



TRIGON MINING (NAMIBIA) (PTY) LTD

**SCOPING REPORT (INCLUDING IMPACT
ASSESSMENT) FOR TRIGON MINING'S
PROPOSED EXPLORATION ACTIVITIES ON
EPL 7525, WEST OF KOMBAT TOWN,
OTJOZONDJUPA REGION**

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Namisun cannot verify all Technical information contained in this report, and relies on the information shared by the Trigon Mining (Namibia) (Pty) Ltd Management Team as being accurate.

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EXECUTIVE SUMMARY

1. INTRODUCTION

Trigon Mining (Namibia) (Pty) Ltd (“Trigon”) has successfully obtained Exclusive Prospecting Licence (“EPL”) 7525, located ± 5 km west of Kombat (i.e. from the EPL’s eastern boundary), in the Otjozondjupa Region (refer to Figure 1). EPL 7525 is 1067 Hectares (“ha”) in size, encompassing 7 different farms as follows: Gross Otavi; Karlsruhe; Hellerthal; Kaiserfelden; Nageib; Kupferberg; and Bachmuhle.

The EPL is located to the west of Trigon’s main mining licence (“ML”) areas and the Kombat Mine (currently under care and maintenance).

Trigon is planning exploration activities on the EPL. Preliminary activities such as geophysics, mapping, scouting exercises, soil sampling, as well as future drilling activities are planned for the area.

Trigon holds various other ML’s in the surrounding area and also owns the Kombat Mine. Trigon has undertaken various exploration programmes over these areas. Taking these results and also results from other (historic) mining and exploration activities into consideration, Trigon developed a knowledge base of the geology and resource in the area. Further exploration activities in EPL 7525 will further extend their knowledge base.

Prior to the implementation of the project, environmental clearance is required from the Ministry of Environment, Forestry and Tourism (“MEFT”): Department Environmental Affairs (“DEA”) on the basis of an approved Environmental Impact Assessment (“EIA”) process, in terms of the Environmental Management Act, 2007 (No. 7 of 2007).

Namisun Environmental Project and Development (“Namisun”), an independent firm of environmental consultants based in Namibia, has been appointed by Trigon to undertake and manage the EIA process.

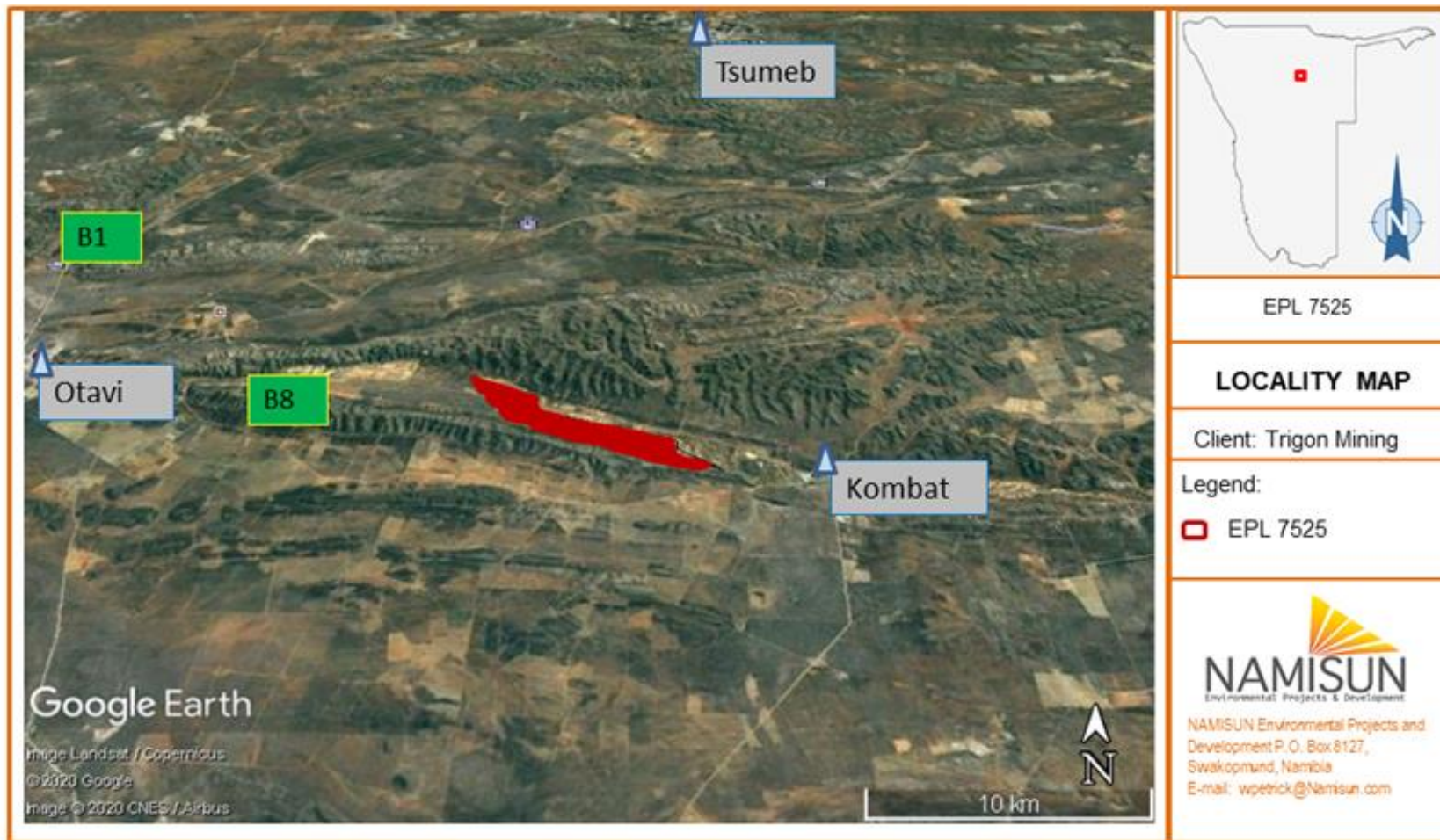


FIGURE 1: LOCALITY MAP OF EPL 7525

2. EIA PROCESS

Environmental Impact Assessments are regulated by the Ministry of Environment, Forestry and Tourism (“MEFT”) in terms of the Environmental Management Act, 7 of 2007. This Act was gazetted on 27 December 2007 (Government Gazette No. 3966) and enacted in January 2012. The Environmental Impact Assessment Regulations: Environmental Management Act, 2007 (Government Gazette No. 4878) were promulgated in January 2012.

Prior to the commencement of the proposed exploration activities, an environmental clearance is required from the MEFT: Department Environmental Affairs (DEA) on the basis of an approved EIA process.

This EIA process is conducted in terms of the Environmental Management Act, 7 of 2007 and the above mentioned EIA regulations. This process includes: a screening phase and a scoping phase, which will include an impact assessment and an Environmental Management Plan (EMP) for EPL 7525.

This report is the Scoping Report, with impact assessment included. The main purpose of this report is to provide information relating to the proposed activities and to indicate which environmental aspects and potential impacts have been identified during the Screening and Scoping phases. This report consists of information obtained from site observations, and the results of stakeholder consultation. The potential impacts of the proposed exploration activities could therefore be assessed, and the assessment is also included in this report. The potential impacts were cumulatively assessed, taking the existing environment and other activities and facilities associated with the existing Kombat Mine into consideration, where relevant.

It is thought that this Scoping Report (including an assessment of impacts), together with the EMP (Section 8 of the report), will provide sufficient information for the MEFT to make an informed decision regarding the proposed project, and whether an environmental clearance certificate (ECC) can be issued or not.

The above mentioned EIA process is explained diagrammatically in Figure 2 below.

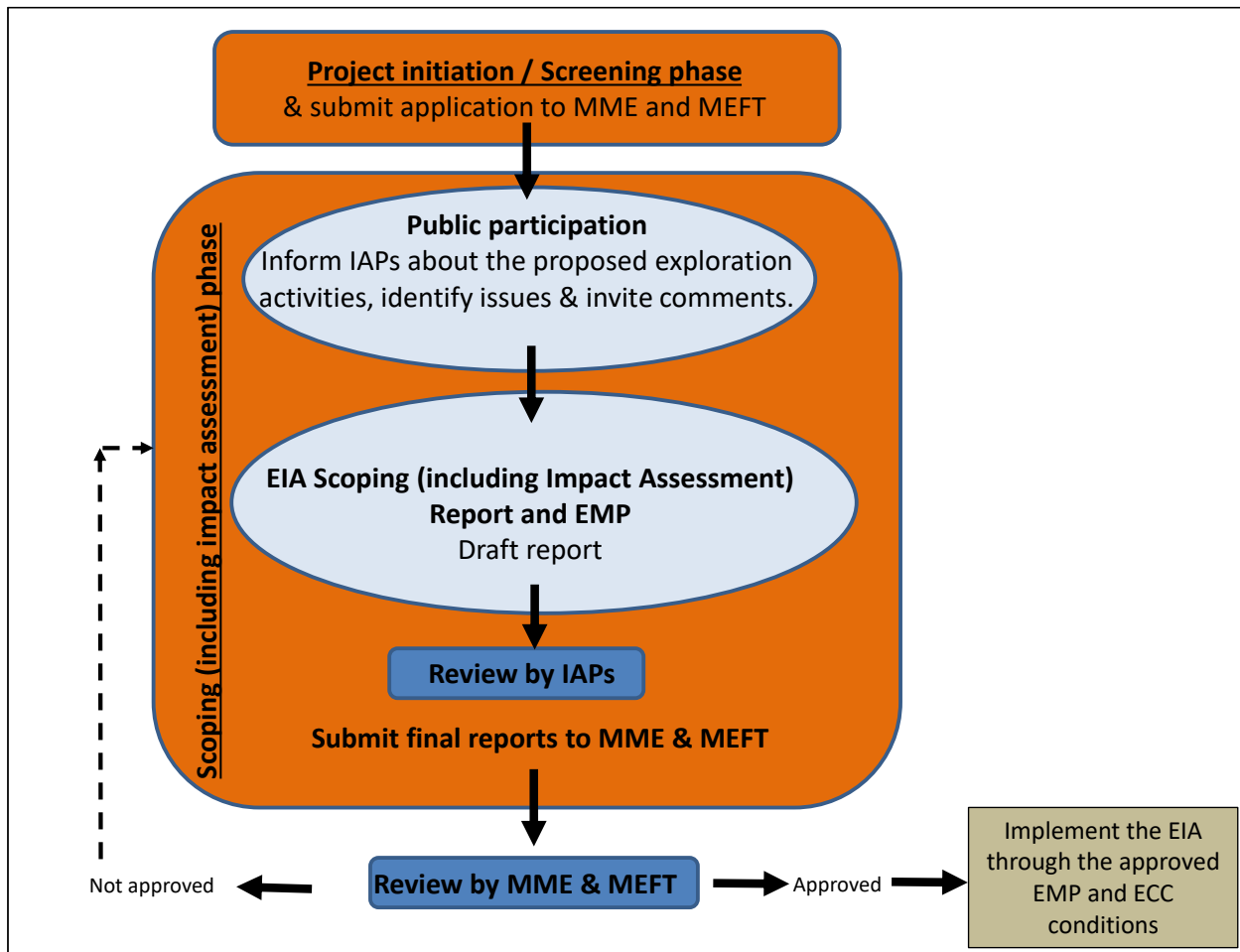



FIGURE 2 - THE EIA PROCESS

Opportunity to comment

I&APs were invited to comment on this EIA Scoping Report with EMP, which was available for a review & comment period from **8 December 2020 to 22 January 2021**. Comments had to be sent to Namisun at the address, telephone number, or e-mail address shown below by **no later than 22 January 2021**.

 <p>Namisun Attention: Werner Petrick E-mail address: wpetrick@namisun.com Cell number: +264 (0)81 739 4591</p>
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3. DESCRIPTION OF THE PROPOSED EXPLORATION ACTIVITIES

Trigon proposes to undertake exploration activities on EPL 7525 for base and rare metals, industrial minerals and precious metals. The exploration activities shall commence as soon as the environmental clearance certificate (“ECC”) has been issued by MEFT. However, before any exploration activities can be carried out access agreements, as required by Section 52 of the Minerals Act, will be entered into between Trigon and the relevant land owners. The negotiations regarding access agreements fall outside of the ambit of the EIA process.

The proposed exploration activities will include:

- Phase 1:
 - Geological studies and field Mapping
 - Ground and Airborne (drone) Geophysical Surveys
 - Soil Sampling at selected targets
- Phase 2:
 - Drilling

The extent of the above mentioned exploration activities are expected within the EPL 7525 footprint area depending on the above mentioned access agreements. Specific target areas for the proposed exploration activities have not been confirmed by Trigon at the time of this EIA and are a limitation to the assessment.

3.1 Exploration activities

Geological studies and field mapping

This includes the further review of geological maps of the area and on-site ground traverses and observations. Small samples of rock may be collected for further analysis. During this phase, Trigon does not propose to conduct any “intrusive activities” – i.e. all likely targeted areas on the EPL could be reached without creating any cut lines and having to remove trees / vegetation.

Ground and Airborne Geophysical Surveys

Geophysical surveys are conducted in order to ascertain the mineralisation of a given area and entail the collection of information of the substrata, by air or ground, through sensors such as radar, magnetic and electromagnetic to detect any mineralisation in the area. The estimated time frame for the surveys is approximately two weeks per survey.

Ground geophysical surveys would be carried out using sensors carried by staff. When air surveys are conducted, sensors will be mounted to an aircraft, which flies over the target area. Trigon, however, will consider using drones for the airborne surveys.

Soil sampling

With guidance from the geological mapping, samples of soil are collected and sent for geochemical major and trace element analysis to determine if sufficient quantities of a base metals are present. These analyses are conducted by analytical chemistry laboratories.

Small pits (± 30 cm x 30 cm) will be dug where approximately 5 kg of sample material will be collected.

Drilling

Depending on the phase 1 results, drilling of boreholes might be undertaken in target area(s).

Exploration drilling is the process of removing rock samples from an area, where it is suspected there is mineralisation. Holes will be drilled and drill samples collected for analysis of trace elements. There are various drilling methods available and Trigon will utilise either open percussion drilling; reverse circulation drilling; and/or diamond-core drilling.

A typical drilling pad/area will consist of a drill-rig, an area where the drill core and geological samples can be stored and a storage area for drill equipment, fuel and lubricants. This area is cordoned off and off-limits to those not part of the exploration team. The drilling pad/area is usually cleared and levelled and is approximately 15 m x 15 m. All drill-water will be collected in drill-sumps, which will be managed to prevent overflows. The estimated time frame to complete the work is approximately eight weeks per drill site.

3.2 Exploration Machinery/Vehicles and support

The following machinery/vehicles will be utilized in the drilling program per site area:

- 1 x support truck (20t).
- 2 x vehicles.
- 1 x water bowser trailer.
- 1 x drill rig.

It is anticipated that the following personnel will be employed to carry out the above-mentioned activities:

- 1 x Geologist

- 1 x Drill Supervisor
- 4 x Semi-skilled/un-skilled workers (drill crew)

The Exploration Team will be accommodated in existing houses in Kombat and surrounds. Staff will travel to site and back on a daily basis.

3.3 Power Supply

The various machinery and equipment required for drilling have their own power supplies and/or generators attached.

3.4 Water supply

Water will be required for some drilling (diamond-core drilling) and for dust suppression (where relevant). Trigon would obtain water from the Kombat mine, through NamWater. It is estimated that approximately 10 m³ of water might be required per diamond drill rig per day.

3.5 Fuel Supply and Storage

Diesel is the main consumable and will be required for the generators as well as vehicles used during the exploration activities. The existing diesel storage facilities within Kombat (120 000 litres) will be used for the described exploration activities. No new diesel storage facilities will be erected.

3.6 Access Routes

Existing access routes/roads will be used during the exploration activities, as far as possible. However, there may be a need for the creation of new routes to specific exploration sites, in liaison with farm owners.

3.7 Chemicals and other hazardous substances (i.e. fuel supply)

Diesel is the main consumable and will be required for the generators as well as vehicles used during the exploration activities. The existing diesel storage facilities within Kombat (120 000 litres) will be used for the described exploration activities. No new diesel storage facilities will be erected.

3.8 Waste management

The activities related to the proposed exploration and drilling on EPL 7525 will generate waste. The following types of waste will be generated during the exploration activities, in relatively small volumes:

- Domestic waste (non-hazardous).
- Industrial waste (i.e. hydrocarbon contaminated material / soil) (hazardous)

Domestic waste will be stored in a manner that there can be no discharge of contamination to the environment and removed from the area for disposal in a designated landfill site. Recyclable items are to be sorted and stored in temporary containers and removed to relevant recycling centers (where possible).

Potential hydrocarbon spills from vehicles and drilling equipment, as well as refueling activities might lead to soil contamination and needs to be treated as a hazardous waste if not bio-remediated.

Refueling of drill rigs will be done on site, but no fuel will be stored on site. Small diesel bowsers (1000 L) will be used to collect diesel from the main storage facility at Kombat Mine and to transport to the fuel to the drill rigs in the field. Spill kits will be available at each drill site.

3.9 Sanitation

All drilling areas will have mobile ablution facilities that will be managed by the service provider. Surrounding bushes shall not be used as alternative ablution sites.

3.10 Fire Management

The drill pad will be cleared of grass, dry wood and anything that might increase the risk of starting an unintentional fire. To avoid starting a fire, smoking will only be allowed in dedicated smoking areas with a sand filled drum or similar container for disposal of cigarette butts. No open fires for cooking will be permitted to discourage wood collection and possible fires. Gas stoves must be used when required. Furthermore, fire extinguishers will be available at each site.

3.11 Rehabilitation

Once the proposed exploration has been concluded, the impacted sites will be rehabilitated in accordance with the requirements of the EMP.

4. IDENTIFICATION OF POTENTIAL ENVIRONMENTAL ASPECTS AND IMPACT ASSESSMENT

The proposed exploration activities on EPL 7525 have the potential to impact on the environment. Environmental aspects and potential impacts were identified by the Environmental Team during the screening and scoping phases, in consultation with I&APs. Given the relatively small scale of

the proposed activities and taking the existing environment into consideration, the potential impacts were also qualitatively assessed by Namisun.

Table 1 below provides a summary of the activities associated with the exploration activities, the associated environmental aspects and potential impacts on the environment and also a qualitative assessment of these impacts (before and after mitigation). The various management and mitigation measures relating to all the proposed exploration activities are included in the Environmental Management Plan (EMP) (see section 5).

TABLE 1: ENVIRONMENTAL ASPECTS AND POTENTIAL IMPACTS ASSOCIATED WITH THE EXPLORATION ACTIVITIES ON TRIGON'S EPL 7525

Activity	Aspect	Potential Environmental Impact	With & without mitigation	Nature & intensity	Duration	Extend	Consequence	Probability	Significance
Geological studies, field mapping, Ground & Airborne Geophysical Surveys and soil sampling									
Air surveys	Noise	Noise generated by the low flying airplanes/ helicopter could disturb local fauna.	Without	M	L	M	M	M	M
			With	L	L	L	L	L	L
		Inconvenience to landowners, hunters and neighbouring farmers to the EPL	Without	L-M	L	M	L-M	M	L-M
			With	L	L	L	L	L	L
Field mapping, ground surveys and soil surveys	Biodiversity	Potential impact on fauna and flora (General disturbance and clearing of vegetation)	Without	M	M	L	M	M	M
			With	L	L	L	L	L	L
	Air quality	Increase in dust levels (nuisance & health impacts)	Without	L	L	L	L	M	L
			With	L	L	L	L	L	L
	Heritage	Activities could result in possible damage to/destruction of archaeological site / heritage resources.	Without	M	M	L	M	L	L
			With	L	L	L	L	L	L
Drilling									
Drill site establishment: • Access the drill site (possibly creating a new access track)	Noise	Noise generated by the establishment of access tracks and drill site.	Without	L-M	L	L	L	L-M	L
			With	L	L	L	L	L	L
	Biodiversity	Potential impact on fauna and flora. (General disturbance and clearing of vegetation)	Without	M	M	M	M	M	M
			With	L	L	L	L	L	L

Activity	Aspect	Potential Environmental Impact	With & without mitigation	Nature & intensity	Duration	Extend	Consequence	Probability	Significance	
<ul style="list-style-type: none"> Set-up drilling machine with drip trays and groundsheets Establish temporary safety fencing around the drill site Set-up mobile ablution facilities Set-up fuel and lubricants storage area 		Drilling contractors and employees (Trigon) that are not well managed can impact on the biodiversity through illegal collection of firewood, poaching, road kills etc. Loss of economic function of disturbed area during exploration activities and potential loss of land capability.								
		Site clearance may allow for the establishment of invasive plants in the area.	Without	L	M	M	M	M	M	
	Land use	Loss off land capability due site clearance.	Without	M	M	L	M	M	M	
			With	L	L	L	L	L	L	
	Heritage	Exploration activities could result in possible damage to/destruction of heritage resources.	Without	M	M	L	M	L	L	
			With	L	L	L	L	L	L	
	Drilling	Spillages of hydrocarbons, lubricants, or possible spills from mobile ablution facilities	Soil pollution	Without	L	L	L	L	L	L
				With	L	L	L	L	L	L
Surface water contamination			Without	M	M	M	M	L-M	L-M	
			With	L	L	L	L	L	L	
Groundwater could become polluted due to pollutants entering aquifers via surface water infiltration.			Without	M	M	M	M	M	M	
			With	L	L	L	L	L	L	

Activity	Aspect	Potential Environmental Impact	With & without mitigation	Nature & intensity	Duration	Extend	Consequence	Probability	Significance
	Dust generation through using the access track. Air pollution from exhaust fumes. Dust generation through drilling activities	Air quality deterioration. Increase in dust levels (nuisance & health impacts)	Without	M	L	L-M	L-M	L-M	L-M
			With	L	L	L	L	L	L
	Noise generation	Noise generated by the drill could disturb nearby residences (nuisance).	Without	M	L	L-M	L-M	L-M	L-M
			With	L	L	L	L	L	L
	Land use	Potential loss of land use and capability (very limited area) due to a combination of the above-mentioned impacts. Potential loss of wildlife.	Without	M	M	L	M	M	M
			With	L	L	L	L	L	L
Relevant to all activities									
All exploration activities	Socio-economic and community safety	Inconvenience to residents and impacts on way of life	Without	H	H	L	H	L-M	M-H
			With	L	L	L	L	L	L
	Waste Management	The dumping of general waste within the exploration area and drilling sites could prove hazardous to wildlife and livestock, as well as impede agricultural production. This could also lead to general environmental degradation and visual impacts.	Without	M	L	M	M	M	M
			With	L	L	L	L	L	L

Activity	Aspect	Potential Environmental Impact	With & without mitigation	Nature & intensity	Duration	Extend	Consequence	Probability	Significance
	Social – provision of toilet facilities	Health & safety issues	Without	L-M	L-M	L	L-M	M	L-M
			With	L	L	L	L	L	L
Closure and rehabilitation of drill site									
Remove all waste and equipment from site. Rip compacted areas (including access roads and paths).	Biodiversity, Visual.	Return site to natural state. No overall impacts.	N/A						

With reference to Table 1, it can be seen that the activities and facilities associated with the exploration activities are unlikely to have high significant impacts on the environment if mitigation measure are implemented in accordance with the EMP (section 8). Some of these impacts might have a moderate impact without any mitigation.

5. ENVIRONMENTAL MANAGEMENT PLAN (EMP)

Section 8 of the Report provided the relevant management and mitigation measure relating to Trigon's proposed exploration activities on EPL 7525.

The aim of the EMP is to detail the actions required to effectively implement mitigation and management measures. These actions are required to minimise negative impacts and enhance positive impacts associated with the operations.

The EMP gives the commitments, which form the environmental contract between Trigon and the Government of the Republic of Namibia; represented by the Ministry of Environment, Forestry and Tourism (MEFT).

The management measures proposed to mitigate the potential impacts are detailed in the action plans in section 8 of the report.

6. WAY FORWARD

The way forward is as follows:

- MME and MEFT to review the final Scoping Report and EMP and provide record of decision.

7. ENVIRONMENTAL IMPACT STATEMENT AND CONCLUSIONS

The environmental aspects associated with the proposed exploration activities on EPL 7525 have been successfully identified and assessed as part of this EIA Scoping process. Relevant mitigation measures have been provided and are included in the EMP that accompanies this Scoping Report.

Namisun believes that a thorough assessment of the proposed project activities has been achieved and that an environmental clearance certificate could be issued on condition that the management and mitigation measures in the EMP be adhered to by Trigon during the implementation of all associated exploration activities.

**SCOPING REPORT (INCLUDING IMPACT ASSESSMENT) FOR TRIGON MINING'S
PROPOSED EXPLORATION ACTIVITIES ON EPL 7525, WEST OF KOMBAT TOWN,
OTJOZONDJUPA REGION**

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ACRONYMS AND ABBREVIATIONS

Below a list of acronyms and abbreviations used in this report.

Acronyms / Abbreviations	Definition
DEA	Department of Environmental Affairs
ECC	Environmental Clearance Certificate
EPL	Exclusive Prospecting License
EIA	Environmental Impact Assessment
EMP	Environmental Management Plan
MET	Ministry of Environment and Tourism
MEFT	Ministry of Environment, Forestry and Tourism
ML	Mining Licence
MME	Ministry of Mines and Energy

SCOPING REPORT (INCLUDING IMPACT ASSESSMENT) FOR TRIGON MINING'S PROPOSED EXPLORATION ACTIVITIES ON EPL 7525, WEST OF KOMBAT TOWN, OTJOZONDJUPA REGION

1 INTRODUCTION

1.1 BACKGROUND

Trigon Mining (Namibia) (Pty) Ltd (“Trigon”) has successfully obtained Exclusive Prospecting Licence (“EPL”) 7525, located ± 5 km west of Kombat (i.e. from the EPL’s eastern boundary), in the Otjozondjupa Region (refer to Figure 1). EPL 7525 is 1067 Hectares (“ha”) in size, encompassing 7 different farms as follows (refer to Figure 2):

- *Gross Otavi;*
- *Karlsruhe;*
- *Hellerthal;*
- *Kaiserfelden;*
- *Nageib;*
- *Kupferberg; and*
- *Bachmuhle.*

The EPL is located to the west of Trigon’s main mining licence (“ML”) areas and the Kombat Mine (currently under care and maintenance).

Trigon is planning exploration activities on the EPL. Preliminary activities such as geophysics, mapping, scouting exercises, soil sampling, as well as future drilling activities are planned for the area.

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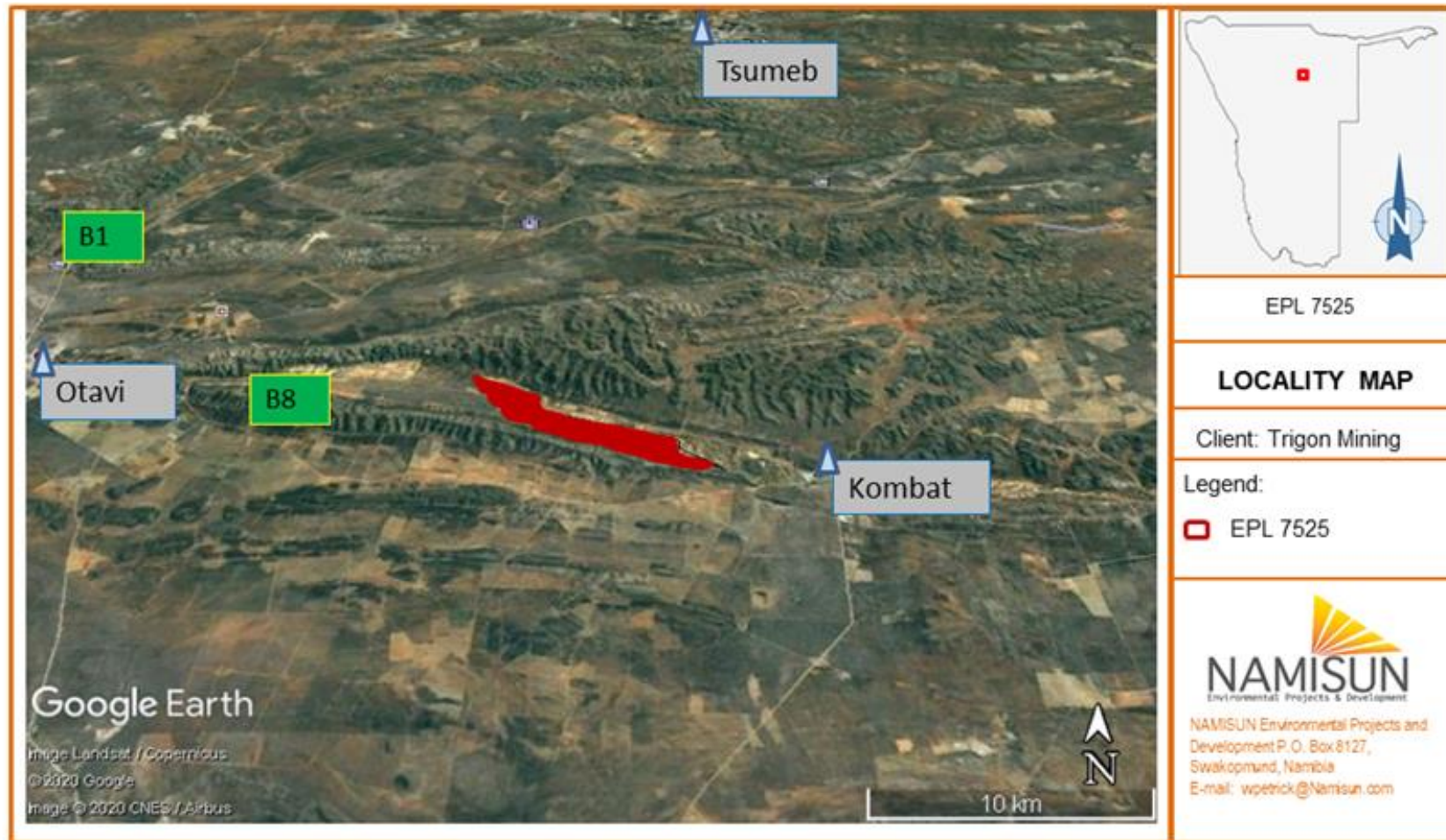


FIGURE 1: LOCALITY MAP OF EPL 7525

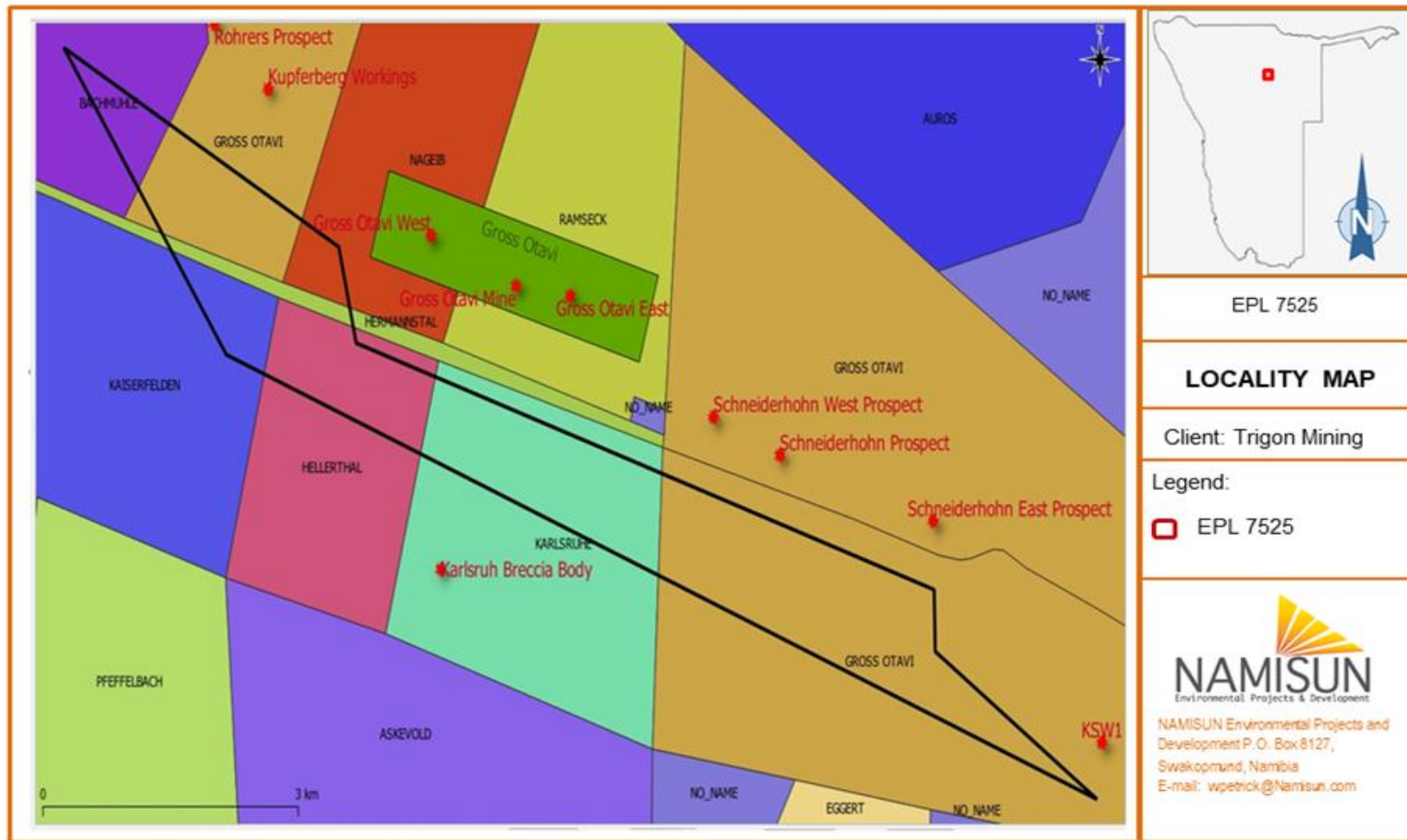


FIGURE 2: LOCATION OF EPL 7525 IN RELATION TO FARMS

1.2 MOTIVATION (NEED AND DESIRABILITY) FOR THE PROPOSED ACTIVITIES ON EPL 7525

The Ministry of Mines and Energy (“MME”), Directorate of Mines is tasked with the management of the mineral resources in Namibia, to ensure activities are undertaken to exploit the country’s mineral resources in a manner which integrates mining into the various economic sectors for the socio-economic development of the country. In order to achieve this, MME issues EPLs to various entities for the exploration of minerals within the country. Trigon proposes to undertake exploration activities on EPL 7525 for base and rare metals, industrial minerals and precious metals to confirm the feasibility of the resource. Should a feasible resource be located, it could provide social and economic development within the region and the country, subject to a Mining Licence (“ML”) being issued by MME and a separate, comprehensive (full) environmental impact assessment (“EIA”) process.

Trigon holds various other ML’s in the surrounding area and also owns the Kombat Mine. Trigon has undertaken various exploration programmes over these areas. Taking these results and also results from other (historic) mining and exploration activities into consideration, Trigon developed a knowledge base of the geology and resource in the area. Further exploration activities in EPL 7525 will further extend their knowledge base.

1.3 INTRODUCTION TO THE ENVIRONMENTAL IMPACT ASSESSMENT

Environmental Impact Assessments are regulated by the Ministry of Environment, Forestry and Tourism (“MEFT”) in terms of the Environmental Management Act, 7 of 2007. This Act was gazetted on 27 December 2007 (Government Gazette No. 3966) and enacted in January 2012. The Environmental Impact Assessment Regulations: Environmental Management Act, 2007 (Government Gazette No. 4878) were promulgated in January 2012.

1.3.1 EIA FOR THE PROPOSED EXPLORATION ACTIVITIES ON EPL 7525

Prior to the commencement of the proposed exploration, an environmental clearance is required from the MEFT: Department Environmental Affairs (DEA) on the basis of an approved EIA process.

This EIA process is conducted in terms of the Environmental Management Act, 7 of 2007 and the above mentioned EIA regulations. This process includes: a screening phase and a scoping phase, which will include an impact assessment and an Environmental Management Plan (EMP) for EPL 7525.

This report is the Scoping Report, with impact assessment included. The main purpose of this report is to provide information relating to the proposed activities and to indicate which environmental aspects and potential impacts have been identified during the Screening and Scoping phases. This report consists of information obtained from site observations, and the results of stakeholder consultation. The potential impacts of the proposed exploration activities could therefore be assessed, and the assessment is also included in this report. The potential impacts were cumulatively assessed, taking the existing environment and other activities and facilities associated with the existing Kombat Mine into consideration, where relevant.

It is thought that this Scoping Report (including an assessment of impacts), together with the EMP (Section 8), will provide sufficient information for the MEFT to make an informed decision regarding the proposed project, and whether an environmental clearance certificate (ECC) can be issued or not.

1.3.2 EIA PROCESS

The EIA Scoping process and corresponding activities are outlined in Table 1 below.

TABLE 1: EIA PROCESS

Objectives	Corresponding activities
Project initiation/screening phase (October 2020)	
<ul style="list-style-type: none"> Identify environmental aspects and potential impacts internally Notify the decision making authority of the proposed project (i.e.) exploration activities and EIA process Submit application Initiate the EIA Scoping process. 	<ul style="list-style-type: none"> Project initiation meetings. Identify environmental and social issues. Determine further legal requirements. Notify MEFT (DEA) of the proposed exploration and the EIA process through a background information document via the online system. The ECC Application form and Background Information Document (BID) were submitted to the competent Authority (MME).
Scoping phase (including assessment of impacts) (October – January 2020)	
<ul style="list-style-type: none"> Identify interested and/or affected parties (I&APs) and develop database and involve I&APs in the scoping process through information sharing. Further identify potential environmental issues associated with the proposed exploration activities. Consider alternatives. Provide a detailed description of the potentially affected environment. Assessment (qualitative) of potential environmental impacts 	<ul style="list-style-type: none"> Notify government authorities and Interested and / or affected party (I&APs) of the project and EIA process (telephone calls, e-mails, distribution of BIDs, newspaper advertisements and site notices). Refer to section 2.3 and Appendix B for further details. Namisun conducted a site visit to familiarise themselves with the proposed exploration activities and to inspect the existing environment where this will occur. Interested and affected party (I&AP) registration and comments. Focus Group meetings. Compilation of Scoping Report (including assessment of impacts)

Objectives	Corresponding activities
associated with the proposed exploration activities. <ul style="list-style-type: none"> Develop management and mitigation measures. 	<ul style="list-style-type: none"> Distribute Scoping Report and EMP to relevant authorities and I&APs for review. Forward finalised Scoping Report with EMP and I&APs comments to MME and MEFT for decision making.

The above mentioned EIA process is explained diagrammatically in Figure 3 below.

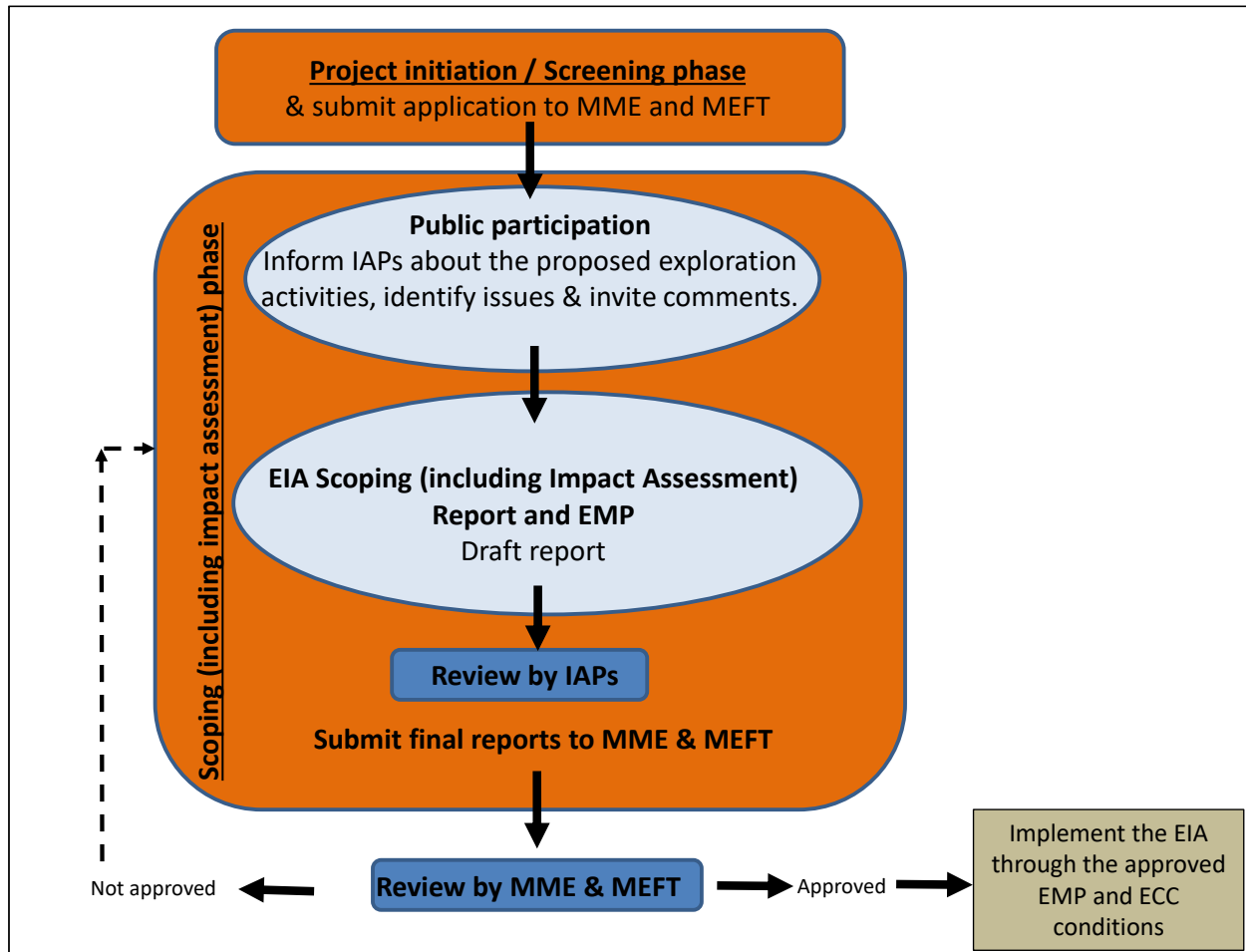


FIGURE 3 - THE EIA PROCESS

1.3.3 EIA TEAM

Namisun (a Namibia-based company) was appointed by Trigon to undertake the EIA amendment application. Werner Petrick, the EIA project manager has over twenty years of relevant experience in conducting/managing EIAs, compiling EMPs and implementing EMPs and Environmental Management Systems. Werner is certified as lead environmental practitioner and

reviewer under the Environmental Assessment Professionals Association of Namibia (EAPAN). He holds a B.Eng (Civil) Degree and a Master's Degree in Environmental Management. The relevant curriculum vitae documentation is attached in Appendix A.

Immanuel Katali, the EIA project assistant holds a B.Arts (Honors) in Geography, Environmental Studies and Sociology and has over 5 years of experience in conducting EIAs in Namibia.


The environmental project team for the proposed implementation of the exploration activities is outlined in Table 2 below.

TABLE 2: THE ENVIRONMENTAL PROJECT TEAM

Team	Name	Designation	Tasks and roles	Company
Trigon Project Team	Mr Fanie Muller	VP Operations and Country Manager	Responsible for the implementation of the EIA outcomes.	Trigon
	Ms. Sarah Roberts	VP Finance, Mergers and Acquisitions		
	Mr. Janna Lusse	Operations Manager		
EIA Project Management Team	Werner Petrick	Project Manager	Management of the process, team members and other stakeholders. Report and process review	Namisun
	Immanuel Katali	Project Assistant	Project administration and reporting	

1.3.4 OPPORTUNITY TO COMMENT

*I&APs were invited to comment on this EIA Scoping Report with EMP, which was available for a review & comment period from **8 December 2020 to 22 January 2021**. Comments had to be sent to Namisun at the address, telephone number, or e-mail address shown below by **no later than 22 January 2021**.*

 <p>Namisun Attention: Werner Petrick E-mail address: wpetrick@namisun.com Cell number: +264 (0)81 739 4591</p>
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2 SCOPING METHODOLOGY

2.1 INFORMATION COLLECTION

Namisun used various sources to identify the environmental issues and to develop and understanding of the baseline environment, associated with the proposed exploration activities on EPL 7525. The main sources of information for the preparation of the Scoping Report include:

- Relevant technical information from Trigon;
- Site visit by Namisun;
- Further consultation with the technical project team;
- Consultation with I&APs/stakeholders and relevant authorities;
- Scoping Report and EMP for Kombat Copper's Exploration Activities on MLs 73B, 73C, 19 and 21 (SLR, 2014);
- Internal Environmental Assessment and EMP for Meatco's Feedlot on the Farm Rietfontein (SLR, 2017);
- Scoping Report (including Impact Assessment) for the proposed open pit mining and dewatering for underground exploration activities at the Kombat mine (SLR, 2018);
- Scoping Report for Votorantim Metals Namibia's EPLs 5400, 5402, 5399 and 5482;
- Atlas of Namibia; and
- Google Earth.

2.2 SCOPING REPORT

The main purpose of this Scoping Report is to indicate which environmental aspects relating to the proposed exploration activities might have an impact on the environment. Due to reasons mentioned in Section 1.3.1, these potential impacts could also be assessed and the findings presented in this report. Table 3 outlines the Scoping Report requirements contained in Section 8 of the EIA Regulations promulgated in January 2012 under the Environmental Management Act, 7 of 2007. The table includes reference to the relevant sections in the report.

TABLE 3: SCOPING REPORT REQUIREMENTS STIPULATED IN THE EIA REGULATIONS

REQUIREMENTS FOR A SCOPING REPORT IN TERMS OF THE FEBRUARY 2012 REGULATIONS	REFERENCE IN REPORT
(a) the curriculum vitae of the EAP who prepared the report;	Appendix A
(b) a description of the proposed activity;	Section 4
(c) a description of the site on which the activity is to be undertaken and the location of the activity on the site	Section 4 and Section 5

REQUIREMENTS FOR A SCOPING REPORT IN TERMS OF THE FEBRUARY 2012 REGULATIONS	REFERENCE IN REPORT
(d) a description of the environment that may be affected by the proposed activity and the manner in which the geographical, physical, biological, social, economic and cultural aspects of the environment may be affected by the proposed listed activity	Sections 5, 7 and 8
(e) an identification of laws and guidelines that have been considered in the preparation of the Scoping Report;	Section 3.
(f) details of the public consultation process conducted in terms of regulation 7(1) in connection with the application, including - (i) the steps that were taken to notify potentially interested and affected parties of the proposed application; (ii) proof that notice boards, advertisements and notices notifying potentially interested and affected parties of the proposed application have been displayed, placed or given; (iii) a list of all persons, organisations and organs of state that were registered in terms of regulation 22 as interested and affected parties in relation to the application; and (iv) a summary of the issues raised by interested and affected parties, the date of receipt of and the response of the EAP to those issues;	Sections 1.3.2 and 2.3 and Appendix B
(g) a description of the need and desirability of the proposed listed activity and any identified alternatives to the proposed activity that are feasible and reasonable, including the advantages and disadvantages that the proposed activity or alternatives have on the environment and on the community that may be affected by the activity;	Sections 1.2 and 6
(h) a description and assessment of the significance of any significant effects, including cumulative effects, that may occur as a result of the undertaking of the activity or identified alternatives or as a result of any construction, erection or decommissioning associated with the undertaking of the proposed listed activity;	Sections 7 and 8
(i) terms of reference for the detailed assessment; and	Section 7
(j) an environmental management plan, which includes - (i) information on any proposed management, mitigation, protection or remedial measures to be undertaken to address the effects on the environment that have been identified including objectives in respect of the rehabilitation of the environment and closure;	Section 8

REQUIREMENTS FOR A SCOPING REPORT IN TERMS OF THE FEBRUARY 2012 REGULATIONS	REFERENCE IN REPORT
(ii) as far as is reasonably practicable, measures to rehabilitate the environment affected by the undertaking of the activity or specified activity to its natural or predetermined state or to a land use which conforms to the generally accepted principle of sustainable development; and (iii) a description of the manner in which the applicant intends to modify, remedy, control or stop any action, activity or process which causes pollution or environmental degradation remedy the cause of pollution or degradation and migration of pollutants.	

2.3 PUBLIC PARTICIPATION PROCESS

The public participation process for the proposed exploration activities was aimed at ensuring that persons and/or organisations that may be affected by, or interested in, the proposed expansion were informed of the project and could register their views and concerns. By consulting with relevant I&APs, the range of environmental issues to be considered in the Scoping Report (including the assessment of impacts) has been given specific context and focus.

Included below is a summary of the people consulted, the process that was followed, and the issues that were identified.

2.3.1 INTERESTED AND AFFECTED PARTIES

A broad list of stakeholders (I&APs) that are relevant to the proposed exploration activities on EPL 7525 is provided below:

- Kombat Village Properties – Owner of the Kombat Town;
- Residents of the town of Kombat;
- Surrounding landowners, including farmers in the surrounding area;
- Regulatory authorities (relevant government departments);
- Non-governmental organizations (NGOs);
- Parastatals; and
- I&APs that registered on the project.

These stakeholders were informed about the need for the proposed exploration activities and the EIA process, including the public consultation, being conducted.

The full stakeholder database for this project is included in Appendix D of this report.

2.3.2 STEPS IN THE PUBLIC CONSULTATION PROCESS

Table 4 sets out the steps that were followed as part of the consultation process:

TABLE 4: CONSULTATION PROCESS WITH I&APS AND AUTHORITIES

TASK	DESCRIPTION	DATE
Notification - regulatory authorities and I&APs		
Notification to MME and MEFT	Namisun notified MEFT of the proposed project through registering the project on their Portal and uploading the background information document (BID). The ECC Application form and BID were submitted to the competent Authority (MME).	October 2020
I&AP identification	The EPL 7525 stakeholder database was developed. This database is updated as and when required. A copy of the I&AP database is attached in Appendix D.	October 2020 – ongoing
Distribution of background information document (BID)	BIDs were distributed via email to relevant authorities and I&APs on the I&AP stakeholder database and hard copies were made available on request. The purpose of the BID was to inform I&APs and authorities about the proposed exploration activities, the assessment process being followed, possible environmental impacts and ways in which I&APs could provide input to Namisun. Attached to the BID was a registration and response form, which provided I&APs with an opportunity to submit their names, contact details and comments on the project. A copy of the e-mail notification and BID are attached in Appendix B.	October 2020
Site notices	Site notices were placed at the Kombat State Clinic, Post Office, and a local Shop to notify I&APs of the proposed project, the EIA process being following and the public meetings. The site notice that were displayed are attached in Appendix B.	October 2020
Newspaper Advertisements	Block advertisements were placed in the Market Watch as part of the following newspaper: <ul style="list-style-type: none"> • The Namibian Sun (20 October and 27 October 2020) • Die Republikein (20 October and 27 October 2020) • Allgemeine Zeitung (20 October and 27 October 2020) Copies of the advertisements are attached in Appendix B.	October 2020
Focus Group Meetings and submission of comments		
Focus group meetings	Focus group meetings and telephone discussions were held with key stakeholders and affected parties as follows: <ul style="list-style-type: none"> • Relevant farm owners (i.e. owners / managers of the farms where exploration activities are proposed within EPL 7525): <ul style="list-style-type: none"> ○ Meeting with Mr Janna Lusse (Farm Owner and Trigon employee) on the 10th of November 2020. ○ Telephone discussion with Mr. Gunter on the 9th and 17th of November 2020. 	November 2020

TASK	DESCRIPTION	DATE
	<ul style="list-style-type: none"> o Meeting with the Kombat Town Caretakers (Owners' representatives) on the 10th of November 2020. o Meeting with the Otavi Town Council Environmental Officer on the 11th of November 2020. <p>Similar project information was presented/shared at all the meetings and discussions. It was also confirmed (telephonically) that Mr Gunther received the BID.</p>	
Comments and Responses	A summary of questions / comments / issues raised (with responses) during the meetings and by email are provided in section 2.3.3. Minutes of meetings and comments received are attached in Appendix C.	September - October 2020
Review of draft Scoping Report		
I&APs and authorities (excluding MEFT) review of Scoping Report with EMP	<p>Copies of the Scoping Report (including impact assessment) with the EMP were made available for review at the following places:</p> <ul style="list-style-type: none"> • Kombat Mine Office <p>Electronic copies of the report were available on request to Namisun.</p> <p>Summaries of the Scoping Report were distributed to all relevant authorities and I&APs on the I&AP database via e-mail (see Appendix B). A text message (SMS) was also sent to the relevant farm owner to inform him about the e-mail sent and the availability of the report and review period.</p> <p>Authorities and I&APs could review the Scoping Report and submit comments in writing to Namisun. The comments period commenced on the 8th of December and the closing date for comments was 22 January 2021.</p>	December 2020 – January 2021
MME and MEFT review of Scoping Report and EMP	A copy of the final Scoping Report, was compiled and delivered to MME (and then MEFT) on completion of the public review process and the relevant documents uploaded onto the MEFT online portal.	January 2020

2.3.3 SUMMARY OF ISSUES RAISED

All questions / comments / issues that have been raised throughout the process by authorities and I&APs are summarised in Table 5 below, with relevant responses.

TABLE 5: SUMMARY OF QUESTIONS / COMMENTS / ISSUES RAISED WITH RESPONSE

COMMENT / QUESTIONS / ISSUE RAISED	NAME & ORGANISATION	DATE	METHOD	RESPONSE
How long will the exploration activities take to completed?	Mr Mupupa and Mr Dawid (Kombat Village Properties)	10 November 2020	Focus Group meeting	Depending on the result of the initial activities, the exploration programme is expected to take approximately 5 to 6 months to complete. However, the programme could be extended.
Will the exploration activities be conducted in the day time only?				Yes, the activities will only be conducted during daytime.
We heard in the presentation that few job opportunities will be available. However, for this limited opportunities, would Trigon appoint locals from Kombat?				Yes, a small number of 'unskilled' workers will be appointed on a contract basis as part of the drill crew. These contractor workers will likely be Kombat residents. See section 4 for further details on employment and the EMP commitments in section 8.
From past experiences, exploration contractors create issues on farms and do not address these when leaving the explorations site. Issues pertain to sites not properly rehabilitated, waste left on site and gates being left open.	Mr Gunther – Farm owner	17 November 2020	Telephone discussion	These issues are all described and assessed in sections 7. Relevant management and mitigation measures are presented in the EMP to ensure potential impacts are avoided / minimised as far as possible.
I need to be compensated for the activities being undertaken on my farm.				With reference to section 8 (EMP), Site Access Agreements to ensure relevant compensation with land-owners where land uses are impacted will be developed.
The EPL area falls within a sensitive (ground) water control area and various groundwater users. Care must be taken not to pollute the groundwater during the exploration (drilling) activities.	Ms Andrian	11 November 2020	Focus Group meeting	Potential groundwater impacts are assessed in section 7 and the relevant management and mitigation measures are presented in section 8 (EMP) to ensure potential groundwater impacts are avoided / minimised as far as possible.

3 ENVIRONMENTAL LAWS AND POLICIES

The Republic of Namibia has five tiers of law and a number of policies relevant to environmental assessment and protection, which include:

- The Constitution.
- Statutory law.
- Common law.
- Customary law.
- International law.

Relevant policies currently in force include:

- The EIA Policy (1995).
- Namibia's Environmental Assessment Policy for Sustainable Development and Environmental Conservation (1994).
- The National Climate Change Policy of Namibia (September 2010).
- Minerals Policy of Namibia (2004).
- Policy for the Conservation of Biotic Diversity and Habitat Protection (1994).
- Policy for Prospecting and Mining in Protected Areas and National Monuments (1999).

As the main source of legislation, the Constitution of the Republic of Namibia (1990) makes provision for the creation and enforcement of applicable legislation. In this context and in accordance with its constitution, Namibia has passed numerous laws intended to protect the natural environment and mitigate against adverse environmental impacts.

The management and regulation of mining activities falls within the jurisdiction of the Ministry of Mines and Energy (MME), with environmental regulations guided and implemented by the Department of Environmental Affairs (DEA) within the Ministry of Environment, Forestry and Tourism (MEFT).

The section below summarised the various applicable laws and policies, international treaties and protocols.

3.1 SUMMARY OF APPLICABLE ACTS & POLICIES

In the context of the exploration activities, there are several laws and policies currently applicable. They are reflected in Table 6.

TABLE 6: RELEVANT LEGISLATION AND POLICIES ASSOCIATED WITH EXPLORATION ACTIVITIES

YEAR	NAME	Natural Resource Use (energy & water)	Emissions to air (fumes & dust)	Emissions to land (non-hazardous & hazardous)	Emissions to water (industrial & domestic)	Noise (remote only)	Visual	Vibrations	Impact on Land use	Impact on biodiversity	Impact on Archeology	Emergency situations	Socio-economic	Safety & Health	Other
1990	The Constitution of the Republic of Namibia of 1990	X	X	X	X	X	X	X	X	X	X	X	X	X	
1997	Namibian Water Corporation Act, 12 of 1997	X											X		
1992	The Minerals (Prospecting and Mining) Act 33 of 1992	X	X	X	X					X					
2001	The Forestry Act 12 of 2001	X							X	X					
2013	Water Resources Management Act 11 of 2013	X			X								X		
2004	National Heritage Act 27 of 2004										X			X	
2007	Environmental Management, Act 7 of 2007	X	X	X	X	X	X	X	X	X	X		X	X	
2012	Regulations promulgated in terms of the Environmental Management, Act 7 of 2007	X	X	X	X	X	X	X	X	X	X	X	X	X	X
1975	Nature Conservation Ordinance 14 of 1975	X			X					X	X				
1976	Atmospheric Pollution Prevention Ordinance 11 of 1976		X												

YEAR	NAME	Natural Resource Use (energy & water)	Emissions to air (fumes & dust)	Emissions to land (non-hazardous & hazardous)	Emissions to water (industrial & domestic)	Noise (remote only)	Visual	Vibrations	Impact on Land use	Impact on biodiversity	Impact on Archeology	Emergency situations	Socio-economic	Safety & Health	Other
1995	Namibia's Environmental Assessment Policy for Sustainable Development and Environmental Conservation	X	X	X	X	X	X	X	X	X	X	X		X	
2004	Pollution Control and Waste Management Bill (3 rd Draft September 2003)		X	X	X	X									
1990	Petroleum Products and Energy Act, No. 13 of 1990		X	X	X					X				X	X
1974	Hazardous Substance Ordinance, No. 14 of 1974														X

4 DESCRIPTION OF THE PROPOSED EXPLORATION ACTIVITIES

Trigon proposes to undertake exploration activities on EPL 7525 for base and rare metals, industrial minerals and precious metals. The exploration activities shall commence as soon as the environmental clearance certificate (“ECC”) has been issued by MEFT. However, before any exploration activities can be carried out access agreements, as required by Section 52 of the Minerals Act, will be entered into between Trigon and the relevant land owners. The negotiations regarding access agreements fall outside of the ambit of the EIA process.

The proposed exploration activities will include:

- Phase 1:
 - Geological studies and field Mapping
 - Ground and Airborne (drone) Geophysical Surveys
 - Soil Sampling at selected targets
- Phase 2:
 - Drilling

The extent of the above mentioned exploration activities are expected within the EPL 7525 footprint area depending on the above mentioned access agreements. Specific target areas for the proposed exploration activities have not been confirmed by Trigon at the time of this EIA and are a limitation to the assessment.

4.1 EXPLORATION ACTIVITIES

4.1.1 GEOLOGICAL STUDIES AND FIELD MAPPING

This includes the further review of geological maps of the area and on-site ground traverses and observations. Small samples of rock may be collected for further analysis. During this phase, Trigon does not propose to conduct any “intrusive activities” – i.e. all likely targeted areas on the EPL could be reached without creating any cut lines and having to remove trees / vegetation.

4.1.2 GROUND AND AIRBORNE GEOPHYSICAL SURVEYS

Geophysical surveys are conducted in order to ascertain the mineralisation of a given area and entail the collection of information of the substrata, by air or ground, through sensors such as radar, magnetic and electromagnetic to detect any mineralisation in the area. The estimated time frame for the surveys is approximately two weeks per survey.

Ground geophysical surveys would be carried out using sensors carried by staff. When air surveys are conducted, sensors will be mounted to an aircraft, which flies over the target area. Trigon, however, will consider using drones for the airborne surveys.

4.1.3 SOIL SAMPLING

With guidance from the geological mapping, samples of soil are collected and sent for geochemical major and trace element analysis to determine if sufficient quantities of a base metals are present. These analyses are conducted by analytical chemistry laboratories.

Small pits (± 30 cm x 30 cm) will be dug where approximately 5 kg of sample material will be collected.

4.1.4 DRILLING

Depending on the phase 1 results, drilling of boreholes might be undertaken in target area(s).

Exploration drilling is the process of removing rock samples from an area, where it is suspected there is mineralisation. Holes will be drilled and drill samples collected for analysis of trace elements. There are various drilling methods available and Trigon will utilise either open percussion drilling; reverse circulation drilling; and/or diamond-core drilling.

A typical drilling pad/area will consist of a drill-rig, an area where the drill core and geological samples can be stored and a storage area for drill equipment, fuel and lubricants. This area is cordoned off and off-limits to those not part of the exploration team. The drilling pad/area is usually cleared and levelled and is approximately 15 m x 15 m. All drill-water will be collected in drill-sumps, which will be managed to prevent overflows. The estimated time frame to complete the work is approximately eight weeks per drill site.

Reverse Circulation (RC) Drilling/Open percussion drilling:

The drilling mechanism is a pneumatic reciprocating piston known as a "hammer" driving a tungsten-steel drill bit. RC drilling utilises much larger rigs and machinery and depths of up to 500 m are routinely achieved. RC drilling ideally produces dry rock chips, as large air compressors dry the rock out ahead of the advancing drill bit. RC drilling is slower and costlier but achieves better penetration; it is also less costly than diamond coring.

Open percussion drilling differs in that air is blown directly down the drill-hole in order to return rock samples to the surface.

Diamond-core Drilling:

Diamond core drilling uses an annular diamond-impregnated drill bit attached to the end of hollow drill rods to cut a cylindrical core of solid rock. Holes within the bit allow water to be delivered to the cutting face. This provides three essential functions — lubrication, cooling, and removal of drill cuttings from the hole. Diamond drilling is much slower than reverse circulation (RC) drilling due to the hardness of the ground being drilled. Drilling of 100 to 1800 metres is common and at these depths, ground is mainly hard rock.

Diamond rigs can also be part of a multi-combination rig. Multi-combination rigs are a dual setup rig capable of operating in either a reverse circulation (RC) and diamond drilling role (though not at the same time). This is a common scenario where exploration drilling is being performed in a very isolated location. The rig is first set up to drill as an RC rig and once the desired metres are drilled, the rig is set up for diamond drilling. This way the deeper metres of the hole can be drilled without moving the rig and waiting for a diamond rig to set up on the pad.

Samples taken during drilling and soil surveys will be sent away for analysis, specifically to determine the mineral composition and the level of base metals. Samples are taken during drilling by the geologist and can be in either rock, soil or drill core form.

4.2 EXPLORATION MACHINERY/VEHICLES AND SUPPORT

4.2.1 MACHINERY/VEHICLES

The following machinery/vehicles will be utilized in the drilling program per site area:

- 1 x support truck (20t).
- 2 x vehicles.
- 1 x water bowser trailer.
- 1 x drill rig.

4.2.2 EMPLOYMENT AND ACCOMMODATION

It is anticipated that the following personnel will be employed to carry out the above-mentioned activities:

- 1 x Geologist
- 1 x Drill Supervisor
- 4 x Semi-skilled/un-skilled workers (drill crew)

The Exploration Team will be accommodated in existing houses in Kombat and surrounds. Staff will travel to site and back on a daily basis.

4.3 POWER SUPPLY

The various machinery and equipment required for drilling have their own power supplies and/or generators attached.

4.4 WATER SUPPLY

Water will be required for some drilling (diamond-core drilling) and for dust suppression (where relevant). Trigon would obtain water from the Kombat mine, though NamWater. It is estimated that approximately 10 m³ of water might be required per diamond drill rig per day.

4.5 FUEL SUPPLY AND STORAGE

Diesel is the main consumable and will be required for the generators as well as vehicles used during the exploration activities. The existing diesel storage facilities within Kombat (120 000 litres) will be used for the described exploration activities. No new diesel storage facilities will be erected.

4.6 ACCESS ROUTES

Existing access routes/roads will be used during the exploration activities, as far as possible. However, there may be a need for the creation of new routes to specific exploration sites, in liaison with farm owners.

4.7 CHEMICALS AND OTHER HAZARDOUS SUBSTANCES (I.E. FUEL SUPPLY)

Diesel is the main consumable and will be required for the generators as well as vehicles used during the exploration activities. The existing diesel storage facilities within Kombat (120 000 litres) will be used for the described exploration activities. No new diesel storage facilities will be erected.

The table below describes the possible hazardous substances that will be utilised on exploration and drilling sites in the EPL.

TABLE 7: HAZARDOUS SUBSTANCES THAT WILL BE UTILISED ON SITE

Substance	Purpose	Storage
Diesel fuel	Fuel for vehicles and generators.	Existing diesel storage facilities within Kombat
Petrol fuel	Fuel for vehicles.	No storage on site
Oil, grease and lubricants	Vehicles and equipment	No storage on site

4.8 WASTE MANAGEMENT

The activities related to the proposed exploration and drilling on EPL 7525 will generate waste. The following types of waste will be generated during the exploration activities, in relatively small volumes:

- Domestic waste (non-hazardous).
- Industrial waste (i.e. hydrocarbon contaminated material / soil) (hazardous)

Domestic waste will be stored in a manner that there can be no discharge of contamination to the environment and removed from the area for disposal in a designated landfill site. Recyclable items are to be sorted and stored in temporary containers and removed to relevant recycling centers (where possible).

Potential hydrocarbon spills from vehicles and drilling equipment, as well as refueling activities (refer to Table 7) might lead to soil contamination and needs to be treated as a hazardous waste if not bio-remediated.

Refueling of drill rigs will be done on site, but no fuel will be stored on site. Small diesel bowsers (1000 L) will be used to collect diesel from the main storage facility at Kombat Mine and to transport to the fuel to the drill rigs in the field. Spill kits will be available at each drill site.

4.9 SANITATION

All drilling areas will have mobile ablution facilities that will be managed by the service provider. Surrounding bushes shall not be used as alternative ablution sites.

4.10 FIRE MANAGEMENT

The drill pad will be cleared of grass, dry wood and anything that might increase the risk of starting an unintentional fire. To avoid starting a fire, smoking will only be allowed in dedicated smoking areas with a sand filled drum or similar container for disposal of cigarette butts. No open

fires for cooking will be permitted to discourage wood collection and possible fires. Gas stoves must be used when required. Furthermore, fire extinguishers will be available at each site.

4.11 REHABILITATION

Once the proposed exploration has been concluded, the impacted sites will be rehabilitated in accordance with the requirements of the EMP.

5 DESCRIPTION OF THE CURRENT ENVIRONMENT

The EPL is located ± 5 km west of Kombat (i.e. from the EPL's eastern boundary), in the Otjozondjupa Region (refer to Figure 1) some 330 km north-northeast of Windhoek. EPL 7525 is 1067 Hectares (ha) in size, encompassing 7 different farms as described in section 1.1 (refer to Figure 2). The B8 (tar) road runs parallel (north) to the biggest part of the EPL, however it cuts through the middle of the EPL's western section.

This section has been compiled from recent site visits undertaken by the EIA project team as well as referring to the environmental baseline descriptions contained in other relevant EIA reports (refer to section 2.1), discussions with farm owners; Atlas of Namibia and Google Earth.

5.1 CLIMATE

This section summarises the main climatic parameters within the Kombat area.

5.1.1 TEMPERATURE

Maximum, minimum and mean temperatures for the study area are given as 32°C, -1°C and 20°C respectively. Average daily maximum temperatures range from 27°C in December to 17°C in June, with daily minima ranging from 20°C in December to 7°C in June (SLR, 2017).

5.1.2 PRECIPITATION

The mean annual precipitation (MAP) is ~ 500 mm/a with a maximum rainfall recorded of 1057 mm/a in 2011 and a minimum of 161 mm/a in 1958. (SLR, 2018).

5.1.3 WINDS

The wind field is uniform with frequent winds from the westerly to south-easterly sectors and a very small component from the south. During day-time the wind field is mostly characterised by winds from the northeast through southeast, with average wind speed 3.2 m/s and 10% calm conditions. The wind field during night-time conditions differs substantially from wind fields during the day, with a decrease in winds from the south and southeast and an increase in winds from the north and northwest. The average wind speed during night-time decreases slightly to ~3 m/s with 8% calm conditions. The highest wind speeds (more than 5 m/s) occur during summer time and are mostly from the west to northwest, and northeast to southeast sectors. (SLR, 2018).

5.2 TOPOGRAPHY AND DRAINAGE

EPL 7525 lies within the central Namibian Plateau and within the Otavi Mountain land. There are no prominent topographical features on the EPL area. The Otavi Valley is broad and flat with an east-west-trending axis sloping to the west for approximately 30 km from the Kombat Mine. The Kombat Mine is located on the northern edge of the Otavi Valley, at an elevation of approximately 1,650 m.

The EPL lies parallel with the Otavi Mountains between Otavi and Grootfontein. The EPL area is relatively flat, gently sloping from the east to the west and relatively steeper from north to south. General elevation along the B8 tar road is ~1 720 m amsl at the eastern extent to ~1650 m amsl at the western extent of the EPL.

An Omuramba runs adjacent to the southern boundary of the EPL.

5.3 GEOLOGY

The Kombat Mine is located in the Otavi Mountainland, just north of the boundary between the Northern or Outjo Tectonic Zone and the Northern Platform Margin of the Damara Orogenic Belt. The Otavi Mountainland is characterised by various formations belonging to the Damara Supergroup which have been folded into generally east to west trending synclines and anticlines.

5.4 HYDROGEOLOGY AND SURFACE WATER

The site is within the Tsumeb-Otavi-Grootfontein Subterranean Water Control Area. Therefore a permit is required to drill boreholes, and to utilise groundwater for industrial and domestic use. The Department of Water Affairs (DWAf) has divided the Karst aquifers into compartments for the purpose of regulating abstraction of groundwater.

The Otavi Mountain Savanna and Karstveld contain a number of underground water features, particularly within the higher elevations. Active steps must be taken to ensure that these water resources are not contaminated or affected in any way.

The Kombat Mine has become flooded with underground water since it has been decommissioned. The water quality results that are available from the mine and surroundings rarely exceeded the limits for drinking water according to the Namibian Drinking Water Classification system, except for a few instances. Indications of possible groundwater contamination that could be picked up from the historical water quality information relate to underground mining activities, mill slimes and the tailings facility and sewage treatment plant. (SLR, 2018).

There are no perennial rivers located within EPL 7525 or the surrounding area. With reference to section 5.2, an Omuramba runs adjacent to the southern boundary of the EPL.

5.5 BIODIVERSITY

5.5.1 FLORA

The study area is part of the Savanna Biome of Irish (1994), where phanerophytes (woody perennials) and hemicryptophytes (perennials that die back in winter, such as grasses) are regarded as the dominant life forms, although in good rainy seasons therophytes (annuals) are also briefly abundant. This largely corresponds with the Tree-and-shrub Savanna Biome of Mendelsohn et al (2002), who describe the vegetation type as mixed woodlands, with broadleaved woodland towards the north-east and Acacia woodland towards the south-east.

Plant species diversity in the general area is regarded as very high, at over 500 taxa (Mendelsohn et al 2002). This may be ascribed in part to topographic/niche diversity and high rainfall. Endemicity is also high, which is consistent with the presence of the dolomite mountains and hills of the Otavi Highlands, which has long been recognised as a centre of diversity and endemism within Namibia, and includes a number of narrow endemic species (e.g. Maggs et al 1998, Craven & Vorster 2006). In Namibia, mountains are noted for their high diversity and endemism, which may be ascribed to a number of factors, inter alia, niche diversity and the effect of altitude, which often results in zones of higher moisture availability and lower temperatures, as well as the presence of relict species from earlier geological times (palaeoendemics) and/or speciation (neoendemics) (e.g. Hilliard 1994, Craven 2002, Barnard 1998, Mendelsohn et al 2002).

The project area lies in the Mountain Savanna and Karstveld vegetation zone of Giess (1998), essentially equivalent to the Karstveld of Mendelsohn et al which, particularly on the mountain slopes (outside the EPL area), is characterised by a high density and diversity of broadleaved trees and shrubs (i.e.: broadleaved woodland), including important species such as *Combretum imberbe* (Leadwood), *Ficus (Fig) spp.*, *Sclerocarya birrea* (Marula), *Searsia lancea* (Karee), *Kirkia acuminata* (Mountain kirkia), *Berchemia discolor* (Bird-plum) and *Spirostachys Africana* (Tsmboti). In addition, numerous endemic, near endemic and otherwise protected non-woody species are known to occur.

The valleys and sandveld patches in between, where the EPL is located, carry a slightly lower diversity of broadleaved trees and shrubs with thornveld components such as *Dichrostachys cinerea* (Sickle-bush) and *Acacia spp.* more prevalent, often forming dense areas of

encroachment (i.e.: mixed woodland). Numerous endemic and/or protected geophyte species have been recorded in this zone (SLR, 2018).

Sandy valley and plains

The EPL is located in the valleys between the highlands, which are home to many tree species of concern as the highlands, but in lower densities overall. On the other hand, *Searsia lancea* (Karee) and *Combretum imberbe* (Leadwood) are present, sometimes even common, in places, and there are areas where dense stands of *Olea europaea* (which is an evergreen tree) occur. *Acacia erioloba* (Camel-thorn), *Ziziphus mucronata* (Buffalo-thorn), *Ficus petersii*, *Ficus sycomorus* (Sycamore fig), *Spirostachys africana* (Tamboti) and *Albizia anthelmintica* (Worm-cure Albizia) (all protected) are also present, and non-protected fruit-producing species such as *Grewia* (Raisin-bush) spp. and *Ximenia* (sourplum) spp. occur throughout. Large specimens of *Kirkia acuminata* (Mountain Kirkia) can be quite common. A number of useful species that do not enjoy protection are well represented. These include *Philenoptera nelsii* (Kalahari apple-leaf), *Peltophorum africanum* (African wattle), *Combretum apiculatum* (Kudu-bush) and *Ozoroa paniculosa* (Common resin-bush/tree) (SLR, 2018).

5.5.2 FAUNA

It is expected that more than 87 mammal species may occur in the general area. The area around Kombat is utilized mainly for arable land and stock farming. The more common species which occur in the general area are:

- Kudu
- Steenbok
- Black backed jackal
- Cape porcupine
- Warthog
- Baboon
- Common duiker
- Eland
- Blesbok

There are also numerous species of squirrels, dormice, rats, gerbil, mice, shrews, bats, reptiles and insects that inhabit the general area and various bird species, with the most common being the lark, shrike and starling that can be found within the Kombat area. (SLR, 2018).

5.6 AIR QUALITY

Vehicles travelling on the nearby national, district and secondary roads release carbon dioxide, carbon monoxide, oxides of nitrogen, particulate matter, sulphur dioxide and volatile organic emission. These vehicles are also responsible for wheel-entrained dust. Dust generated from vehicles on the gravel roads in the area is relatively low due to very little traffic on these smaller farm access roads.

Other potential sources of air pollution include:

- Residential use of wood for heating and cooking purposes;
- Biomass burning (veld fires);
- Brick-making activities near the EPL area;
- De-bushing to increase the grazing capacity of farmland;
- Windblown dust from exposed surfaces and unpaved roads; and
- Charcoal making by heating wood (or other organic substances) in the absence of oxygen.

These sources are mainly associated with the release of airborne particulates, although combustion sources would also emit carbon dioxide, carbon monoxide, oxides of nitrogen, sulphur dioxide and volatile organic compounds.

No dust monitoring is currently taking place and the emissions listed above cannot be quantified.

5.7 Archaeology

No archaeologists were appointed and no known archaeological / heritage sites were identified in the EPL during the initial public participation process. However a chance find procedure will be used as indicated in the mitigation measures (Section 8).

5.8 Noise

Sources of noise in the area where the EPL is located, include the following:

- Traffic on the B8 between Otavi and Grootfontein.
- Traffic on other secondary and farm roads.
- Agricultural activities.

- Quarrying and brick-making activities near the EPL.

As a result of the predominance of agricultural activities over most parts of the EPL area, ambient noise levels are low.

5.9 Land use and closest sensitive receptors

5.9.1 LAND USE

The majority of land in the region is used for cattle rearing activities and some irrigated crop production activities. The land use in the area also includes other livestock farming (i.e. goats) and tourism-related activities (i.e. lodges, B&Bs, game farms, hunting etc.).

The EPL 7525 is located on farm land that is relatively natural (undisturbed) with existing mine infrastructure (head frame and associated buildings) in the vicinity - the old Kombat Mine and associated infrastructure, offices, etc. is located near EPL 7525. The town of Kombat, which came into existence because of the Kombat Mine, is still being utilised by Trigon, neighbouring farm workers, and others.

5.9.2 CLOSEST SENSITIVE RECEPTORS

The closest sensitive receptors to the proposed EPL 7525 include the following 7 different farms with relevant homesteads:

- *Gross Otavi;*
- *Karlsruhe;*
- *Hellerthal;*
- *Kaiserfelden;*
- *Nageib;*
- *Kupferberg; and*
- *Bachmuhle.*

6 ALTERNATIVES

Due to the nature and the scale of the proposed exploration activities, limited alternative options exist as described below.

6.1 ALTERNATIVE DRILLING OPTIONS

As explained in section 4.1.4 of this report, various drilling options exist. Diamond core drilling can achieve greater depths, delivers core samples to the surface, provides an idea of the hard rock and rock conditions that can be expected below ground and is a form of wet drilling. Wet drilling is favourable as it minimises the nuisance dust impact, from both an occupational health and an environmental point of view.

Percussion drilling is cheaper and faster to perform, however there is less accuracy, as rock samples are returned to the surface as powder or small cuttings and the below ground rock condition cannot be ascertained. It can, however, give an indication of the mineralisation (within specific limits/range).

6.2 ALTERNATIVE ACCESS ROUTES

All the access routes to the exploration sites (or target areas) have not yet been determined. Access routes to the designated exploration sites should, however, be determined before any exploration activity and be included as part of planning. The shortest route is usually the preferred option. However, in most instances, these access routes will create new tracks across the area, which might cause additional impacts to the environment (i.e. dust, general disturbance to biodiversity, visual impacts, etc.). Instead of this approach, in order to limit the clearing of vegetation and other potential impacts, existing tracks can be utilized.

It is therefore important to use existing access routes to the target areas (as far as possible) in order to avoid additional impacts to the environment generated through the clearing of vegetation to create the access routes.

The landowners are often aware of existing tracks on their properties and could provide details regarding the locations of existing tracks.

6.3 THE “NO-GO” OPTION

This option entails that no exploration activities are undertaken on the EPL area and upon expiration it will revert back to the Ministry of Mines and Energy. Should this happen, the economic and social growth associated with the potential resource will not reach fruition, and

Namibian economy will fail to benefit from a potential mineral resource. The advantage of this option would be that no exploration activities would take place on private land and will not negatively impact on the environment and/or the local residents.

7 IDENTIFICATION OF POTENTIAL ENVIRONMENTAL ASPECTS AND IMPACT ASSESSMENT

The proposed exploration activities on EPL 7525 have the potential to impact on the environment. Environmental aspects and potential impacts were identified by the Environmental Team during the screening and scoping phases, in consultation with I&APs. Given the relatively small scale of the proposed activities and taking the existing environment into consideration, the potential impacts were also qualitatively assessed by Namisun.

Table 11 below provides a summary of the activities associated with the exploration activities, the associated environmental aspects and potential impacts on the environment and also a qualitative assessment of these impacts (before and after mitigation).

Both the criteria used to assess the impacts and the method of determining the significance of the impacts are outlined in Table 8, Table 9 and Table 10.

This method complies with the Environmental Impact Assessment Regulations: Environmental Management Act, 2007 (Government Gazette No. 4878) EIA regulations. Table 8 provides the impact assessment criteria and the approach for determining impact consequence (combining nature and intensity, extent and duration) and impact significance (the overall rating of the impact). Impact consequence and significance are determined from Table 9 and Table 10 respectively. The interpretation of the impact significance is given in Table 8. Both mitigated and unmitigated scenarios are considered for each impact.

The potential impacts are cumulatively assessed, where relevant, taking the existing environment into consideration.

TABLE 8: IMPACT ASSESSMENT CRITERIA

IMPACT ASSESSMENT CRITERIA		
SIGNIFICANCE determination	Significance = consequence x probability	
CONSEQUENCE	Consequence is a function of: <ul style="list-style-type: none"> • Nature and Intensity of the potential impact • Geographical extent should the impact occur • Duration of the impact 	
Ranking the NATURE and INTENSITY of the potential impact		
Negative impacts		
Low (L)	The impact has no / minor effect/deterioration on natural, cultural and social functions and processes. No measurable change. Recommended standard / level will not be violated. (Limited nuisance related complaints).	
Moderate (M)	Natural, cultural and social functions and processes can continue, but in a modified way. Moderate discomfort that can be measured. Recommended standard / level will occasionally be violated. Various third party complaints expected.	
High (H)	Natural, cultural or social functions and processes are altered in such a way that they temporarily or permanently cease. Substantial deterioration of the impacted environment. Widespread third party complaints expected.	
Very high (VH)	Substantial deterioration (death, illness or injury). Recommended standard / level will often be violated. Vigorous action expected by third parties.	
Positive impacts		
Low (L) +	Slight positive effect on natural, cultural and social functions and processes Minor improvement. No measurable change.	
Moderate (M) +	Natural, cultural and social functions and processes continue but in a noticeably enhanced way. Moderate improvement. Little positive reaction from third parties.	
High (H) +	Natural, cultural or social functions and processes are altered in such a way that the impacted environment is considerably enhanced /improved. Widespread, noticeable positive reaction from third parties.	
Very high (VH) +	Substantial improvement. Will be within or better than the recommended level. Favourable publicity from third parties.	
Ranking the EXTENT		
Low (L)	Local (confined to within the project concession area and its nearby surroundings).	
Moderate (M)	Regional (confined to the region, e.g. coast, basin, catchment, municipal region, district, etc.).	
High (H)	National (extends beyond district or regional boundaries with national implications).	
Very high (VH)	International (Impact extends beyond the national scale or may be transboundary).	
Ranking the DURATION		
Low (L)	Temporary/short term. Quickly reversible. (Less than the life of the project).	
Moderate (M)	Medium Term. Impact can be reversed over time. (Life of the project).	
High (H)	Long Term. Impact will only cease after the life of the project..	
Very high (VH)	Permanent	
Ranking the PROBABILITY		
Low (L)	Unlikely	
Moderate (M)	Possibly	
High (H)	Most likely	
Very high (VH)	Definitely	
SIGNIFICANCE Description		
	Positive	Negative
Low (L)	Supports the implementation of the project	No influence on the decision.
Moderate (M)	Supports the implementation of the project	It should have an influence on the decision and the impact will not be avoided unless it is mitigated.
High (H)	Supports the implementation of the project	It should influence the decision to not proceed with the project or require significant modification(s) of the project design/location, etc. (where relevant).
Very high (VH)	Supports the implementation of the project	It would influence the decision to not proceed with the project.

TABLE 9: DETERMINING THE CONSEQUENCE

DETERMINING THE CONSEQUENCE					
INTENSITY OF IMPACT = LOW					
DURATION	VH	Moderate	Moderate	High	High
	H	Moderate	Moderate	Moderate	Moderate
	M	Low	Low	Low	Moderate
	L	Low	Low	Low	Moderate
INTENSITY OF IMPACT = MODERATE					
DURATION	VH	Moderate	High	High	High
	H	Moderate	Moderate	High	High
	M	Moderate	Moderate	Moderate	Moderate
	L	Low	Moderate	Moderate	Moderate
INTENSITY OF IMPACT = HIGH					
DURATION	VH	High	High	Very High	Very high
	H	High	High	High	Very High
	M	Moderate	Moderate	High	High
	L	Moderate	Moderate	High	High
INTENSITY OF IMPACT = VERY HIGH					
DURATION	VH	Very high	Very High	Very High	Very high
	H	High	High	Very High	Very high
	M	High	High	High	Very High
	L	Moderate	High	High	Very High
		L	M	H	VH
EXTENT					

TABLE 10: DETERMINING THE SIGNIFICANCE

DETERMINING THE SIGNIFICANCE					
PROBABILITY	VH	Moderate	High	High	Very high
	H	Moderate	Moderate	High	Very high
	M	Low	Moderate	High	High
	L	Low	Low	Moderate	High
		L	M	H	VH
CONSEQUENCE					

TABLE 11: ENVIRONMENTAL ASPECTS AND POTENTIAL IMPACTS ASSOCIATED WITH THE EXPLORATION ACTIVITIES ON TRIGON'S EPL 7525

Activity	Aspect	Potential Environmental Impact	Significance Discussion	With & without mitigation	Nature & intensity	Duration	Extend	Consequence	Probability	Significance	Ref
Geological studies, field mapping, Ground & Airborne Geophysical Surveys and soil sampling											
Air surveys	Noise	Noise generated by the low flying airplanes/ helicopter could disturb local fauna.	Low flying airplanes / helicopters could cause wildlife to run away, which in turn would result in wild stock loss. There are game / farm fences on the farms or surrounding areas which would control movement of the wildlife. Spooked wildlife and livestock could however breach fences causing property damaged in addition to the loss of stock. Airplanes are expected to fly as low as 50 meters from the ground. Should they fly over wildlife enclosures then it is very likely that wildlife and livestock will be spooked. Should drones be used, the disturbance to animals would be much less.	Without	M	L	M	M	M	M	1
				With	L	L	L	L	L	L	
		Inconvenience to landowners, hunters and neighbouring farmers to the EPL	The low flying airplanes would create a direct noise-related disturbance for local residences, tourist facilities and hunting activities.	Without	L-M	L	M	L-M	M	L-M	2
				With	L	L	L	L	L	L	
Field mapping, ground surveys and soil surveys	Biodiversity	Potential impact on fauna and flora (General disturbance and clearing of vegetation)	With reference to section 5.5, the EPL (and proposed activities) in the valleys between the highlands, which are home to many tree species of concern as the highlands, but in lower densities overall.	Without	M	M	L	M	M	M	3
				With	L	L	L	L	L	L	

Activity	Aspect	Potential Environmental Impact	Significance Discussion	With & without mitigation	Nature & intensity	Duration	Extend	Consequence	Probability	Significance	Ref
			Limited disturbance of natural vegetation may occur as vehicles may have to drive off-track to access certain areas. However, it is of a very small scale, involving a limited number of vehicles and Trigon indicated that it is unlikely that significant clearing activities (i.e. line cutting, creating new access tracks, etc.) are foreseen. Access routes might, however, have to be developed in some instances due to the dense nature of the vegetation in certain areas dominated by the bush encroacher sickle bush (<i>Dichrostachys cinerea</i>). Cutting down other trees can be avoided.								
	Air quality	Increase in dust levels (nuisance & health impacts)	Where vehicles travel close to residences, the dust from the gravel tracks might be a nuisance to the residents. Air pollution through vehicle emissions (i.e. exhaust fumes) and dust is, however, expected to be negligible due to the small scale of the project and limited number of vehicles to be used.	Without With	L L	L L	L L	L L	M L	L L	4
	Heritage	Activities could result in possible damage to/destruction of archaeological site / heritage resources.	With reference to section 5.7, no known archaeological / heritage sites were identified in the EPL. Furthermore, a limited number of vehicles / people will be used for the proposed activities and any archaeological / heritage sites could be avoided if found. A chance find	Without With	M L	M L	L L	M L	L L	L L	5

Activity	Aspect	Potential Environmental Impact	Significance Discussion	With & without mitigation	Nature & intensity	Duration	Extend	Consequence	Probability	Significance	Ref	
			procedure has been included in the EMP. Refer to section 8.									
Drilling												
Drill site establishment: <ul style="list-style-type: none"> • Access the drill site (possibly creating a new access track) • Set-up drilling machine with drip trays and groundsheets • Establish temporary safety fencing around the drill site • Set-up mobile ablution facilities • Set-up fuel and lubricants storage area 	Noise	Noise generated by the establishment of access tracks and drill site.	Should the activities take place in close proximity to a residence, the noise from these activities might be a nuisance impact.	Without	L- M	L	L	L	L- M	L	6	
				With	L	L	L	L	L	L		
	Biodiversity	Potential impact on fauna and flora. (General disturbance and clearing of vegetation) Drilling contractors and employees (Trigon) that are not well managed can impact on the biodiversity through illegal collection of firewood, poaching, road kills etc. Loss of economic function of disturbed area during exploration activities and potential loss of land capability.	Due to the fact that the activities are relatively small scale and the fact that the exploration team will not be very big, potential poaching and collection of firewood impacts can easily be managed through appropriate management and mitigation measures outlined in the EMP. Could result in possible loss of land available for livestock farming, however at a small scale. Also see Impact Reference 3.	Without	M	M	M	M	M	M	7	
				With	L	L	L	L	L	L		
			Site clearance may allow for the establishment of invasive plants in the area.	The area is to be rehabilitated upon closure. Certain areas are currently characterised by bush encroachment (Refer to section 5.5). However, management measures relating to the control of	Without	L	M	M	M	M	M	8
					With	L	L	L	L	L	L	

Activity	Aspect	Potential Environmental Impact	Significance Discussion	With & without mitigation	Nature & intensity	Duration	Extend	Consequence	Probability	Significance	Ref
			bush encroachment have been included in the EMP.								
	Land use	Loss off land capability due site clearance.	Possible loss of grazing- or agricultural land. The rehabilitation of the site will allow for the continued use for grazing and/or agricultural activities.	Without	M	M	L	M	M	M	9
				With	L	L	L	L	L	L	
	Heritage	Exploration activities could result in possible damage to/destruction of heritage resources.	See Impact reference: 5	Without	M	M	L	M	L	L	10
				With	L	L	L	L	L	L	
Drilling	Spillages of hydrocarbons, lubricants, or possible spills from mobile ablution facilities	Soil pollution	Soil loss and contamination could have an impact on grazing animals. However, the area to be disturbed is very localise and on a small-scale, and impacts can be easily mitigated.	Without	L	L	L	L	L	L	11
				With	L	L	L	L	L	L	
		Surface water contamination	With reference to sections 5.2 and 5.4, An Omuramba runs adjacent to the southern boundary of the EPL and significant hydrocarbon spills could run into the Omuramba during rain events. Given the small area to be impacted per hole and large hydrocarbon spills being unlikely the potential for this impact is likely to be small. Mitigation measures can be found in the EMP.	Without	M	M	M	M	L-M	L-M	12
				With	L	L	L	L	L	L	
		Groundwater could become polluted due to pollutants entering	Given the magnitude of the project, small area to be affected per hole and large hydrocarbon spills being unlikely, this impact is likely to be low, if	Without	M	M	M	M	M	M	13
				With	L	L	L	L	L	L	

Activity	Aspect	Potential Environmental Impact	Significance Discussion	With & without mitigation	Nature & intensity	Duration	Extend	Consequence	Probability	Significance	Ref
		aquifers via surface water infiltration.	mitigated. However, with reference to section 5.4, the EPL falls in an important groundwater area								
	Dust generation through using the access track. Air pollution from exhaust fumes. Dust generation through drilling activities	Air quality deterioration. Increase in dust levels (nuisance & health impacts)	Where drilling activities are close to residences, the noise and dust from the activities might be a nuisance to the residents. Air pollution through vehicle emissions (i.e. exhaust fumes) is expected to be negligible due to the small scale of the project and limited number of vehicles / machinery to be used.	Without	M	L	L- M	L- M	L- M	L- M	14
	Noise generation	Noise generated by the drill could disturb nearby residences (nuisance).		Without	M	L	L- M	L- M	L- M	L- M	15
	Land use	Potential loss of land use and capability (very limited area) due to a combination of the above-mentioned impacts. Potential loss of wildlife.	See Impact reference: 9	Without	M	M	L	M	M	M	16
				With	L	L	L	L	L	L	
				With	L	L	L	L	L	L	

Activity	Aspect	Potential Environmental Impact	Significance Discussion	With & without mitigation	Nature & intensity	Duration	Extend	Consequence	Probability	Significance	Ref
Relevant to all activities											
All exploration activities	Socio-economic and community safety	Inconvenience to residents and impacts on way of life	<p>In the case of the exploration team being allowed unsupervised access, there is the potential for an increased risk of criminal activities such as poaching and theft and possible disturbance to immediate farm residents.</p> <p>The potential impacts on cultivated / agricultural land are regarded as insignificant as the field mapping, surveying activities and soil sampling will not damage any land.</p> <p>There is also the potential that gates may be left open, resulting in the unwanted movement of wildlife and livestock.</p> <p>However, it is very small scale activities, involving a limited number of vehicles / people and can be easily managed through the implementation of the EMP. Agreements between Trigon and the relevant Farm Owners will be drafted and signed by the two parties.</p>	Without	H	H	L	H	L-M	M-H	17
				With	L	L	L	L	L	L	
	Waste Management	The dumping of general waste within the exploration area and drilling sites could prove hazardous to wildlife and livestock, as well as impede agricultural	<p>Waste generation is likely to be limited on site and will primarily be domestic waste. This material will be removed daily and disposed of properly off-site.</p> <p>Through the effective implementation of the management and mitigation measures, as described in the EMP (Section 8) the potential</p>	Without	M	L	M	M	M	M	18
				With	L	L	L	L	L	L	

Activity	Aspect	Potential Environmental Impact	Significance Discussion	With & without mitigation	Nature & intensity	Duration	Extend	Consequence	Probability	Significance	Ref	
		production. This could also lead to general environmental degradation and visual impacts.	impacts relating to waste management can be avoided/mitigated.									
	Social – provision of toilet facilities	Health & safety issues	If suitable toilet facilities are not provided for the exploration team, they will relieve themselves in the environment which could lead to potential health and safety issues to 3rd parties.	Without	L- M	L- M	L	L- M	M	L- M	19	
				With	L	L	L	L	L	L		
Closure and rehabilitation of drill site												
Remove all waste and equipment from site. Rip compacted areas (including access roads and paths).	Biodiversity, Visual.	Return site to natural state. No overall impacts.	The impacted sites will be rehabilitated in accordance with the EMP requirements.									20

With reference to Table 11, it can be seen that the activities and facilities associated with the exploration activities are unlikely to have high significant impacts on the environment if mitigation measure are implemented in accordance with the EMP (section 8). Some of these impacts might have a moderate impact without any mitigation.

8 ENVIRONMENTAL MANAGEMENT PLAN (EMP)

The following sections provide the relevant management and mitigation measure relating to Trigon's proposed exploration activities on EPL 7525.

8.1 AIM OF THE EMP

The aim of the EMP is to detail the actions required to effectively implement mitigation and management measures. These actions are required to minimise negative impacts and enhance positive impacts associated with the operations.

The EMP gives the commitments, which form the environmental contract between Trigon and the Government of the Republic of Namibia; represented by the Ministry of Environment, Forestry and Tourism (MEFT).

It is important to note that an EMP is a living document in that it will be updated and amended (where relevant) as new information (e.g. environmental data), policies, authority guidelines, technologies and proposed activities develop. The management measures proposed to mitigate the potential impacts are detailed in the action plans below.

8.2 OVERALL ENVIRONMENTAL OBJECTIVES FOR THE EMP

The following overall environmental objectives have been set for Trigon's exploration activities on EPL 7525:

- To comply with national legislation and standards for the protection of the environment;
- To limit potential impacts on biodiversity through the minimisation of the footprint and the conservation of residual habitat as far as possible;
- To investigate and exploit measures to minimize impact to water resources;
- To keep the owner of the nearby surrounding farms informed of exploration activities and through the implementation of forums for communication and constructive dialogue;
- To limit contaminated effluent discharge into the environment through the containment, recycling or removal of contaminated water;
- To protect soils and groundwater resources through the implementation of measures for spill prevention and clean-up;
- To ensure the legal and appropriate management and disposal of general and hazardous waste, through the implementation of a strategy for the minimisation, recycling (where possible), management, temporary storage and removal of waste;

- To minimise the potential for dust emissions and impacts to 3rd parties;
- To minimise the potential for noise disturbance in surrounding areas;
- To undertake rehabilitation after the completion of the various exploration activities;
- To avoid potential impacts on the safety of the relevant farm owners;
- To support and encourage environmental awareness and responsibility amongst all employees and service providers;
- To provide appropriate environmental education and training for all employees and service providers;
- To prevent pollution and clean up if incidents occur;
- To incorporate the relevant requirements stipulated in this EMP into the exploration programme, design and contractors contracts;
- To ensure that all the employees and contractors adhere to the relevant management commitments; and
- Ensure compliance to the EMP.

8.3 MANAGEMENT PLANS RELEVANT TO ALL

The following sections list the (generic) management plans that are relevant to the exploration activities.

8.3.1 PARTIES RESPONSIBLE FOR THE IMPLEMENTATION OF THE EMP

This section describes the roles and responsibilities for implementing the various management plans.

Trigon Operations Manager

The Trigon Operations Manager shall ensure compliance to this EMP. The EMP will be part of the contract with all contractors working on the project.

Trigon Exploration Manager

The Trigon Exploration Manager has overall responsibility for environmental management at all the exploration sites for ensuring this EMP is implemented. The Exploration Manager must ensure the EMP is included in all contracts and ensure that contractors adhere to the conditions of the EMP.

Contract documents should consider the inclusion of penalties for non-conformance to the EMP, or to link the sign-off of the Contract to a retainer clause. The client retains part of the contract

fees until the Exploration Manager has signed off the clearance certificate, indicating satisfaction with the rehabilitation of the Contractor's work and exploration activities (where relevant).

In addition to the above, the Exploration Manager is responsible for ensuring that all persons involved with the Project comply with this EMP.

The Exploration Manager will be responsible for the following aspects related to compliance of this EMP:

- Regular inspections and auditing compliance to this EMP and any other relevant legal requirements e.g. permits and authorisations.
- Conduct environmental awareness training during induction training and on an ad hoc basis thereafter.
- Ensure compliance to this EMP and permits and authorisations issued to Trigon by relevant authorities.
- Submit required information to relevant authorities such as reporting on compliance with the EMP, permit and relevant authorisations.
- Liaise with the Operations Manager on environmental management (where required).

Contractors and Exploration Team

All contractors and their sub-contractors and Trigon employees will be contractually required to comply with the relevant commitments in this EMP.

External Specialists

Trigon may appoint an external environmental specialist, as and when required, to assist with the implementation of certain commitments made in the various management plans.

An external environmental specialist will also assess compliance against the EMP on an annual basis.

8.3.2 DEALING WITH ENVIRONMENTAL EMERGENCIES & INCIDENTS

Potential environmental emergencies are identified by the Exploration Manager based on legal and other requirements, aspects identified and risk rating and knowledge of the EPL and associated activities.

Should an environmental emergency occur, the following procedure will be followed: -

- The Operations Manager must immediately be notified of the incident;
- Steps must immediately be taken to minimize the spread of pollution or other risks;

- The Operations Manager must report the incident to the following government departments (depending the nature of the incident):
 - Department of Water (MAWLR);
 - The Namibian Police Services or relevant Fire Department;
 - The relevant farmer owner(s); and
 - Any other Government Departments that must be notified in response to specific legal or policy requirements.
- Clean-up and remedial actions must be taken. These may be directed by the Department of Water, or developed in consultation with water specialist; and
- Informing the Department of Water Affairs when the incident has been fully remediated.

8.3.3 AUDITING / MONITORING COMPLIANCE OF THE EMP

The commitments contained in this EMP will, once environmental clearance has been obtained, be Trigon's contractual agreement with the Namibian authorities for sound environmental management. All employees, contractors and sub-contractors will be expected to comply with the commitments contained herein.

Internal Audits and Inspections

The Exploration Manager shall be responsible for monitoring and enforcement of the EMP on a day-to-day basis and conduct regular internal inspections against the commitments in the EMP. The inspection findings will be documented for both record keeping purposes and for informing continual improvement.

Any violation of the EMP shall be recorded and the agreed on measurements are taken, e.g. penalties. The violations are reported to the Operations Manager.

External Environmental Performance Assessment

Conduct bi-annual audits and compile Bi-annual Environmental Reports, which need to be submitted to MME and MET.

8.3.4 REPORTING / SUBMISSION OF INFORMATION

As a minimum, the following documents will be submitted to the relevant authorities on an ongoing basis:

- The bi-annual report required by the MEFT will be submitted every six months.

8.3.5 ACTION PLANS TO ACHIEVE OBJECTIVES

Action plans to achieve the environmental objectives are listed in tabular format below, separated by activities. The action plans also include the frequency for implementing the mitigation measures as well as identifying the responsible party.

TABLE 12: ENVIRONMENTAL MITIGATION MEASURES AND COMMITMENTS – FIELD MAPPING, GEOPHYSICAL SURVEYS AND SOIL SAMPLING

Activity	Potential Impact	Management and Mitigation Measures	Action Plan	
			Frequency	Responsible Parties
Air survey	Noise	<ul style="list-style-type: none"> - Discuss flight plans and schedule with land owners prior to air surveys. - Avoid residences, game and livestock enclosures where possible. - Consider to rather use Drones – also discuss this option with the land owners. 	Prior to air surveys	Exploration Manager Pilots
Ground survey, mapping and soil sampling	Socio-economic and land-use	<ul style="list-style-type: none"> - Honour agreements set out in the site-access contracts - Consult and provide feedback regarding activities on the individual properties - Provide contact details to a designated Trigon person, who will serve as liaison between landowners and the exploration teams - Land owners to be provided with a list of all people working on site - All staff operating on site will be provided with identification and proof that they are working for the applicant - Ensure gates are closed after entry and exit. - Poaching and plant theft will not be tolerated and staff found in possession will be prosecuted. - Schedule exploration activities in such a way that disturbances to hunting operations are minimised. No new access tracks are created during mapping and soil sampling if not otherwise agreed with the landowners during the land access agreement. - No firearms are allowed - Consult and provide feedback regarding activities 	Duration of mapping and surveying	Exploration Manager Contractors Employees
	Biodiversity	<ul style="list-style-type: none"> - The footprint of the area to be disturbed for surveying/mapping and for providing access to survey sites will be minimised as far as is practically possible. - Trigon will implement a zero tolerance policy with regards to the killing or collecting of any biodiversity. This applies to people directly employed by Trigon as well as any contractors working on their behalf. - Employees and contractors will be shown the value of biodiversity and the need to conserve the species and systems that occur within the project area. - No open fires will be permitted on site. - Speed limits will be enforced so as to prevent road kills. 	Duration of mapping and surveying	Exploration Manager Contractors Employees

Activity	Potential Impact	Management and Mitigation Measures	Action Plan	
			Frequency	Responsible Parties
		<ul style="list-style-type: none"> No protected tree species or trees with a stem diameter over 10 cm may be cut down. If cutting of protected species is unavoidable, tree removal permits will be obtained for the removal of all protected tree species (as is required by the Forestry Act). 		
	Air quality	<ul style="list-style-type: none"> Vehicle speeds will be limited to 40km/h on access routes to limit dust. National Road Safety Regulations that apply to usage of seatbelts and adhering to speed limits within gravel road tarred roads must be followed. 	Duration of mapping and surveying	Exploration Manager Contractors Employees
	Heritage	<ul style="list-style-type: none"> Prior to the commencement of exploration activities in a specific area, liaise with the land owner to obtain any further information regarding likely archaeological / heritage sites within the target exploration areas. In the event that archaeological resources are discovered, a chance find emergency procedure will be implemented which includes the following: <ul style="list-style-type: none"> All work at the find will be stopped to prevent damage; An appropriate heritage specialist will be appointed to assess the find and related impacts; and Permitting applications will be made to the necessary authorities, if required. In the event that any graves are discovered during the exploration activities, these will be avoided and preserved as a first priority. If damage is unavoidable, prior to damaging or destroying any identified graves, permission for the exhumation and relocation of graves must be obtained from the relevant descendants (if known) and the relevant local and provincial authorities. 	<p>Prior to commencement of activities</p> <p>Duration of mapping and surveying</p>	Exploration Manager Contractors Employees

TABLE 13: ENVIRONMENTAL MITIGATION MEASURES AND COMMITMENTS – DRILL SITE ESTABLISHMENT

Activities	Potential Impact	Management and Mitigation Measures	Action Plan	
			Frequency	Responsible Parties
<ul style="list-style-type: none"> Access the drill site using a new access track where necessary 	Air quality – dust and gaseous emissions	<ul style="list-style-type: none"> The movement of drilling related vehicles on the unpaved access track will be on a small scale Vehicle speeds will be limited to 30km/h on site 	On-going	Exploration Manager Contractors Employees

Activities	Potential Impact	Management and Mitigation Measures	Action Plan	
			Frequency	Responsible Parties
<ul style="list-style-type: none"> - Set-up drilling machine with drip trays and groundsheets - Strip vegetation and topsoil (up to 300 mm where available) - Temporarily store topsoil adjacent to drill site - Set-up ablution facilities - Set-up fuel and lubricants storage area - 		<ul style="list-style-type: none"> - Vehicles and the drilling rig will be maintained in good working order - Minimise new access route development (routes to be approved by land owners prior to development) 		
	Noise	<ul style="list-style-type: none"> - Vehicles will travel maximum 30 km/hour near houses/settlements 	Ongoing	Exploration Manager Contractors Employees
	Biodiversity	<ul style="list-style-type: none"> - Refer to biodiversity management measures relating to mapping and sampling (Table 12). - Honour agreements set out in the site-access contracts, specifically relating to the areas utilised for game and livestock farming. Special consideration should be given to the sensitive hunting season. - Provide appropriate toilet facilities for the exploration workers on the site (where required). 	Ongoing	Exploration Manager Contractors Employees
	Land use	<ul style="list-style-type: none"> - Access agreements to be prepared and approved prior to drill site establishment. - The footprint of the area to be disturbed will be minimised as far as is practically possible. - Areas used as laydown areas are to be raked and/or ploughed to encourage re-vegetation - Agree on relevant compensation with land-owners where land uses are impacted 	Ongoing	Exploration Manager
	Heritage	<ul style="list-style-type: none"> - Refer to heritage management measures relating to mapping and sampling (Table 12) 	Ongoing	Exploration Manager
	Socio-economic	<ul style="list-style-type: none"> - Refer to socio-economic management measures relating to mapping and sampling (Table 12) 	Ongoing	Exploration Manager

TABLE 14: ENVIRONMENTAL MITIGATION MEASURES AND COMMITMENTS – DRILLING

Activities	Potential Impact	Management and Mitigation Measures	Action Plan	
			Frequency	Responsible Parties
<ul style="list-style-type: none"> - Drill borehole - Contain all drilling water in the sump and allow to settle 	Contamination of soil/Hydrocarbon spillages	<ul style="list-style-type: none"> - In all areas where there is storage of hazardous substances (i.e. hydrocarbons), there will be containment of spillages on impermeable floors and bunded trays that can contain 110% of the volume of the hazardous substances. 	On-going for all drilling activities	Exploration Manager Contractors Employees

Activities	Potential Impact	Management and Mitigation Measures	Action Plan	
			Frequency	Responsible Parties
<ul style="list-style-type: none"> - Log the drill core and place on core trays - Maintain ablation facilities 		<ul style="list-style-type: none"> - All refuelling and any maintenance of vehicles will take place on impermeable surfaces. - Pollution will be prevented through basic infrastructure design and through maintenance of equipment. - Spill kits will be readily available on site. Employees and/or contractors will be shown to use the spill kits to enable containment and remediation of pollution incidents. - Environmental awareness training of contractor - Trigon will establish environmental awareness in employees and contractors - A PVC lined sump will be used for collection of oils and silt contained in the drilling water - Any spills will be contained and cleaned up immediately - Non-toxic and biodegradable drilling lubricant will be used 		
	Groundwater contamination	<ul style="list-style-type: none"> - Refer to management measures relating to contamination of soils. - Licenses in terms of the Water Resource Management Act (Act No. 11 of 2013) will be obtained for all drilled holes (not just boreholes). - Provide appropriate toilet facilities for the exploration workers on the site. 	On-going for all drilling activities	Exploration Manager
	Air quality deterioration	<ul style="list-style-type: none"> - Vehicle speeds will be limited to 40km/h on access routes to limit dust. - The movement of drilling related vehicles on unpaved access track will be on a small scale. - Water sprays can be used around the lay-down area when a drill-site is located near houses/settlements. 	On-going for all drilling activities	Exploration Manager Contractors Employees
	Noise generation	<ul style="list-style-type: none"> - Drilling will only be conducted during the day when drill sites are located close to farms. - Drilling plans and schedules will be discussed and agreed upon with land owners prior to initiation. - Use well maintained drilling equipment. - Vehicles will travel maximum 30 km/hour near houses/settlements. 	On-going for all drilling activities	Exploration Manager Contractors Employees
	Land use	<ul style="list-style-type: none"> - Refer to land use management measures relating to drill site establishment (Table 12) 	On-going for all drilling activities	Exploration Manager
	Third party safety	<ul style="list-style-type: none"> - The working area of the drill site will only be accessed by Trigon and their contractors / workers. 	On-going for all drilling activities	Exploration Manager

Activities	Potential Impact	Management and Mitigation Measures	Action Plan	
			Frequency	Responsible Parties
		<ul style="list-style-type: none"> - Warning signs will be erected and maintained at the strategic location to warn third parties of dangers associated with the drilling activities. - Put 'no entry' signs at tracks turning off the official tourist routes. - Any person entering the drill sites will only be allowed after formal induction. 		

TABLE 15: ENVIRONMENTAL MITIGATION MEASURES AND COMMITMENTS – RELEVANT TO ALL EXPLORATION ACTIVITIES

Activities	Potential Impact	Management and Mitigation Measures	Action Plan	
			Frequency	Responsible Parties
- All exploration activities	Social – provision of toilet facilities	<ul style="list-style-type: none"> - Provide appropriate toilet facilities for the exploration workers on the site. 	On-going for all exploration activities	Exploration Manager Contractors Employees
	Waste Management	<ul style="list-style-type: none"> - Suitable receptacles for waste disposal will be provided at appropriate locations on site. These receptacles will be clearly marked for different waste types. - Employees and contractors will be shown the importance of correct waste disposal as well as waste minimisation and recycling (where possible). - Waste will be removed from site and disposed of at a suitable waste disposal facility. - Hazardous waste (including hydrocarbon contaminated material/soil) will be disposed of at a licenced hazardous waste disposal facility. 		
	General behaviour of Exploration team in the EPL area.	<ul style="list-style-type: none"> - Provision in the budget is made for Environmental Awareness and training and for internal and external Environmental Monitoring/Auditing costs as well as for rehabilitation costs. - Responsibilities as set out in section 8.3.1 are explained and adhered to. - The EMP should be included in all Tender Documents. - Senior exploration staff and all senior contractors are aware of, and implementing, EMP requirements. All persons shall be expected to know and understand the objectives of the EMP and will, by example, encourage suitable environmentally aware behaviour to be adopted on all sites. - Immediate recognition should be given to appropriate environmentally acceptable behaviour. Any inappropriate behaviour should be immediately corrected. An explanation as to why the behaviour is unacceptable must be given, and, if necessary, the person could be disciplined, e.g. fees set out, for different non-environmental compliance or not allowed to work on the project anymore. 		Exploration Manager

TABLE 16: ENVIRONMENTAL MITIGATION MEASURES AND COMMITMENTS – CLOSURE AND REHABILITATION

Activities	Potential Impact	Management and Mitigation Measures	Action Plan	
			Frequency	Responsible Parties
General closure activities: - Close drill holes (unless otherwise agreed with farmers) - Remove water from the sump and drip trays - Remove oils and silt from drip trays and store until disposal to permitted hazardous landfill site - Backfill the sump once it has dried out (dome to allow for subsidence) and plug borehole (unless an agreement is in place with landowner for alternative uses) - Move drill core trays, ablation facilities, water bowser, stores and drill rig from the site - Dispose of any general waste to a permitted landfill site - Remove temporary fencing - Rip and plough compacted areas - Replace topsoil over disturbed area	Groundwater and surface water contamination	<ul style="list-style-type: none"> - In all areas where there is storage of hazardous substances (i.e. hydrocarbons), there will be containment of spillages on impermeable floors and bunded trays that can contain 110% of the volume of the hazardous substances. - All refuelling and any maintenance of vehicles will take place on impermeable surfaces. - Pollution will be prevented through basic infrastructure design and through maintenance of equipment. - Spill kits will be readily available on site. Employees and/or contractors will be shown how to use the spill kits to enable containment and remediation of pollution incidents. - Any spills will be contained and cleaned up immediately. 	Once- Closure of drill site	Exploration Manager
	Soil erosion	<ul style="list-style-type: none"> - Impacted footprints are to be raked and/or ploughed to encourage re-vegetation - Access routes will be ripped unless the land owners wish for them to remain. - A monitoring program will be implemented to establish re-vegetation progress - Agree on relevant compensation with land-owners where land used is impacted 	Starts at closure, continues for a pre-determined time (as stated in agreements)	Operations Manager Exploration Manager
	Waste management	<ul style="list-style-type: none"> - Decommission ablation facilities - Ensure that all waste generated during activities is removed from the site and disposed of appropriately 	Once off	Exploration Manager
	Land use	<ul style="list-style-type: none"> - Land owners will be invited to carry out site inspections following rehabilitation in order to ensure that it has been carried out suitably. 	Post-closure	Exploration Manager
	General	<ul style="list-style-type: none"> - All litter from the site i.e. bottles, tins, piping, etc. are taken to an appropriate disposal site. - All debris, scrap metal, etc. is removed before moving to a new drill site. - All sumps have been dried and filled in, if not portable water reservoirs are used. - New tracks must be restored by fine raking and sweeping when exploration activities are complete. It is important that each tyre track be individually swept. If the entire area over the double track is swept it increases the area of impact. 	Before moving to a next drill site	Exploration Manager

Activities	Potential Impact	Management and Mitigation Measures	Action Plan	
			Frequency	Responsible Parties
- Rehabilitate access track by ripping		<ul style="list-style-type: none"> - Ensure that no heaps of soil, rocks and material remain – sweep and rake manually before moving to the next drill pad so that the site looks as close to ‘pre-operation ‘as possible. - Re-cover levelled land with the soil that has been removed. 		

9 WAY FORWARD

9.1 Way forward for the scoping report

The way forward is as follows:

- MME and MEFT to review the final Scoping Report and EMP and provide record of decision.

10 ENVIRONMENTAL IMPACT STATEMENT AND CONCLUSIONS

The environmental aspects associated with the proposed exploration activities on EPL 7525 have been successfully identified and assessed as part of this EIA Scoping process. Relevant mitigation measures have been provided and are included in the EMP that accompanies this Scoping Report.

Namisun believes that a thorough assessment of the proposed project activities has been achieved and that an environmental clearance certificate could be issued on condition that the management and mitigation measures in the EMP be adhered to by Trigon during the implementation of all associated exploration activities.

11 REFERENCES

Maggs, G.L, Craven, P. & Kolberg, H.H. 1998. Plant species richness, endemism, and genetic resources in Namibia. *Biodiversity and Conservation* 7, 435-446.

Mendelsohn J., Jarvis A., Roberts C. & Robertson T. 2002. Atlas of Namibia. A portrait of the land and its people. David Philip Publishers, Cape Town, RSA.

SLR. 2014. Scoping Report and EMP for Kombat Copper's Exploration Activities on MLs 73B, 73C, 19 and 21.

SLR. 2017. Internal Environmental Assessment and EMP for Meatco's Feedlot on the Farm Rietfontein.

SLR. 2018. Scoping Report (including Impact Assessment) for the proposed open pit mining and dewatering for underground exploration activities at the Kombat mine.

APPENDIX A: PROJECT TEAM CVS

CV for Werner Petrick

APPENDIX B: INFORMATION SHARING RECORD

- Background information documents
- Newspaper Adverts and site notices
- Minutes with Stakeholders
- All comments received by email

APPENDIX C: COMMENTS RECEIVED AND MINUTES OF MEETINGS

APPENDIX D: I&AP DATABASE