considered. Trenching, drilling and bulk sampling are the recognised methods of prospecting for the minerals under application which includes graphite and other minerals such as Brytes, Chrome ore, Coal, Cobalt, Copper ore, Diamond, Gold ore, Iron ore and Nickel ore minerals.

(c) Design or layout of the activity

The final location selection for invasive prospecting activities will be determined by environmental and heritage features (if found) present on site. Buffer zones will be considered for such features and include:

- No invasive prospecting activities are to be placed within 100m of a watercourse
- No invasive activities are to be placed within 50m from heritage and Paleontological sites
- No invasive activities are to be placed in areas of high biodiversity importance

Prospecting activities are to be located along existing access roads.

(d) Technology to be used

An alternative in technology / method is being considered for drilling of surface boreholes. Core drilling, reverse circulation or percussion drilling will be considered.

(e) Operation aspects of activity

No alternatives have been considered. The recognised prospecting methods of trenching, drilling and bulk sampling will be used.

(f) Option of not implementing the activity

Prospecting provides confirmation of the available mineral resource and reserve. Without the implementation of prospecting with bulk sampling a Bankable Feasibly study with the resource and reserve statement cannot be prepared. There will be no data to validate the economic feasibility to mine the available mineral resource. Therefore no new mine will be established.

The no-go option is for the current land use to continue. The applicant will seek other possible ore bodies and prospecting areas to delineate ore bodies. The local communities will not benefit from the employment opportunities.

(ii) Details of the Public Participation Process followed

The public participation process identifies potential interested and affected parties (I&APs) on the project and solicits inputs and comments pertaining to the activities from such parties. This section summarises the public participation process followed during the Scoping Phase of the EIA study.

Whilst preparing this Scoping Report the public participation process was still on-going. The results of the consultation tasks will be incorporated in a finalised Scoping Report and submitted to the DMR after the public announcement, registration and commenting period has lapsed. The period lapses on 12 February 2018.

Identification and Registration of Interested and Affected Parties (I&APs)

In terms of Regulation 40, 41 -44 of the EIA Regulations of 2014 of NEMA the Environmental Assessment Practitioner (EAP) managing the application must:

- 1) Provide access to information to all information that reasonably has or may have the potential of influence any decision and must include consultation with-
 - (a) The competent authority
 - (b) Every state department that administers a law relating to a matter affecting the environment relevant to an application for environmental authorisation;
 - (c) All organs of state which have jurisdiction in respect of the activity;
 - (d) All potential, or, where relevant registered interested and affected parties
 - (e) Registered landowners;
 - (f) Occupiers of the proposed application site;
 - (g) Person in control of the proposed application site;
 - (h) Owners, persons and occupiers of land adjacent to the site where the activity is to be undertaken;
 - (i) Municipal ward councillor for the project area, ratepayers organisation representing the community in the area;
 - (j) Municipality in which jurisdiction the application falls;

As per the requirements of regulations an Interested and affected party database has been opened for the project and landowners, organs of state, occupiers of the land, adjacent land owners, local and district authorities including organs of state have been pre-identified and registered on the project database during the week of 8-12 January 2018.

The I&AP Database is attached under Appendix 3A.

A project announcement newspaper advertisement will also call for registration of I&APs from 12 January – 12 February 2018. During this period the I&AP database will be maintained and updated. The updated I&AP database will be included in a finalised Scoping Report which will be submitted to the DMR upon the lapse of the public registration period.

Project information notifications regarding public meetings, focus group meetings and documents for review forming part of the EIA process is distributed to registered I&APs only.

The following methods are being implemented to announce and notify Interested and Affected Parties about the project:

Focus Group Meeting

A project briefing meeting took place on 27 December 2017 between SAMIN Group Pty Ltd, Naledzi and the landowners of the project site, Gumbu Community Leadership including representatives of the Communal Property Association (CPA) at Gumbu Village. The CPA is a structure (Trust) which accommodates and represents all the affected villages.

During this meeting SAMIN introduced Naledzi Environmental Consultants CC to the Gumbu Community Leaders and CPA to brief them on the commencement of the EIA Process and that a public participation process would be followed for the prospecting right application. It was highlighted that notification letters and project information will be delivered to villages and community leaders during the process. Proper consultation meetings would be undertaken with the villages to provide clarity on the project.

See Appendix 3B for minutes of the FGM and an attendance register.

• Telephonic communication

Telephonic conversations were held with the Senior Chief of the Tshikundamela Traditional Council at Gumbu, headman of the respective villages and the CPA during the week of 3-4 January 2018 to inform them of delivery of project information during the week of 8-12 January 2018 prior to sending out the information.

Notification letter and Background Information Document (BID)

A Notification letter and Background Information Document (BID) has been prepared and will be circulated to I&APs from 12 January until 12 February 2018. It will be hand delivered to the affected Tribal Authorities, Headmen of the Malale, Sigonde, Gumbu, Tshenzhelani village including the Communal Property Association in Masisi on 12 January 2018. It will, at the same time, also be hand delivered and emailed to organs of state, local and district authorities

Emailed notifications which include the BID will be sent to all I&APs on the project database.

Proof of distribution of the BID will be available and submitted to the DMR through an updated Scoping Report.

• Newspaper advertisement

An Advertisement will be placed in English in the local newspaper (Limpopo Mirror) on 12 January 2018 (See Appendix 3C) notifying the public of the EIA Process and requesting I&APs to register on the project database, submit comments and review the available Scoping Report. I&APs are given the opportunity to register and raise comments within 30 days of the advertisement. Proof of the published advertisement will be included in the updated Scoping Report which is submitted to the DMR after the lapse of the registration and comment period of 12 February 2018.

Site Notices

Site notices will be erected at the villages of Malale, Sigonde, Gumbu, Tshenzhelani and Masisi within and close to the prospecting right area on 12 January 2018. Photographic evidence of placement of notices will be available in an updated Scoping Report to the DMR.

• Distribution and public review of the Scoping Report

The Scoping Report is made available for public review for 30 calendar days from Friday, 12 January 2018 to Monday, 12 February 2018 and can be viewed at the following public venues in the project area:

- Tribal Offices of Malale, Sigonde, Gumbu, Tshenzhelani and Masisi
- It is also available for download from the Naledzi website: www.naledzi.co.za.

I&APs are provided the opportunity to comment on the report and may do so by:

- Comment by email, facsimile or telephone
- Any written submissions

I&APs are expected to submit their comments by later than 12 February 2018 to the offices of Naledzi.

The availability of the Scoping Report is announced in the Limpopo Mirror on 12 January 2018 and through the BID and notification letter being distributed to I&APs, chiefs, headman, the CPA and organs of state. Electronic and hard copies of the Scoping Report will also be submitted to organs of state including local and district authorities.

Evidence of notification, distribution of the Scoping Report will be included in an updated Scoping Report and submitted to the DMR for approval.

Public Meeting

All I&APs are invited to attend a public meeting scheduled for 7 February 2018 from 2pm – 4pm at the Gumbu Primary School in Gumbu Village.

The public meeting is an opportunity to share project information and provide I&APs with an opportunity to raise any issues and provide comments.

Comments and Responses from I&APs

All comments, issues and responses received from I&APs during the public registration period, availability of the Scoping Report and at the public meeting will be incorporated in an updated Scoping Report and submitted to the DMR.

(iii) Summary of issues raised by I&APs

The public participation process announcing the project and availability of the Scoping Phase will commence on 12 January 2018 and lapse on 12 February 2018. When the comment period ends, comments received will be included in the comments and response table below. No comments had been solicited by the time of compilation of the Scoping Report.

(List of names of persons consulted in this column and Mark v where those who must be consulted were in fact consulted)	th X	COMMENTS ED	ISSUES RAISED	EAP'S RESPONSE TISSUES	ΓΟ
AFFECTED PARTIES Landowners					
Department of Rural Development and Land Reform	solicited the Final after the and co	omments will be d and included in al Scoping Report ne Public review mmenting on the Scoping Report apses.			
Lawful occupiers of land					
Communal Property Association (representing Malale, Sigonde, Gumbu, Tshenzhelani, Masisi villages)					
Tshikundamalema Traditional Authority					
Landowners on adjacent properties					
South African National Parks (SANPARKS)					
Municipal Councillor					
Phillip Mbezi – Ward 12 (Musina Local Municipality)					
Municipality					
Musina Local Municipality					
Vhembe District Municipality					
Mopani District Municipality					
Organs of State (Roads Department, Eskom, Telkom, DWA)					
Eskom Transmission					
Eskom Distribution – Northern Region					
Department of Water and Sanitation					
Roads Agency Limpopo (RAL)					
South African Heritage Resources Agency					
Limpopo Heritage Resources Agency					
Department of Agriculture Forestry and Fisheries (Directorate: Forestry Regulation)					
Communities					

Malale Village (Headman)		
Sigonde Village (Headman)		
Gumbu Village (Headman)		
Tshenzhelani Village (Headman)		
Masisi Village (Headman)		
Department of Land Affairs		
Commissioner on Restitution on Land Rights -	X	
Department of Rural Development and Land Reform		
Traditional Leaders		
Senior Chief Mr Tshikundamalema		
Traditional Senior Chief for Malale		
Department of Environmental Affairs		
Limpopo Department of Economic Development Environment and Tourism		

(iv) Environmental Attributes associated with the sites

1) Baseline Environment

a) Type of environment affected by the proposed activity

(Current geographical, physical, biophysical, socio-economic, and cultural character)

Overview

The prospecting right area is bordered by the Limpopo River in the north and the Kruger National Park is located 4km east of the site. The terrain is mostly 'sandveld', semi-arid with sparse vegetation, limited water resources and poor soils. The Limpopo river frontage is relatively fertile in the northern portion of the site. The Limpopo valley is more fertile and constitutes a unique eco-system which includes important forests.

- Climate

The climate data used for the purposes of the prospecting right area are reflects the average climate data for Masisi, which is located at the southern border of the application area next to the R525 Punda Maria Road.

Based on climate data retrieved from www.worldonline.co/masisi-weather-average the climate data for Masisi indicates it has summer rainfall with very dry winters including the shoulder months of May and September. The highest rainfall months are January to February. The Mean Annual Precipitation is about 300-400mm. For the year July 2016 – July 2017 the MAP was approximately 300mm. The highest rainfall occurred during February 2017 (84.1mm). See Figure 5 below for the average rainfall graph for July 2016 – July 2017.

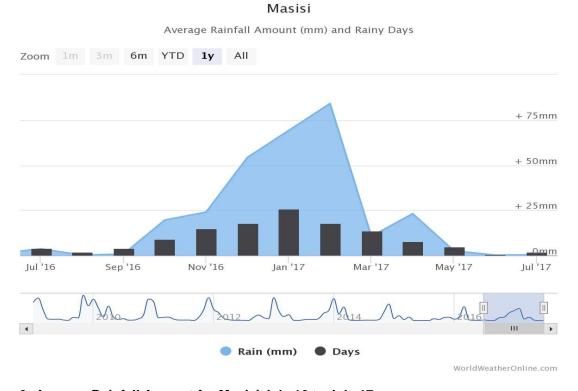


Figure 3: Average Rainfall Amount for Masisi July 16 to July 17

Mean monthly maximum and minimum temperatures are 39.9°C and 19°C for November and June, respectively. Based on the year July 2016 – July 2017 the hottest months are November – December with maximum temperatures of 36°C and a minimum of 27°C. The coldest month is July with a maximum temperature of 25°C and minimum of 16°C. See Figure 4 for the graph indicating monthly temperatures from July 2016 – July 2017.

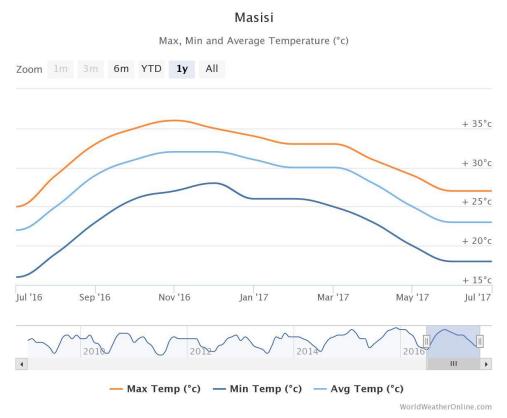


Figure 4: Max, Min and Average Temperatures for Masisi for July 2016 - July 2017

- Geology

The geological formation of the project area includes Gneiss, silicate rocks, marble, scapolite leucocratic-quartzo-gelspatic Gneiss. Associated minerals include Graphite, base metals and hydrothermal precious metals deposits.

The area under study has a history of artisinal graphite mining within the Gumbu formation. The deposit is hosted in metamorphic rocks of the Musina metamorphic belt, especially Marbles which are carbonaceous. Graphite flakes of up to 4mm have been reported at Gumbu Mine. Carbon content, flake size and the resource size are the main attributes that determine viability of extraction. The presence of Calsillicate sediments, i.e. marble, the likelihood of the prevalence of historic aquatic low oxygen environmental over 2000 million years ago and regional metamorphism coupled with the mining history between 1942 to 1978 make this a good prospect for future mining. Geological Series Map number 2230 Messina shows occurrence of graphite with the prospecting area. See Figure 5 below for a Geological Map of the project site.

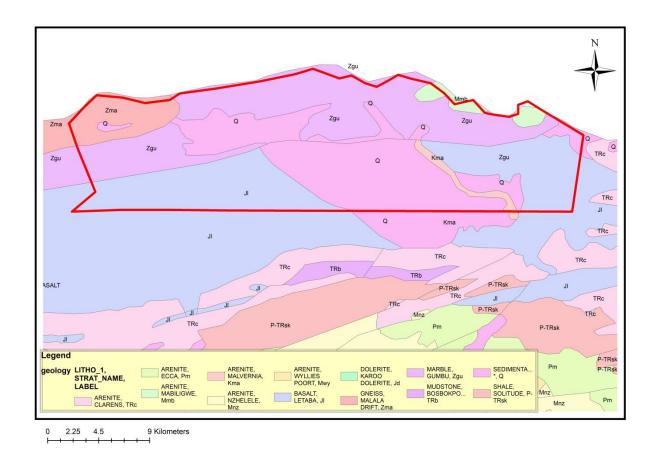


Figure 5: Geological Map indicating the geological formations underlying the project area demarcated by a red polygon

Soils

The National Soil descriptions for the project site as per the SANBI BGIS interactive mapping system indicate the site comprises the following soils:

- Soils with minimal development, usually shallow on hard weathered rock, with or without intermittent diverse soils. Lime is generally present in part or most of the landscape;
- Red soils with a high base status;
- Soils with dark coloured, well-structured topsoil and high base status (melanic soils). In addition, one or more of vertic and red structured soils may be present.

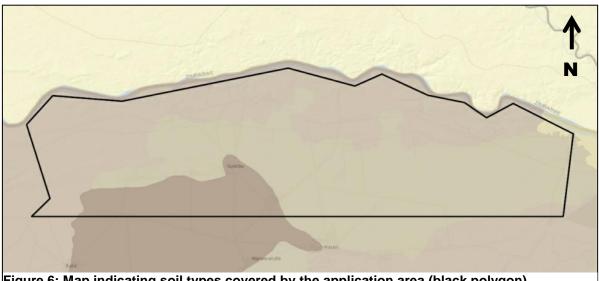


Figure 6: Map indicating soil types covered by the application area (black polygon)

Topography

The project site comprises flat plains (south and south eastern portion of site) and hills and ridges (north, north western portion). It is situated in the Limpopo River valley. The Limpopo River forms the northern boundary of the site. The site generally slopes north towards the river. The altitude f the plains are approximately 400m absl and the ridges are the highest features on site at 457m absl. The altitude of the Limpopo River frontage is 331m absl. The northern border is the lowest point of the site.

Surface Water & Water Bodies

The project site is bordered to the north by the Limpopo River. The Limpopo River is 10km from Gumbu village. The Mutale River is off site, 10km to the south. See Figure 7. The site is located in quaternary drainage region A92D within the Luvuhu and Letaba Water Management Area. There is a main drainage channel draining south towards the Mutale River off site. There are several drainage channels associated with the ridges and hills in the north, north west and south eastern portion of the site also draining to the south. There are also small streams from the ridges draining towards the Limpopo River. There are also 3 small dams at Tshenzhelani village.

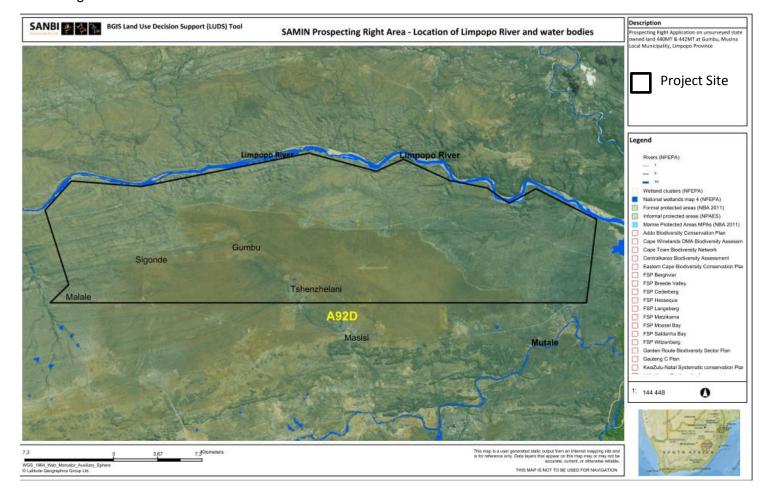


Figure 7: Location of project site in relation to the Limpopo River

Trenching, drilling and bulk sampling prospecting activities will not take place within 100m of a watercourse or drainage channel. All water sources will be delineated and a buffer zone of 100m will be clearly marked and observed at all times.

Vegetation / Terrestrial Ecology

The project site is mostly 'sandveld', semi-arid with sparse vegetation. The Limpopo River frontage is the more fertile section with a unique eco-system which will include important forests.

Approximately 60% of the project site is covered in Musina Mopane Bushveld with the Limpopo Ridge Bushveld comprising 35%. There is a small portion of Subtropical Alluvial Vegetation (5%) in the most north eastern portion of the site along the Limpopo River. (National Vegetation Map 2012). See Figure 8 for the vegetation units associated with the project site.

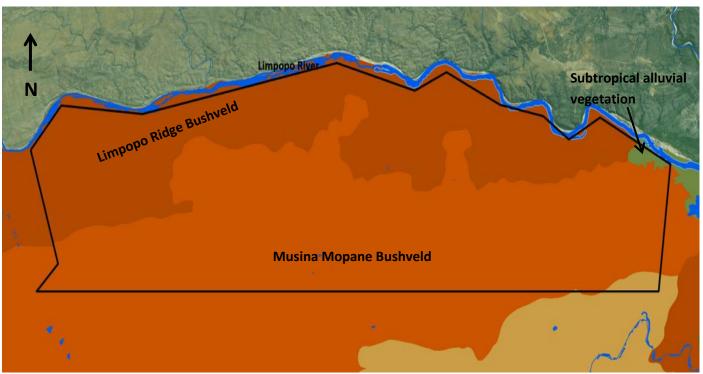


Figure 8: Vegetation units associated with the propsecting right area

The plains on site are covered in Musina Mopane Bushveld which is least threatened. It is dominated by Mopane trees and has poor ground vegetation cover. Roughly 3% has been transformed mainly by cultivation. The vegetation unit is diverse and has high species richness.

The Limpopo Ridge Bushveld is associated with the ridges and hills in vicinity of the Limpopo River. Only about 1% is transformed, mainly for cultivation and mining. Prominent tree canopies include the Baobab thickets and Mountain Seringa.

A minor portion of Subtropical alluvial vegetation is associated with the Limpopo River. It is characterised by riparian thicket, reed beds and flooded grassland. Large patches of this unit are conserved in the Kruger National Park.

(Mucina and Rutheford, 2006)

- <u>Fauna</u>

The site position in relation to the Pafuri Section of the Kruger National Park and presence of Limpopo River frontage makes the site rich in diversity of birdlife, free ranging wildlife (impala, kudu, zebra, buffalo, hippo, elephant, leopard, wild dog).

- Site of Cultural, Heritage Importance

The northern portion of the project site is a declared natural reserve, Matshakitini, and is important to the regions conservation areas. It is also the Madimbo Corridor used as a military passage between Zimbabwe and South Africa.

The land was inhabited by Venda- and Tsonga speaking people. Traditionally "the land was used mainly for purposes of grazing cattle, some small farming, fishing and the use of 6 sacred/religious sites". The villages were located a short distance from the Limpopo, but were moved back a number of times, eventually to the boundary of the Military Area. The Gumbu village is now approximately 10km south the Limpopo River.

The area is of archaeological significance and heritage sites may exist with this vast project area. The drilling, trenching and bulk sampling prospecting activities will avoid such sites and uphold bufferzones of 50m from such sites should any be identified during the EIA Phase.

- Socio Economic Environment

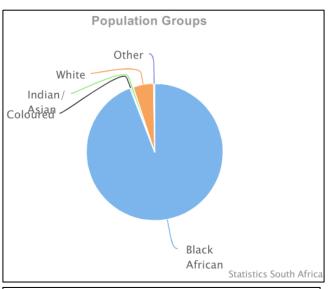
The project site is located within the Mucina Local Municipality (MLM). The information provided below gives background into the socio economic structure of MLM. The closest town is Musina 91km east from site. The project area is located in Ward 12 and 9 of the municipality. The information provided depicts results from the Census 2011 and Community Survey 2016 comparisons with Vhembe District Municipality.

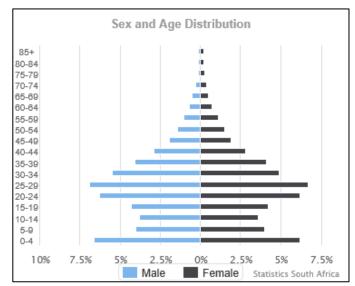
Based on the Community Survey 2016 the population of MLM is 132 009. The dominant population group is Black (127 621) followed by Whites (3 645) with least group being Coloured (337). The major population is dominated by youth aged 15-34 years (58 841). The municipality consists mainly of commercial farms and only 0.08% of the area is urban in nature. (Musina IDP 2017/2018). The Key statistics have been obtained from the Stats SA based on Census 11. Refer to Table 5 for key statistics for the MLM.

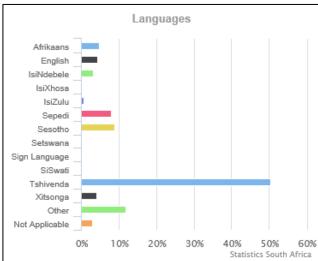
Table 5: Summary of Key Statistics for MLM based on Census 2011

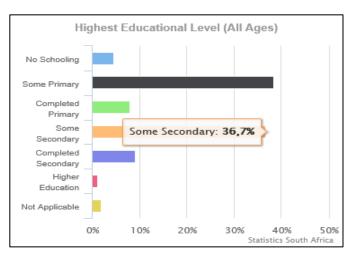
Key Statistics	2011
Total population	68,359
Young (0-14)	28,2%
Working Age (15-64)	69,2%
Elderly (65+)	2,6%
Dependency ratio	44,5
Sex ratio	101,9
Growth rate	5,53% (2001-2011)
Population density	9 persons/km2
Unemployment rate	18,7%
Youth unemployment rate	22,5%
No schooling aged 20+	11,3%

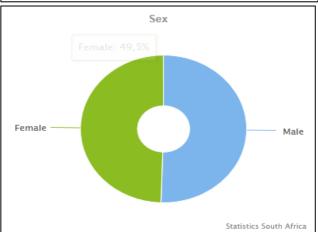
Higher education aged 20+	6,8%
Matric aged 20+	21,6%
Number of households	20,042
Number of Agricultural households	2,261
Average household size	3
Female headed households	39,6%
Formal dwellings	74,8%
Housing owned/paying off	31,3%
Flush toilet connected to sewerage	63,2%
Weekly refuse removal	61,5%
Piped water inside dwelling	26,4%
Electricity for lighting	76,4%

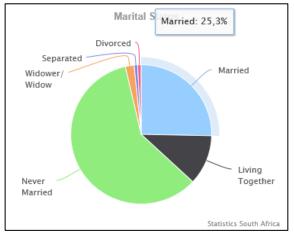


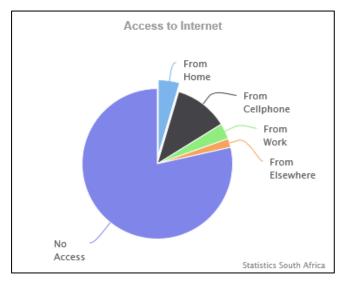


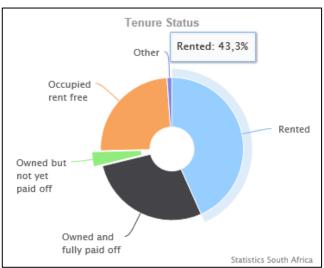


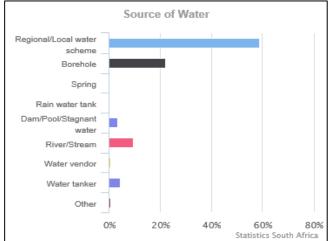


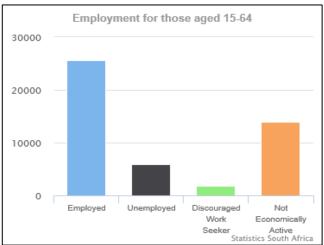


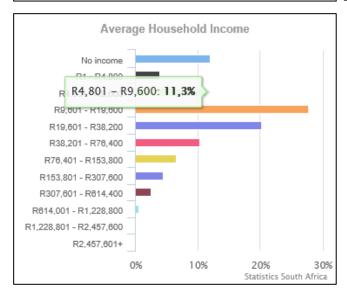












The Musina IDP indicates that the village of Masisi, Malale and Madimbo are 5th order settlements, are small in population and function as residential areas with no economic base accept for subsistence farming.

b) Description of the current land uses

The prospecting right area is divided into two portions by a military fence line. The southern portion is covered by settlements (Gumbu, Malale, Sigonde, Tshenzhelani) and subsistence

farming. The northern portion forms the Madimbo Corridor formerly controlled by the South African Defence Force as military corridor between South Africa and Zimbabwe. It has a military training area, airfield, patrol roads and was used for border security. It is now a declared natural biosphere, Matshakitini Nature Reserve.

c) Description of specific environmental features and infrastructure on the site

- Drainage channels

The Limpopo River forms the northern boundary of the prospecting right area. There is a main drainage channel onsite running past Gumbu and Tshenzehlani Village towards Masisi into the Mutale River. There are ridges and hills located in the north-western and north eastern portion of the project site. There are numerous small ephemeral streams associated with the ridge which either drain south the main drainage channel into Mutale River or either north into the Limpopo River. (See Figure 7).

Koppies and Ridges

There are several hills and ridges in the vicinity of the Limpopo River on the north western and north eastern portion of the site.

- Natural Biosphere Reserve / Matshakitini Nature Reseve

The former Madimbo Corridor located in the northern portion of the site is a declared natural biosphere. This has been indicated in the former Mutale Development Plans.

- Biodiversity Priority Areas

The Limpopo Conservation Plan 2013 (SANBI BGIS LUDS tool) indicates that the prospecting area covers areas of:

- Critical biodiversity area 1
- Critical biodiversity area 2
- Ecological Support Area 1
- Ecological Support Areas 2
- Other natural area
- No Protected areas

See Figure 10 for the prospecting right area overlaying biodiversity priority areas identified in the Limpopo Conservation Plan for 2013.

Critical Biodiversity Areas are areas required to meet biodiversity targets for ecosystems, species and ecological processes, as identified in a systematic biodiversity plan. Ecological Support Areas are not essential for meeting biodiversity targets but play an important role in supporting the ecological functioning of Critical Biodiversity Areas and/or in delivering ecosystem services.

The primary purpose of a map of Critical Biodiversity Areas and Ecological Support Areas is to guide decision-making about where best to locate development. It should inform land-use planning, environmental assessment and authorisations, and natural resource management, by a range of sectors whose policies and decisions impact on biodiversity. It is the biodiversity sector's input into multi-sectoral planning and decision-making processes.

Areas of important biodiversity targeted for mining

Based on the Mining and Biodiversity Guideline 2013 (SANBI BGIS LUDS tool) the prospecting right area comprises the following areas:

- High biodiversity importance (High risk for mining)
- Highest biodiversity importance (highest risk for mining)

The Limpopo Riverine Forest along the Limpopo River towards the KNP is of highest biodiversity importance and is to be protected from prospecting/mining. The area of high biodiversity importance is located just north east of Sigonde and is associated with a ridge. See Figure 11 for a map indicating the mining and biodiversity important areas associated with the project site.

The MBG identifies and categorizes biodiversity priority areas sensitive to mining in order to main stream biodiversity issues in decision making into the mining sector. It provides direction as to where mining-related impacts are legally prohibited, where biodiversity priority areas may present high risks for mining projects, and where biodiversity may limit the potential for mining.

d) Environmental and current land use map

(Show all environmental and current land use features)

Based on the National Land Use Cover 2014 the project site comprises the following land use covers:

- Villages, Cultivated Commerical fields
- Thicket / Dense Bush
- Urban Built up Area (Madimbo Airfield)

See Figure 9 showing the land use cover associated with the project site.



Figure 9: National Land Use cover associated with Prospecting Right Application area (black polygon)

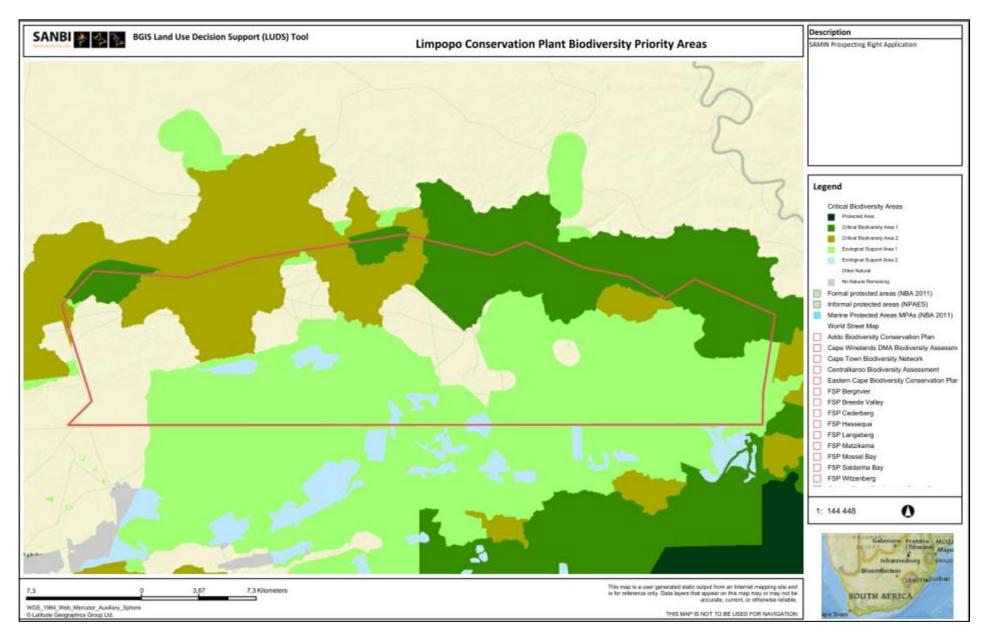


Figure 10: Limpopo Conservation Plan biodiversity areas associated with project site (red polygon)

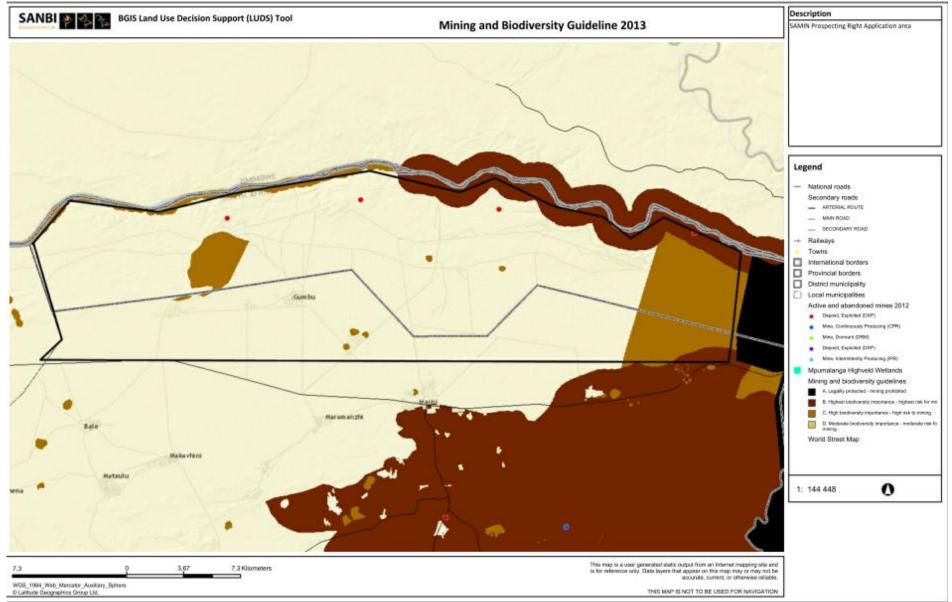


Figure 11: Mining and Biodiversity Priority Areas associated with the project site (black polygon)

(v) Identified Impacts

Possible impacts that might be incurred as a result of the proposed development include but not limited to the following:

- -Loss of protected biodiversity
- -Disturbance of natural ecosystems
- -Siltation and contamination of natural water bodies
- -Noise pollution
- -Dust pollution
- -Disturbance of tourists/ visitors to the Nature Reserves in the vicinity of the proposed development area
- -Modification of soil texture and water content which can lead to the extinction and evolution of plant and animal species
- -Invasion of natural areas by alien species
- -Economic development
- -Job creation/ Poverty alleviation
- -Infrastructural development

(vi) Methodology used in determining significance of impacts

After a list of potential impacts has been identified the aim of the EIA process is to predict the nature of the impact, rank and quantify it. From the rating system the impacts of most significance can be highlighted.

According to the EIA Regulations of 2014 a significant impact means:

"an impact that may have a notable effect on one or more aspects of the environment or may result in non-compliance with accepted environmental quality standards, thresholds, targets and is determined through rating the positive and negative effects of an impact on the environment based on criteria such as duration, magnitude, intensity and probability of occurrence".

The list of identified impacts for the SAMIN project will be evaluated by considering several rating scales as listed below. These ratings include: extent, duration, intensity, significance, status of impact, probability. The significance of impacts will be calculated as follows:

Significance = (Extent + Duration + Intensity) X Probability

(vii) Positive and negative impacts that the proposed activity (in terms of initial site layout) and alternatives will have on the environment and community affected

Negative Impacts

- -Loss of protected biodiversity
- -Disturbance of natural ecosystems
- -Siltation and contamination of natural water bodies
- -Noise pollution
- -Dust pollution
- -Disturbance of tourists/ visitors to the Nature Reserves in the vicinity of the proposed development area
- -Modification of soil texture and water content which can lead to the extinction and evolution of plant and animal species
- -Invasion of natural areas by alien species

Positive Impacts

- -Economic development
- -Job creation/ Poverty alleviation
- -Infrastructural development

(viii) Possible mitigation measures that can be applied and the level of risk

- -All Prospecting areas will be rehabilitated as much as possible to their natural state
- -Eradication of Alien species will be undertaken in an environmentally friendly manner such that no pollution of the environment and water bodies will occur from the process.
- -Prospecting activities will be undertaken during day times so that the communities are not disturbed at night. If there will be blasting the communities will be alerted prior to the activities.
- -Dust suppression measures will be undertaken to eliminate the dust from the prospecting area
- -Licences will be obtained from DAFF to disturb any protected fauna
- -Protected fauna out of the prospecting area will be marked and left intact as much as possible
- -Revegetation of disturbed areas will be undertaken immediately after prospecting activities
- No drilling or trenching activities will be located within 100m of a watercourse or wetland.
- -Prospecting infrastructure will not be placed within 100m of a watercourse of wetland.

(ix) Motivate why no alternative sites where considered

(a) The property on which / location where it is proposed to undertake the activity

The site was selected based on the underlying geology and location of the mineral reserve. The location of the invasive activities of drilling, trenching and bulk sampling are determined by the location of the old mine workings and channel sampling areas and location of the mineral reserve.

No alternative locations for the drill, trench and sampling sites have been considered. The information gathering of the 1st Phase of the prospecting programme will determine the finalised locations of invasive prospecting activities.

(b) The type of activity to be undertaken

No activity alternatives were considered. Trenching, drilling and bulk sampling are the recognised methods of prospecting for the minerals under application which includes graphite and other minerals such as Brytes, Chrome ore, Coal, Cobalt, Copper ore, Diamond, Gold ore, Iron ore and Nickel ore minerals.

(c) Design or layout of the activity

The final location selection for invasive prospecting activities will be determined by environmental and heritage features (if found) present on site. Buffer zones will be considered for such features and include:

- No invasive prospecting activities are to be placed within 100m of a watercourse
- No invasive activities are to be placed within 50m from heritage and Paleontological sites
- No invasive activities are to be placed in areas of high biodiversity importance

Prospecting activities are to be located along existing access roads.

(d) Technology to be used

An alternative in technology / method is being considered for drilling of surface boreholes. Core drilling, reverse circulation or percussion drilling will be considered.

(e) Operation aspects of activity

No alternatives have been considered. The recognised prospecting methods of trenching, drilling and bulk sampling will be used.

(f) Option of not implementing the activity

Prospecting provides confirmation of the available mineral resource and reserve. Without the implementation of prospecting with bulk sampling a Bankable Feasibly study with the resource and reserve statement cannot be prepared. There will be no data to validate the economic feasibility to mine the available mineral resource. Therefore no new mine will be established.

The no-go option is for the current land use to continue. The applicant will seek other possible ore bodies and prospecting areas to delineate ore bodies. The local communities will not benefit from the employment opportunities.

(x) Statement motivating the preferred site

The site was selected based on the underlying geology. Historic information indicates the presence of graphite within the Gumbu formation. The deposit is hosted in the metamorphic rocks of Musina metamorphic belt. Geological series map number 2230 Messina shows occurrence of graphite within the application area. Furthermore, the mineral has been exploited earlier during 1942 – 1978 at the project site. There is an old Graphite mine at Gumbu with associated old shaft, existing mined areas, old mine lands and existing trenches on site. Based on the historic data and physical evidence of historic exploitation non-invasive activities will be applied to the entire prospecting right area under application.

i. Plan of Study for Environmental Impact Assessment Process

i) Description of alternatives to be considered including option of not continuing with the activity

No alternatives will be considered for the proposed prospecting development project.

ii) Description of aspects to be assessed as part of Environmental Impact
Assessment

See Section V Policy and Legislative Context

iii) Description of aspects to be assessed by specialists

- For Heritage and Paleontological assessment the Specialist will be guided by: National Heritage Resources Act (Act 25 of 1999) (NHRA) as described in Section V Policy and Legislative Context For Ecological Assessment the Specialist will be guided by: Limpopo Environmental Management Act (Act 7 of 2003) (LEMA) and National Environmental Management Act 1998 as amended (NEMA) as described in Section V Policy and Legislative Context
 - iv) Proposed method of assessing the environmental impacts including the proposed method of assessing alternatives

After a list of potential impacts has been identified the aim of the EIA process is to predict the nature of the impact, rank and quantify it. From the rating system the impacts of most significance can be highlighted.

According to the EIA Regulations of 2014 a **significant impact means**:

"an impact that may have a notable effect on one or more aspects of the environment or may result in non-compliance with accepted environmental quality standards, thresholds, targets and is determined through rating the positive and negative effects of an impact on the environment based on criteria such as duration, magnitude, intensity and probability of occurrence".

The list of identified impacts for the SAMIN project will be evaluated by considering several rating scales as listed below. These ratings include: extent, duration, intensity, significance, status of impact, probability. The significance of impacts will be calculated as follows:

Significance = (Extent + Duration + Intensity) X Probability

The rating system is described below.

Table 6: Assessment Methodology

Cr	Criteria: EXTENT					
"E	"Extent" defines the physical extent or spatial scale of the potential impact					
R	ATING	DESCRIPTION				
1	Site specific	Impacts extending only as far as the activity, limited to the site and its immediate surroundings				
2	Local	Impacts extending within 5km from site boundary				
3	Regional	Impacts extending to the district (20km from boundary of the site)				
4	Provincial	Impacts extending to provincial scale eg. Limpopo Province				
5	National	Impacts extending to within the country i.e. South Africa.				
6	International	Impacts extending beyond international border / the borders of South Africa				
Cr	iteria: DURATI	ON				
"D	uration" defines	s the temporal scale				
R	ATING	DESCRIPTION				
1	Immediate	Less than 1 year				
2	Short term	1-5 years				
3	Medium term	6-15 years				
4	Long term	Between 16 – 30 years				
5	Permanent	Over 30 years. Where mitigation either by natural processes or by human intervention will not occur in such a way or in such time span that the impact can be considered transient.				

V)

Criteria: INTENSITY							
"Intensity"	"Intensity" establishes whether the impact would be destructive or benign.						
Status	RA	TING	DESCRIPTION				
	0	Negligible	Where impacts do not really affect the environment and no mitigation is required				
Negative	1	Low	Where impacts will result in short term effects on the social and/or natural environment. These impacts are not deemed largely substantial and are likely to have little real effect. (marginally affected)				
	2	Medium	Where impacts will result in medium term effects on the social and/or natural environment. These impacts will need to be considered as constituting a fairly important and usually medium term change to the environment, these impacts are				

			real but not substantial. Impacts are fairly easy to mitigate				
	3	High	Whereby effects will be long term on social, economic and/or bio-physical environment. These will need to be considered as constituting usually long term change to the environment. Mitigation is considered challenging and expensive				
	4	Very High	Where impacts should be considered as constituting major and usually permanent change to the environment, and usually result in severe to very severe effects. Mitigation would have little to now effect on irreversibility				
Criteria: II	Criteria: INTENSITY						
Status	RA	TING	DESCRIPTION				
	0	Negligible	Where impacts affect the environment in such a way that natural, cultural and social functions and processes are not greatly and in instances no mitigation measures will be required. (environment not really affected)				
9	1	Low	Minor improvement are anticipated over a short term on the social and/or natural environment.				
Positive	2	Medium	Where moderate improvements are anticipated over a medium- to long-term on the social and/or natural environment.				
	3	High	Where large improvements are anticipated over a long term on social, economic and/or bio-physical environment.				
	4	Very High	This results in permanent improvements of the social/or natural environment.				

Criteri	Criteria: STATUS					
	"Status of impact" - describes whether the impact would have a negative, neutral or positive effect on the affected environment					
RATIN	G	DESCRIPTION				
+	Positive	Benefit to the environment				
=	Neutral	Standard / impartial				
_	Negative	cause damage to the environment				

Criteria: PROBABILITY					
"P	"Probability" describes the likelihood of the impact occurring.				
RATING		DESCRIPTION			
0	Improbable	Where the possibility of the impact occurring is low.			

1	Probable	Where there is a distinct possibility that the impact will occur.
2	Highly probable	Where it is most likely that the impact will occur.
3	Definite	Where the impact will occur regardless of any prevention measures.

vi) The proposed method of assessing duration significance

Criteria: SIGNIFICANCE

"Significance"- attempts to evaluate the importance of a particular impact with mitigation measures included and also excluded. The significance was calculated using the following formula:

Significance = (Extent + Duration + Intensity) X Probability

RATING	DESCRIPTION	
0-4	Very Low	Where the impacts will not influence the development, social, cultural or natural environment
5 -12	Low	Where impacts will result in short term effects on the social and / or natural environment. The impacts merits attention however are not deemed largely substantial are likely to have little real effect
13-25	Medium	Where impacts will have a medium-term effect on the social and/or natural environment. These impacts need to be considered as constituting a fairly important

		and usually medium term change to the environment, these impacts can be mitigated by implementing effective mitigation measures.
26-44	High	Whereby effects will be long term on social economic and or bio-physical environment. The impacts could have a major effect on the environment. This may bring forth the consideration of no-go areas/open areas on the development land regardless of mitigations implemented. Mitigation is however possible.
45	Very High	Whereby effects will be permanent on the social economic and or bio-physical environment. Such impacts cannot be mitigated.

vi) The stages at which the competent authority will be consulted

The Competent Authority DMR will be consulted on various stages of the EIA process.

- Application will be lodged with the DMR;
- A Scoping Report will then be submitted to DMR for Decision making, after the acceptance of the Scoping Report

• Environmental Impact Report & Environmental Management Programme will be submitted to DMR for Decision making.

vii) <u>Particulars of public participation process with regard to the Impact</u> Assessment Process that will be conducted

1. Steps to be taken to notify I&APs

Regulation 40-44 of the EIA Regulations 2014 sets out the procedure to be followed in conducting the public participation process in support of an environmental authorisation process. The public participation process forms the corner stone of the EIA process. The process identifies potential I&APs on the project and solicit inputs and comments pertaining to the matter/activity from such parties. Public Participation allows the public to contribute to the project and provides for better decision making by collective inputs from stakeholders, organs of state and specialists.

2. Details of the engagement process to be followed

The following means will be used to consult the public and convey project details and the EIA study findings for the project:

- I&APs will be provided with an opportunity to register on the project database and obtain project information;
- Environmental reports prepared as part of the EIA process will be made available for public review and comments;
- Comments and inputs on environmental reports will be facilitated by conducting public meetings/open house meeting or focus group meetings. During such meetings the findings of the EIA study and significant environmental impacts were discussed;
- Interested and Affected Parties will be notified of the decision made by DMR on the application for environmental authorisation for the project.

The public participation process will commence on Friday 12 January 2018 and is an ongoing process for the duration of the EIA process and extends for the life of the project.

3. Description of information to be provided to Interested and Affected Parties

The EIR and EMPR is the most important document of the EIA process. It forms the basis for decision making and is a tool for communicating the findings of the EIA study with I&APs. It will be subject to a 30 day public review period. The public and registered I&APs will be notified of the availability of the EIR& EMPr for comment and electronic -and hard copies of the reports will be made available to organs of state, key stakeholders and the public

viii) <u>Description of tasks that will be undertaken during the environmental impact assessment process</u>

Scoping Phase

Regulation 21 of the EIA Regulations 2014 states that if a S&EIA is applied to an application, the applicant must within 44 days of application submission submit a scoping report to the competent authority.

The draft Scoping Report will be subjected to 30 days public review from 12 January 2018 to 12 February 2018. The comments received up to the expiry date on the Scoping Report will be submitted to DMR.

Regulation 22 states the competent authority must within 43 days of receipt of the Scoping Report provide approval.

EIA Regulations 2014 Regulated Time Frame

The EIA Reuglations 2014 stipulates that the Scoping and EIA process timeframe is regulated at 300 days for a non-substantive process and 350 days for a substantive process.

Chapter 2, Regulation 3 of the EIA Regulations of 2014 stipulates that "in the event of exceptional circumstances can be demonstrated, the competent authority may, prior to lapsing of the relevant prescribed timeframe, in writing, extend the relevant prescribed time frame and agree with the applicant on the length of such exention".

Environmental Impact Phase

Regulation 23 of the EIA Regulations of 2014 stipulates that an applicant must submit the EIR&EMPr to the competent authority within 106 days from the Scoping Report acceptance.

The EIR and EMPr will be subject to public participation and made available to I&APs for a 30 day commenting period.

Decision Making Phase

In accordance to Regulation 24 of the EIA Regulations the competent authority will within 107 days of receipt of the EIR & EMPr grant or refuse environmental authorisation in respect of the activity applied for.

Interested and Affected parties will be notified of the outcome of the decision within 12 days from issuance.



L) OTHER INFORMATION REQUIRED BY THE COMPETENT AUTHORITY

- i) Compliance with the provisions of Section 24(4)(a) and (b) read with Section 24(3)(a) and (7) of the National Environmental Management Act (Act 107 of 1998), the EIA Report must include the
- 1) Impact on the socio-economic conditions of any directly affected person The project site is located within the Mucina Local Municipality (MLM). The information provided below gives background into the socio economic structure of MLM. The closest town is Musina 91km east from site. The project area is located in Ward 12 and 9 of the municipality. The information provided depicts results from the Census 2011 and Community Survey 2016 comparisons with Vhembe District Municipality.

Based on the Community Survey 2016 the population of MLM is 132 009. The dominant population group is Black (127 621) followed by Whites (3 645) with least group being Coloured (337). The major population is dominated by youth aged 15-34 years (58 841). The municipality consists mainly of commercial farms and only 0.08% of the area is urban in nature. (Musina IDP 2017/2018). The Key statistics have been obtained from the Stats SA based on Census 11. Refer to Table 5 for key statistics for the MLM.

Table 5: Summary of Key Statistics for MLM based on Census 2011

Key Statistics2011Total population68,359Young (0-14)28,2%

Working Age (15-64) 69,2%

Elderly (65+) 2,6% Dependency ratio 44,5

Sex ratio 101,9

Growth rate 5,53% (2001-2011)

Population density 9 persons/km2

Unemployment rate 18,7%

Youth unemployment rate 22,5%

No schooling aged 20+ 11,3%

Higher education aged 20+ 6,8%

Matric aged 20+ 21,6%

Number of households 20,042

Number of Agricultural households 2,261

Average household size 3

Female headed households 39,6%

Formal dwellings 74,8%

Housing owned/paying off 31,3%

Flush toilet connected to sewerage 63,2%

Weekly refuse removal 61,5%

Piped water inside dwelling 26,4%

Electricity for lighting 76,4%

The Musina IDP indicates that the village of Masisi, Malale and Madimbo are 5th order settlements, are small in population and function as residential areas with no economic base accept for subsistence farming.

2) Impact any national estate referred to in Section 3 (2) of the National Heritage Resources Act

The northern portion of the project site is a declared natural reserve, Matshakitini, and is important to the regions conservation areas. It is also the Madimbo Corridor used as a military passage between Zimbabwe and South Africa.

The land was inhabited by Venda- and Tsonga speaking people. Traditionally "the land was used mainly for purposes of grazing cattle, some small farming, fishing and the use of 6 sacred/religious sites". The villages were located a short distance from the Limpopo, but were moved back a number of times, eventually to the boundary of the Military Area. The Gumbu village is now approximately 10km south the Limpopo River.

The area is of archaeological significance and heritage sites may exist with this vast project area. The drilling, trenching and bulk sampling prospecting activities will avoid such sites and uphold bufferzones of 50m from such sites should any be identified during the EIA Phase.

M) <u>OTHER MATTERS REQUIRED IN TERMS OF SECTION 24(4)(A) AND (B) OF THE ACT</u>

Section 24 (4)(a) and (b) of the Act states the following:

- 4. Procedure for the investigation, assessment and communication of the potential impact of activities must ensure, as a minimum, with respect to every application for an environmental authorisation –
- a) investigation of the environment likely to be significantly affected by the proposed activity and alternatives thereto;
- b) investigation of the potential impact of the activity and its alternatives on the environmental and assessment of the significance of that potential impact;

No further investigation or assessment of any environmental attributes of the study site is necessary. The significant identified impacts will be investigated by specialist of several disciplines which will inform the EIR findings. The potential impacts from the proposed SAMIN project on the pre-mining environment have been assessed and its significance rated. Mitigations for further assessment and monitoring of environmental attributes have been stated and captured in the EMPr.

Any other potential impacts identified during the public participation period (by organs of state, public) of the Impact Phase, not already covered in the EIR, will be considered and the report will be updated accordingly.

N) UNDERTAKING REGARDING CORRECTNESS OF INFORMATION

<u> </u>	_ HEREWITH	UNDERTAKE	E THAT TH	E INFORMATION
PROVIDED IN THE FOREGOIN	IG REPORT IS	CORRECT, AI	ND THAT THE	COMMENTS AND
INPUTS FROM STAKEHOLDER	RS AND INTERE	STED AND A	FFECTED PAF	RTIES HAVE BEEN
CORRECTLY RECORDED IN T	HE REPORT.			
SIGNATURE OF EAP:				
DATE:				
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PROVIDED IN THE REPORT IS	S CORRECT, A	ND THAT THE	E LEVEL OF A	GREEMENT WITH
THE INTERESTED AND A	FFECTED PAF	RTIES AND	STAKEHOLDI	ERS HAS BEEN
CORRECTLY RECORDED AND	REPORT HER	EIN.		
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