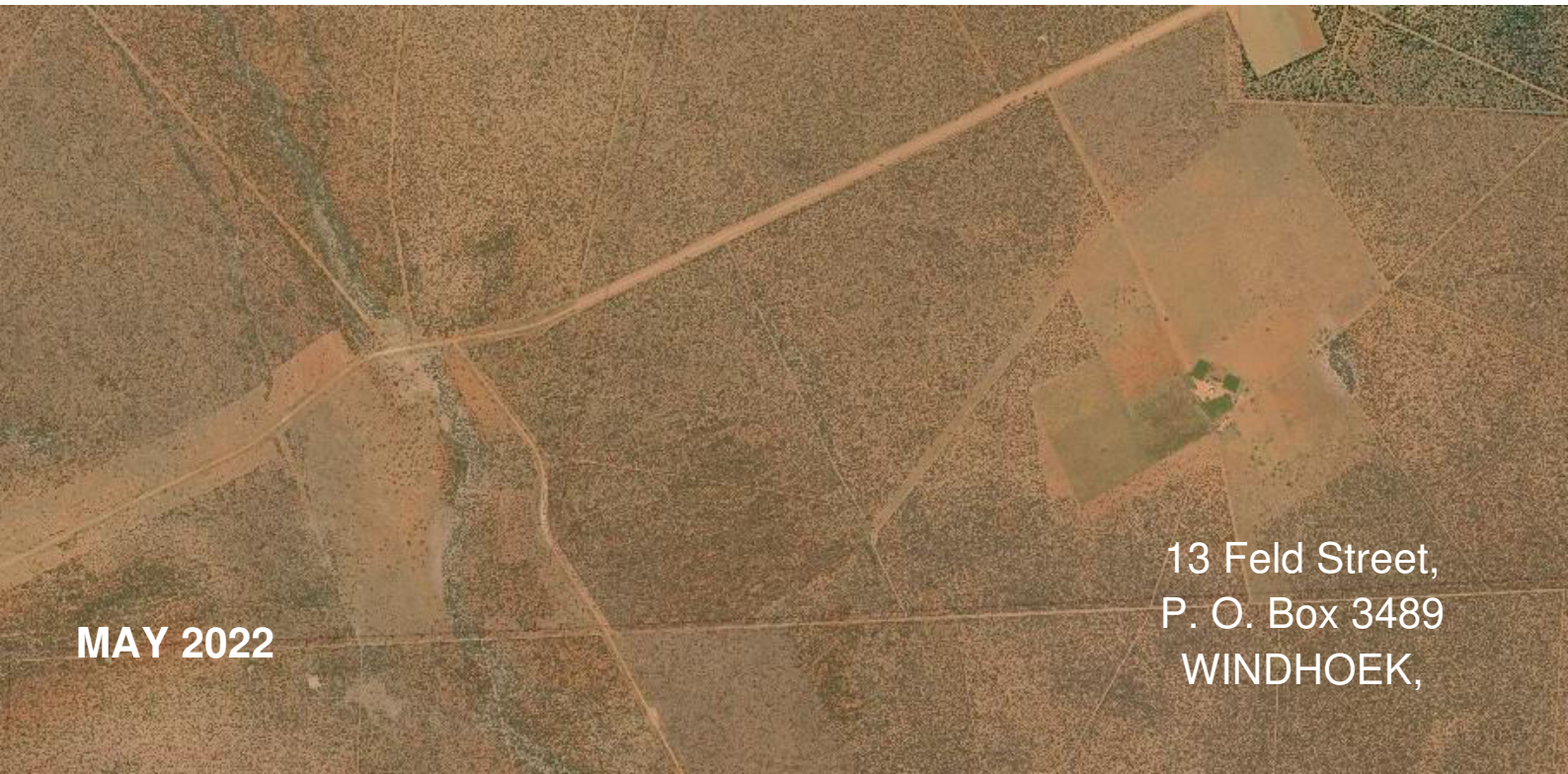
Osino Gold Exploration and Mining (Pty) Ltd (Proponent)

MEFT ECC APPLICATION REF No: APP-003733

Updated Environmental Scoping and Environmental Management Plan (EMP) Report to support the renewal Application for Environmental Clearance Certificate (ECC) for the Proposed Exploration Activities in the Exclusive Prospecting License (EPL) No. 6872, Otjiwarongo District, Otjozondjupa Region



MAY 2022

13 Feld Street,
P. O. Box 3489
WINDHOEK,

PROPONENT, LISTED ACTIVITIES AND RELATED INFORMATION SUMMARY

TYPE OF AUTHORISATIONS REQUIRING ECC

Exclusive Prospecting License (EPL) No. 6872

NAME OF THE PROPONENT

Osino Gold Exploration and Mining (Pty) Ltd

COMPETENT AUTHORITY

Ministry of Mines and Energy (MME)

ADDRESS OF THE PROPONENT AND CONTACT PERSON

13 Feld Street, P. O. Box 3489
WINDHOEK, NAMIBIA

CONTACT PERSON:
Fillemon Tuneeko
Supervisor: Health Safety Environment and Community (HSEC)
Phone: +264 61 246533
Fax: +264 61 246588
Mobile: +264 811430505 / 812856198
Email: ftuneeko@osinoresources.com

PROPOSED PROJECT

Proposed Minerals Exploration / Prospecting activities in the Exclusive Prospecting License (EPL) No. 6872, Otjiwarongo, Otjozondjupa Region

PROJECT LOCATION

Otjiwarongo District, Otjozondjupa Region
(Latitude: -20.69694, Longitude: 16.34333)

ENVIRONMENTAL CONSULTANTS

Risk-Based Solutions (RBS) CC
(Consulting arm of Sivieda Group Namibia)
10 Schützen Street, Erf No. 7382, Sivieda House
Windhoek Central Business District (CBD)
P. O. Box 1839, WINDHOEK, NAMIBIA
Tel: +264-61-306058 / 224780 / 236598
Fax: +264-061-245001, Mobile: +264-811413229
Email: smwiya@rbs.com.na
Global Office / URL: www.rbs.com.na

ENVIRONMENTAL ASSESSMENT PRACTITIONER (EAP)

Dr. Sindila Mwiya
PhD, PG Cert, MPhil, BEng (Hons), Pr Eng

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NON-TECHNICAL SUMMARY

1. Background

Osino Gold Exploration and Mining (Pty) Ltd holds the mineral rights under the Exclusive Prospecting License (EPL) No. 6872. The EPL 6872 was granted on the 30/04/2018 and will expired on the 29/04/2021. The proponent intends to renew the ECC in order to continue with exploration activities with special focus on Base and Rare Metals, Industrial Minerals and Precious Metals.

Under an EPL 6872 regime, the Proponent is only authorised by the Ministry of Mines and Energy to conduct prospecting, not mining. Mining is undertaken under a separate authorisation called a Mining License (ML) which is only granted if an applicant has discovered and proved that the discovered minerals deposit is viable and can be developed into a profitable mine.

The Exclusive Prospecting License (EPL) No 6872 is located in the Otjiwarongo District, Otjozondjupa Region. The EPL covers an area of approximately 29272.9091. The license covers portions of the following privately owned commercial farmland: Hazeldene, Paresis, Otjikango-Ost, Middleplaats, Ohiwa, Hillenhoi, Yakadonga, erundu, Patagonia, waltershagen, avondschaduw, klein otjikango, kamapu, Hezeldene. The land use covering the area is mainly agriculture and tourism, other land uses to the east include urban (Otjiwarongo Town), government agriculture, resettlements and other government or parastatals.

Otjiwarongo has a semi-arid climate (BSh, according to the Köppen climate classification), with hot summers and mild winters. The average annual precipitation is 457 mm. Otjiwarongo has a Subtropical steppe climate. The yearly temperature is 25.12ºC and it is 0.66% higher than Namibia's averages. Otjiwarongo typically receives about 129.09 millimeters of precipitation and has 128.35 rainy days (35.16% of the time) annually. According to IEM (2022), the area has a prevailing easterly wind, average wind speed is the is approximately 1.7 meters per second (mps), with 21.3% calm days.

Otjiwarongo belongs to the Acacia Tree and Shrub Savanna Biome, which is characterized by large, open expanses of grasslands dotted with Acacia trees (Mendelsohn, Jarvis, Roberts & Roberston, 2002). The vegetation type for Otjiwarongo is described as Thornbush Shrubland which comprises of various soils and dominated by Acacia shrublands. Trees commonly found within the area are Black Thorn (*Acacia mellifera*), Camel Thorn (*Acacia erioloba*) and Shepherds Tree (*Boscia albitrunca*).

The Otjiwarongo area generally demonstrates high terrestrial diversity. Plant diversity in the area is recorded to be between 300-399 species (Mendelsohn et al., 2002). Bird diversity is recorded to be between 201-230 species, mammal diversity between 91-105 species and reptile diversity between 81-85 species (Mendelsohn et al., 2002).

The Otjozondjupa Region is one of Namibia's thirteen regions and is known for outstanding landmarks such as the Waterberg Plateau Park. The region's capital and largest town is Otjiwarongo. The Region is also known for its farming activity, and cattle farming are particularly common in the Okahandja and Otjiwarongo areas. At the constituency level, Otjiwarongo housed slightly more than 22% of the total population (31 813 persons), up from 17.3% (23 412) ten years ago. The proportion of females in the Otjiwarongo constituency was higher (51.25) than the regional average of 48.6 percent. Okahandja and Otjiwarongo had the greatest proportion of people with birth certificates (about 97 percent each). The greatest growth rate was observed in Otjiwarongo (3.1 percent), while Omatako had a negative growth rate of 4.2 percent.

The Proponent intends undertake minerals exploration activities covering desktop studies, followed by site-specific activities on targets that may be delineated and using field-based exploration techniques/ methods such as geophysical surveys, geological mapping, trenching, drilling, bulk sampling and test mining. The implementation of the site-specific field-based activities will be subject to the discovery of potential economic minerals deposits targets.

The proposed exploration activities are listed in the Environmental Impact Assessment (EIA) Regulations, 2012 and the Environmental Management Act, 2007, (Act No. 7 of 2007) and cannot be undertaken without an Environmental Clearance Certificate (ECC). This Environmental Management Plan (EMP) report has been prepared by Risk – Based Solutions CC to support the application for ECC for the proposed exploration activities. The preparation of this EMP Reports is based on the outcomes of the Environmental Impact Assessment (EIA)

The environmental impacts that the proposed exploration activities and associated infrastructures and facilities will have on the receiving environment (physical, biological and socioeconomic) will depend on the extent of the proposed activities over the development area, management of the area and how the mitigations as detailed in this EMP report are eventually implemented by the Proponent.

2. Summary of the Proposed Mitigation Measures

Avoiding sensitive habitats such as Ephemeral River channels, rock heads and mountainous terrains as well as track discipline (including not killing/poaching of fauna and unnecessarily cutting down of trees) must be adhered to and/or enforced at all times. Mitigation measures shall be implemented as detailed in this EMP report and includes the following:

1. Project planning and implementation.
2. Implementation of the EMP.
3. Public and stakeholders' relations.
4. Measures to enhance positive socioeconomic impacts.
5. Environmental awareness briefing and training.
6. Erection of supporting exploration infrastructure.
7. Use of existing access roads, tracks and general vehicle movements.
8. Mitigation measures for preventing flora destruction.
9. Mitigation measures for preventing faunal destruction.
10. Mitigation measures to be implemented with respect to the exploration camps and exploration sites.
11. Mitigation measures for surface and groundwater protection as well as general water usage.
12. Mitigation measures to minimise negative socioeconomic impacts.
13. Mitigation measures to minimise health and safety impacts.

14. Mitigation measures to minimise visual impacts.

15. Mitigation measures to minimise vibration, noise and air quality.

16. Mitigation measures for waste (solid and liquid) management.

17. Rehabilitation plan, and.

18. Environmental data collection.

3. Conclusions and Recommendations of the EMP

It is hereby recommended that the proposed exploration activities be issued with an Environmental Clearance Certificate (ECC). The following is the summary of the key conditions that shall be implemented by the Proponent for the proposed project activities:

(i) The Proponent will undertake to implement the conditions of the land lease agreements to be concluded with the owners of the land as may be required to support the proposed exploration activities.

(ii) The proponent shall implement and adhere to all the provisions of this EMP report.

(iii) Mitigation measures shall be implemented as detailed in this EMP report.

(iv) Rehabilitation must be undertaken at all times.

(v) The Proponent shall adhere to all the applicable national regulations and standards as well as Good International Industry Practice (GIIP) that defines leading industry best practices as provided for in the Equator Principles and International Finance Corporation (IFC) environmental management guidelines and frameworks, and.

(vi) The Proponent shall adopt the precautionary approach / principles in instances where baseline information, national or international guidelines or mitigation measures have not been provided or do not sufficiently address the site-specific project impact.

The following are the recommended actions (roles and responsibility) to be implemented by the Proponent as a part of the management of the impacts through implementations of this EMP Report:

(i) Appoint an Environmental Control Officer to lead and further develop, implement and promote environmental culture through awareness raising of the workforce, contractors and sub-contractors in the field during the whole duration of the proposed project.

(ii) Provide with other support, human and financial resources, for the implementation of the proposed mitigations, rehabilitation plans and effective environmental management during the planned mine project life cycle.

(iii) Develop a simplified environmental induction and awareness programme for all the workforce, contractors and sub-contractors.

(iv) Where contracted service providers are likely to cause environmental impacts, these will need to identified and contract agreements need to be developed with costing provisions for environmental liabilities.

(v) Implement internal and external monitoring of the actions and management strategies developed during the project duration and a final Environmental Monitoring report to be prepared by the Environmental Control Officer and to be submitted to the regulators, and.

(vi) Develop and implement a monitoring programme that will fit into the overall company's Environmental Management Systems (EMS) as well as for any future EIA related to the expansion of the current delineated resources or development of completely new mine site within the EPL area.

All the responsibilities to ensure that the recommendations and provisions of this EMP Report are executed accordingly, rest with the Proponent. The Proponent shall provide all appropriate resource requirements for the implementation of this EMP as well as an independently managed (not directly controlled by the company) funding instrument for rehabilitation and associated environmental liabilities.

It is the responsibility of the Proponent to make sure that all members of the workforce including contractors and subcontractors are aware of the provisions of this EMP and its objectives. It is hereby recommended that the Proponent take all the necessary steps to implement all the recommendations of this EMP for the successful execution of the proposed exploration programme.

1. BACKGROUND

1.1 Introduction

Osino Gold Exploration and Mining (Pty) Ltd holds the mineral rights under the Exclusive Prospecting License (EPL) No. 6872. The EPL 6872 was granted on the 30/04/2018 and expired on the 29/04/2021 (Appendix A). The proponent intends to renew the ECC in order to continue with exploration activities with special focus on Base and Rare Metals, Industrial Minerals and Precious Metals. The following summary:

- **Type of License:** Exclusive Prospecting License (EPL) No. 6872.
- **EPL Holder and Proponent:** Osino Gold Exploration and Mining Company (Pty) Ltd.
- **Application Date:** 05/09/2017
- **Commodities:** Base and Rare Metals, Industrial Minerals and Precious Metals.
- **Size of the EPL:** 29272.9091
- **Current Environmental Clearance Certificate (ECC):** Granted on the 18th September 2019 and will expire on 18th September 2022.

Osino Gold Exploration and Mining (Pty) Ltd is locally owned Namibian company focused on the acquisition and development of mining projects in Namibia.

1.2 Proposed Scope of Work

The Proponent intends to continue exploration activities covering desktop studies: the purchase and interpretation of the existing Government high resolution airborne geophysical data sets, regional reconnaissance assessment covering field-based activities such as regional mapping and sampling to identify and verify potential targeted areas as delineated during the desktop stage, geological mapping, sampling, surveying and possible widely spaced trenching and drilling to test the viability of any delineated local target based on the regional data collected under localised site-specific detailed geological mapping, trenching, bulk sampling, surveying, and detailed drilling to determine the feasibility of the delineated local targets. If the detailed exploration activities lead to positive results, the exploration data collected will then be put together into a prefeasibility report and if the prefeasibility results prove positive, a detailed feasibility study supported by detailed site-specific drilling, bulk sampling and laboratory testing / test mining will be undertaken on the identified site-specific area.

1.3 Regulatory Requirements

The proposed prospecting activities are listed in the Environmental Management Act, 2007, (Act No. 7 of 2007) and the EIA Regulations, 2012 and cannot be undertaken without an Environmental Clearance Certificate (ECC). The Proponent is required to submit an updated Environmental Management Plan (EMP) report for the proposed minerals prospecting activities. In fulfilment of the environmental requirements, the Proponent appointed Risk – Based Solutions CC as the Environmental Consultants led by Dr Sindila Mwiya as the Environmental Assessment Practitioner in the preparation of the EMP Report in order to support the application for ECC. The current ECC needs to be renewed and transferred to the current Proponent, namely, Osino Gold Exploration and Mining (Pty) Ltd.

1.4 Location, Land Use, Infrastructure and Services

1.4.1 Location and Land Use

The Exclusive Prospecting License (EPL) No 6872 is located in the Otjiwarongo District, Otjozondjupa Region. The EPL covers an area of approximately 29272.9091. The license covers portions of the following privately owned commercial farmland: Hazeldene, Paresis, Otjikango-Ost, Middleplaats, Ohiwa, Hillenhoi, Yakadonga, Erundu, Patagonia, waltershagen, avondschaduw, klein otjikango, kamapu, Hezeldene. The land use of the area is mainly agriculture and tourism, other land uses to the east include urban (Otjiwarongo Town), government.

1.4.2 Supporting Infrastructure and Services

The EPL area is accessible from Outjo along the M63 and C33 road, alternatively it can also be accessed via the B1 road from Otjiwarongo into C33. Within the EPL 6872 area, a network of local tracks and private farm roads may be used to access the EPL area. Private minor roads may require high clearance 4 x 4 vehicles and may only be used with permission from the land owners.

The following supporting infrastructures and services will be required if detailed field-based studies such as geological mapping, trenching, or drilling need to be conducted following the delineation of potential targets requiring field verifications and / or investigations:

(i) External and internal roads network: The Proponent will use the already existing external and internal road networks during the exploration phase.

(ii) Water supply: Raw water will be sourced from local groundwater resources. The Proponent will utilise the existing boreholes with permission from the land owners. The exploration activities such as drilling operations will require limited water resources which could also be supplied by a tanker truck.

(iii) Energy: The proposed exploration operations will use diesels and solar energy as may be required for exploration equipment and lighting, respectively, and.

(iv) Accommodation and other supporting facilities and services: The exploration team will utilise the exiting accommodation facilities and services in the area. In absence of such facilities and services, the Proponent will provide onsite camping accommodation and supporting portable infrastructures such as chemical toilets as well as other requirements as may be applicable. The establishment of an exploration camp will only be done with the permission of the land owner.

If, required, field-based exploration activities will only be conducted once an Access Agreement has been concluded with the affected land owner/s.

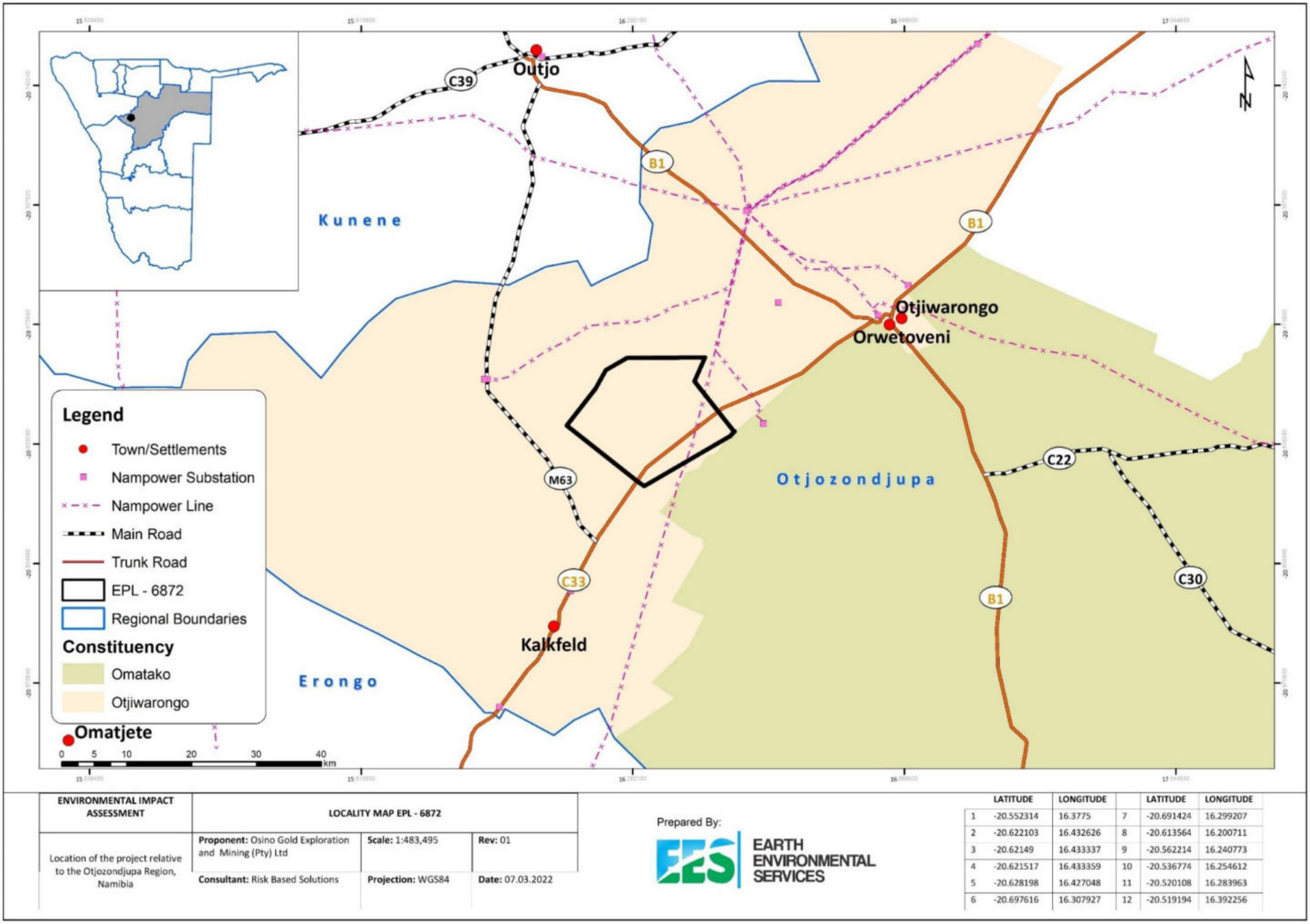

Figure 1: Detailed regional location of the EPL 6872 and related infrastructure.

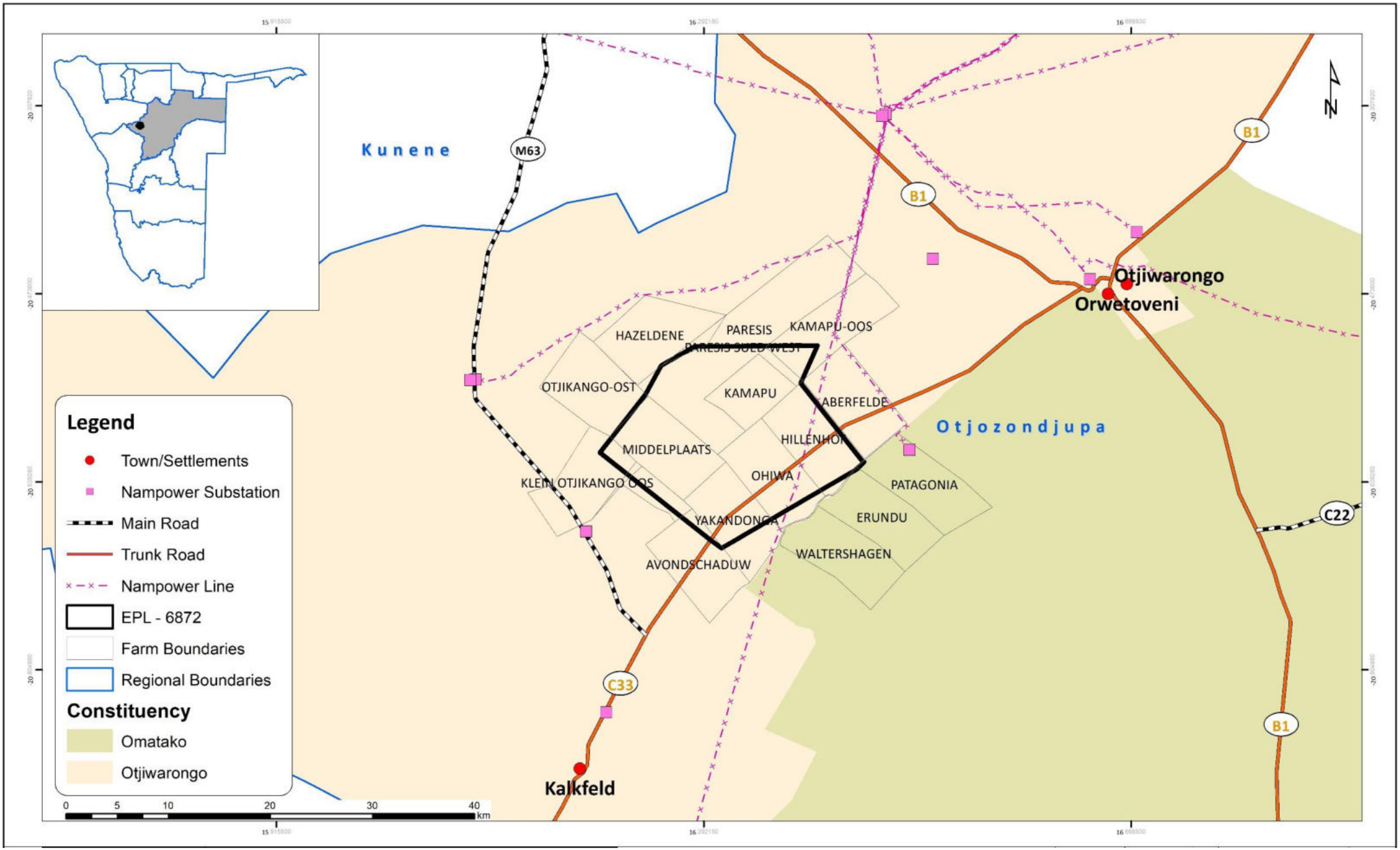

Figure 2: Farm boundaries in the surrounding EPL 6872 and related infrastructure.

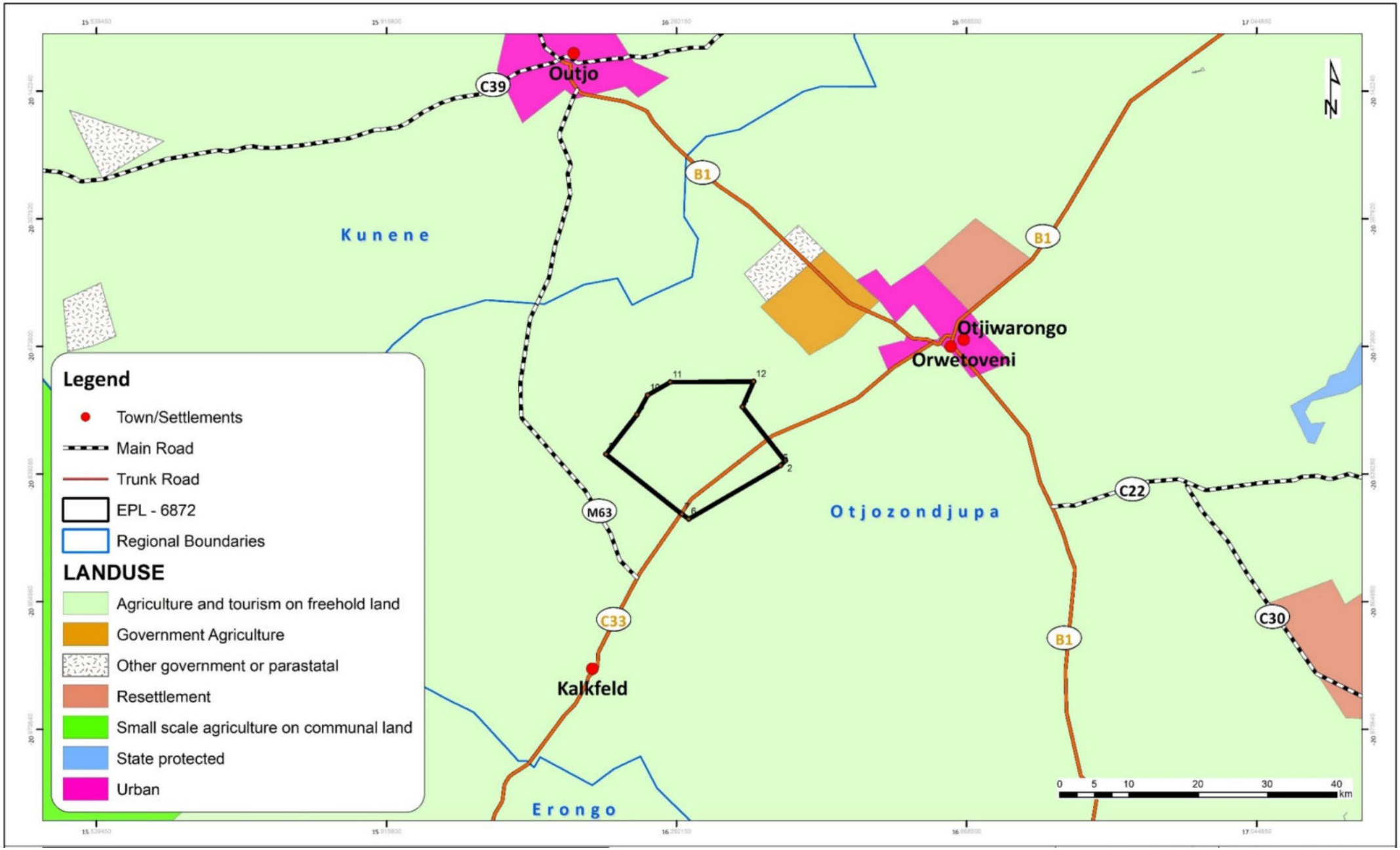

Figure 3: Land use and surrounding of the EPL 6872

1.5 Summary of the Receiving Environment

1.5.1 Climate and Topography

Otjiwarongo has a semi-arid climate (BSh, according to the Köppen climate classification), with hot summers and mild winters. The average annual precipitation is 457 mm. Otjiwarongo has a Subtropical steppe climate. The district's yearly temperature is 25.12ºC and it is 0.66% higher than Namibia's averages. Otjiwarongo typically receives about 129.09 millimeters of precipitation and has 128.35 rainy days (35.16% of the time) annually. According to IEM (2022), the area has a prevailing easterly wind, average wind speed is the is approximately 1.7 meters per second (mps), with 21.3% calm days (Figure 4).

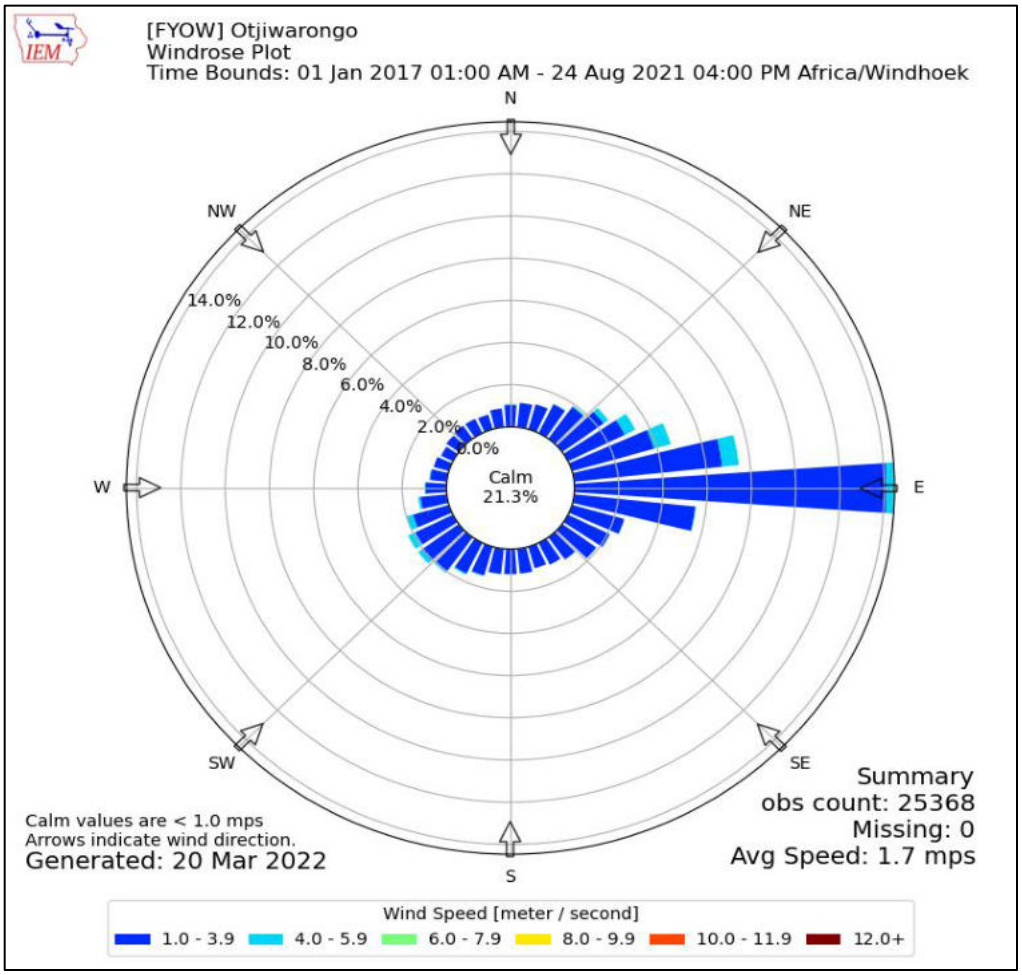

Figure 4: Prevailing wind in the Otjiwarongo town.

1.5.2 Biological diversity

1.5.2.1 Overview

Central Namibia (which includes the Otjiwarongo District) is regarded as "average to high" in overall (all terrestrial species) diversity while the overall terrestrial endemism is "high" (Mendelsohn et al. 2002). Central Namibia has between 161-200 endemic vertebrates (all vertebrates included). The overall diversity and abundance of large herbivorous mammals (big game) is viewed as "high" with 7-8 species while the overall diversity of large carnivorous mammals (large predators) is determined at 3 species with Leopard and Cheetah being the most important with "high" densities (Mendelsohn et al. 2002).

Mountainous and rocky features in the Highland Savannah are viewed as unique and often critical habitat to a variety of vertebrate fauna of concern – e.g., *Python anchietae*. Such habitats should be protected, especially isolated patches thereof, as these often have an "island" effect with a variety of rock and crevasse dwelling species dependent on these areas.
Ephemeral drainage lines with associated riparian habitat, especially bigger trees, and temporary pools (and/or perennial springs and seeps) are also viewed as important habitat for a variety of vertebrate fauna – e.g., bark roosting bats; South African Gallago; cavity nesting birds (Monteiros & Damara Hornbills and Rüppells Parrot), etc.

The Otjiwarongo area generally demonstrates high terrestrial diversity. Plant diversity in the area is recorded to be between 300-399 species (Mendelsohn et al., 2002). Bird diversity is recorded to be between 201-230 species, mammal diversity between 91-105 species and reptile diversity between 81-85 species (Mendelsohn et al., 2002).

1.5.2.2 Vegetation

Otjiwarongo belongs to the Acacia Tree and Shrub Savanna Biome which is characterized by large, open expanses of grasslands dotted with Acacia trees (Mendelsohn, Jarvis, Roberts & Roberston, 2002). The vegetation type for Otjiwarongo is described as Thornbush Shrubland which comprises of various soils and dominated by Acacia shrublands (Figure 5). Trees commonly found within the area are Black Thorn (*Acacia mellifera*), Camel Thorn (*Acacia erioloba*) and Shepherds Tree (*Boscia albitrunca*).

The most important tree/shrub species expected from the general area are the various protected species and species of conservation concern and include *Commiphora dinteri* (endemic), *Cyphostemma bainesii* (endemic, NC), *Cyphostemma currorii* (NC) and *Heteromorpha papillosa* (endemic). All aloe species are protected in Namibia and other species potentially occurring in the general area are *Aloe hereroensis* and *Aloe zebrina* (Rothmann 2004). None of the species are exclusively associated with the area.

Up to 101 grasses are expected in the area of which 4 species are viewed as endemic (*Eragrostis omahekensis, Eragrostis scopelophila, Pennisetum foermeranum* and *Setaria finite*). *Pennisetum foermeranum* is associated with rocky mountainous terrain and consequently only expected is such suitable habitat. *Eragrostis omahekensis* is virtually only found on disturbed soils – e.g., close to watering points – while *Eragrostis scopelophila* is associated with mountainous areas under trees and shrubs. The endemic *Setaria finita* is associated with drainage lines in the general area; never very common and probably the grass species most likely to be affected most by development in the area. None of the species are exclusively associated with the area. The dominant grass in the area is *Brachiaria nigropedata.*

1.5.2.3 Reptile Diversity

Approximately 261 species of reptiles are known or expected to occur in Namibia thus supporting approximately 30% of the continent's species diversity (Griffin 1998a). At least 22% or 55 species of Namibian lizards are classified as endemic. The occurrence of reptiles of "conservation concern" includes about 67% of Namibian reptiles (Griffin 1998a). Emergency grazing and large-scale mineral extraction in critical habitats are some of the biggest problems facing reptiles in Namibia (Griffin 1998a).

Namibia with approximately 129 species of lizards (*Lacertilia*) has one of the continents richest lizard fauna (Griffin 1998a). It is estimated that at least 78 reptiles occur in the study area, 4 are endemic to Namibia – the Namibian Dwarf Gecko (*Lygodactylus bradfieldi*), Kahalari Whip Snake (*Psammophis trinasalis*), Leopard Whip Snake (*Psammophis leopardinus*), and Zebra Snake (*Naja nigricincta*).

Pythons, tortoises and the leguaan are all protected species under the Nature Conservation Ordinance No.4 of 1975.

1.5.2.4 Amphibian Diversity

Amphibians are declining throughout the world due to various factors of which much has been ascribed to habitat destruction. Basic species lists for various habitats are not always available with Namibia being no exception in this regard while the basic ecology of most species is also unknown. Approximately 4,000 species of amphibians are known worldwide with just over 200 species known from southern Africa and at least 57 species expected to occur in Namibia. Griffin (1998b) puts this figure at 50 recorded species and a final species richness of approximately 65 species, 6 of which are endemic to Namibia. This "low" number of amphibians from Namibia is not only as a result of the generally marginal desert habitat, but also due to Namibia being under studied and under collected. Most amphibians require water to breed and are therefore associated with the permanent water bodies, mainly in northeast Namibia.

There is no permanent surface water in the study area. Any frog species present would be adapted to opportunistic breeding in ephemeral pools after rains. The loss of habitat would be limited to the actual footprint of the exploration. Of the 14 species of frogs that may occur in the study area, two are of conservation interest – the Dombe Dwarf Toad (*Poyntonophrynus dombensis*) and the Spotted Rubber Frog (*Phrynomantis affinis*). They may be rare and seasonal in the area.

1.5.2.5 Mammal Diversity

Namibia is well endowed with mammal diversity with at least 250 species occurring in the country. These include the well-known big and hairy as well as a legion of smaller and lesser-known species. Currently 14 mammal species are considered endemic to Namibia of which 11 species are rodents and small carnivores of which very little is known. Most endemic mammals are associated with the Namib and escarpment with 60% of these rock dwelling (Griffin 1998c).

About 92 species of mammals likely occurs in the Otjiwarongo area, although many of the larger species are less likely because the dense stands of thorny bush make the habitat unsuitable for grazing (e.g., Wildebeest) and hunting (e.g., Cheetah).

Sixteen species are listed as Protected Game under the Nature Conservation Ordinance No.4 of 1975 – Aardwolf (*Proteles cristatus*), Bat-eared Fox (*Otocyon megalotis*), Blue Wildebeest (*Connochaetes taurinus*), Dik-Dik (*Madoqua damarensis*), Duiker (*Sylvicapra grimmea*), Aardvark (*Orycteropus afer*), Pangolin (*Manis temminckii*), Cheetah (*Acinonyx jubatus*), Southern African Hedgehog (*Atelerix frontalis*), Leopard (*Panthera pardus*), Southern African Bushbaby (*Galago maholi*), Honey Badger (*Mellivora capensis*), Red Hartebeest (*Alcelaphus caama*), Cape Fox (*Vulpes chama*), Steenbok (*raphicerus campestris*), and Eland (*Taurotragus oryx*). No endemic mammals occur in the study area.

1.5.2.6 Avian Diversity

Although Namibia's avifauna is comparatively sparse compared to the high rainfall equatorial areas elsewhere in Africa, approximately 658 species have already been recorded with a diverse and unique group of arid endemics (Brown et al. 1998, Maclean 1985). Fourteen species of birds are endemic or near endemic to Namibia with the majority of Namibian endemics occurring in the savannas (30%) of which ten species occur in a north-south belt of dry savannah in central Namibia (Brown et al. 1998).

About 200 bird species are expected to occur within the Otjiwarongo area, which represents a high diversity by Namibian standards. Six endemic species occur in the area; Hartlaub's Francolin (rocky

hillsides), Rüppell's Parrot (large trees), Monteiro's Hornbill (bushveld), Carp's Black Tit (bushveld), and Rockrunner (rocky hillsides). Thirteen Red Data Species of Birds are known to occur in the area; Cape Vulture (Gyps coprotheres), Tawny Eagle (*Aquila rapax*), Booted Eagle (*Hieraaetus pennatus*), Martial Eagle (Polemaetus bellicosus), Bateleur (*Terathopius ecaudatus*), Lappetfaced Vulture (*Torgos tracheliotos),* White headed Vulture (*Trigonoceps occipitalis*), Black Stork (*Ciconia nigra*), White backed Vulture (*Gyps africanus*), Peregrine Falcon (*Falco peregrinus*), Lesser Kestrel (*Falco naumanni*), and Rüppell's Parrot (*Poicephalus rueppellii*).

(Appendix B – Baseline biodiversity study).

1.5.3 Soil

In the general area of Otjiwarongo the relative soil fertility ranges from 'medium to high', (Mendelsohn et al, 2002). The dominant soil type around the proposed project are Camibisols (Chromic Combisols), These were formed very early in geological time, with the majority of the parent material being medium- and fine-textured and deposited during sporadic floods. Cambisols are distinguished by the absence of significant amounts of accumulated clay, organic material, aluminium, and iron, as the parent material is only slightly weathered. Nonetheless, because of their strong water-holding capacity and internal drainage, their fertility is generally moderate to high. Regosols are found towards the south-eastern area of the EPL which are medium - or fine-textured soils of actively eroding landscapes (Figure 6) (Mendelsohn et al, 2002).

1.5.4 Geology

About half of the country (48%) is covered by porous unconsolidated superficial deposits, largely the Namib desert and Kalahari deposits. The remainder of the country is directly underlain by consolidated rocks that have various degrees of fracturing, including karstification in some calcareous rocks. The geology of Otjiwarongo is part of the Damara Supergroup and Gariep Complex, with schists and dolomites (Figure 7) (Miller,2008).

1.5.5 Hydrogeology

Otjiwarongo is part of the Brandberg, Erongo, and Waterberg groundwater areas which have only moderately productive aquifers and where ground water potential is generally low with moderate water potential (Mendelsohn et al, 2002). The area is surrounded by the Kunene South groundwater basin (Figure 7). The marble aquifer north-east of Otjiwarongo is the most significant aquifer in the area, with multiple boreholes drilled to accommodate demand. Rainfall, evapotranspiration, and the amount of water that percolate to the groundwater aquifers all determine the amount of surface water in the area.

1.5.6 Summary Socioeconomic setting

The Otjozondjupa Region is one of Namibia's thirteen regions and is known for outstanding landmarks such as the Waterberg Plateau Park. The region's capital and largest town is Otjiwarongo. The Region is also known for its farming activity, and cattle farming are particularly common in the Okahandja and Otjiwarongo areas. The region comprises seven constituencies: Grootfontein, Otavi, Okakarara, Otjiwarongo, Okahandja, and Omatako.

The 2011 Namibia Population and Housing Census results show that Otjozondjupa had a population of 143 903 people of which 70 001 were women and 73 902 were men. The population grew at an average annual rate of 0.6 percent between 2001 and 2011. The majority of the population of the region - about

54 percent - lived in rural areas. There were 33 192 households, with an average size of 4.2 persons per household.

At the constituency level, Otjiwarongo housed slightly more than 22% of the total population (31 813 persons), up from 17.3% (23 412) ten years ago. The proportion of females in the Otjiwarongo constituency was higher (51.25) than the regional average of 48.6 percent. Okahandja and Otjiwarongo had the greatest proportion of people with birth certificates (about 97 percent each). The greatest growth rate was observed in Otjiwarongo (3.1 percent), while Omatako had a negative growth rate of 4.2 percent.

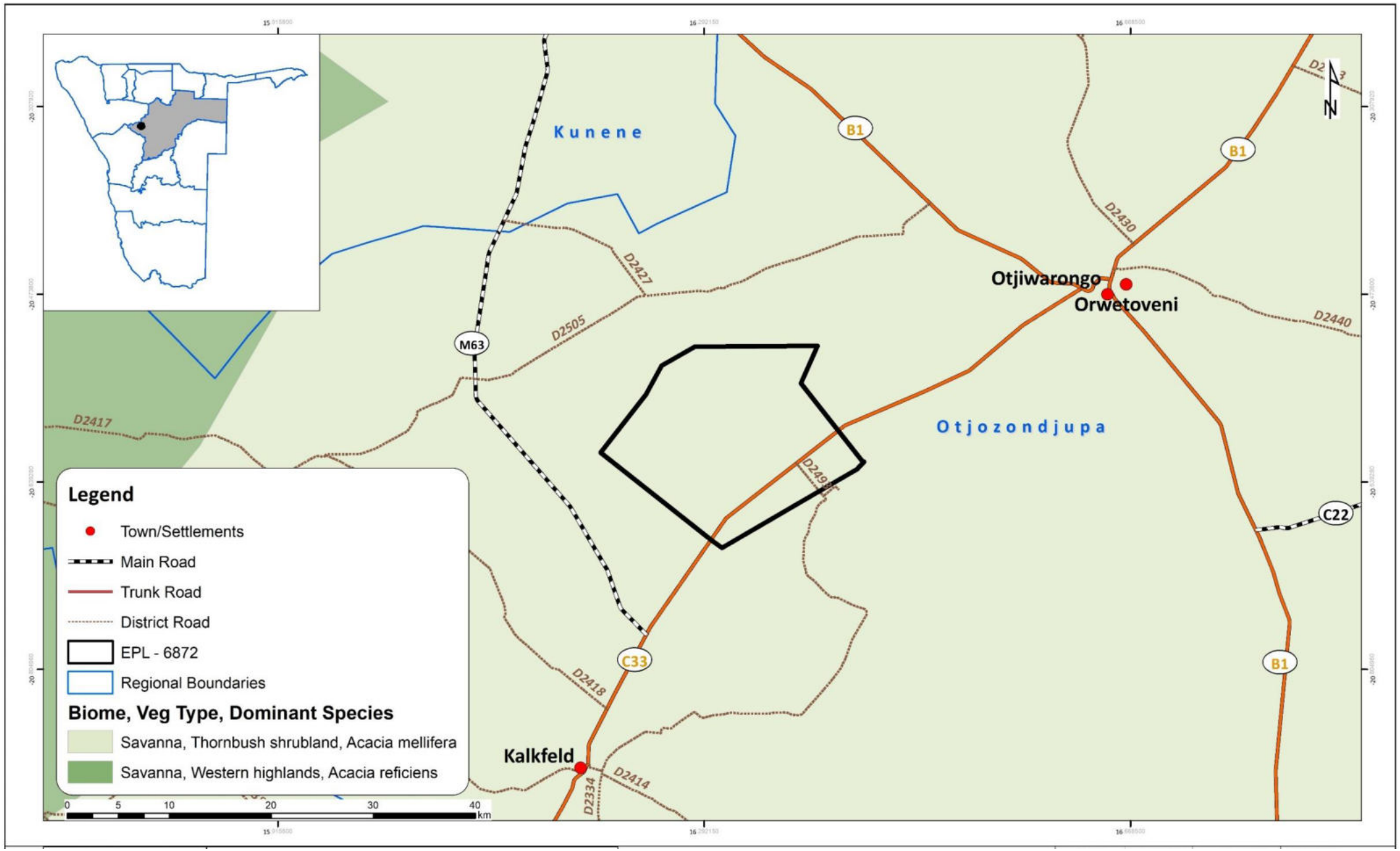

Figure 5: Vegetation map of the EPL 6872

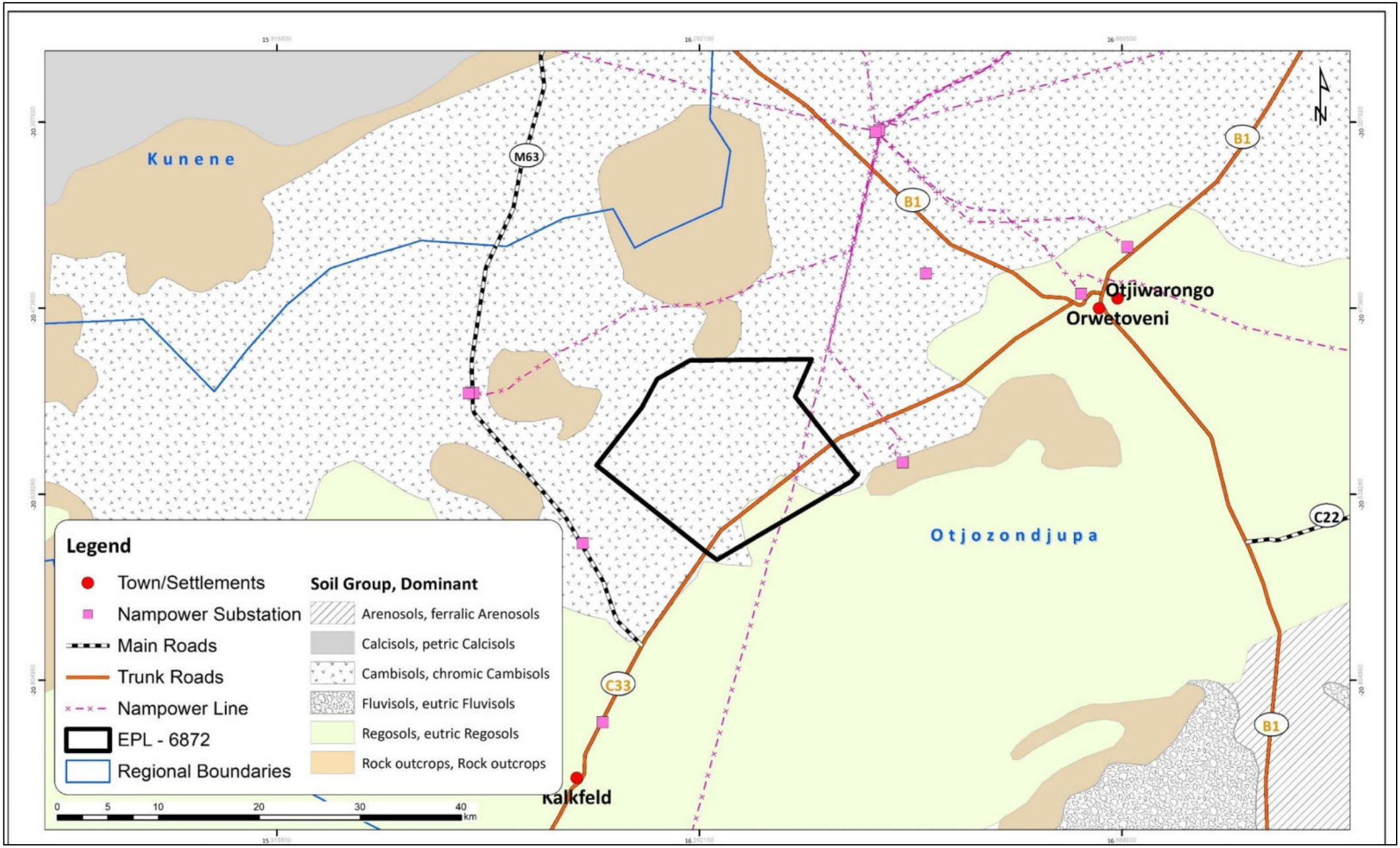

Figure 6: Dominant soil in the EPL 6872 and related infrastructure

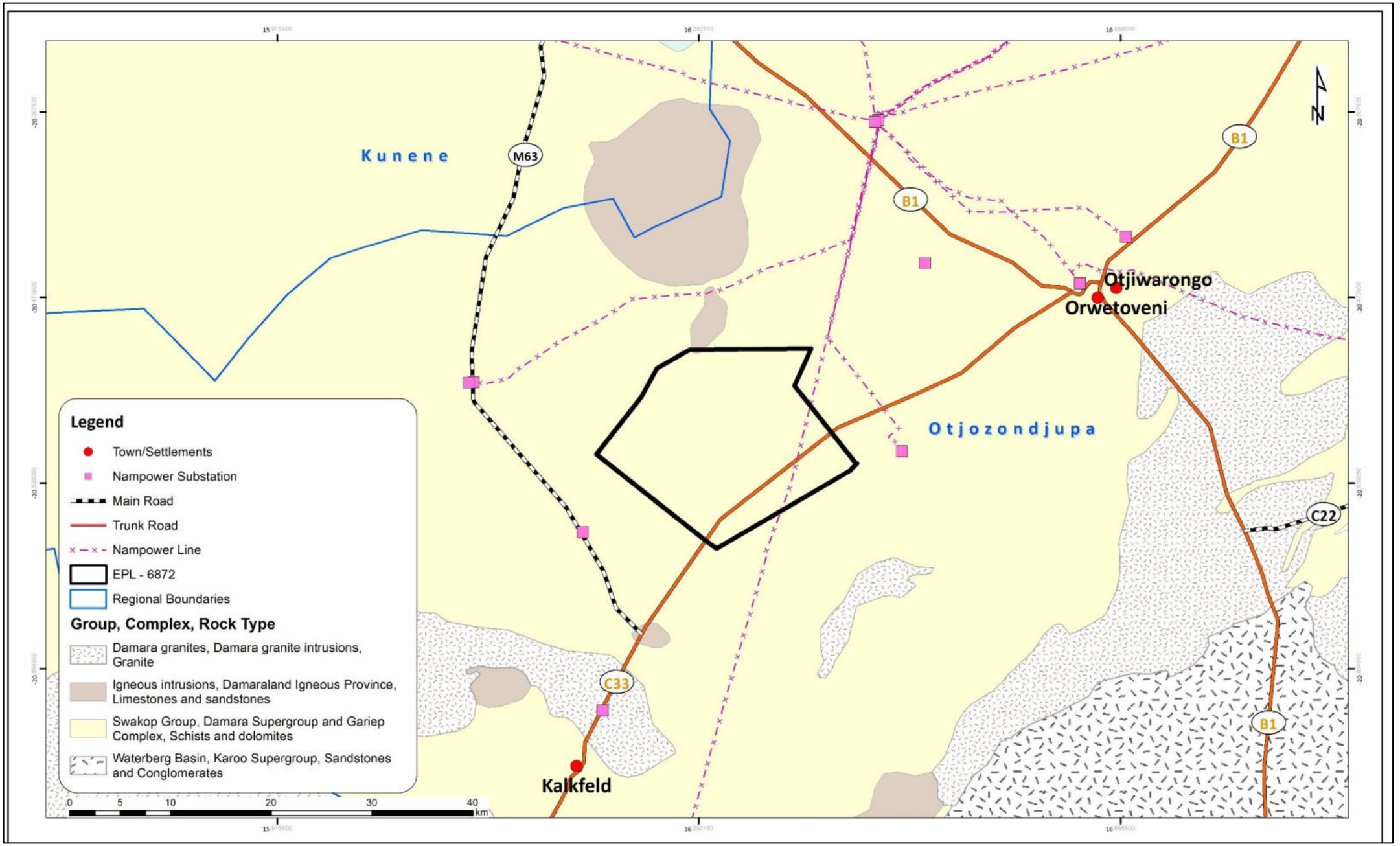

Figure 7: Simplified local geological map of the EPL 6872

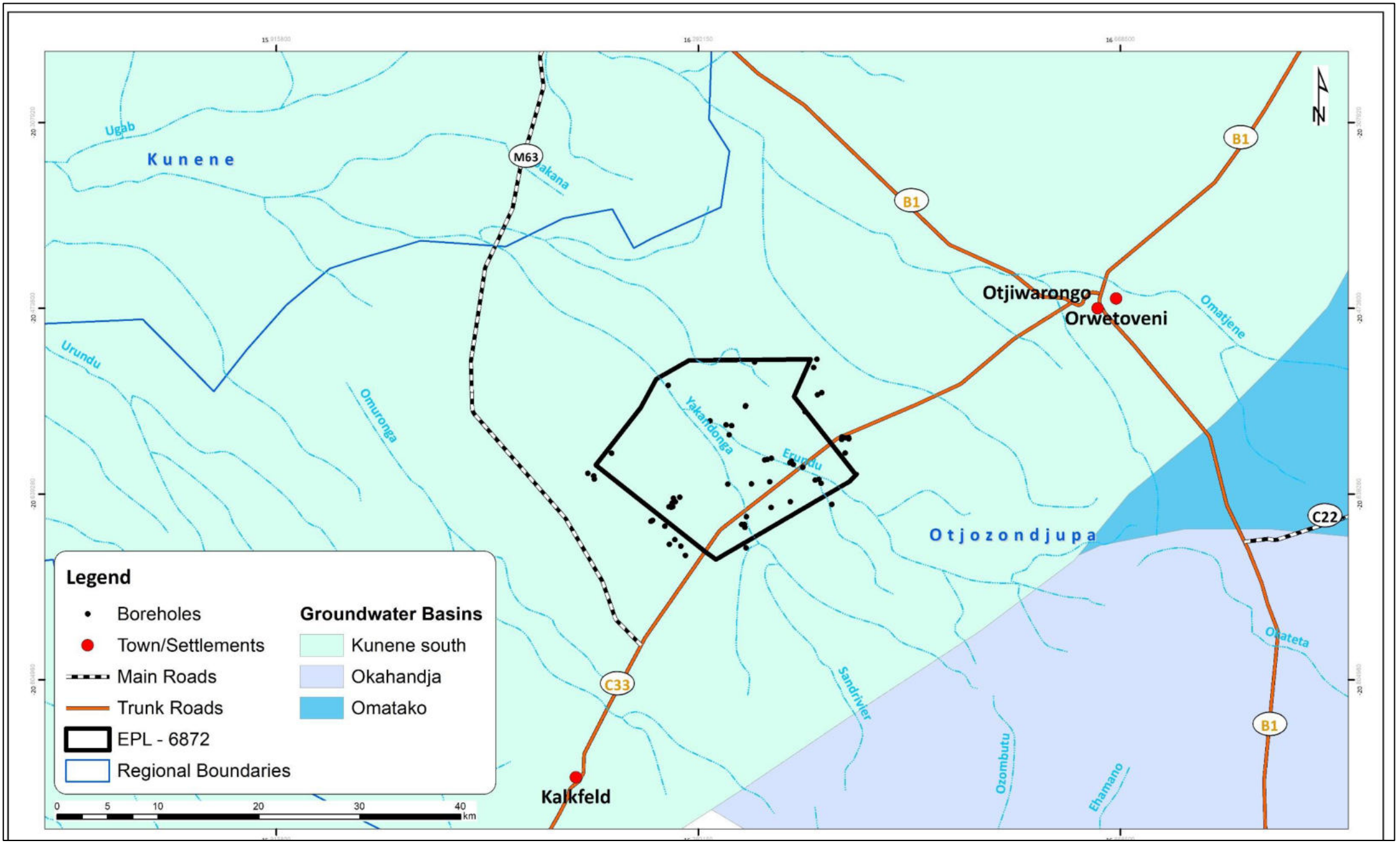

Figure 8: Simplified hydrogeological map of the EPL 6872

2. OBJECTIVES OF THE EMP

2.1 Summary Objectives

This EMP provides a detailed plan of actions required in the implementation of the mitigation measures for minimising and maximising the identified negative and positive impacts respectively. The EMP also provides the management actions with roles and responsibilities requirements for the successful implementation of environmental management strategies by Proponent.

2.2 EMP Management Linkages

The mitigation measures described in this EMP report are based on the impacts assessment results detailed in the EIA Report. The EMP must be continuously updated during the implementation of the proposed project activities and throughout the project lifecycle. This EMP Reports incorporates the provisions of the Namibian Environmental regulations and policies as well as international environmental best practices in mining development, operational, rehabilitation, closure and aftercare activities.

2.3 Summary of Impact Assessment Results

2.3.1 Summary of Impacts Assessment Methodology

The EIA and EMP process used for this project took into considerations the provisions of the Environmental Impact Assessment (EIA) Regulations, 2012 and the Environmental Management Act (EMA), 2007, (Act No. 7 of 2007) as outlined in Figure 9.

The Proponent intends undertake exploration activities covering desktop studies, followed by site-specific activities on targets that may be delineated and using exploration techniques/ methods such as geophysical surveys, geological mapping, trenching, drilling, bulk sampling, and test mining. The detailed outline of all the activities associated with each of the exploration stages as sources of potential environmental impacts are outlined in

Table 1.

The impact assessment methodology adopted a two-dimensional matrix approach in predicting the potential impacts of the proposed project on the receiving environment. The two-dimensional matrix consisted of the following cross-referencing (Table 2 - Table 5):

- The activities linked to the project that could have an impact on the receiving environment, and.
- The existing environmental and social conditions that could possibly be affected by the project.

The impact assessment considerations included land disturbance/land use impacts. potential impacts to specially designated areas. impacts to soil, water, and air resources. impacts to vegetation, wildlife, wildlife habitat, and sensitive species. visual, cultural, paleontological, socioeconomic, and potential impacts from hazardous materials are provided in the EIA Report.

2.3.2 Summary of Impact Assessment Results

In order to determine the likely environmental impacts as well as the overall significant impacts of individual sources associated with the proposed exploration activities within the EPL area (

Table 1), an impact identification and assessment process was undertaken as detailed in this report. Details of the impact assessment results, definitions, methodology as well as the baseline \ receiving environment are provided in the EIA Report.

As detailed in the EIA Report, the significant impact identification and assessment processes focused on the evaluation of the influences of the proposed project activities pathways and the likely targets or receptor (receiving environment). In this process, components of the project activities that are likely to impact the natural environment (physical, biological and socioeconomic) were broken down into individual development stages and activities.

The summary of the overall impact and significant impact assessment results as detailed in the EIA Report associated with the proposed activities / sources of potential impacts with respect to the receiving environment that could potentially be affected are presented in Table 2 - Table 6.

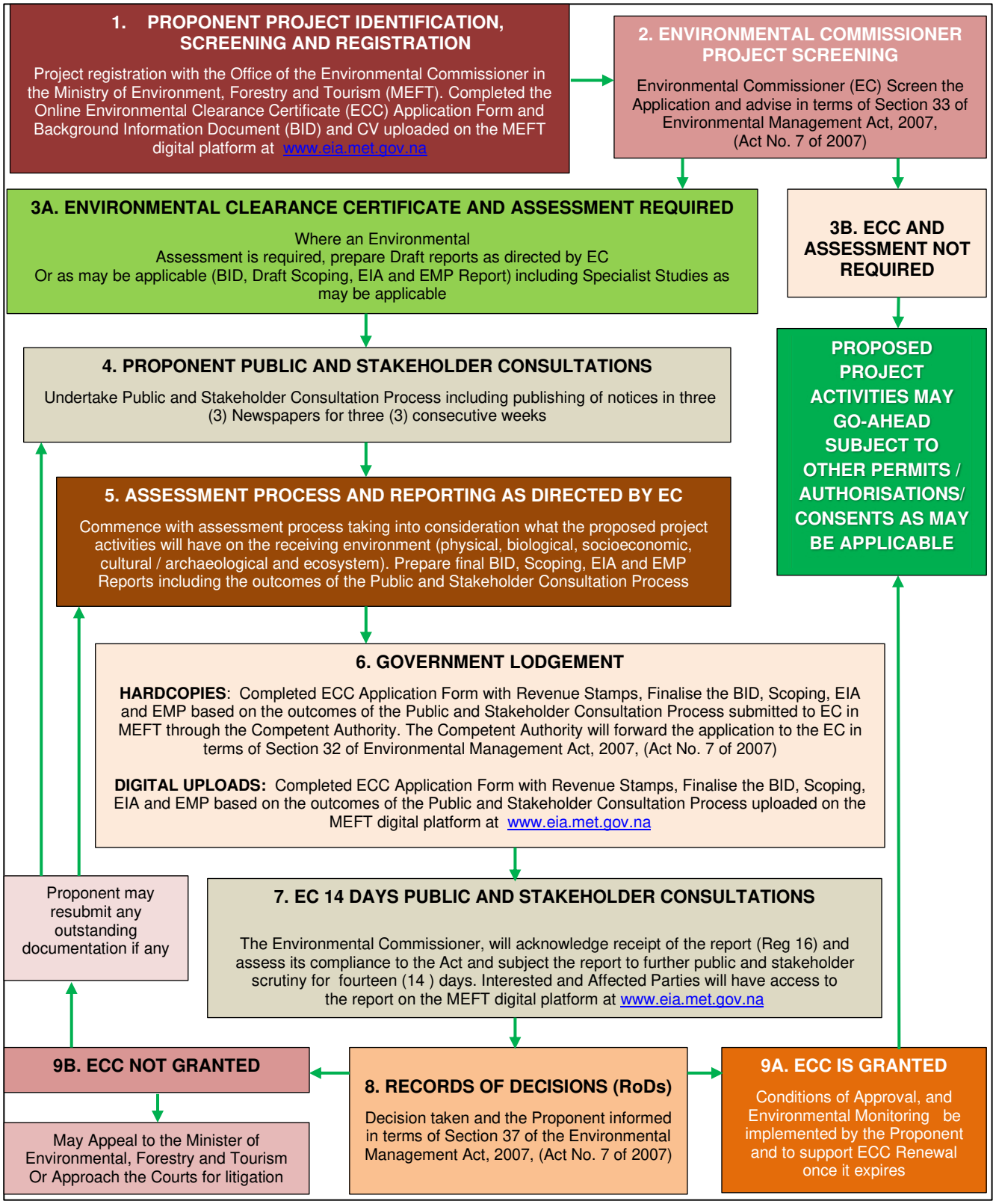

Figure 9: RBS Schematic presentation of Namibia's Environmental Assessment Procedure.

Table 1: Summary of the proposed activities, alternatives and key issues considered during the Environmental Assessment (EA) process covering Scoping, EIA and EMP Processes.

<table>
<tr><th colspan="2">PROJECT ACTIVITIES</th><th>ALTERNATIVES CONSIDERED</th><th colspan="2">Key Issues to be Evaluated and Assessed with Environmental Management Plan (EMP) / Mitigation Measures Developed</th></tr>
<tr><td>1. Project Implementation and Initial Desktop Exploration Activities</td><td>Review of existing information and all previous activities in order identify any potential target/s in within the EPL Area</td><td rowspan="5">(i) Location for Minerals Occurrence: A number of economic deposits are known to exist in different parts of Namibia and some have been explored by different companies over the years. The proponent intends to explore / prospect for possible economic minerals occurrence in the EPL area as licensed. Minerals occurrence is linked to the geology or local rock outcrops and site-specific.

(ii) Other Alternative Land Uses: Game farming, tourism and agriculture

(iii) Ecosystem Function (What the Ecosystem Does.

(iv) Ecosystem Services.

(v) Use Values.

(vi) Non-Use, or Passive Use.

(vii) The No-Action Alternative

(viii) Others to be identified during the public consultation process and preparation of the EIA and EMP Reports</td><td colspan="2">Potential land use conflicts / opportunities for coexistence between proposed exploration and other existing land uses such as conservation, tourism and agriculture</td></tr>
<tr><td>2. Regional Reconnaissance Field-Based</td><td>Reginal mapping and sampling to identify and verify potential targeted areas based on the recommendations of the desktop work undertaken under (1) above</td><td rowspan="2">PHYSICAL ENVIRONMENT</td><td rowspan="2">• Water Quality
• Physical infrastructure and Resources
• Air quality,
• Noise and dust
• Landscape and topography value
• Soil quality
• Climate Change Influences</td></tr>
<tr><td>3. Initial Local Field-Based Activities</td><td>May include: Widely spaced geological mapping, sampling, surveying and possible trenching and drilling in order to determine the viability of any delineated local target/s</td></tr>
<tr><td>4. Detailed Local Field-Based Activities on Delineated Targets If Any</td><td>Following the delineation of potential target/s, conduct detailed mapping, trenching, sampling, surveying and drilling in order to determine the viability of the project.</td><td>BIOLOGICAL ENVIRONMENT</td><td>• Habitat Protected Areas
• Flora
• Fauna
• Ecosystem functions, services, use values and non-Use or passive use</td></tr>
<tr><td>5. Prefeasibility and Feasibility Studies</td><td>Assess the viability of any delineated local target/s and more detailed mapping, trenching, bulk sampling, drilling and test mining activities where applicable. If the project proves viable, a feasibility report and application for Mining License will be undertaken.</td><td>SOCIOECONOMIC, CULTURAL AND ARCHAEOLOGICAL ENVIRONMENT</td><td>• Local, regional and national socioeconomic settings
• Commercial Agriculture
• Community Protected Areas
• Tourism and Recreation
• Cultural, Biological and Archaeological Resources</td></tr>
</table>

Table 2: Results of the sensitivity assessment of the receptors (Physical, Socioeconomic and Biological environments) with respect to the proposed exploration / prospecting activities.

RECEPTOR SENSITIVITY		PHYSICAL ENVIRONMENT						BIOLOGICAL ENVIRONMENT					SOCIOECONOMIC, CULTURAL AND ARCHAEOLOGICAL ENVIRONMENT				
		Water Quality	Physical infrastructure and Resources	Air Quality, Noise and Dust	Landscape Topography	Soil Quality	Climate Change Influences	Habitat	Protected Areas	Flora	Fauna	Ecosystem functions, services, use values and non-Use or passive use	Local, regional and national socioeconomic settings	Commercial Agriculture	Community Protected Areas	Tourism and Recreation	Cultural, Biological and Archaeological Resources
Initial Desktop Exploration Activities	General evaluation of satellite, topographic, land tenure, accessibility, supporting infrastructures and socioeconomic environment data	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	Purchase and analysis of existing Government high resolution magnetics and radiometric geophysical data	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	Purchase and analysis of existing Government aerial hyperspectral	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	Data interpretation and delineating of potential targets for future reconnaissance regional field-based activities for delineated targets	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Regional Reconnaissance	Regional geological, geochemical, topographical and remote sensing mapping and data analysis	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	Regional geochemical sampling aimed at identifying possible targeted based on the results of the initial exploration and regional geological, topographical and remote sensing mapping and analysis undertaken	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

SENSITIVITY RATING		CRITERIA
1	Negligible	The receptor or resource is resistant to change or is of little environmental value.
2	Low	The receptor or resource is tolerant of change without detriment to its character, is of low environmental or social value, or is of local importance.
3	Medium	The receptor or resource has low capacity to absorb change without fundamentally altering its present character, is of high environmental or social value, or is of national importance
4	High	The receptor or resource has moderate capacity to absorb change without significantly altering its present character, has some environmental or social value, or is of district/regional importance.
5	Very High	The receptor or resource has little or no capacity to absorb change without fundamentally altering its present character, is of very high environmental or social value, or is of international importance.

RECEPTOR SENSITIVITY		PHYSICAL ENVIRONMENT						BIOLOGICAL ENVIRONMENT					SOCIOECONOMIC, CULTURAL AND ARCHAEOLOGICAL ENVIRONMENT				
		Water Quality	Physical infrastructure and Resources	Air Quality, Noise and Dust	Landscape Topography	Soil Quality	Climate Change Influences	Habitat	Protected Areas	Flora	Fauna	Ecosystem functions, services, use values and non-Use or passive use	Local, regional and national socioeconomic settings	Commercial Agriculture	Community Protected Areas	Tourism and Recreation	Cultural, Biological and Archaeological Resources
Field-Based Activities	Regional geological mapping aimed at identifying possible targeted based on the results of the initial exploration and regional geological, topographical and remote sensing mapping and analysis undertaken	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	Limited field-based support and logistical activities including exploration camp site lasting between one (1) to two (2) days	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	Laboratory analysis of the samples collected and interpretation of the results and delineating of potential targets for future detailed site-specific exploration if the results are positive and supports further exploration of the delineated targets	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Initial Local Field-Based Activities	Local geochemical sampling aimed at verifying the prospectivity of the target/s delineated during regional reconnaissance field activities	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	Local geological mapping aimed at identifying possible targeted based on the results of the regional geological and analysis undertaken	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	Ground geophysical survey (Subject to the positive outcomes of i and ii above)	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	Possible Trenching (Subject to the outcomes of i - iii above)	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
	Field-based support and logistical activities will be very limited focus on a site-specific area for a very short time (maximum five (5) days)	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2

SENSITIVITY RATING		CRITERIA
1	Negligible	The receptor or resource is resistant to change or is of little environmental value.
2	Low	The receptor or resource is tolerant of change without detriment to its character, is of low environmental or social value, or is of local importance.
3	Medium	The receptor or resource has low capacity to absorb change without fundamentally altering its present character, is of high environmental or social value, or is of national importance
4	High	The receptor or resource has moderate capacity to absorb change without significantly altering its present character, has some environmental or social value, or is of district/regional importance.
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RECEPTOR SENSITIVITY		PHYSICAL ENVIRONMENT						BIOLOGICAL ENVIRONMENT					SOCIOECONOMIC, CULTURAL AND ARCHAEOLOGICAL ENVIRONMENT				
		Water Quality	Physical infrastructure and Resources	Air Quality, Noise and Dust	Landscape Topography	Soil Quality	Climate Change Influences	Habitat	Protected Areas	Flora	Fauna	Ecosystem functions, services, use values and non-Use or passive use	Local, regional and national socioeconomic settings	Commercial Agriculture	Community Protected Areas	Tourism and Recreation	Cultural, Biological and Archaeological Resources
	Laboratory analysis of the samples collected and interpretation of the results and delineating of potential targets	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Detailed Local Field-Based Activities	Access preparation and related logistics to support activities	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
	Local geochemical sampling aimed at verifying the prospectivity of the target/s delineated during the initial field-based activities	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
	Local geological mapping aimed at identifying possible targeted based on the results of the regional geological and analysis undertaken	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
	Ground geophysical survey, trenching, drilling and sampling (Subject to the positive outcomes of i and ii above).	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Prefeasibility and Feasibility Studies	Detailed site-specific field-based support and logistical activities, surveys, detailed geological mapping	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
	Detailed drilling and bulk sampling and testing for ore reserve calculations	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
	Geotechnical studies for mine design	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
	Mine planning and designs including all supporting infrastructures (water, energy and access) and test mining activities	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	EIA and EMP to support the ECC for mining operations	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	Preparation of feasibility report and application for Mining License	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

SENSITIVITY RATING		CRITERIA
1	Negligible	The receptor or resource is resistant to change or is of little environmental value.
2	Low	The receptor or resource is tolerant of change without detriment to its character, is of low environmental or social value, or is of local importance.
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5	Very High	The receptor or resource has little or no capacity to absorb change without fundamentally altering its present character, is of very high environmental or social value, or is of international importance.

Table 3: Results of the scored time period (duration) over which the impact is expected to last.

RECEPTOR SENSITIVITY		PHYSICAL ENVIRONMENT						BIOLOGICAL ENVIRONMENT					SOCIOECONOMIC, CULTURAL AND ARCHAEOLOGICAL ENVIRONMENT				
		Water Quality	Physical infrastructure and Resources	Air Quality, Noise and Dust	Landscape Topography	Soil Quality	Climate Change Influences	Habitat	Protected Areas	Flora	Fauna	Ecosystem functions, services, use values and non-Use or passive use	Local, regional and national socioeconomic settings	Commercial Agriculture	Community Protected Areas	Tourism and Recreation	Cultural, Biological and Archaeological Resources
Initial Desktop Exploration Activities	General evaluation of satellite, topographic, land tenure, accessibility, supporting infrastructures and socioeconomic environment data	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	Purchase and analysis of existing Government high resolution magnetics and radiometric geophysical data	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	Purchase and analysis of existing Government aerial hyperspectral	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	Data interpretation and delineating of potential targets for future reconnaissance regional field-based activities for delineated targets	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
Regional Reconnaissance Field-Based Activities	Regional geological, geochemical, topographical and remote sensing mapping and data analysis	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	Regional geochemical sampling aimed at identifying possible targeted based on the results of the initial exploration and regional geological, topographical and remote sensing mapping and analysis undertaken	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	Regional geological mapping aimed at identifying possible targeted based on the results of the initial exploration and regional geological, topographical and remote sensing mapping and analysis undertaken	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	Limited field-based support and logistical activities including exploration camp site lasting between one (1) to two (2) days	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T

SCALE		DESCRIPTION
T		Temporary
P		Permanent

RECEPTOR SENSITIVITY		PHYSICAL ENVIRONMENT						BIOLOGICAL ENVIRONMENT					SOCIOECONOMIC, CULTURAL AND ARCHAEOLOGICAL ENVIRONMENT				
		Water Quality	Physical infrastructure and Resources	Air Quality, Noise and Dust	Landscape Topography	Soil Quality	Climate Change Influences	Habitat	Protected Areas	Flora	Fauna	Ecosystem functions, services, use values and non-Use or passive use	Local, regional and national socioeconomic settings	Commercial Agriculture	Community Protected Areas	Tourism and Recreation	Cultural, Biological and Archaeological Resources
	Laboratory analysis of the samples collected and interpretation of the results and delineating of potential targets for future detailed site-specific exploration if the results are positive and supports further exploration of the delineated targets	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
Initial Local Field-Based Activities	Local geochemical sampling aimed at verifying the prospectivity of the target/s delineated during regional reconnaissance field activities	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	Local geological mapping aimed at identifying possible targeted based on the results of the regional geological and analysis undertaken	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	Ground geophysical survey (Subject to the positive outcomes of i and ii above)	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	Possible Trenching (Subject to the outcomes of i - iii above)	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	Field-based support and logistical activities will be very limited focus on a site-specific area for a very short time (maximum five (5) days)	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	Laboratory analysis of the samples collected and interpretation of the results and delineating of potential targets	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
Detailed Local Field-Based Activities	Access preparation and related logistics to support activities	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	Local geochemical sampling aimed at verifying the prospectivity of the target/s delineated during the initial field-based activities	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	Local geological mapping aimed at identifying possible targeted based on the results of the regional geological and analysis undertaken	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T

SCALE		DESCRIPTION
T		Temporary
P		Permanent

RECEPTOR SENSITIVITY		PHYSICAL ENVIRONMENT						BIOLOGICAL ENVIRONMENT					SOCIOECONOMIC, CULTURAL AND ARCHAEOLOGICAL ENVIRONMENT				
SCALE	DESCRIPTION	Water Quality	Physical infrastructure and Resources	Air Quality, Noise and Dust	Landscape Topography	Soil Quality	Climate Change Influences	Habitat	Protected Areas	Flora	Fauna	Ecosystem functions, services, use values and non-Use or passive use	Local, regional and national socioeconomic settings	Commercial Agriculture	Community Protected Areas	Tourism and Recreation	Cultural, Biological and Archaeological Resources
T	Temporary																
P	Permanent																
	Ground geophysical survey, trenching, drilling and sampling (Subject to the positive outcomes of i and ii above).	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
Prefeasibility and Feasibility Studies	Detailed site-specific field-based support and logistical activities, surveys, detailed geological mapping	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	Detailed drilling and bulk sampling and testing for ore reserve calculations	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	Geotechnical studies for mine design	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	Mine planning and designs including all supporting infrastructures (water, energy and access) and test mining activities	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	EIA and EMP to support the ECC for mining operations	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	Preparation of feasibility report and application for Mining License	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T

Table 4: Results of the scored geographical extent of the induced change.

SCALE		DESCRIPTION
L		limited impact on location
O		impact of importance for municipality
R		impact of regional character
N		impact of national character
M		impact of cross-border character

GEOGRAPHICAL EXTENT OF IMPACT		PHYSICAL ENVIRONMENT						BIOLOGICAL ENVIRONMENT					SOCIOECONOMIC, CULTURAL AND ARCHAEOLOGICAL ENVIRONMENT				
		Water Quality	Physical infrastructure and Resources	Air Quality, Noise and Dust	Landscape Topography	Soil Quality	Climate Change Influences	Habitat	Protected Areas	Flora	Fauna	Ecosystem functions, services, use values and non-Use or passive use	Local, regional and national socioeconomic settings	Commercial Agriculture	Community Protected Areas	Tourism and Recreation	Cultural, Biological and Archaeological Resources
Initial Desktop Exploration Activities	General evaluation of satellite, topographic, land tenure, accessibility, supporting infrastructures and socioeconomic environment data	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L
	Purchase and analysis of existing Government high resolution magnetics and radiometric geophysical data	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L
	Purchase and analysis of existing Government aerial hyperspectral	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L
	Data interpretation and delineating of potential targets for future reconnaissance regional field-based activities for delineated targets	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L
Regional Reconnaissance Field-Based Activities	Regional geological, geochemical, topographical and remote sensing mapping and data analysis	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L
	Regional geochemical sampling aimed at identifying possible targeted based on the results of the initial exploration and regional geological, topographical and remote sensing mapping and analysis undertaken	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L
	Regional geological mapping aimed at identifying possible targeted based on the results of the initial exploration and regional geological, topographical and remote sensing mapping and analysis undertaken	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L
	Limited field-based support and logistical activities including exploration camp site lasting between one (1) to two (2) days	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L

GEOGRAPHICAL EXTENT OF IMPACT		PHYSICAL ENVIRONMENT						BIOLOGICAL ENVIRONMENT					SOCIOECONOMIC, CULTURAL AND ARCHAEOLOGICAL ENVIRONMENT				
		Water Quality	Physical infrastructure and Resources	Air Quality, Noise and Dust	Landscape Topography	Soil Quality	Climate Change Influences	Habitat	Protected Areas	Flora	Fauna	Ecosystem functions, services, use values and non-Use or passive use	Local, regional and national socioeconomic settings	Commercial Agriculture	Community Protected Areas	Tourism and Recreation	Cultural, Biological and Archaeological Resources
	Laboratory analysis of the samples collected and interpretation of the results and delineating of potential targets for future detailed site-specific exploration if the results are positive and supports further exploration of the delineated targets	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L
Initial Local Field-Based Activities	Local geochemical sampling aimed at verifying the prospectivity of the target/s delineated during regional reconnaissance field activities	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L
	Local geological mapping aimed at identifying possible targeted based on the results of the regional geological and analysis undertaken	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L
	Ground geophysical survey (Subject to the positive outcomes of i and ii above)	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L
	Possible Trenching (Subject to the outcomes of i - iii above)	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L
	Field-based support and logistical activities will be very limited focus on a site-specific area for a very short time (maximum five (5) days)	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L
	Laboratory analysis of the samples collected and interpretation of the results and delineating of potential targets	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L
Detailed Local Field-Based Activities	Access preparation and related logistics to support activities	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L
	Local geochemical sampling aimed at verifying the prospectivity of the target/s delineated during the initial field-based activities	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L

SCALE		DESCRIPTION
L		limited impact on location
O		impact of importance for municipality
R		impact of regional character
N		impact of national character
M		impact of cross-border character

GEOGRAPHICAL EXTENT OF IMPACT		PHYSICAL ENVIRONMENT						BIOLOGICAL ENVIRONMENT					SOCIOECONOMIC, CULTURAL AND ARCHAEOLOGICAL ENVIRONMENT				
SCALE	DESCRIPTION	Water Quality	Physical infrastructure and Resources	Air Quality, Noise and Dust	Landscape Topography	Soil Quality	Climate Change Influences	Habitat	Protected Areas	Flora	Fauna	Ecosystem functions, services, use values and non-Use or passive use	Local, regional and national socioeconomic settings	Commercial Agriculture	Community Protected Areas	Tourism and Recreation	Cultural, Biological and Archaeological Resources
L	limited impact on location																
O	impact of importance for municipality																
R	impact of regional character																
N	impact of national character																
M	impact of cross-border character																
	Local geological mapping aimed at identifying possible targeted based on the results of the regional geological and analysis undertaken	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L
	Ground geophysical survey, trenching, drilling and sampling (Subject to the positive outcomes of i and ii above).	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L
Detailed Local Field-Based Activities	Access preparation and related logistics to support activities	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L
	Local geochemical sampling aimed at verifying the prospectivity of the target/s delineated during the initial field-based activities	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L
	Local geological mapping aimed at identifying possible targeted based on the results of the regional geological and analysis undertaken	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L
	Ground geophysical survey, trenching, drilling and sampling (Subject to the positive outcomes of i and ii above).	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L
Prefeasibility and Feasibility Studies	Detailed site-specific field-based support and logistical activities, surveys, detailed geological mapping	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L
	Detailed drilling and bulk sampling and testing for ore reserve calculations	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L
	Geotechnical studies for mine design	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L
	Mine planning and designs including all supporting infrastructures (water, energy and access) and test mining activities	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L
	EIA and EMP to support the ECC for mining operations	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L

GEOGRAPHICAL EXTENT OF IMPACT		PHYSICAL ENVIRONMENT						BIOLOGICAL ENVIRONMENT					SOCIOECONOMIC, CULTURAL AND ARCHAEOLOGICAL ENVIRONMENT				
SCALE	**DESCRIPTION**	Water Quality	Physical infrastructure and Resources	Air Quality, Noise and Dust	Landscape Topography	Soil Quality	Climate Change Influences	Habitat	Protected Areas	Flora	Fauna	Ecosystem functions, services, use values and non-Use or passive use	Local, regional and national socioeconomic settings	Commercial Agriculture	Community Protected Areas	Tourism and Recreation	Cultural, Biological and Archaeological Resources
L	limited impact on location																
O	impact of importance for municipality																
R	impact of regional character																
N	impact of national character																
M	impact of cross-border character																
Preparation of feasibility report and application for Mining License		L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L

Table 5: Results of the qualitative scale of probability occurrence.

IMPACT PROBABILITY OCCURRENCE		PHYSICAL ENVIRONMENT						BIOLOGICAL ENVIRONMENT					SOCIOECONOMIC, CULTURAL AND ARCHAEOLOGICAL ENVIRONMENT				
		Water Quality	Physical infrastructure and Resources	Air Quality, Noise and Dust	Landscape Topography	Soil Quality	Climate Change Influences	Habitat	Protected Areas	Flora	Fauna	Ecosystem functions, services, use values and non-Use or passive use	Local, regional and national socioeconomic settings	Commercial Agriculture	Community Protected Areas	Tourism and Recreation	Cultural, Biological and Archaeological Resources
Initial Desktop Exploration Activities	General evaluation of satellite, topographic, land tenure, accessibility, supporting infrastructures and socioeconomic environment data	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
	Purchase and analysis of existing Government high resolution magnetics and radiometric geophysical data	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
	Purchase and analysis of existing Government aerial hyperspectral	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
	Data interpretation and delineating of potential targets for future reconnaissance regional field-based activities for delineated targets	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
Regional Reconnaissance Field-Based Activities	Regional geological, geochemical, topographical and remote sensing mapping and data analysis	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
	Regional geochemical sampling aimed at identifying possible targeted based on the results of the initial exploration and regional geological, topographical and remote sensing mapping and analysis undertaken	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
	Regional geological mapping aimed at identifying possible targeted based on the results of the initial exploration and regional geological, topographical and remote sensing mapping and analysis undertaken	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A

SCALE		DESCRIPTION
A		Extremely unlikely (e.g. never heard of in the industry)
B		Unlikely (e.g. heard of in the industry but considered unlikely)
C		Low likelihood (egg such incidents/impacts have occurred but are uncommon)
D		Medium likelihood (e.g. such incidents/impacts occur several times per year within the industry)
E		High likelihood (e.g. such incidents/impacts occurs several times per year at each location where such works are undertaken)

IMPACT PROBABILITY OCCURRENCE		PHYSICAL ENVIRONMENT						BIOLOGICAL ENVIRONMENT					SOCIOECONOMIC, CULTURAL AND ARCHAEOLOGICAL ENVIRONMENT				
		Water Quality	Physical infrastructure and Resources	Air Quality, Noise and Dust	Landscape Topography	Soil Quality	Climate Change Influences	Habitat	Protected Areas	Flora	Fauna	Ecosystem functions, services, use values and non-Use or passive use	Local, regional and national socioeconomic settings	Commercial Agriculture	Community Protected Areas	Tourism and Recreation	Cultural, Biological and Archaeological Resources
	Limited field-based support and logistical activities including exploration camp site lasting between one (1) to two (2) days	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
	Laboratory analysis of the samples collected and interpretation of the results and delineating of potential targets for future detailed site-specific exploration if the results are positive and supports further exploration of the delineated targets	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
Initial Local Field-Based Activities	Local geochemical sampling aimed at verifying the prospectivity of the target/s delineated during regional reconnaissance field activities	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
	Local geological mapping aimed at identifying possible targeted based on the results of the regional geological and analysis undertaken	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
	Ground geophysical survey (Subject to the positive outcomes of i and ii above)	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
	Possible Trenching (Subject to the outcomes of i - iii above)	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
	Field-based support and logistical activities will be very limited focus on a site-specific area for a very short time (maximum five (5) days)	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
	Laboratory analysis of the samples collected and interpretation of the results and delineating of potential targets	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
Detailed Local Field-Based Activities	Access preparation and related logistics to support activities	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
	Local geochemical sampling aimed at verifying the prospectivity of the target/s delineated during the initial field-based activities	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C

SCALE		DESCRIPTION
A		Extremely unlikely (e.g. never heard of in the industry)
B		Unlikely (e.g. heard of in the industry but considered unlikely)
C		Low likelihood (egg such incidents/impacts have occurred but are uncommon)
D		Medium likelihood (e.g. such incidents/impacts occur several times per year within the industry)
E		High likelihood (e.g. such incidents/impacts occurs several times per year at each location where such works are undertaken)

IMPACT PROBABILITY OCCURRENCE		PHYSICAL ENVIRONMENT						BIOLOGICAL ENVIRONMENT					SOCIOECONOMIC, CULTURAL AND ARCHAEOLOGICAL ENVIRONMENT				
		Water Quality	Physical infrastructure and Resources	Air Quality, Noise and Dust	Landscape Topography	Soil Quality	Climate Change Influences	Habitat	Protected Areas	Flora	Fauna	Ecosystem functions, services, use values and non-Use or passive use	Local, regional and national socioeconomic settings	Commercial Agriculture	Community Protected Areas	Tourism and Recreation	Cultural, Biological and Archaeological Resources
	Local geological mapping aimed at identifying possible targeted based on the results of the regional geological and analysis undertaken	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	Ground geophysical survey, trenching, drilling and sampling (Subject to the positive outcomes of i and ii above).	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
Prefeasibility and Feasibility Studies	Detailed site-specific field-based support and logistical activities, surveys, detailed geological mapping	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	Detailed drilling and bulk sampling and testing for ore reserve calculations	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	Geotechnical studies for mine design	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	Mine planning and designs including all supporting infrastructures (water, energy and access) and test mining activities	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	EIA and EMP to support the ECC for mining operations	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
	Preparation of feasibility report and application for Mining License	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A

SCALE		DESCRIPTION
A		Extremely unlikely (e.g. never heard of in the industry)
B		Unlikely (e.g. heard of in the industry but considered unlikely)
C		Low likelihood (egg such incidents/impacts have occurred but are uncommon)
D		Medium likelihood (e.g. such incidents/impacts occur several times per year within the industry)
E		High likelihood (e.g. such incidents/impacts occurs several times per year at each location where such works are undertaken)

Table 6: Significant impact assessment matrix for the proposed exploration activities.

SIGNIFICANT IMPACT		PHYSICAL ENVIRONMENT						BIOLOGICAL ENVIRONMENT					SOCIOECONOMIC, CULTURAL AND ARCHAEOLOGICAL ENVIRONMENT				
		Water Quality	Physical infrastructure and Resources	Air Quality, Noise and Dust	Landscape Topography	Soil Quality	Climate Change Influences	Habitat	Protected Areas	Flora	Fauna	Ecosystem functions, services, use values and non-Use or passive use	Local, regional and national socioeconomic settings	Commercial Agriculture	Community Protected Areas	Tourism and Recreation	Cultural, Biological and Archaeological Resources
Initial Desktop Exploration Activities	General evaluation of satellite, topographic, land tenure, accessibility, supporting infrastructures and socioeconomic environment data	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
	Purchase and analysis of existing Government high resolution magnetics and radiometric geophysical data	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
	Purchase and analysis of existing Government aerial hyperspectral	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
	Data interpretation and delineating of potential targets for future reconnaissance regional field-based activities for delineated targets	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
Regional Reconnaissance Field-Based Activities	Regional geological, geochemical, topographical and remote sensing mapping and data analysis	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
	Regional geochemical sampling aimed at identifying possible targeted based on the results of the initial exploration and regional geological, topographical and remote sensing mapping and analysis undertaken	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
	Regional geological mapping aimed at identifying possible targeted based on the results of the initial exploration and regional geological, topographical and remote sensing mapping and analysis undertaken	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
	Limited field-based support and logistical activities including exploration camp site lasting between one (1) to two (2) days	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1

IMPACT SEVERITY (Magnitude, Duration, Extent, Probability)	RECEPTOR CHARACTERISTICS (SENSITIVITY)				
	Very High (5)	High(4)	Medium (3)	Low (2)	Negligible (1)
Very High (5)	Major [5/5]	Major [4/5[	Moderate [3/5]	Moderate [2 /5]	Minor 1/5
High (4)	Major [5/4]	Major [4/4]	Moderate [3/4]	Moderate [2/4]	Minor[1/4]
Medium (3)	Major [5/3]	Moderate[4/3]	Moderate[3/3]	Minor[2/3]	None[1/3]
Low (2)	Moderate [5/2]	Moderate[4/2]	Minor[3/2]	None[2/2]	None[1/2]
Negligible (1)	Minor [5/1]	Minor [4/1]	None [3/1]	None [2/1]	None [1/1]

SIGNIFICANT IMPACT		PHYSICAL ENVIRONMENT						BIOLOGICAL ENVIRONMENT					SOCIOECONOMIC, CULTURAL AND ARCHAEOLOGICAL ENVIRONMENT				
		Water Quality	Physical infrastructure and Resources	Air Quality, Noise and Dust	Landscape Topography	Soil Quality	Climate Change Influences	Habitat	Protected Areas	Flora	Fauna	Ecosystem functions, services, use values and non-Use or passive use	Local, regional and national socioeconomic settings	Commercial Agriculture	Community Protected Areas	Tourism and Recreation	Cultural, Biological and Archaeological Resources
	Laboratory analysis of the samples collected and interpretation of the results and delineating of potential targets for future detailed site-specific exploration if the results are positive and supports further exploration of the delineated targets	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
Initial Local Field-Based Activities	Local geochemical sampling aimed at verifying the prospectivity of the target/s delineated during regional reconnaissance field activities	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
	Local geological mapping aimed at identifying possible targeted based on the results of the regional geological and analysis undertaken	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
	Ground geophysical survey (Subject to the positive outcomes of i and ii above)	2\2	2\2	2\2	2\2	2\2	2\2	2\2	2\2	2\2	2\2	2\2	2\2	2\2	2\2	2\2	2\2
	Possible Trenching (Subject to the outcomes of i - iii above)	2\2	2\2	3/2	3/2	2\2	2\2	3/2	3/2	3/2	2\2	2\2	2\2	2\2	2\2	2\2	2\2
	Field-based support and logistical activities will be very limited focus on a site-specific area for a very short time (maximum five (5) days)	2\2	2\2	2\2	2\2	2\2	2\2	3/2	3/2	3/2	3/2	3/2	2\2	2\2	2\2	2\2	2\2
	Laboratory analysis of the samples collected and interpretation of the results and delineating of potential targets	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
Detailed Local Field-Based Activities	Access preparation and related logistics to support activities	2\2	2\2	2\2	2\2	2\2	2\2	3/2	3/2	3/2	3/2	3/2	2\2	2\2	2\2	2\2	2\2
	Local geochemical sampling aimed at verifying the prospectivity of the target/s delineated during the initial field-based activities	2\2	2\2	2\2	2\2	2\2	2\2	3/2	3/2	3/2	3/2	3/2	2\2	2\2	2\2	2\2	2\2
	Local geological mapping aimed at identifying possible targeted based on the results of the regional geological and analysis undertaken	2\2	2\2	2\2	2\2	2\2	2\2	2\2	2\2	2\2	2\2	2\2	2\2	2\2	2\2	2\2	2\2

IMPACT SEVERITY (Magnitude, Duration, Extent, Probability)	RECEPTOR CHARACTERISTICS (SENSITIVITY)				
	Very High (5)	High(4)	Medium (3)	Low (2)	Negligible (1)
Very High (5)	Major [5/5]	Major [4/5[	Moderate [3/5]	Moderate [2 /5]	Minor 1/5
High (4)	Major [5/4]	Major [4/4]	Moderate [3/4]	Moderate [2/4]	Minor[1/4]
Medium (3)	Major [5/3]	Moderate[4/3]	Moderate[3/3]	Minor[2/3]	None[1/3]
Low (2)	Moderate [5/2]	Moderate[4/2]	Minor[3/2]	None[2/2]	None[1/2]
Negligible (1)	Minor [5/1]	Minor [4/1]	None [3/1]	None [2/1]	None [1/1]

SIGNIFICANT IMPACT		PHYSICAL ENVIRONMENT						BIOLOGICAL ENVIRONMENT					SOCIOECONOMIC, CULTURAL AND ARCHAEOLOGICAL ENVIRONMENT				
		Water Quality	Physical infrastructure and Resources	Air Quality, Noise and Dust	Landscape Topography	Soil Quality	Climate Change Influences	Habitat	Protected Areas	Flora	Fauna	Ecosystem functions, services, use values and non-Use or passive use	Local, regional and national socioeconomic settings	Commercial Agriculture	Community Protected Areas	Tourism and Recreation	Cultural, Biological and Archaeological Resources
	Ground geophysical survey, trenching, drilling and sampling (Subject to the positive outcomes of i and ii above).	2\2	2\2	2\2	2\2	2\2	2\2	3/2	3/2	3/2	3/2	3/2	2\2	2\2	2\2	2\2	2\2
Prefeasibility and Feasibility Studies	Detailed site-specific field-based support and logistical activities, surveys, detailed geological mapping	2\2	2\2	2\2	2\2	2\2	2\2	2\2	2\2	2\2	2\2	2\2	2\2	2\2	2\2	2\2	2\2
	Detailed drilling and bulk sampling and testing for ore reserve calculations	3/3	3/3	3/3	3/3	3/3	3/3	3/3	3/3	3/3	3/3	3/3	3/3	3/3	3/3	3/3	3/3
	Geotechnical studies for mine design	2\2	2\2	2\2	2\2	2\2	2\2	2\2	2\2	2\2	2\2	2\2	2\2	2\2	2\2	2\2	2\2
	Mine planning and designs including all supporting infrastructures (water, energy and access) and test mining activities	3/3	3/3	3/3	3/3	3/3	3/3	3/3	3/3	3/3	3/3	3/3	3/3	3/3	3/3	3/3	3/3
	EIA and EMP to support the ECC for mining operations	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
	Preparation of feasibility report and application for Mining License	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1

IMPACT SEVERITY (Magnitude, Duration, Extent, Probability)	RECEPTOR CHARACTERISTICS (SENSITIVITY)				
	Very High (5)	High(4)	Medium (3)	Low (2)	Negligible (1)
Very High (5)	Major [5/5]	Major [4/5[	Moderate [3/5]	Moderate [2 /5]	Minor 1/5
High (4)	Major [5/4]	Major [4/4]	Moderate [3/4]	Moderate [2/4]	Minor[1/4]
Medium (3)	Major [5/3]	Moderate[4/3]	Moderate[3/3]	Minor[2/3]	None[1/3]
Low (2)	Moderate [5/2]	Moderate[4/2]	Minor[3/2]	None[2/2]	None[1/2]
Negligible (1)	Minor [5/1]	Minor [4/1]	None [3/1]	None [2/1]	None [1/1]

2.4 Implementation of the EMP

2.4.1 Roles and Responsibilities

Management of the environmental elements that may be affected by the different activities of the proposed / ongoing exploration is an important element of the proposed / ongoing exploration activities. The EMP also identifies the activity groups I environmental elements, the aspects I targets, the indicators, the schedule for implementation and who should be responsible for the management to prevent major impacts that the different exploration activities may have on the receiving environment (physical and biological environments).

2.4.2 Proponent's Representative (PR) / Project Manager (PM)

The Proponent is to appoint a Proponent's Representative (PR) / Project Manager (PM) with the following responsibilities with respect to the EMP implementation:

- Act as the site project manager and implementing agent.
- Ensure that the Proponent's responsibilities are executed in compliance with the relevant legislation.
- Ensure that all the necessary environmental authorizations and permits have been obtained.
- Assist the exploration contractor/s in finding environmentally responsible solutions to challenges that may arise.
- Should the PR be of the opinion that a serious threat to, or impact on the environment may be caused by the exploration activities, he/she may stop work. the Proponent must be informed of the reasons for the stoppage as soon as possible.
- The PR has the authority to conduct disciplinary proceedings in accordance with the company policies and national legislation requirements and provisions for transgressions of basic conduct rules and/or contravention of the EMP.
- Should the Contractor or his/her employees fail to show adequate consideration for the environmental aspects related to the EMP, the PR can have person(s) and/or equipment removed from the site or work suspended until the matter is remedied.
- Maintain open and direct lines of communication between the landowners and Proponent, as well as any other identified Interested and Affected Parties (I&APs) with regards to environmental matters, and.
- Attend regular site meetings and inspections as may be required for the proposed / ongoing exploration programme.

2.4.3 Project Health, Safety and Environment (Project HSE)

The Proponent is to appoint a Project Health, Safety and Environment (Project HSE) with the following responsibilities with respect to the EMP implementation:

- Assist the PR in ensuring that the necessary environmental authorizations and permits have been obtained.

- Assist the PR and Contractor in finding environmentally responsible solutions to challenges that may arise.

- Conduct environmental monitoring as per EMP requirements.

- Carry out regular site inspections (on average once per week) of all exploration areas with regards to compliance with the EMP. report any non-compliance(s) to the PR as soon as possible.

- Organize for an independent internal audit on the implementation of and compliance to the EMP to be carried out half way through each field-based exploration activity. audit reports to be submitted to the PR.

- Continuously review the EMP and recommend additions and/or changes to the EMP document.

- Monitor the Contractor's environmental awareness training.

- Keep records of all activities related to environmental control and monitoring. the latter to include a photographic record of the exploration activities, rehabilitation process, and a register of all major incidents, and.

- Attend regular site meetings.

2.4.4 Contractors and Subcontractors

The responsibilities of the Contractors and Subcontractors that may be appointed by the Proponent to undertake certain field-based activities of the proposed / ongoing exploration programme include:

- Comply with the relevant legislation and the EMP provision.

- Preparation and submission to the Proponent through the Project HSE of the following Management Plans:

    - Environmental awareness training and inductions.

    - Emergency preparedness and response.

    - Waste management, and.

    - Health and safety.

- Ensure adequate environmental awareness training for senior site personnel.

- Environmental awareness presentations (inductions) to be given to all site personnel prior to work commencement. the Project HSE is to provide the course content and the following topics, at least but not limited to, should be covered:
    - The importance of complying with the EMP provisions.
    - Roles and responsibilities, including emergency preparedness.
    - Basic rules of conduct (do's and don'ts).
    - EMP: aspects, impacts and mitigation.
    - Conduct disciplinary proceedings in accordance with the company policies and national legislation requirements and provisions for transgressions for failure to adhere to the EMP, and.
    - Health and safety requirements.
- Record keeping of all environmental awareness training and induction presentations, and.
- Attend regular site meetings and environmental inspections.

3. EMP MITIGATION MEASURES

3.1 Hierarchy of Mitigation Measures Implementation

A hierarchy of methods for mitigating significant adverse effects has been adopted in order of preference and as follows:

- Enhancement, e.g. provision of new habitats.
- Avoidance, e.g. sensitive design to avoid effects on ecological receptors.
- Reduction, e.g. limitation of effects on receptors through design changes, and.
- Compensation, e.g. community benefits.

3.2 Mitigation Measures Implementation

The Environmental Management Plan (EMP) provides a detailed plan of action required in the implementation of the mitigation measures for minimising and maximising the identified negative and positive impacts respectively.

The EMP also provides the management actions with roles and responsibilities requirements for implementation of environmental management strategies by the Proponent through the Contractors and Subcontractors who will be undertaking the exploration activities.

The EMP gives commitments including financial and human resources provisions for effective management of the likely environmental liabilities during and after the implementation of the proposed / ongoing exploration programme.

Based on the findings of the EIA, key mitigation measures as detailed in **Error! Reference source not found.** have been prepared to be implemented by the Proponent with respect to the proposed / ongoing exploration programme activities and in particular for the field-based exploration activities. The following is the summary of the key areas of the migration measures provided in **Error! Reference source not found.**:

1. Project planning and implementation.
2. Implementation of the EMP.
3. Public and stakeholders relations.
4. Measures to enhance positive socioeconomic impacts.
5. Environmental awareness briefing and training.
6. Erection of supporting exploration infrastructure.
7. Use of existing access roads, tracks and general vehicle movements.
8. Mitigation measures for preventing flora destruction.
9. Mitigation measures for preventing faunal destruction.
10. Mitigation measures to be implemented with respect to the exploration camps and exploration sites.
11. Mitigation measures for surface and groundwater protection as well as general water usage.
12. Mitigation measures to minimise negative socioeconomic impacts.
13. Mitigation measures to minimise health and safety impacts.
14. Mitigation measures to minimise visual impacts.
15. Mitigation measures to minimise vibration, noise and air quality.
16. Mitigation measures for waste (solid and liquid) management.
17. Rehabilitation plan, and.
18. Environmental data collection.

Table 7: Key areas of the migration measures

OBJECTIVES	INDICATOR	SCHEDULE	RESPONSIBILITY
Project planning and implementation			
Establish a strong environmental awareness protocol from project implementation to final closure in order to ensure the least possible impact to the environment.	1. Resources (Human and Financial) are provided for the Environmental Awareness and Training, Regular Safety, Health and Environment meetings and for internal and external Environmental Monitoring Costs as well as for any rehabilitation costs that may arise. 2. Appointment of senior and experienced persons as Proponent's Representative (PR), Project Manager (PM) and Project HSE to assume responsibility for environmental issues. 3. All individuals including sub-contractors who work on, or visit, the sites are aware of the contents of the Environmental Policy and the EMP. 4. The EMP and Environmental Policy will be included in Tender Documents. Field visit will take place during which main access tracks will be discussed in cooperation with the land owner/s	1. Regional reconnaissance field-based mapping and sampling activities. 2. Initial local field-based mapping and sampling activities. 3. Detailed local field-based activities such as local geological mapping, geochemical mapping and sampling, trenching and drilling of closely spaced boreholes and bulk sampling. 4. Prefeasibility and feasibility studies.	(i) Proponent's Representative (PR) (ii) Project Manager (PM) (iii) Project HSE (iv) Contractor Subcontractors
Implementation of the EMP			
1. Define roles and responsibilities in terms of the EMP. To make all personnel, contractors and subcontractors aware of these roles and responsibilities to ensure compliance with the EMP provisions.	1. Senior staff and senior contractors are aware of, and practice the EMP requirements. These persons shall be expected to know and understand the objectives of the EMP and will, by example, encourage suitable environmentally friendly behaviour to be adopted during the exploration 2. Recognition will be given to appropriate	(i) Regional reconnaissance field-based mapping and sampling activities. (ii) Initial local field-based mapping and sampling activities. (iii) Detailed local field-based activities such as local geological mapping, geochemical mapping and sampling, trenching and	(i) Proponent's Representative (PR) (ii) Project Manager (PM) (iii) Project HSE (iv) Contractor Subcontractors

OBJECTIVES	INDICATOR	SCHEDULE	RESPONSIBILITY
2. Implement environmental management that is preventative and proactive. Establish the resources, skills, etc. required for effective environmental management.	environmentally acceptable behaviour. 3. Inappropriate behaviour will be corrected. An explanation to why the behaviour is unacceptable must be given, and, if necessary, the person will be disciplined. e.g. fees set out for non-compliance	drilling of closely spaced boreholes and bulk sampling. (iv) Prefeasibility and feasibility studies.	
Public and stakeholders relations.			
Maintain sound relationships with the Other land users/ land owner/s and another stakeholders / public	1. No littering or any other activity prohibited Permission to utilise water as well as all applicable permits are obtained.	1. Regional reconnaissance field-based mapping and sampling activities. 2. Initial local field-based mapping and sampling activities. 3. Detailed local field-based activities such as local geological mapping, geochemical mapping and sampling, trenching and drilling of closely spaced boreholes and bulk sampling. 4. Prefeasibility and feasibility studies.	(i) Proponent's Representative (PR) (ii) Project Manager (PM) (iii) Project HSE (iv) Contractor Subcontractors
Measures to enhance positive socioeconomic impacts.			
Measures to enhance positive socioeconomic impacts in order to: 1. Avoid exacerbating the influx of unemployed people to the area. 2. Develop a standardised recruitment method for sub-contractor and field workers.	1. Stipulate a preference for local contractors in its tender policy. Preference to local contractors should still be based on competitive business principles and salaries and payment to local service providers should still be competitive. 2. Develop a database of local businesses that qualify as potential service providers and invite them to the tender process. 3. Scrutinise tender proposals to ensure that minimum wages were included in the costing. 4. Stipulate that local residents should be employed for temporary unskilled/skilled and	(i) Regional reconnaissance field-based mapping and sampling activities. (ii) Initial local field-based mapping and sampling activities. (iii) Detailed local field-based activities such as local geological mapping, geochemical mapping and sampling, trenching and	(i) Proponent's Representative (PR) (ii) Project Manager (PM) (iii) Project HSE

OBJECTIVES	INDICATOR	SCHEDULE	RESPONSIBILITY
	where possible in permanent unskilled/skilled positions as they would reinvest in the local economy. 5. Must ensure that potential employees are from the area, they need submit proof of having lived in the area for a minimum of 5 years. 6. Must ensure that contractors adhere to Namibian Affirmative Action, Labour and Social Security, Health and Safety laws. This could be accomplished with a contractual requirement stipulating that monthly proof should be submitted indicating payment of minimum wages to workers, against their ID numbers, payment of social security and submission of affirmative action data. Encouraged to cater for the needs of employees to increase the spending of wages locally.	drilling of closely spaced boreholes and bulk sampling. (iv) Prefeasibility and feasibility studies.	(iv) Contractor Subcontractors
Environmental awareness briefing and training.			
Implement environmental awareness briefing / training for individuals who visit, or work, on site.	1. Every senior/supervisory member of the team shall familiarise themselves with the contents of the EMP. They shall understand their roles and responsibilities with regard to personnel and project compliance with the EMP. 2. Subject to agreement of the parties, the Environmental Coordinator will hold an Environmental Awareness Briefing meeting, which shall be attended by all contractors before the start of the mineral exploration activities. 3. Briefings on the EMP and Environmental Policy shall discuss the potential dangers to the environment of the following activities: public relations, littering, off-road driving, waste management, poaching and plant theft	(i) Regional reconnaissance field-based mapping and sampling activities. (ii) Initial local field-based mapping and sampling activities. (iii) Detailed local field-based activities such as local geological mapping, geochemical mapping and sampling, trenching and drilling of closely spaced boreholes and bulk sampling. (iv) Prefeasibility and feasibility studies.	(i) Proponent's Representative (PR) (ii) Project Manager (PM) (iii) Project HSE (iv) Contractor Subcontractors

OBJECTIVES	INDICATOR	SCHEDULE	RESPONSIBILITY
	etc. The need to preserve soil, conserve water and implement water saving measures shall be presented. Individuals can be questioned on the Environmental Philosophy and EMP and can recall contents.		
Erection of supporting exploration infrastructure.			
1. Get Environmental Clearance before implementation 2. Establishment of the supporting exploration infrastructure done on an area with the least disturbance to the environment and within the non-sensitive areas	1. Documented Environmental Clearance from MET. 2. All on site exploration infrastructure (e.g. water tanks, sewage tanks, waste disposal) are not situated on environmental sensitive area and have disturbed as less as possible. No littering.	(i) Regional reconnaissance field-based mapping and sampling activities. (ii) Initial local field-based mapping and sampling activities. (iii) Detailed local field-based activities such as local geological mapping, geochemical mapping and sampling, trenching and drilling of closely spaced boreholes and bulk sampling. (iv) Prefeasibility and feasibility studies.	(i) Proponent's Representative (PR) (ii) Project Manager (PM) (iii) Project HSE (iv) Contractor (v) Subcontractors
Use of existing access roads, tracks and general vehicle movements			
1. Plan a road/track network that considers the environmental sensitivity of the area and a long-term tourism potential, and which is constructed in a	1. Avoid unnecessary affecting areas viewed as important habitat – i.e. Ephemeral River and its network of tributaries of ephemeral rivers. rocky outcrops. clumps of protected tree species. 2. Make use of existing tracks/roads as much as possible throughout the area. 3. Do not drive randomly throughout the area (could cause mortalities to vertebrate fauna and unique flora. accidental fires. erosion related problems, etc.).	(i) Regional reconnaissance field-based mapping and sampling activities. (ii) Initial local field-based mapping and sampling activities. (iii) Detailed local field-based activities such as local geological mapping, geochemical mapping and sampling, trenching and	(i) Proponent's Representative (PR) (ii) Project Manager (PM) (iii) Project HSE

OBJECTIVES	INDICATOR	SCHEDULE	RESPONSIBILITY
technically and environmentally sound manner. 2. Stick to the recommended track and sensitivity management zones.	4. Avoid off-road driving at night as this increases mortality of nocturnal species. 5. Implement and maintain off-road track discipline with maximum speed limits (e.g.30km/h) as this would result in fewer faunal mortalities and limit dust pollution. 6. Use of "3-point-turns" rather than "U-turns". 7. Where tracks have to be made to potential exploration sites off the main routes, the routes should be selected causing minimal damage to the environment – e.g. use the same tracks. cross drainage lines at right angles. avoid placing tracks within drainage lines. avoid collateral damage (i.e. select routes that do not require the unnecessary removal of trees/shrubs, especially protected species). 8. Leave vehicles on tracks and walk to point of interest, when possible. Rehabilitate all new tracks created.	drilling of closely spaced boreholes and bulk sampling. (iv) Prefeasibility and feasibility studies.	(iv) Contractor (v) Subcontractors
Mitigation measures for preventing flora and ecosystem destruction and promotion of conservation.			
	1. Limit the development and avoid rocky outcrops throughout the entire area. 2. Avoid development and associated infrastructure in sensitive areas – e.g. Ephemeral River, in/close to drainage lines, cliffs, boulder and rocky outcrops in the area, etc. This would minimise the negative effect on the local environment especially unique features serving as habitat to various species. 3. Avoid placing access routes (roads and tracks) trough sensitive areas – e.g. over rocky outcrops/ridges and along drainage lines. This would minimise the effect on localised potentially sensitive habitats in the area.	(i) Regional reconnaissance field-based mapping and sampling activities. (ii) Initial local field-based mapping and sampling activities. (iii) Detailed local field-based activities such as local geological mapping, geochemical mapping and sampling, trenching and drilling of closely spaced boreholes and bulk sampling.	(i) Proponent's Representative

OBJECTIVES	INDICATOR	SCHEDULE	RESPONSIBILITY
Prevent flora and ecosystem destruction and promote conservation	4. Avoid driving randomly through the area (i.e. "track discipline"), but rather stick to permanently placed roads/tracks – especially during the detailed field-based exploration phase. This would minimise the effect on localised potentially sensitive habitats in the area. 5. Stick to speed limits of maximum 30km/h as this would result in less dust pollution which could affect certain flora – e.g. lichen species. Speed humps could also be used to ensure the speed limit. 6. Remove unique and sensitive flora (e.g. all Aloe sp.) before commencing with the development activities and relocate to a less sensitive/disturbed site if possible. 7. Prevent and discourage the collecting of firewood as dead wood has an important ecological role – especially during the development phase(s). Such collecting of firewood, especially for economic reasons, often leads to abuses – e.g. chopping down of live and/or protected tree species such as *Acacia erioloba* which is a good quality wood. 8. Attempt to avoid the removal of bigger trees during the development phase(s) – especially with the development of access routes – as these serve as habitat for a myriad of fauna. 9. Prevent and discourage fires – especially during the development phase(s) – as this could easily cause runaway veld fires causing problems (e.g. loss of grazing and domestic stock mortalities, etc.) for the neighbouring farmers. 10. Rehabilitation of the disturbed areas – i.e. initial development access route "scars" and	(iv) Prefeasibility and feasibility studies.	(PR) (ii) Project Manager (PM) (iii) Project HSE (iv) Contractor (v) Subcontractors

OBJECTIVES	INDICATOR	SCHEDULE	RESPONSIBILITY
	associated tracks as well as temporary accommodation sites. Preferably workers should be transported in/out to the EPL area on a daily basis to avoid excess damage to the local environment (e.g. fires, wood collection, poaching, etc.). Such rehabilitation would not only confirm the company's environmental integrity, but also show true local commitment to the environment. 11. Implement erosion control. The area(s) towards and adjacent the drainage line(s) are easily eroded and further development may exacerbate this problem. Avoid undertaking any exploration activities including supporting activities such as camping within 20m of the main drainage line(s) to minimise erosion problems as well as preserving the riparian associated fauna. 12. Conduct a thorough investigation on the flora associated with the proposed exploration site(s). 13. Prevent the introduction of potentially invasive alien plant species (e.g. *Tecoma stans, Pennisetum setaceum,* etc.) for ornamental purposes as part of the landscaping should mining activities eventually commence. Alien species often "escape" and become invasive causing further ecological damage. A thorough investigation of water use and ground water extraction should take place before actual mining activities commence as this would affect the local flora, especially the ephemeral riparian vegetation, not only locally, but downstream as well.		
Mitigation measures for preventing faunal and ecosystem destruction and promotion of conservation			

OBJECTIVES	INDICATOR	SCHEDULE	RESPONSIBILITY
Prevent faunal and ecosystem destruction and promote conservation	1. Limit the development and avoid rocky outcrops throughout the entire area. 2. Avoid development & associated infrastructure in sensitive areas – e.g. in/close to drainage lines, cliffs, boulder and rocky outcrops in the area, etc. This would minimise the negative effect on the local environment especially unique features serving as habitat to various species. 3. Avoid placing access routes (roads & tracks) trough sensitive areas – e.g. over rocky outcrops/ridges and along drainage lines. This would minimise the effect on localised potentially sensitive habitats in the area. 4. Avoid driving randomly through the area (i.e. "track discipline"), but rather stick to permanently placed roads/tracks – especially during the detailed field-based exploration phase. This would minimise the effect on localised potentially sensitive habitats in the area. 5. Stick to speed limits of maximum 30km/h as this would result in fewer faunal road mortalities. Speed humps could also be used to ensure the speed limit. 6. Remove (e.g. capture) unique fauna and sensitive fauna before commencing with the development activities and relocate to a less sensitive/disturbed site if possible. 7. Prevent and discourage the setting of snares (poaching), illegal collecting of veld foods (e.g. tortoises, etc.), indiscriminate killing of perceived dangerous species (e.g. snakes, etc.) and collecting of wood as this would diminish and negatively affect the local fauna – especially during the development phase(s).	(i) Regional reconnaissance field-based mapping and sampling activities. (ii) Initial local field-based mapping and sampling activities. (iii) Detailed local field-based activities such as local geological mapping, geochemical mapping and sampling, trenching and drilling of closely spaced boreholes and bulk sampling. (iv) Prefeasibility and feasibility studies.	(i) Proponent's Representative (PR) (ii) Project Manager (PM) (iii) Project HSE (iv) Contractor (v) Subcontractors

OBJECTIVES	INDICATOR	SCHEDULE	RESPONSIBILITY
	8. Attempt to avoid the removal of bigger trees during the development phase(s) – especially with the development of access routes – as these serve as habitat for a myriad of fauna. 9. Prevent and discourage fires – especially during the development phase(s) – as this could easily cause runaway veld fires affecting the local fauna, but also causing problems (e.g. loss of grazing & domestic stock mortalities, etc.) for the neighbouring farmers. 10. Rehabilitation of the disturbed areas – i.e. initial development access route "scars" and associated tracks as well as temporary accommodation sites. Preferably workers should be transported in/out to the EPL area on a daily basis to avoid excess damage to the local environment (e.g. fires, wood collection, poaching, etc.). Such rehabilitation would not only confirm the company's environmental integrity, but also show true local commitment to the environment. 11. Implement erosion control. The area(s) towards & adjacent the drainage line(s) are easily eroded and further development may exacerbate this problem. Avoid undertaking exploration activities including supporting activities such as camping within 20m of the main drainage line(s) to minimise erosion problems as well as preserving the riparian associated fauna. 12. Conduct a thorough investigation on the fauna associated with the proposed exploration site(s). 13. Prevent the number of domestic pets – e.g. cats & dogs – accompanying the workers during the field-based exploration activities as		

OBJECTIVES	INDICATOR	SCHEDULE	RESPONSIBILITY
	cats decimate the local fauna and interbreed & transmit diseases to the indigenous African Wildcat found in the area. Dogs often cause problems when bonding on hunting expeditions thus negatively affecting the local fauna. The indiscriminate and wanton killing of the local fauna by such pets should be avoided at all costs.		
Mitigation measures to be implemented with respect to the exploration camps and exploration sites.			
Promotion of conservation through preservation of flora, fauna and ecosystem around the exploration camps and exploration sites	1. Select camp sites and other temporary lay over sites with care – i.e. avoid important habitats. 2. Use portable toilets to avoid faecal pollution around camp and exploration sites. 3. Initiate a suitable and appropriate refuse removal policy as littering could result in certain animals becoming accustomed to humans and associated activity and result in typical problem animal scenarios – e.g. baboon, black-backed jackal, etc.. 4. Avoid and/or limit the use of lights during nocturnal exploration activities as this could influence and/or affect various nocturnal species – e.g. bats and owls, etc. Use focused lighting for least effect. 5. Prevent the killing of species viewed as dangerous – e.g. various snakes – when on site. 6. Prevent the setting of snares for ungulates (i.e. poaching) or collection of veld foods (e.g. tortoises) and unique plants (e.g. various Aloe and Lithop) or any form of illegal hunting activities. 7. Avoid introducing dogs and cats as pets to camp sites as these can cause significant	(i) Regional reconnaissance field-based mapping and sampling activities. (ii) Initial local field-based mapping and sampling activities. (iii) Detailed local field-based activities such as local geological mapping, geochemical mapping and sampling, trenching and drilling of closely spaced boreholes and bulk sampling. (iv) Prefeasibility and feasibility studies.	(i) Proponent's Representative (PR) (ii) Project Manager (PM) (iii) Project HSE (iv) Contractor (v) Subcontractors

OBJECTIVES	INDICATOR	SCHEDULE	RESPONSIBILITY
	mortalities to local fauna (cats) and even stock losses (dogs). 8. Remove and relocate slow moving vertebrate fauna (e.g. tortoises, chameleon, snakes, etc.) to suitable habitat elsewhere on property. *9.* Avoid the removal and/or damaging of protected flora potentially occurring in the general area – e.g. various *Aloe, Commiphora and Lithop species.* 10. Avoid introducing ornamental plants, especially potential invasive alien species, as part of the landscaping of the camp site, etc., but rather use localised indigenous species, should landscaping be attempted, which would also require less maintenance (e.g. water). 11. Remove all invasive alien species on site, especially *Prosopis sp*., which is already becoming a major ecological problem along various water courses throughout Central Namibia. This would not only indicate environmental commitment, but actively contribute to a better landscape. 12. Inform contractors/workers regarding the above-mentioned issues prior to exploration activities and monitor for compliance thereof throughout. 13. Rehabilitate all areas disturbed by the exploration activities – i.e. camp sites, exploration sites, etc. 14. Implement a policy of replacing 2 tree species (preferably the same species) for every 1 protected tree species having to be removed (if necessary). 15. Although fires are not expected to be a major issue in the general area due to the overall lack of grass cover, some years it may be necessary		

OBJECTIVES	INDICATOR	SCHEDULE	RESPONSIBILITY
	to consider fire prevention. Ensure that adequate firefighting equipment (e.g. fire beaters. extinguishers, etc.) is available at camp sites and clear kitchen areas to avoid accidental fires. 16. Employ an independent environmental auditor to ensure compliance, especially of the rehabilitation of all the affected areas.		
Mitigation measures to minimise negative socioeconomic impacts.			
Effective management of socioeconomic benefits of the proposed / ongoing project activities	1. The employment of local residents and local companies should be a priority. To ensure that potential employees are from the area, they need submit proof of having lived in the area for a minimum of 5 years. 2. Providing information such as the number and types of jobs available, availability of accommodation facilities and rental costs and living expenses, could make potential job seekers wary of moving to the area. 3. Addressing unrealistic expectations about large numbers of jobs would be created. 4. Exploration camp if required should be established in close consultation with the land owners. 5. Exploration camp should consider provision of basic services. 6. When the contracts an employee is terminated or not renewed, contractors should transport the employee out of the area to their hometowns within two days of their contracts coming to an end. 7. Tender documents could stipulate that contractors have HIV/Aids workplace policies and programmes in place and proof of	(i) Regional reconnaissance field-based mapping and sampling activities. (ii) Initial local field-based mapping and sampling activities. (iii) Detailed local field-based activities such as local geological mapping, geochemical mapping and sampling, trenching and drilling of closely spaced boreholes and bulk sampling. (iv) Prefeasibility and feasibility studies.	(i) Proponent's Representative (PR) (ii) Project Manager (PM) (iii) Project HSE (iv) Contractor (v) Subcontractors

OBJECTIVES	INDICATOR	SCHEDULE	RESPONSIBILITY
	implementation should be submitted with invoicing. 8. Develop strategies in coordination with local health officers and NGO's to protect the local communities, especially young girls. 9. Contract companies could submit a code of conduct, stipulating disciplinary actions where employees are guilty of criminal activities in and around the vicinity of the EPL. Disciplinary actions should be in accordance with Namibian legislation. 10. Contract companies could implement a no-tolerance policy regarding the use of alcohol and workers should submit to a breathalyser test upon reporting for duty daily. 11. Request that the Roads Authority erect warning signs of heavy exploration vehicles on affected public roads. 12. Ensure that drivers adhere to speed limits and that speed limits are strictly enforced. 13. Ensure that vehicles are road worthy and drivers are qualified. 14. Train drivers in potential safety issues.		
Mitigation measures to minimise health and safety impacts			
	1. Physical hazards: Follow national and international regulatory and guidelines provisions, use of correct Personal Proactive Clothing at all times, training programme, as well as the implementation of a fall protection program in accordance with the Labour Act. 2. Some of the public access management measures that may be considered in an event of vandalism occurring are:		

OBJECTIVES	INDICATOR	SCHEDULE	RESPONSIBILITY
Promotion of health and safe working environment in line with national Labour Laws	• All exploration equipment must be in good working condition and services accordingly. • Control access to the exploration site through using gates on the access road(s) if required. • The entire site, must be fenced off. the type of fencing to be used would, however, be dependent on the impact on the visual resources and/or cost. and. • Notice or information boards relating to public safety hazards and emergency contact details to be put up at the gate(s) to the exploration area. 3. There is a comprehensive First Aid Kit on site and that suitable anti-histamine for bee stings / snake bites should be available. 4. Rubber gloves are used in case of an accident to reduce the risk of contracting HIV/AIDS. 5. All individuals have received instructions concerning the dangers of dehydration or hyperthermia. Encourage all to drink plenty of clean water not directly from the surface water bodies. 6. No person under the influence of alcohol or drugs is allowed to work on site. 7. The Exploration Manager ensures compliance with the requirements of the relevant Namibian Labour, Mining and Health and Safety Regulations. 8. Dangerous or protected / sensitive areas are clearly marked and access to these areas is controlled or restricted. 9. Due care must be taken when driving any vehicles on any roads particularly the gravel	(i) Regional reconnaissance field-based mapping and sampling activities. (ii) Initial local field-based mapping and sampling activities. (iii) Detailed local field-based activities such as local geological mapping, geochemical mapping and sampling, trenching and drilling of closely spaced boreholes and bulk sampling. (iv) Prefeasibility and feasibility studies.	(i) Proponent's Representative (PR) (ii) Project Manager (PM) (iii) Project HSE (iv) Contractor (v) Subcontractors

OBJECTIVES	INDICATOR	SCHEDULE	RESPONSIBILITY
	roads. ALL Drivers must drive with their headlights switched on when travelling on the gravel roads (day and night). 10. Persons driving a vehicle must be in possession of a valid driver's license 11. Awareness on HIV/AIDS among workers is raised		
Mitigation measures to minimise visual impacts.			
Preserve the landscape character in the development of supporting infrastructure and choice of visual screening	1. Consider the landscape character and the visual impacts of the exploration area including camp site from all relevant viewing angles, particularly from public roads. 2. Use vegetation screening where applicable. Do not cut down vegetation unnecessary around the site and use it for site screening. 3. Avoid the use of very high fencing. 4. Minimise access roads and no off-road that could result in land scarring is allowed. 5. Minimise the presence of secondary structures: remove inoperative support structures. 6. Remove all infrastructure and reclaim, or rehabilitate the project site after exploration activities are completed.	(i) Regional reconnaissance field-based mapping and sampling activities. (ii) Initial local field-based mapping and sampling activities. (iii) Detailed local field-based activities such as local geological mapping, geochemical mapping and sampling, trenching and drilling of closely spaced boreholes and bulk sampling. (iv) Prefeasibility and feasibility studies.	(i) Proponent's Representative (PR) (ii) Project Manager (PM) (iii) Project HSE (iv) Contractor (v) Subcontractors
Mitigation measures to minimise vibration, noise and air quality.			
	1. Limit vehicle movements and adhere to the speed of 60 km/h. 2. Vehicles and all equipment must be properly serviced to minimise noise pollution.		

OBJECTIVES	INDICATOR	SCHEDULE	RESPONSIBILITY
Promote of effective management of vehicle movement, drilling and blasting operations and use of Personal Protective Equipment (PPE) in mitigating air quality and vibrations impacts in line with national laws	3. Use of Personal Protective Equipment (PPE) to minimise Occupational Health Safety impacts dues to noise pollution around the site. 4. National or international acoustic design standards must be followed. 5. Drilling and blasting operations can major sources of vibration, noise and dust and where required the following mitigation measure shall be implemented. • Drilling and blasting operations shall only be done by a qualified person who must at all times adhere to the required blasting protocol. • Prior warning shall be given to all persons, neighbour and visitors before the blasting takes place. • Careful planning and timing of the blast program to minimise the size of the charge. • Where practicable, use of explosive products with lower detonation velocities, but noting that this would require more explosives to achieve the same blast result. • Use of detonating caps with built-in time delays, as this effectively reduces each detonation into a series of small explosions. • Use of a procedure ("decking the charge") which subdivides the charge in one blast hole into a series of smaller explosions, with drill patterns restricted to a minimum separation from any other loaded hole. • Over-drilling the holes to ensure fracturing of the rock. • Staggering the detonation for each blast hole in order to spread the explosive's total overpressure over time.	(i) Regional reconnaissance field-based mapping and sampling activities. (ii) Initial local field-based mapping and sampling activities. (iii) Detailed local field-based activities such as local geological mapping, geochemical mapping and sampling, trenching and drilling of closely spaced boreholes and bulk sampling. (iv) Prefeasibility and feasibility studies.	(i) Proponent's Representative (PR) (ii) Project Manager (PM) (iii) Project HSE (iv) Contractor (v) Subcontractors

OBJECTIVES	INDICATOR	SCHEDULE	RESPONSIBILITY
	Matching, to the extent possible, the energy needed in the "work effort" of the borehole to the rock mass to minimise excess energy vented into the receiving environment.		
Mitigation measures for waste (solid and liquid) management.			
Promotion of effective waste (solid and liquid) management through the adoption of sound and hierarchical approach to waste management, which would include waste minimisation, re-use, recovery, recycling, treatment, and proper disposal.	1. Burial of waste on anywhere within the EPL area is not allowed and all generated solid waste must be disposed at the at an approved municipal waste disposal site. 2. Toilet and ablution facilities must be provided on site and should not be located close to Ephemeral Rivers or visible discontinuities (fractures, joints or faults). 3. Provide site information on the difference between the two main types of waste, namely: • General Waste. and • Hazardous Waste. 4. Sealed containers, bins, drums or bags for the different types of wastes must be provided. Never dispose of hazardous waste in the bins or skips intended for general waste. 5. All solid and liquid wastes generated from the proposed / ongoing project activities shall be reduced, reused, or recycled to the maximum extent practicable. 6. Trash may not be burned or buried, except at approved sites under controlled conditions in accordance with the municipal regulations. 7. Never overfill any waste container, drum, bin or bag. Inform your Contractor or the Environmental Control Officer / Site Manager if the containers, drums, bins or skips are nearly full. 8. Never litter or throwaway any waste on the site, in the field or along any road. No illegal dumping.	(i) Regional reconnaissance field-based mapping and sampling activities. (ii) Initial local field-based mapping and sampling activities. (iii) Detailed local field-based activities such as local geological mapping, geochemical mapping and sampling, trenching and drilling of closely spaced boreholes and bulk sampling. (iv) Prefeasibility and feasibility studies.	(i) Proponent's Representative (PR) (ii) Project Manager (PM) (iii) Project HSE (iv) Contractor (v) Subcontractors

OBJECTIVES	INDICATOR	SCHEDULE	RESPONSIBILITY
	9. Littering is prohibited. 10. Latrines and French drains built >100m from watercourses or pans to avoid pollution of primary and secondary aquifers. 11. Chemical toilets or suitable waste water management system shall be provided on site and around the camp as may be required.		
Rehabilitation plan			
Contributions toward environmental preservation and sustainability through rehabilitation of disturbed areas such as exploration sites and remove all unwanted part of the fixtures and restore the sites to close an approximation of the pristine state as is technically, financially and reasonably possible.	1. The following rehabilitation actions are practiced: • Small samples are preferably removed from site to avoid additional scars in the landscape. • Litter from the site has been taken to the appropriate disposal site. • Debris, scrap metal, etc is removed before moving to a new site or closure of the mine. • Water tanks are dismantled and removed if not need for after use. • Tracks on site and the access road are rehabilitated by smoothing the 'middle mannetjie'(middle ridge between the tracks) and raking the surface. 2. The following should be undertaken at all disturbed areas that require further rehabilitation: • if applicable the stockpiled subsoil to be replaced (spread) and/or the site is neatly contoured to establish effective wind supported landscape patterns. • Replace the stored topsoil seed bank layer.	(i) Regional reconnaissance field-based mapping and sampling activities. (ii) Initial local field-based mapping and sampling activities. (iii) Detailed local field-based activities such as local geological mapping, geochemical mapping and sampling, trenching and drilling of closely spaced boreholes and bulk sampling. (iv) Prefeasibility and feasibility studies.	(i) Proponent's Representative (PR) (ii) Project Manager (PM) (iii) Project HSE (iv) Contractor (v) Subcontractors

OBJECTIVES	INDICATOR	SCHEDULE	RESPONSIBILITY
	Five (5) years after rehabilitation the sites are not visible from 500 m away.		
Environmental data collection			
1. Collect data that will add value to environmental monitoring and reporting to the regulators 2. Collect data that will add to the general scientific and geographic knowledge of the environment in which the exploration process takes place. 3. Acknowledged that the required skills and knowledge to collect all the suggested data may not be available within the mine /exploration team, however, as much data as is practical should be collected.	1. Environmental Monitoring Report Compiled and submitted by the Environmental Coordinator to the regulators 2. The following types of information should be gathered: • Fauna. What tracks or signs of animal activity have been seen? (photographs and GPS recording) What animals, birds etc were identified? Alternatively provide a description and/ or photo if unidentified. • Unusual weather conditions, e.g. records of the prevailing wind direction and the direction from which storm events come. Was there fog or rain, frost overnight or intense heat? Preferably have a thermometer and rain gauge on site. • Vegetation. Record trees, shrubs, grass, etc. that are found in the vicinity along each of the profiles. Some plants do only occur after rainfall and might not have been seen for decades. • Any archaeological, cultural or historical sites that may be found. GPS coordinates, photograph and plot the position on a 1: 50 000 maps. • other including surface water, spring, large scale geological features etc	(i) Regional reconnaissance field-based mapping and sampling activities. (ii) Initial local field-based mapping and sampling activities. (iii) Detailed local field-based activities such as local geological mapping, geochemical mapping and sampling, trenching and drilling of closely spaced boreholes and bulk sampling. (iv) Prefeasibility and feasibility studies.	(i) Proponent's Representative (PR) (ii) Project Manager (PM) (iii) Project HSE (iv) Contractor (v) Subcontractors

4. REHABILITATION COMMITMENTS

4.1 Rehabilitation Process

The following is the summary of key rehabilitation process to be implemented by the proponent:

- **Step 1: Backfilling excavated or disturbed areas:**
  - Transporting all stockpiled overburden back to the excavated voids.
  - Backfilling the trenches, pits and quarries using original excavated and stockpiled materials.
  - If applicable, backfill the various layers of overburden in the reverse order in which they were removed, i.e. Last out should be first in as far as possible, and.
  - When backfilling, bear in mind that some space must be left for the backfilling of the soil on top of the overburden.
- **Step 2: Remove all waste and unwanted materials:**
  - Once the drilling slimes ponds have dried sufficiently, scrape out the slimes and transporting back to an exploration excavated voids during the overburden backfilling stage.
  - Allow the pollution control dam to evaporate completely, scrape all waste that has collected in the pond and dispose of these and the pond lining at a suitable site.
  - Bulldoze the walls of the pollution control pond over and contour.
  - Collect remaining domestic waste on site and transport to an approved municipal waste disposal site.
  - Clean out the oil traps, collect the waste material in drums and transport to a suitable site for disposal, and.
  - Manually remove all weedy species that are present at the site (the entire plant can easily be removed because the plants tend not to root deeply).
- **Step 3: Remove all structures:**
  - Remove all building materials from the exploration / test mining site and either:
    - Transporting to a new site if it is to be used or stored elsewhere. or
    - Disposing at a suitable approved municipal waste disposal site. or
    - Making them available to the farmer or local persons, or,
    - Selling at an auction.

- Remove all machinery from the site and transport to a new site where it is to be used or stored or sell at an auction.

- Remove all fences that have been constructed and either make the material available to the local persons/farmer, dispose at a suitable site or sell at an auction.

- Remove the generators from the sites from site and either transport to a new site for storage or sell it to the farmer or an Auction.

- Seal all petrol, diesel, oil and grease containers and remove from the site to a storage facility or make it available to the farmer.

- Collect all scrap metal and dispose at a suitable site or sell at an auction, and.

- Break up all concrete slabs and structures on site and transport the fragments to a suitable site for disposal.

❖ **Step 4: Rehabilitate the excavated voids:**

- Replace the subsoil layer by backfilling the soil on top of the overburden and contour cap the subsoil with a topsoil layer about 10cm deep, and.

- Cap the topsoil containing the seedbank with a layer of gravel by manually spreading the fragments across the surface using a rake.

❖ **Step 5: Rehabilitate site-specific storm-water channel:**

- Remove all the site structures created.

- Dispose of the plastic/wire and use the fill material to backfill the storm-water channel.

- Cap with a layer of topsoil to a depth of about 10cm, and.

- Cap the topsoil containing the seedbank with a gravel layer by manually spreading the fragments across the surface using a rake.

❖ **Step 6: Rehabilitate all adjacent exploration/test mining sites affected:**

- Rip the surfaces to a depth of 40 cm to 50 cm using a multi-toothed ripper and tractor.

- Cover with a layer of topsoil to a depth of about 10 cm, and.

- Cap the topsoil containing the seedbank with a layer of gravel by manually spreading the fragments across the surface using a rake.

❖ **Step 7: Rehabilitate all unwanted access roads created:**

- Rip the road surface to a depth of at least 50 cm using a multi-toothed ripper and tractor.

- Disk the ripped surface to break up the clods.

- Cover with a layer of topsoil to a depth of about 10 cm, and.

- Cap the topsoil containing the seedbank with a gravel layer by manually spreading the fragments across the surface using a rake.

4.2 Monitoring of the Environmental Performance

4.2.1 Rehabilitation Evaluation and Performance Monitoring

The following is the summary of key rehabilitation evaluation and performance monitoring to be implemented by the proponent:

- Monitoring: A monitoring program is instituted to ensure that the requirements of the mining site rehabilitation program are met. Rehabilitation program may be subjected to various natural or man-made forces that can hinder the progress and lead to problems or failure or the rehabilitation program. Regular monitoring will ensure that these factors are identified early so they may be resolved through appropriate recommendations.

- Frequency: All rehabilitated areas should be monitored over a three (3) years period from the onset of the rehabilitation procedures. The frequency of monitoring suggested above is dependent on satisfactory performance. If, however, the requirements are not being met, the frequency of monitoring can be increased. It is suggested that the monitoring be conducted once a year around September when the grasses and forbs are flowering.

- Methods: The rehabilitated areas might be monitored by the sampling randomly located $1m^2$ quadrates. Approximately 10 quadrates per hectare (or a minimum of 3) should be sampled per plant community. The factors that will be examined in each quadrate include:

    - Percentage basal cover.

    - Percentage aerial cover.

    - Species composition and diversity.

    - Vigor and health of plants.

    - Presence of and evidence of fauna, and.

    - Nature of the substrate.

- Controls: To enable a comparison, control plots located within the surrounding un-mining areas should also be monitored. This will give an indication of the progress of rehabilitated areas versus the natural vegetation and will set the goals, which ultimately should be achieved. By monitoring the natural vegetation annually, it will also be possible to assess the natural changes that are taking place. These findings can then be applied to the rehabilitated areas so as to account for the changes, which may have resulted from natural events. Approximately 5 to 10 quadrates of $1m^2$ should be sampled per community type to set the controls.

- Maintenance: Maintenance requirements may include seeding (if there is poor germination of the seedbank), fertiliser applications, correcting erosion problems, removing weeds, etc.

Maintenance of the rehabilitated areas will be necessary periodically. The need for and extent of maintenance activities will be determined during the regular monitoring of the site, and.

- ❖ Qualified Personnel: The rehabilitation procedures from implementation to monitoring should be overseen by qualified personnel. Any persons involved in the rehabilitation of the mining site should be trained in the techniques involved.

4.2.2 Overall Environmental Performance Monitoring and Reporting

The monitoring of the environmental performances for the proposed / ongoing exploration project can be divided into two (2) parts and these are:

(i) Routine / ongoing daily monitoring activities to be undertaken by the Project HSE Officer with the support of the external specialist consultants as maybe required, and.

(ii) Preparation of annual Environmental Monitoring Report and Environmental Closure covering all activities related to the Environmental Management Plan during exploration / prospecting stages and at closure of the proposed / ongoing exploration to be undertaken by the Project HSE Officer with the support of the external specialist consultants as maybe required.

The proponent will be required to report regularly (twice in a year or as the case maybe) to the Environmental Commissioner in the Ministry of Environment and Tourism (MET), the environmental performances as part of the ongoing environmental monitoring programme. Environmental monitoring programme is part of the EMP performances assessments and will need to be compiled and submitted as determined by the Environmental Commissioner. The process of undertaking appropriate monitoring as per specific topic (such as fauna and flora) and tracking performances against the objectives and documenting all environmental activities is part of internal and external auditing to be coordinated by the Project HSE Officer.

The second part of the monitoring of the EMP performance will require a report outlining all the activities related to effectiveness of the EMP at the end of the planned mineral exploration to be undertaken by the Project HSE Officer with the support of the external specialist consultants as maybe required. The objective will be to ensure that corrective actions are reviewed, and steps are taken to ensure compliance for future EIA and EMP implementation.

The report shall outline the status of the environment and any likely environmental liability after the completion of the proposed / ongoing project activities. The report shall be submitted to the Environmental Commissioner in the Ministry of Environment and Tourism and will represent the final closure and fulfilment of the conditions of the Environmental Clearance Certificate (ECC) issued by the Environmental Commissioner and the conditions of the Pro-Forma Environmental Contract signed by the Proponent, Environmental Commissioner, and the Mining Commissioner.

5. CONCLUSION AND RECOMMENDATION

5.1 Conclusions

Osino Gold Exploration Company (Pty Ltd (**the Proponent**) intends to undertake exploration activities in the Exclusive Prospecting Licence (EPL) No. 6872 covering Base and Rare Metals, Industrial

Minerals, and Precious Metals. The exploration activities to be undertaken as assessed in this environmental assessment are as follows:

(i) Initial desktop exploration activities.

(ii) Regional reconnaissance field-based activities.

(iii) Initial local field-based activities including detailed mapping, sampling, and drilling operations.

(iv) Detailed local field-based activities including detailed mapping, sampling, and drilling operations, and.

(v) Prefeasibility and feasibility studies including possible test mining.

The overall severity of potential environmental impacts of the proposed / ongoing project activities on the receiving environment (physical, biological, socioeconomic environments and ecosystem functions, services, use and non-use values or passive uses) will be of low magnitude, temporally duration, localised extent and low probability of occurrence.

5.2 Recommendations

It is hereby recommended that the proposed / ongoing exploration activities be issued with an Environmental Clearance Certificate (ECC). The Proponent shall implement precautionary measures/approaches to environmental management.

The Proponent shall take into consideration the following key requirements for implementing the proposed exploration programme:

(i) Mitigation measures must be implemented as detailed in this EMP report.

(ii) Based on the findings of the EIA, it's hereby recommended that the proposed / ongoing exploration activities be issued with an Environmental Clearance Certificate (ECC). It's hereby recommended that the proposed / ongoing exploration activities be issued with an Environmental Clearance Certificate (ECC). The Proponent shall implement precautionary measures / approach to environmental management.

(iii) The Proponent shall negotiate Access Agreements with the land owner/s as may be applicable.

(iv) The Proponent shall adhere to all the provisions of the EMP and conditions of the Access Agreement to be entered between the Proponent and the land owner/s in line with all applicable national regulations.

(v) Before entering any private or protected property/ area such as a private farm, the Proponent must give advance notices and obtain permission to access the EPL area at all times, and.

(vi) Where possible, and if water is found during the detailed exploration boreholes drilling operations, the Proponent shall support other land uses in the area in terms of access to

freshwater supply for both human consumption, wildlife and agricultural support as may be requested by the local community / land owners/s. The abstraction of the groundwater resources shall include water levels monitoring, sampling and quality testing on a bi-annual basis, and that the affected landowners must have access to the results of the water monitoring analyses as part of the ongoing stakeholder disclosure requirements on shared water resources as maybe applicable.

The Proponent must take all the necessary steps to implement all the recommendations of the EMP for the successful implementation and completion of the proposed / ongoing exploration programme covering the EPL 6872. Recommended actions to be implemented by the Proponent through implementations of the EMP are:

(i) The Proponent must implement precautionary measures/approach to environmental management. Once a viable and potential economic resource has been identified, the Proponent must develop and implement a separate EIA and EMP inclusive of the specialist studies such as fauna and flora to be undertaken by specialist consultants as part of the feasibility study stage.

(ii) Before detailed site-specific exploration activities such as extensive drilling operations and access routes are selected, the Project HSE Officer with the support of the external specialist consultants as may be required should consider the flora, fauna, and archaeological sensitivity of the area and commission a field survey in advance of any site development as may be required based on the assessment undertaken.

(iii) The Project HSE Officer shall lead, implement and promote environmental culture through awareness-raising of the workforce, contractors and sub-contractors in the field during the whole duration of the proposed / ongoing exploration period.

(iv) The Proponent to provide all the necessary support including human and financial resources, for the implementation of the proposed / ongoing mitigations and effective environmental management during the planned exploration activities for the EPL 6872.

(v) Project HSE Officer with the support of the external specialist consultants as maybe required to develop a simplified environmental induction and awareness programme for all the workforce, contractors and sub-contractors.

(vi) Where contracted service providers are likely to cause environmental impacts, these will need to be identified and contract agreements need to be developed with costing provisions for environmental liabilities.

(vii) Implement monitoring of the actions and management strategies developed during the mineral exploration process. Final Environmental Monitoring report shall be prepared by the Project HSE Officer with the support of the external specialist consultants as maybe required to be submitted to the regulators and to mark the closure of the proposed / ongoing mineral exploration, and.

(viii) Develop and implement a monitoring programme that will fit into the overall company's Environmental Management Systems (EMS) as well as for any future EIA for possible mining projects.

5.3 Summary ToR for Test Mining and Mining Stages

In an event that economic minerals resources are discovered within the EPL 6872 area and could lead to the development of a mining project, a new Environmental Clearance Certificate (ECC) for mining will be required. The ECC being supported by this EMP report only covers the exploration phase. A separate field-based and site-specific Environmental Impact Assessment (EIA) and Environmental Management Plan (EMP) reports supported by specialist studies as may be applicable must be prepared in order to support the application for the new ECC for mining operations. The EIA and EMP studies shall form part of the pre-feasibility and feasibility study with respect to the test mining or possible mining operations.

The site-specific EIA and EMP shall cover the area identified to have potential economic minerals resources as well as all areas to be used for infrastructural support areas such as pit/shaft area/s, waste rock, tailings dump, access, office blocks, water and energy infrastructure support areas (water, energy and road/access). In addition to the Terms of Reference (ToR) to be developed during the Environmental Scoping study phase for the test mining/mining stages, the following field-based and site-specific specialist studies shall be undertaken as part of the EIA and EMP for possible test mining or mining operations in an event of a discovery of economic minerals resources and possible development of a mining project:

(i) Groundwater studies including modeling as may be applicable.

(ii) Field-based flora and fauna diversity.

(iii) Archaeology.

(iv) Noise and Sound modelling linked to engineering studies.

(v) Socioeconomic assessment, and.

(vi) Others may be identified/recommended by the stakeholders/ landowners/ Environmental Commissioner or specialists.

The aims and objectives of the Environmental Assessment (EA) covering EIA and EMP to be implemented as part of the feasibility study if a variable resource is discovered are:

(i) To assess all the likely positive and negative short- and long-term impacts on the receiving environment (physical, biological and socioeconomic environments) at local (EPL Area), regional, national (Namibia), and Global levels using appropriate assessment guidelines, methods and techniques covering the complete project lifecycle. The EIA and EMP to be undertaken shall be performed with reasonable skill, care, and diligence in accordance with professional standards and practices existing at the date of performance of the assessment, and the guidelines, methods, and techniques shall conform to the national regulatory requirements, process, and specifications in Namibia and in particular as required by the Ministry of Mines and Energy, Ministry of Environment and Tourism and Ministry of Agriculture, Water Affairs and Forestry, and.

(ii) The development of appropriate mitigation measures that will enhance the positive impacts and reduce the likely negative influences of the negative impacts identified or anticipated. Such mitigation measures shall be contained in a detailed EMP report covering the entire project lifecycle.

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Appendix A –ECC AND EPL COPIES

REPUBLIC OF NAMIBIA

MINISTRY OF ENVIRONMENT AND TOURISM

Tel: (00 26461) 284 2111
Fax: (00 26461) 232 057

Cnr Robert Mugabe &
Dr Kenneth Kaunda Street
Private Bag 13306
Windhoek
Namibia

E-mail: mwaka.sinchembe@met.gov.na
Enquiries: Ms. Mwaka Lushetile

13 September 2018

OFFICE OF THE ENVIRONMENTAL COMMISSIONER

The Managing Director
Osino Gold Exploration (Pty) Ltd
P.O. Box 3489
Walvis Bay
Namibia

Dear Sir or Madam,

SUBJECT: ENVIRONMENTAL CLEARANCE CERTIFICATE FOR THE PROPOSED EXPLORATION / PROSPECTING IN THE EXCLUSIVE PROSPECTING LICENSE (EPL) NO. 6872, OTJIWARONGO DISTRICT, OTJOZONDJUPA REGION

The Environmental Scoping Report and Environmental Management Plan submitted are sufficient as they made provisions of the environmental management concerning the project's activities. From this perspective regular environmental monitoring and evaluations should be conducted. Targets for improvements should be established and monitored from time to time.

This Ministry reserves the right to attach further legislative and regulatory conditions during the operational phase of the project. From this perspective, I issue this clearance with the conditions that: (a) all sensitive environmental areas must be conserved; and (b) all land owners may be notified at all times, on the operations of the project

On the basis of the above, this letter serves as an Environmental Clearance Certificate for the project to commence. However, this clearance letter does not in any way hold the Ministry of Environment and Tourism accountable for misleading information, nor any adverse effects that may arise from this project activity. Instead, full accountability rests with Osino Gold Exploration (Pty) Ltd and their consultants.

This environmental clearance is valid for a period of 3 (three) years, from the date of issue unless withdrawn by this office.

Yours sincerely,

Teofilus Nghitila
ENVIRONMENTAL COMMISSIONER

MINISTRY OF ENVIRONMENT AND TOURISM
P/Bag 13306
Windhoek, Namibia
2018 -09- 21
Office of the
Environmental Commissioner

"Stop the poaching of our rhinos"

All official correspondence must be addressed to the Permanent Secretary

Appendix B – Baseline Vegetation Study

Appendix C – Environmental Monitoring Report

Osino Gold Exploration and Mining (Pty)

Final Environmental Compliance Monitoring Report for the Period April 2019 - April 2022 for Ongoing Exploration / Prospecting Activities in the Exclusive Prospecting License (EPL) No. 6872, **OTJIWARONGO DISTRICT, OTJOZONDJUPA REGION**

MAY 2022

13 Feld Street, P. O. Box 3489
WINDHOEK, NAMIBIA

PROPONENT, LISTED ACTIVITIES AND RELATED INFORMATION SUMMARY

TYPE OF AUTHORISATIONS REQUIRING ECC

Exclusive Prospecting License (EPL) No. 6872

NAME OF THE PROPONENT

Osino Gold Exploration and Mining (Pty) Ltd

COMPETENT AUTHORITY

Ministry of Mines and Energy (MME)

ADDRESS OF THE PROPONENT AND CONTACT PERSON

13 Feld Street, P. O. Box 3489
WINDHOEK, NAMIBIA

CONTACT PERSON:
Fillemon Tuneeko
Supervisor: Health Safety Environment and Community (HSEC)
Phone: +264 61 246533
Fax: +264 61 246588
Mobile: +264 811430505 / 812856198
Email: ftuneeko@osinoresources.com

PROPOSED PROJECT

Proposed Minerals Exploration / Prospecting in the Exclusive Prospecting License (EPL) No. 6872

PROJECT LOCATION

Otjiwarongo District, Otjozondjupa Region
(Latitude: -20.69694, Longitude: 16.34333)

ENVIRONMENTAL CONSULTANTS

Risk-Based Solutions (RBS) CC
(Consulting arm of Sivieda Group Namibia)
10 Schützen Street, Erf No. 7382, Sivieda House
Windhoek Central Business District (CBD)
P. O. Box 1839, **WINDHOEK, NAMIBIA**
Tel: +264-61-306058 / 224780 / 236598
Fax: +264-061-245001, Mobile: +264-811413229
Email: smwiya@rbs.com.na
Global Office / URL: www.rbs.com.na

ENVIRONMENTAL ASSESSMENT PRACTITIONER (EAP)

Dr. Sindila Mwiya
PhD, PG Cert, MPhil, BEng (Hons), Pr Eng

Summary Profile and Qualifications of the Environmental Assessment Practitioner (EAP) / International Resources Consultant – Dr Sindila Mwiya

Dr Sindila Mwiya has more than twenty (20) years of practical field-based technical industry experience in Environmental Assessment (SEA, EIA, EMP, EMS), Energy (Renewable and Non-renewable energy sources), onshore and offshore resources (minerals, oil, gas and water) exploration / prospecting, operation and utilisation, covering general and specialist technical exploration and recovery support, Health, Safety and Environment (HSE) permitting for Geophysical Surveys such as 2D, 3D and 4D Seismic, Gravity and Electromagnetic Surveys for mining, energy and petroleum (oil and gas) operations support, through to engineering planning, layout, designing, logistical support, recovery, production / operations, compliance monitoring, rehabilitation, closure and aftercare projects lifecycles. He continues to work internationally in the resources (mining and petroleum) and energy sectors, from permitting through to exploration and production. From the frontier regions (high risk hydrocarbons exploration zones) of South Africa and Namibia, to the prolific oil and gas fields of the Middle East, Angola and the West African Gulf of Guinea, Dr Mwiya has been directly involved in field-based aerial, ground and marine geophysical (gravity, magnetics and seismic) surveys, been onboard exploration drilling rigs, onboard production platforms, conducted public and stakeholder consultations and engagements, and worked with highly technical and well organised and committed clients and third-party teams from emerging and well established global resources and energy companies from many countries such as the UK, France, USA, Russia, Canada, Croatia, Norway, the Netherland, Spain, Brazil, China, South Africa, Equatorial Guinea, Angola and Nigeria. He is fully aware of all the competing interests and niche donation-based business environmental advocacy opportunism that exists in the resources sector from the local, regional, and international perspectives.

Through his companies, Risk-Based Solutions (RBS) and Sivieda Group Namibia (SGN) which he founded, he has undertaken more than 200 projects for Local (Namibian), Continental (Africa) and International (Global) based clients. He has worked and continues to work for Global, Continental and Namibian based reputable resources (petroleum and mining / minerals) and energy companies such as Shell Namibia B. V. Limited (Namibia/ the Netherlands), Reconnaissance Energy Africa Ltd (REN/ReconAfrica) (UK/Canada/Namibia), Debmarine (DBMN) (Namibia), Osino Resource Corporation (Canada/USA/Namibia), MEL (UK, Namibia), Dundee Precious Metals (Namibia / Canada), Headspring Investment (Namibia/ Russia), EMGS (UK/ Norway), Lepidico (Australia / UK), Best Sheer / Bohale (Namibia / China), CGG Services UK Limited (UK/ France/Namibia), BW Offshore (Norway/Singapore /Namibia), Tullow Oil (UK/Namibia), Petrobras Oil and Gas (Brazil) / BP (UK)/ Namibia, REPSOL (Spain/ Namibia), ACREP (Namibia/Angola), Preview Energy Resources (UK), HRT Africa (Brazil / USA/ Namibia), Chariot Oil and Gas Exploration (UK/ Namibia), NABIRM (USA/ Namibia), Serica Energy (UK/ Namibia), Eco (Atlantic) Oil and Gas (Canada / USA/ Namibia), ION GeoVentures (USA), PGS UK Exploration (UK), TGS-Nopec (UK), Maurel & Prom (France/ Namibia), GeoPartners (UK), PetroSA Equatorial Guinea (South Africa / Equatorial Guinea/ Namibia), Preview Energy Resources (Namibia / UK), Sintezneftegaz Namibia Ltd (Russia/ Namibia), INA Namibia (INA INDUSTRIJA NAFTE d.d) (Croatia/ Namibia), Namibia Underwater Technologies (NUTAM) (South Africa/Namibia), InnoSun Holdings (Pty) Ltd and all its subsidiary renewable energy companies and projects in Namibia (Namibia / France), HopSol (Namibia/Switzerland), Momentous Solar One (Pty) Ltd (Namibia / Canada), OLC Northern Sun Energy (Pty) Ltd (Namibia) and more than 100 local companies. Dr Sindila Mwiya is highly qualified with extensive practical field-based experience in petroleum, mining, renewable energy (Solar, Wind, Biomass, Geothermal and Hydropower), Non-Renewable energy (Coal, Petroleum, and Natural Gas), applied environmental assessment, management, and monitoring (Scoping, EIA, EMP, EMP, EMS) and overall industry specific HSE, cleaner production programmes, Geoenvironmental, geological and geotechnical engineering specialist fields.

Dr Sindila Mwiya has undertaken and continues to undertake and manage high value projects on behalf of global and local resources and energy companies. Currently, (2020-2023) Dr Sindila Mwiya is responsible for permitting planning through to operational and completion compliance monitoring, HSE and engineering technical support for multiple major upstream onshore and offshore petroleum, minerals, and mining projects, Solar and Wind Energy Projects, manufacturing and environmentally sustainable, automated / smart and Climate Change resilient homes developments in different parts of the World including Namibia. He continues to work as a National Technical Permitting Advisor, International Resources Consultant, Environmental Assessment Practitioner (EAP) / Environmentally Sustainable, automated / smart and Climate Change resilient homes developer, Engineering / Technical Consultant for RBS / Sivieda Group, Project Manager, Programme Advisor for the Department of Natural and Applied Sciences, Namibia University of Science and Technology (NUST) and has worked as a Lecturer, University of Namibia (UNAM), External Examiner/ Moderator, NUST, National (Namibia) Technical Advisor (Directorate of Environmental Affairs, Ministry of Environment, Forestry and Tourism / DANIDA – Cleaner Production Component) and Chief Geologist for Engineering and Environment Division, Geological Survey of Namibia, Ministry of Mines and Energy and a Field-Based Geotechnician (Specialised in Magnetics, Seismic, Gravity and Electromagnetics Exploration and Survey Methods) under the Federal Institute for Geoscience and Natural Resources (BGR) German Mineral Exploration Promotion Project to Namibia, Geophysics Division, Geological Survey of Namibia, Ministry of Mines and Energy.

He has supervised and continues to support several MScs and PhDs research programmes / projects and has been a reviewer on international, national and regional researches, plans, programmes and projects with the objective to ensure substantial local skills development, pivotal to the national socioeconomic development through the promotion of sustainable natural resources coexistence, management, development, recovery, utilisation and for development policies, plans, programmes and projects financed by governments, private investors, and Namibian development partners. Since 2006 until 2017, he has provided extensive technical support to the Department of Environmental Affairs (DEA), Ministry of Environment, Forestry and Tourism (MEFT) through GIZ in the preparation and amendments of the Namibian Environmental Management Act, 2007, (Act No. 7 of 2007), Strategic Environmental Assessment (SEA) Regulations, Environmental Impact Assessment (EIA) Regulations as well as the SEA and EIA Guidelines and Procedures all aimed at promoting effective environmental assessment and management practices in Namibia. Among his academic achievements, Dr Sindila Mwiya is a holder of a PhD within the broader fields of Engineering Geology/Geotechnical / Geoenvironmental / Environmental Engineering and Artificial Intelligence with a research thesis titled Development of a Knowledge-Based System Methodology (KBSM) for the Design of Solid Waste Disposal Sites in Arid and Semiarid Environments, MPhil/PG Cert and BEng (Hons) (Engineering Geology and Geotechnics) qualifications from the University of Portsmouth, School of Earth and Environmental Sciences, United Kingdom. During the 2004 Namibia National Science Awards, organised by the Namibian Ministry of Education, and held in Windhoek, Dr Sindila Mwiya was awarded the Geologist of the Year for 2004, in the professional category. Furthermore, as part of his professional career recognition, Dr Sindila Mwiya is a life member of the Geological Society of Namibia, Consulting member of the Hydrogeological Society of Namibia and a Professional Engineer registered with the Engineering Council of Namibia.

WINDHOEK MAY 2022

Disclaimer

The EAP or any of the consultants of Risk-Based Solutions (RBS) CC have not been directly or indirectly involved in the field-based environmental performance monitoring or verifications of the exploration activities, implementation of the Environmental Management Plan (EMP), conditions of the Environmental Clearance Certificate (ECC) and all other related certificates, permits, authorisations or consents. This Environmental Monitoring Report has been prepared based on the information and data provided by the Proponent. All the environmental monitoring and reporting liabilities rest with the Proponent.

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EXECUTIVE SUMMARY

1. Introduction

Osino Gold Exploration and Mining (Pty) Ltd holds the mineral rights under the Exclusive Prospecting License (EPL) No. 6872. The EPL 6872 was granted on the 30/04/2018 and will expired on the 29/04/2021. The proponent intends to renew the ECC in order to continue with exploration activities with special focus on Base and Rare Metals, Industrial Minerals and Precious Metals.

The Exclusive Prospecting License (EPL) No 6872 is located in the Otjiwarongo District, Otjozondjupa Region. The EPL covers an area of approximately 29272.9091. The license covers portions of the following privately owned commercial farmland: Hazeldene, Paresis, Otjikango-Ost, Middleplaats, Ohiwa, Hillenhoi, Yakadonga, erundu, Patagonia, waltershagen, avondschaduw, klein otjikango, kamapu, Hezeldene. The land use of the area is mainly agriculture and tourism, other land uses to the east include urban (Otjiwarongo Town), government agriculture, resettlements and other government or parastatals.

The proponent is undertaking prospecting using techniques such as mapping, geophysical surveys, sampling and drilling operations, starting with the desktop studies, followed by regional and local detailed field-based activities. Geochemical sampling, geological mapping and drilling are among the key field-based activities that have been undertaken for the period review from April 2021 - April 2022.

2. The Environmental Monitoring Requirements and Reporting

The proposed exploration activities are listed in the Environmental Management Act, 2007, (Act No. 7 of 2007) and cannot be undertaken without an Environmental Clearance Certificate (ECC). An application for ECC together with the supporting updated Scoping and Environmental Management Plan (EMP) Report was prepared by the Risk-Based Solutions (RBS) CC on behalf of the Proponent and submitted to the Environmental Commissioner in the Ministry of Environment, Forestry and Tourism (MEFT) and an ECC was granted on the 18th of September 2018 and will expire on 18th of September 2022.

An updated Environmental Scoping and EMP report has been prepared by Risk-Based Solutions on behalf of the Proponent to support the application for the renewal of the ECC granted on the 18th September 2018. This Environmental Compliance Monitoring Report covering the period from April 2019 - April 2022 with respect to the ongoing exploration / prospecting activities in the EPL No. 6872 has also been prepared to support the application.

3. Environmental Monitoring Implementation

The following is the summary of the key mitigation measures provided in the EMP and implemented by the proponent during the exploration process for the period April 2019 - April 2022:

1. Project planning and implementation.
2. Implementation of the EMP.
3. Public and stakeholders' relations.
4. Measures to enhance positive socioeconomic impacts.
5. Environmental awareness briefing and training.
6. Erection of supporting exploration infrastructure.
7. Use of existing access roads, tracks and general vehicle movements.

8. Mitigation measures for preventing flora destruction.

9. Mitigation measures for preventing faunal destruction.

10. Mitigation measures to be implemented with respect to the exploration camps and exploration sites.

11. Mitigation measures for surface and groundwater protection as well as general water usage.

12. Mitigation measures to minimise negative socioeconomic impacts.

13. Mitigation measures to minimise health and safety impacts.

14. Mitigation measures to minimise visual impacts.

15. Mitigation measures to minimise vibration, noise, and air quality.

16. Mitigation measures for waste (solid and liquid) management.

17. Rehabilitation plan, and.

18. Environmental data collection.

Overall, the above mitigation measures have been implemented for the period under review covering April 2019 - April 2022 and no diversion to the above EMPs has been reported.

4. Conclusions

According to the information provided, the environmental monitoring activities undertaken by the Proponent are in accordance with the provisions of the Environmental Clearance Certificate (ECC) that was issued by the Environmental Commissioner in the Ministry of Environment, Forestry and Tourism in line with the Environmental Management Pan (EMP) Report prepared and submitted by the Proponent.

Based on the review of all the information and monitoring data provided by Osino Gold Exploration and Mining (Pty) Ltd, all the applicable EMPs with respect to the exploration activities undertaken for the period under review were implemented and monitored. Based on the results of the overall environmental performance monitoring undertaken for the period of April 2019 - April 2022 no diversions from the environmental commitments as outlined in the Environmental Policy of the Proponent (Osino Gold Exploration and Mining (Pty) Ltd), Environmental Management Plan (EMP) and the Environmental Clearance Certificate (ECC) have been observed or recorded (Annex 1). The ongoing exploration activities are being undertaken with the highest Health, Safety and Environment (HSE) commitments.

1. BACKGROUND

1.1 Introduction

Osino Gold Exploration and Mining Company (Pty) Ltd holds the mineral rights under the Exclusive Prospecting License (EPL) No. 6872. The EPL 6872 was granted on the 30/04/2018 and will expire on the 29/04/2021 (Appendix A). The proponent intends to renew the ECC in order to continue with exploration activities with special focus on Base and Rare Metals, Industrial Minerals and Precious Metals. The following summary:

- **Type of License:** Exclusive Prospecting License (EPL) No. 6872.
- **EPL Holder and Proponent:** Osino Gold Exploration and Mining (Pty) Ltd
- **Application Date:** 05/09/2017
- **Commodities:** Base and Rare Metals, Industrial Minerals and Precious Metals.
- **Size of the EPL:** 29272.9091
- **Current Environmental Clearance Certificate (ECC):** Granted on the 18th September 2018 and expired on 18th September 2021.

1.2 Environmental Regulatory Requirements

The proposed minerals exploration / prospecting activities in the EPL 6872 falls under the activities that are listed in the Environmental Management Act, 2007, (Act No. 7 of 2007) and cannot be undertaken without an Environmental Clearance Certificate (ECC). To obtain the ECC for the listed activities, the Proponent is required to have undertaken Environmental Assessment comprising Environmental Scoping and Environmental Management Plan (EMP) for the proposed / ongoing minerals prospecting operations / activities.

In fulfilment of the environmental requirements, the Proponent appointed Risk-Based Solutions (RBS) CC as the Environmental Consultant, led by Dr Sindila Mwiya as the Environmental Assessment Practitioner (EAP) to undertake the Scoping and EMP to support the application for Environmental Clearance Certificate (ECC).

An application for ECC together with the supporting updated Scoping and Environmental Management Plan (EMP) Report was prepared by the Risk-Based Solutions (RBS) CC on behalf of the Proponent and submitted to the Environmental Commissioner in the Ministry of Environment, Forestry and Tourism (MEFT) and an ECC was granted on the 18th September 2018 and will expire on 18th September 2022 (Fig. 1.1).

The updated Environmental Scoping and EMP report has been prepared by Risk-Based Solutions on behalf of the Proponent to support the application for the renewal of the ECC granted on the 18th of September 2018 as shown in Fig. 1.1. The current ECC needs to be renewed and transferred to the current Proponent, namely, Osino Gold Exploration and Mining (Pty) Ltd.

The Environmental Assessment process for the previous and current processes have both been undertaken in accordance with the provisions of the Environmental Impact Assessment Regulations, 2012 and the Environmental Management Act, 2007, (Act No. 7 of 2007).

1.3 Review of the Project Activities

The Proponent intends to continue with minerals prospecting activities with special focus on base and rare, and precious metals. The ongoing exploration programme covers the following activities:

(i) Initial desktop exploration activities (no field-work undertaken).

(ii) Regional reconnaissance field-based mapping and sampling activities (Subject to the positive results of (i).

(iii) Initial local field-based mapping and sampling activities (Subject to the positive results of (i) and (ii) above).

(iv) Detailed local field-based activities such as local geological mapping, geochemical mapping, and sampling, trenching, and drilling of closely spaced boreholes and bulk sampling (Subject to the positive results of (i) - (iii) above).

(v) Prefeasibility and feasibility studies (Subject to the positive results of (i) and (iv) above).

The extent of the field-based support and logistical activities is dependent on the scale of exploration activities being undertaken. The exploration activities have always been supported by existing tracks and campsites / farmsteads as well as existing accommodation in the local area as may be applicable. In the absences of existing tracks, the field team did create such new tracks with the permission of the land owner/s and depending on the scale of exploration. In the absences of existing suitable campsite / farmstead, a temporary camp site was setup at suitable locations in line with the EMP provisions within the EPL area. The size of the exploration camp has always been of a very limited footprint.

1.4 Location, Land Use, Supporting Infrastructure and Services

The Exclusive Prospecting License (EPL) No. 6872 is located in the Otjiwarongo District, Otjozondjupa Region. The EPL covers an area of approximately 29272.9091. The license covers portions of the following privately owned commercial farmland: Hazeldene, Paresis, Otjikango-Ost, Middleplaats, Ohiwa, Hillenhoi, Yakadonga, erundu, Patagonia, waltershagen, avondschaduw, klein otjikango, kamapu, Hezeldene. The land use of the area is mainly agriculture and tourism, other land uses to the east include urban (Otjiwarongo Town), government agriculture, resettlements and other government or parastatals.

The EPL area is accessible from Outjo along the M63 and C33 road, alternatively it can also be accessed via the B1 road from Otjwarongo into C33. Within the EPL 6872 area, a network of local tracks and private farm roads may be used to access the EPL area. Private minor roads may require high clearance 4 x 4 vehicles and may only be used with permission from the landowners.

Regional water and electricity supply infrastructure networks are available within or nearer to the EPL area. However, the proposed exploration activities programme will not require major water and energy supplies. Sources of water supply for minerals exploration will be obtained from local boreholes to be drilled based on the results of the groundwater exploration activities that will be undertaken as part of the geological mapping and drilling operations. Alternatively, a water tanker collecting water from the Town of Otjiwarongo has been considered as another means of supply water for the proposed minerals exploration operations. Electricity supply will be provided by diesel generators and solar as maybe required. However, in an event of a discovery of economic minerals deposit that could be developed into a mining project, the sources of water supply will be provided by NamWater from possible limited local borehole to be drilled in the short-term and from pipeline from any nearby NamWater Scheme. Electricity supply will be provided by NamPower from already existing infrastructure in the region in addition to use of renewable energies sources such as solar and possible wind.

REPUBLIC OF NAMIBIA

MINISTRY OF ENVIRONMENT AND TOURISM

Tel: (00 26461) 284 2111
Fax: (00 26461) 232 057

Cnr Robert Mugabe &
Dr Kenneth Kaunda Street
Private Bag 13306
Windhoek
Namibia

E-mail: mwaka.sinchembe@met.gov.na
Enquiries: Ms. Mwaka Lushetile

13 September 2018

OFFICE OF THE ENVIRONMENTAL COMMISSIONER

The Managing Director
Osino Gold Exploration (Pty) Ltd
P.O. Box 3489
Walvis Bay
Namibia

Dear Sir or Madam,

SUBJECT: ENVIRONMENTAL CLEARANCE CERTIFICATE FOR THE PROPOSED EXPLORATION / PROSPECTING IN THE EXCLUSIVE PROSPECTING LICENSE (EPL) NO. 6872, OTJIWARONGO DISTRICT, OTJOZONDJUPA REGION

The Environmental Scoping Report and Environmental Management Plan submitted are sufficient as they made provisions of the environmental management concerning the project's activities. From this perspective regular environmental monitoring and evaluations should be conducted. Targets for improvements should be established and monitored from time to time.

This Ministry reserves the right to attach further legislative and regulatory conditions during the operational phase of the project. From this perspective, I issue this clearance with the conditions that: (a) all sensitive environmental areas must be conserved; and (b) all land owners may be notified at all times, on the operations of the project

On the basis of the above, this letter serves as an Environmental Clearance Certificate for the project to commence. However, this clearance letter does not in any way hold the Ministry of Environment and Tourism accountable for misleading information, nor any adverse effects that may arise from this project activity. Instead, full accountability rests with Osino Gold Exploration (Pty) Ltd and their consultants.

This environmental clearance is valid for a period of 3 (three) years, from the date of issue unless withdrawn by this office.

Yours sincerely,

MINISTRY OF ENVIRONMENT AND TOURISM P/Bag 13306 Windhoek, Namibia 2018 -09- 21 Office of the Environmental Commissioner

Teofilus Nghitila
ENVIRONMENTAL COMMISSIONER

"Stop the poaching of our rhinos"

All official correspondence must be addressed to the Permanent Secretary

Figure 1.1: Copy of the ECC granted to the Proponent, Osino Gold Exploration (Pty) Ltd on the 18th September 2018 and will expire on 18th September 2022. The current ECC need to be renewed and transferred to the current Proponent, Osino Gold Exploration and Mining (Pty) Ltd.

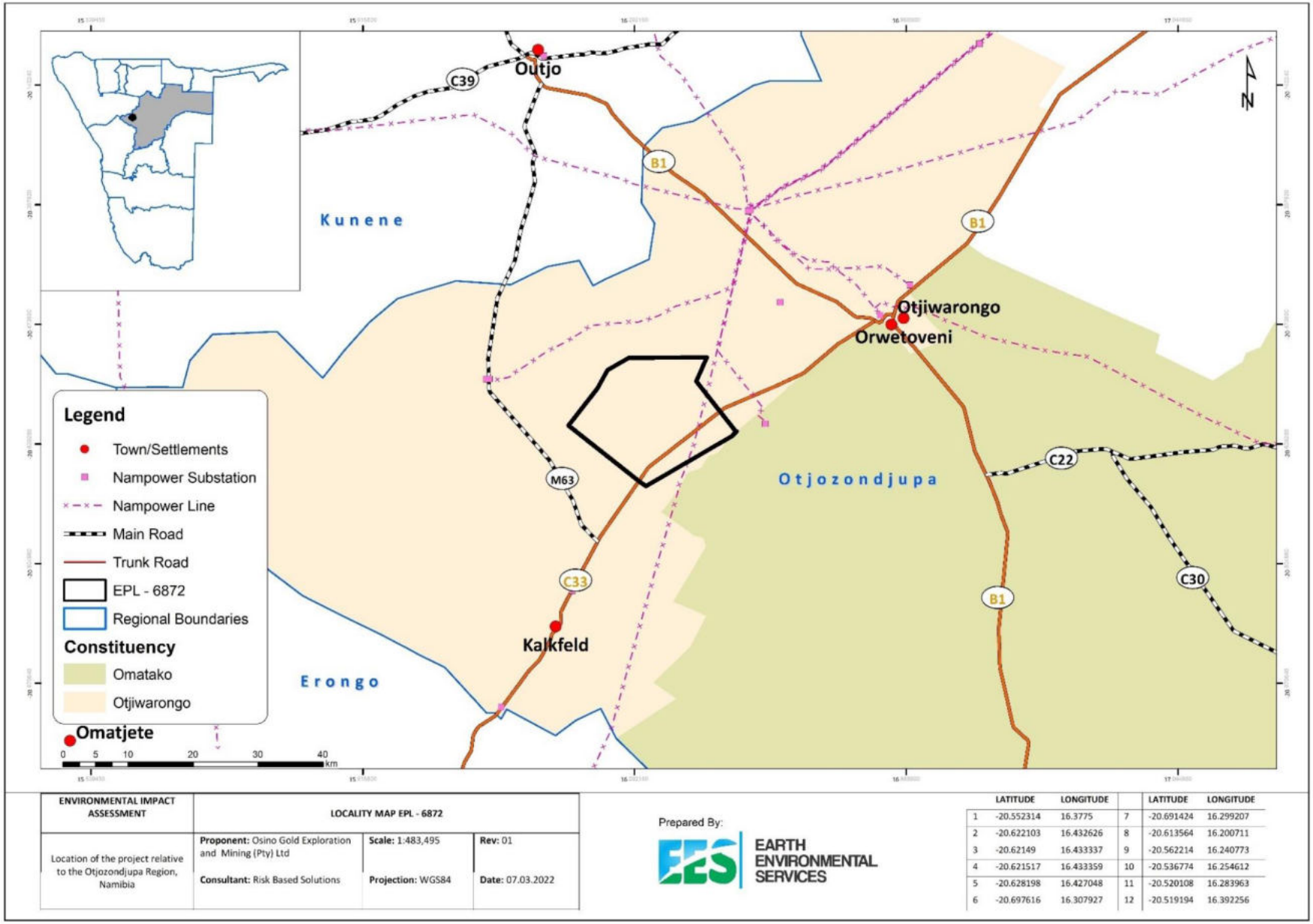

Figure 1.2: Detailed regional location of the EPL 6872 and related infrastructure.

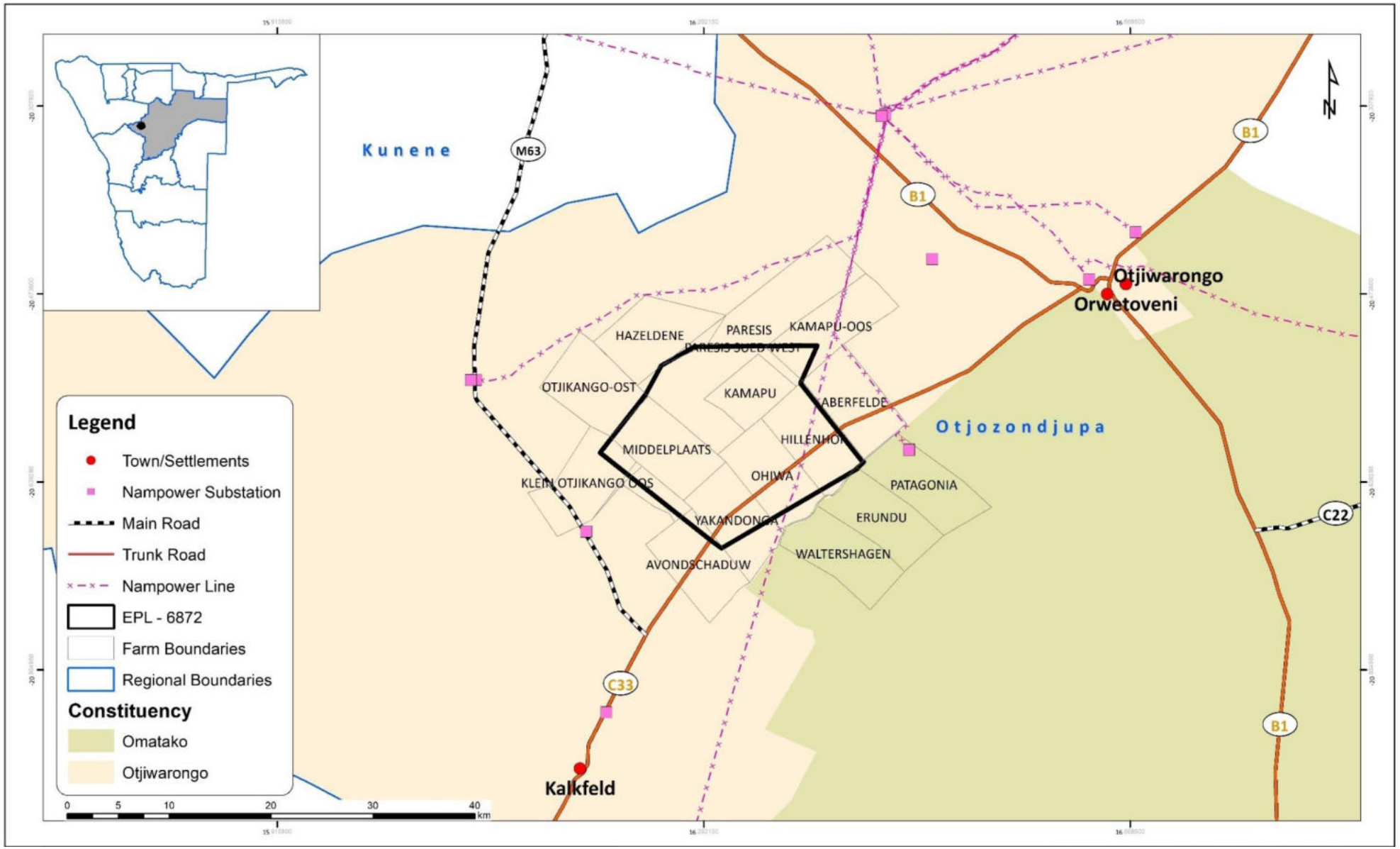

Figure 1.3: Land use and surrounding of the EPL 6872 and related infrastructure.

2. ENVIRONMENTAL MONITORING PLAN

2.1 Objectives of the Monitoring Plan

The main objectives of the monitoring plan are the following:

- Verify of the correct application of the monitoring measures as presented in the Environmental Management Plan (EMP).
- Establish a monitoring program for the most relevant environmental parameters, identifying the monitoring activities and frequencies.
- Identify the impacts foreseen by the project and any unforeseen deviations, allowing for the implementation of corrective measures as needed.
- Provide assurance to stakeholders' requirements with respect to environmental and social performance.
- Check the overall effectiveness of the preconstruction, construction, and operational procedures in protecting the receiving environment.
- Comply with regulations, standards and EPL and ECC licence conditions, and.
- Compare actual impacts with those predicted in the Scoping and EMP Report and thereby aim to improve the assessment and monitoring processes for possible.

Overall, the above objectives have been achieved for the period April 2019 - April 2022 under review.

2.2 Roles and Responsibilities

2.2.1 Implementation of the EMP

Management of the environmental elements that may be affected by the different activities of the proposed / ongoing exploration is an important element of the proposed / ongoing exploration activities. The EMP also identified the activity groups / environmental elements, the aspects / targets, the indicators, the schedule for implementation and who should be responsible for the management to prevent major impacts that the different exploration activities may have on the receiving environment (physical and biological environments).

2.2.2 Proponent's Representative (PR) / Project Manager (PM)

Whenever required and necessary, the proponent appointed a **Proponent's Representative (PR) / Project Manager (PM)** with the following responsibilities with respect to the EMP implementation:

- Act as the site project manager and implementing agent.
- Ensure that the proponent's responsibilities are executed in compliance with the relevant legislation.
- Ensure that all the necessary environmental authorizations and permits have been obtained.
- Assist the exploration contractor/s in finding environmentally responsible solutions to challenges that may arise.
- Should the PR believe a serious threat to, or impact on the environment may be caused by the exploration activities, he/she may stop work. the proponent must be informed of the reasons for the stoppage as soon as possible.

- ❖ The PR has the authority to issue fines for transgressions of basic conduct rules and/or contravention of the EMP.

- ❖ Should the Contractor or his/her employees fail to show adequate consideration for the environmental aspects related to the EMP, the PR can have person(s) and/or equipment removed from the site or work suspended until the matter is remedied.

- ❖ Maintain open and direct lines of communication between the landowners and proponent, as well as any other identified Interested and Affected Parties (I&APs) with regards to environmental matters, and.

- ❖ Attend regular site meetings and inspections as may be required for the proposed / ongoing exploration programme.

2.2.3 Project Health, Safety and Environment (Project HSE)

Whenever required and necessary, the proponent appointed a Project Health, Safety and Environment (Project HSE) with the following responsibilities with respect to the EMP implementation:

- ❖ Acted as the site project manager and implementing agent.

- ❖ Ensured that the Proponent's responsibilities are executed in compliance with the relevant legislation.

- ❖ Ensured that all the necessary environmental authorisations and permits have been obtained.

- ❖ Assisted the exploration contractor/s in finding environmentally responsible solutions to challenges that may arise.

- ❖ Managed serious threat to, or impact on the environment likely to have been caused by the exploration activities.

- ❖ Authority to institute disciplinary proceedings in accordance with the provisions of the national laws for transgressions of basic conduct rules and/or contravention of the EMP.

- ❖ Managed Contractors and employees with respect to adequate consideration for the environmental aspects related to the EMP with the authority to have person(s) and/or equipment removed from the site or work suspended until the matter is remedied.

- ❖ Maintained open and direct lines of communication between the landowners and Proponent, as well as any other identified Interested and Affected Parties (I&APs) with regards to environmental matters. and

- ❖ Attended regular site meetings and inspections as may be required for the proposed / ongoing exploration programme.

2.2.4 Contractors and Subcontractors

The responsibilities of the **Contractors and Subcontractors** appointed by the proponent to undertake certain field-based activities of the proposed / ongoing exploration programme included:

- ❖ Complying with the relevant legislation and the EMP provision.

- ❖ Preparation and submission to the proponent through the Project HSE of the following Management Plans:

    - o Environmental Awareness Training and Inductions.

- Emergency Preparedness and Response.
- Waste Management, and.
- Health and Safety.

- ❖ Ensured adequate environmental awareness training for senior site personnel.
- ❖ Provided environmental awareness presentations (inductions) to all site personnel prior to work commencement. the Project HSE provided the course content and the following topics, at least but not limited to, should were covered:
  - The importance of complying with the EMP provisions.
  - Roles and Responsibilities, including emergency preparedness.
  - Basic Rules of Conduct (Do's and Don'ts).
  - EMP: aspects, impacts and mitigation.
  - Fines for Failure to Adhere to the EMP, and.
  - Health and Safety Requirements.
- ❖ Record keeping of all environmental awareness training and induction presentations, and.
- ❖ Attended regular site meetings and environmental inspections.

2.2.5 Risk-Based Solutions (External)

The responsibilities of Risk-Based Solutions (RBS) included the following:

- ❖ Prepared this environmental monitoring report based on the information provided by the Proponent.

2.3 Reporting Process

The daily, weekly, monthly, and annual related environmental monitoring activities have all contributed to the preparation of this April 2019 - April 2022 annual environmental monitoring report.

2.4 Monitoring Strategy

2.4.1 Overview

The monitoring programme was developed to allow maximum flexibility in both the timing and site conditions to allow adaptation to the conditions encountered and to allow decisions to be made in the field and based on all available data (Annex 1).

2.4.2 Monitoring Implementation

The following is the summary of the monitoring, observations and auditing activities undertaken for the period April 2019 - April 2022 under review (Annex 1):

(i) Monitoring of environmental performance implementation / environmental awareness training.

(ii) Monitoring of environmental performance for the temporal and permanent structures.

(iii) Environmental data collection.

(iv) Health, Safety and Environment (HSE).

(v) Relations with neighbours, site personnel and public.

(vi) Management of the natural habitat and surficial materials management.

(vii) Tracks and off-road driving.

(viii) Management of surface and groundwater, and.

(ix) Public relations.

3. RESULTS OF THE ENVIRONMENTAL MONITORING

3.1 Hierarchy of Mitigation Measures Implementation

A hierarchy of methods for mitigating significant adverse effects was adopted with respect to the implementation of the EMP for the EPL 6872 was as follows and in order of preference:

(i) Enhancement, e.g. provision of new habitats.

(ii) Avoidance, e.g. sensitive design to avoid effects on ecological receptors.

(iii) Reduction, e.g. limitation of effects on receptors through design changes. and

(iv) Compensation, e.g. community benefits.

3.2 Mitigation Measures Implementation

The Environmental Management Plan (EMP) provides a detailed plan of action required in the implementation of the mitigation measures for minimising and maximising the identified negative and positive impacts, respectively. The EMP also provides the management actions with roles and responsibilities requirements for implementation of environmental management strategies by the Proponent through the Contractors and Subcontractors who will be undertaking the exploration activities. The EMP gives commitments including financial and human resources provisions for effective management of the likely environmental liabilities during and after the implementation of the proposed / ongoing exploration programme.

Detailed specific mitigations measures for implementation by the proponent with respect to the proposed / ongoing exploration programme activities and for the field-based exploration activities were prepared in the Scoping and EMP Report. The following is the summary of the overall key areas of the mitigation measures provided in Tables 3.1- 6.18:

1. Project planning and implementation.
2. Implementation of the EMP.
3. Public and stakeholders relations.
4. Measures to enhance positive socioeconomic impacts.
5. Environmental awareness briefing and training.
6. Erection of supporting exploration infrastructure.
7. Use of existing access roads, tracks and general vehicle movements.
8. Mitigation measures for preventing flora destruction.
9. Mitigation measures for preventing faunal destruction.
10. Mitigation measures to be implemented with respect to the exploration camps and exploration sites.
11. Mitigation measures for surface and groundwater protection as well as general water usage.
12. Mitigation measures to minimise negative socioeconomic impacts.
13. Mitigation measures to minimise health and safety impacts.

14. Mitigation measures to minimise visual impacts.

15. Mitigation measures to minimise vibration, noise and air quality.

16. Mitigation measures for waste (solid and liquid) management.

17. Rehabilitation plan, and.

18. Environmental data collection.

Table 3.1: Project planning and implementation.

OBJECTIVES	INDICATOR	SCHEDULE	RESPONSIBILITY	MONITORING RESULTS
Establish a strong environmental awareness protocol from project implementation to final closure to ensure the least possible impact to the environment.	1. Resources (Human and Financial) are provided for the Environmental Awareness and Training, Regular Safety, Health and Environment meetings and for internal and external Environmental Monitoring costs as well as for any rehabilitation costs that may arise. 2. Appointment of a senior and experienced persons as Proponent's Representative (PR), Project Manager (PM) and Project HSE to assume responsibility for environmental issues. 3. All individuals including sub-contractors who work on, or visit, the sites are aware of the contents of the Environmental Policy and the EMP. 4. The EMP and Environmental Policy will be included in Tender Documents. 5. Field visit will take place during which main access tracks will be discussed in cooperation with the land owner/s	1. Regional reconnaissance field-based mapping and sampling activities. 2. Initial local field-based mapping and sampling activities. 3. Detailed local field-based activities such as local geological mapping, geochemical mapping, and sampling, trenching and drilling of closely spaced boreholes and bulk sampling. 4. Prefeasibility and feasibility studies.	(i) Proponent's Representative (PR) (ii) Project Manager (PM) (iii) Project HSE (iv) Contractor (v) Subcontractors	Proponent met the provisions of the EMP.

Table 3.2: Implementation of the EMP.

OBJECTIVES	INDICATOR	SCHEDULE	RESPONSIBILITY	MONITORING RESULTS
1. Define roles and responsibilities in terms of the EMP. To sure make all personnel, contractors and subcontractors aware of these roles and responsibilities to ensure compliance with the EMP provisions. 2. Implement environmental management that is preventative and proactive. 3. Establish the resources, skills, etc. required for effective environmental management.	1. Senior staff and senior contractors are aware of, and practice the EMP requirements. These persons shall be expected to know and understand the objectives of the EMP and will, by example, encourage suitable environmentally friendly behaviour to be adopted during the exploration 2. Recognition will be given to appropriate environmentally acceptable behaviour. 3. Inappropriate behaviour will be corrected. An explanation to why the behaviour is unacceptable must be given, and, if necessary, the person will be disciplined. e.g. fees set out for non-compliance	(i) Regional reconnaissance field-based mapping and sampling activities. (ii) Initial local field-based mapping and sampling activities. (iii) Detailed local field-based activities such as local geological mapping, geochemical mapping and sampling, trenching and drilling of closely spaced boreholes and bulk sampling. (iv) Prefeasibility and feasibility studies.	(i) Proponent's Representative (PR) (ii) Project Manager (PM) (iii) Project HSE (iv) Contractor (v) Subcontractors	Proponent met the provisions of the EMP.

Table 3.3: Public and stakeholders relations.

OBJECTIVES	MITIGATION MEASURES	SCHEDULE	RESPONSIBILITY	MONITORING RESULTS
Maintain sound relationships with the Other land users/ land owner/s and other stakeholders / public	1. No littering or any other activity prohibited 2. Permission to utilise water as well as all applicable permits are obtained.	1. Regional reconnaissance field-based mapping and sampling activities. 2. Initial local field-based mapping and sampling activities. 3. Detailed local field-based activities such as local geological mapping, geochemical mapping and sampling, trenching and drilling of closely spaced boreholes and bulk sampling. 4. Prefeasibility and feasibility studies.	(i) Proponent's Representative (PR) (ii) Project Manager (PM) (iii) Project HSE (iv) Contractor (v) Subcontractors	Proponent met the provisions of the EMP.

Table 3.4: Measures to enhance positive socioeconomic impacts.

OBJECTIVES	MITIGATION MEASURES	SCHEDULE	RESPONSIBILITY	MONITORING RESULTS
Measures to enhance positive socioeconomic impacts in order to: 1. Avoid exacerbating the influx of unemployed people to the area. 2. Develop a standardised recruitment method for sub-contractor and field workers.	1. Stipulate a preference for local contractors in its tender policy. Preference to local contractors should still be based on competitive business principles and salaries and payment to local service providers should still be competitive. 2. Develop a database of local businesses that qualify as potential service providers and invite them to the tender process. 3. Scrutinise tender proposals to ensure that minimum wages were included in the costing. 4. Stipulate that local residents should be employed for temporary unskilled/skilled positions and where possible in permanent unskilled/skilled positions as they would reinvest in the local economy. 5. Must ensure that potential employees are from the area, they need submit proof of having lived in the area for a minimum of 5 years. 6. Must ensure that contractors adhere to Namibian Affirmative Action, Labour and Social Security, Health and Safety laws. This could be accomplished with a contractual requirement stipulating that monthly proof should be submitted indicating payment of minimum wages to workers, against their ID numbers, payment of social security and submission of affirmative action data. 7. Encouraged to cater for the needs of employees to increase the spending of wages locally.	(i) Regional reconnaissance field-based mapping and sampling activities. (ii) Initial local field-based mapping and sampling activities. (iii) Detailed local field-based activities such as local geological mapping, geochemical mapping and sampling, trenching and drilling of closely spaced boreholes and bulk sampling. (iv) Prefeasibility and feasibility studies.	(i) Proponent's Representative (PR) (ii) Project Manager (PM) (iii) Project HSE (iv) Contractor (v) Subcontractors	Proponent met the provisions of the EMP.

Table 3.5: Environmental awareness briefing and training.

OBJECTIVES	MITIGATION MEASURES	SCHEDULE	RESPONSIBILITY	MONITORING RESULTS
Implement environmental awareness briefing / training for individuals who visit, or work, on site.	1. Every senior/supervisory member of the team shall familiarise themselves with the contents of the EMP. They shall understand their roles and responsibilities with regard to personnel and project compliance with the EMP. 2. Subject to agreement of the parties, the Environmental Coordinator will hold an Environmental Awareness Briefing meeting, which shall be attended by all contractors before the start of the mineral exploration activities. 3. Briefings on the EMP and Environmental Policy shall discuss the potential dangers to the environment of the following activities: public relations, littering, off-road driving, waste management, poaching and plant theft etc. The need to preserve soil, conserve water and implement water saving measures shall be presented. 4. Individuals can be questioned on the Environmental Philosophy and EMP and can recall contents.	(i) Regional reconnaissance field-based mapping and sampling activities. (ii) Initial local field-based mapping and sampling activities. (iii) Detailed local field-based activities such as local geological mapping, geochemical mapping and sampling, trenching and drilling of closely spaced boreholes and bulk sampling. (iv) Prefeasibility and feasibility studies.	(i) Proponent's Representative (PR) (ii) Project Manager (PM) (iii) Project HSE (iv) Contractor (v) Subcontractors	Proponent met the provisions of the EMP.

Table 3.6: Erection of supporting exploration infrastructure.

OBJECTIVES	MITIGATION MEASURES	SCHEDULE	RESPONSIBILITY	MONITORING RESULTS
1. Get Environmental Clearance before implementation 2. Establishment of the supporting exploration infrastructure done on an area with the least disturbance to the environment and within the non-sensitive areas	1. Documented Environmental Clearance from MET. 2. All on site exploration infrastructure (e.g. water tanks, sewage tanks, waste disposal) are not situated on environmental sensitive area and have disturbed as less as possible. 3. No littering.	(i) Regional reconnaissance field-based mapping and sampling activities. (ii) Initial local field-based mapping and sampling activities. (iii) Detailed local field-based activities such as local geological mapping, geochemical mapping and sampling, trenching and drilling of closely spaced boreholes and bulk sampling. (iv) Prefeasibility and feasibility studies.	(i) Proponent's Representative (PR) (ii) Project Manager (PM) (iii) Project HSE (iv) Contractor (v) Subcontractors	Proponent met the provisions of the EMP.

Table 3.7: Use of existing access roads, tracks and general vehicle movements.

OBJECTIVES	MITIGATION MEASURES	SCHEDULE	RESPONSIBILITY	MONITORING RESULTS
1. Plan a road/track network that considers the environmental sensitivity of the area and a long-term tourism potential, and which is constructed in a technically and environmentally sound manner. 2. Stick to the recommended track and sensitivity management zones.	1. Avoid unnecessarily affecting areas viewed as important habitat – i.e. Ephemeral River and its network of tributaries of ephemeral rivers. rocky outcrops. clumps of protected tree species. 2. Make use of existing tracks/roads as much as possible throughout the area. 3. Do not drive randomly throughout the area (could cause mortalities to vertebrate fauna and unique flora. accidental fires. erosion related problems, etc.). 4. Avoid off-road driving at night as this increases mortalities of nocturnal species. 5. Implement and maintain off-road track discipline with maximum speed limits (e.g.30km/h) as this would result in fewer faunal mortalities and limit dust pollution. 6. Use of "3-point-turns" rather than "U-turns". 7. Where tracks have to be made to potential exploration sites off the main routes, the routes should be selected causing minimal damage to the environment – e.g. use the same tracks. cross drainage lines at right angles. avoid placing tracks within drainage lines. avoid collateral damage (i.e. select routes that do not require the unnecessary removal of trees/shrubs, especially protected species). 8. Leave vehicles on tracks and walk to point of interest, when possible. 9. Rehabilitate all new tracks created.	(i) Regional reconnaissance field-based mapping and sampling activities. (ii) Initial local field-based mapping and sampling activities. (iii) Detailed local field-based activities such as local geological mapping, geochemical mapping and sampling, trenching and drilling of closely spaced boreholes and bulk sampling. (iv) Prefeasibility and feasibility studies.	(i) Proponent's Representative (PR) (ii) Project Manager (PM) (iii) Project HSE (iv) Contractor (v) Subcontractors	Proponent met the provisions of the EMP.

Table 3.8: Mitigation measures for preventing flora and ecosystem destruction and promotion of conservation.

OBJECTIVES	MITIGATION MEASURES	SCHEDULE	RESPONSIBILITY	MONITORING RESULTS
1. Prevent flora and ecosystem destruction and promote conservation	1. Limit the development and avoid rocky outcrops throughout the entire area. 2. Avoid development and associated infrastructure in sensitive areas – e.g. Ephemeral River, in/close to drainage lines, cliffs, boulder and rocky outcrops in the area, etc. This would minimise the negative effect on the local environment especially unique features serving as habitat to various species. 3. Avoid placing access routes (roads and tracks) trough sensitive areas – e.g. over rocky outcrops/ridges and along drainage lines. This would minimise the effect on localised potentially sensitive habitats in the area. 4. Avoid driving randomly through the area (i.e. "track discipline"), but rather stick to permanently placed roads/tracks – especially during the detailed field-based exploration phase. This would minimise the effect on localised potentially sensitive habitats in the area. 5. Stick to speed limits of maximum 30km/h as this would result in less dust pollution which could affect certain flora – e.g. lichen species. Speed humps could also be used to ensure the speed limit. 6. Remove unique and sensitive flora (e.g. all Aloe sp.) before commencing with the development activities and relocate to a less sensitive/disturbed site if possible. 7. Prevent and discourage the collecting of firewood as dead wood has an important ecological role – especially during the development phase(s). Such collecting of firewood, especially for economic reasons, often leads to abuses – e.g. chopping down of live and/or protected tree species such as Acacia erioloba which is a good quality wood. 8. Attempt to avoid the removal of bigger trees during the development phase(s) – especially with the development of access routes – as these serve as habitat for a myriad of fauna. 9. Prevent and discourage fires – especially during the development phase(s) – as this could easily cause runaway veld fires causing problems (e.g. loss of grazing and domestic stock mortalities, etc.) for the neighbouring farmers. 10. Rehabilitation of the disturbed areas – i.e. initial development access route "scars" and associated tracks as well as temporary accommodation sites. Preferably workers should be transported in/out to the EPL area on a daily basis to avoid excess damage to the local environment (e.g. fires, wood collection, poaching, etc.). Such rehabilitation would not only confirm the company's environmental integrity, but also show true local commitment to the environment. 11. Implement erosion control. The area(s) towards and adjacent the drainage line(s) are easily eroded and further development may exacerbate this problem. Avoid undertaking any exploration activities including supporting activities such as camping within 20m of the main drainage line(s) to minimise erosion problems as well as preserving the riparian associated fauna. 12. Conduct a thorough investigation on the flora associated with the proposed exploration site(s). 13. Prevent the introduction of potentially invasive alien plant species (e.g. Tecoma stans, Pennisetum setaceum, etc.) for ornamental purposes as part of the landscaping should mining activities eventually commence. Alien species often "escape" and become invasive causing further ecological damage. 14. A thorough investigation of water use and ground water extraction should take place before actual mining activities commence as this would affect the local flora, especially the ephemeral riparian vegetation, not only locally, but downstream as well.	(i) Regional reconnaissance field-based mapping and sampling activities. (ii) Initial local field-based mapping and sampling activities. (iii) Detailed local field-based activities such as local geological mapping, geochemical mapping and sampling, trenching and drilling of closely spaced boreholes and bulk sampling. (iv) Prefeasibility and feasibility studies.	(i) Proponent's Representative (PR) (ii) Project Manager (PM) (iii) Project HSE (iv) Contractor (v) Subcontractors	Proponent met the provisions of the EMP.

Table 3.9: Mitigation measures for preventing faunal and ecosystem destruction and promotion of conservation.

OBJECTIVES	MITIGATION MEASURES	SCHEDULE	RESPONSIBILITY	MONITORING RESULTS
Prevent faunal and ecosystem destruction and promote conservation	1. Limit the development and avoid rocky outcrops throughout the entire area. 2. Avoid development & associated infrastructure in sensitive areas – e.g. in/close to drainage lines, cliffs, boulder and rocky outcrops in the area, etc. This would minimise the negative effect on the local environment especially unique features serving as habitat to various species. 3. Avoid placing access routes (roads & tracks) trough sensitive areas – e.g. over rocky outcrops/ridges and along drainage lines. This would minimise the effect on localised potentially sensitive habitats in the area. 4. Avoid driving randomly through the area (i.e. "track discipline"), but rather stick to permanently placed roads/tracks – especially during the detailed field-based exploration phase. This would minimise the effect on localised potentially sensitive habitats in the area. 5. Stick to speed limits of maximum 30km/h as this would result in fewer faunal road mortalities. Speed humps could also be used to ensure the speed limit. 6. Remove (e.g. capture) unique fauna and sensitive fauna before commencing with the development activities and relocate to a less sensitive/disturbed site if possible. 7. Prevent and discourage the setting of snares (poaching), illegal collecting of veld foods (e.g. tortoises, etc.), indiscriminate killing of perceived dangerous species (e.g. snakes, etc.) and collecting of wood as this would diminish and negatively affect the local fauna – especially during the development phase(s). 8. Attempt to avoid the removal of bigger trees during the development phase(s) – especially with the development of access routes – as these serve as habitat for a myriad of fauna. 9. Prevent and discourage fires – especially during the development phase(s) – as this could easily cause runaway veld fires affecting the local fauna, but also causing problems (e.g. loss of grazing & domestic stock mortalities, etc.) for the neighbouring farmers. 10. Rehabilitation of the disturbed areas – i.e. initial development access route "scars" and associated tracks as well as temporary accommodation sites. Preferably workers should be transported in/out to the EPL area on a daily basis to avoid excess damage to the local environment (e.g. fires, wood collection, poaching, etc.). Such rehabilitation would not only confirm the company's environmental integrity, but also show true local commitment to the environment. 11. Implement erosion control. The area(s) towards & adjacent the drainage line(s) are easily eroded and further development may exacerbate this problem. Avoid undertaking exploration activities including supporting activities such as camping within 20m of the main drainage line(s) to minimise erosion problems as well as preserving the riparian associated fauna. 12. Conduct a thorough investigation on the fauna associated with the proposed exploration site(s). 13. Prevent the number of domestic pets – e.g. cats & dogs – accompanying the workers during the field-based exploration activities as cats decimate the local fauna and interbreed & transmit diseases to the indigenous African Wildcat found in the area. Dogs often cause problems when bonding on hunting expeditions thus negatively affecting the local fauna. The indiscriminate and wanton killing of the local fauna by such pets should be avoided at all costs.	(i) Regional reconnaissance field-based mapping and sampling activities. (ii) Initial local field-based mapping and sampling activities. (iii) Detailed local field-based activities such as local geological mapping, geochemical mapping and sampling, trenching and drilling of closely spaced boreholes and bulk sampling. (iv) Prefeasibility and feasibility studies.	(i) Proponent's Representative (PR) (ii) Project Manager (PM) (iii) Project HSE (iv) Contractor (v) Subcontractors	Proponent met the provisions of the EMP.

Table 3.10: Mitigation measures to be implemented with respect to the exploration camps and exploration sites.

OBJECTIVES	MITIGATION MEASURES	SCHEDULE	RESPONSIBILITY	MONITORING RESULTS
Promotion of conservation through preservation of flora, fauna and ecosystem around the exploration camps and exploration sites	1. Select camp sites and other temporary lay over sites with care – i.e. avoid important habitats. 2. Use portable toilets to avoid faecal pollution around camp and exploration sites. 3. Initiate a suitable and appropriate refuse removal policy as littering could result in certain animals becoming accustomed to humans and associated activity and result in typical problem animal scenarios – e.g. baboon, black-backed jackal, etc.. 4. Avoid and/or limit the use of lights during nocturnal exploration activities as this could influence and/or affect various nocturnal species – e.g. bats and owls, etc. Use focused lighting for least effect. 5. Prevent the killing of species viewed as dangerous – e.g. various snakes – when on site. 6. Prevent the setting of snares for ungulates (i.e. poaching) or collection of veld foods (e.g. tortoises) and unique plants (e.g. various Aloe and Lithop) or any form of illegal hunting activities. 7. Avoid introducing dogs and cats as pets to camp sites as these can cause significant mortalities to local fauna (cats) and even stock losses (dogs). 8. Remove and relocate slow moving vertebrate fauna (e.g. tortoises, chameleon, snakes, etc.) to suitable habitat elsewhere on property. 9. Avoid the removal and/or damaging of protected flora potentially occurring in the general area – e.g. various Aloe, Commiphora and Lithop species. 10. Avoid introducing ornamental plants, especially potential invasive alien species, as part of the landscaping of the camp site, etc., but rather use localised indigenous species, should landscaping be attempted, which would also require less maintenance (e.g. water). 11. Remove all invasive alien species on site, especially Prosopis sp., which is already becoming a major ecological problem along various water courses throughout Central Namibia. This would not only indicate environmental commitment, but actively contribute to a better landscape. 12. Inform contractors/workers regarding the above mentioned issues prior to exploration activities and monitor for compliance thereof throughout. 13. Rehabilitate all areas disturbed by the exploration activities – i.e. camp sites, exploration sites, etc.. 14. Implement a policy of replacing 2 tree species (preferably the same species) for every 1 protected tree species having to be removed (if necessary). 15. Although fires are not expected to be a major issue in the general area due to the overall lack of grass cover, some years it may be necessary to consider fire prevention. Ensure that adequate firefighting equipment (e.g. fire beaters. extinguishers, etc.) is available at camp sites and clear kitchen areas to avoid accidental fires. 16. Employ an independent environmental auditor to ensure compliance, especially of the rehabilitation of all the affected areas.	(i) Regional reconnaissance field-based mapping and sampling activities. (ii) Initial local field-based mapping and sampling activities. (iii) Detailed local field-based activities such as local geological mapping, geochemical mapping and sampling, trenching and drilling of closely spaced boreholes and bulk sampling. (iv) Prefeasibility and feasibility studies.	(i) Proponent's Representative (PR) (ii) Project Manager (PM) (iii) Project HSE (iv) Contractor (v) Subcontractors	Proponent met the provisions of the EMP.

Table 3.11: Mitigation measures for surface and groundwater protection as well as general water usage.

OBJECTIVES	MITIGATION MEASURES	SCHEDULE	RESPONSIBILITY	MONITORING RESULTS
Effective management / protection of surface and groundwater resources and general water resources usage	1. Always use as little water as possible. Reduce, reuse and re-cycle water where possible. 2. All leaking pipes / taps must be repaired immediately when they are noticed. 3. Never leave taps running. Close taps after you have finished using them. 4. Never allow any hazardous substance to soak into the soil. 5. Immediately tell your Contractor or Environmental Control Officer / Site Manager when you spill, or notice any hazardous substance being spilled during the field-based exploration activities or around the camp site. 6. Report to your Contractor or Environmental Control Officer / Site Manager when you notice any container, which may hold a hazardous substance, overflow, leak or drip. 7. Immediately report to your Contractor or Environmental Control Officer / Site Manager when you notice overflowing problems or unhygienic conditions at the ablution facilities. 8. No washing of vehicles, equipment and machinery, containers, and other surfaces. 9. Limit the operation to a specific site and avoid sensitive areas and in particular the Ephemeral River Channel. This would sacrifice the actual area for other adjacent Ephemeral River areas and thus minimise any likely negative effect on water resources. 10. Disposal of wastewater into any public stream is prohibited. 11. The Proponent must obtain permission of the land owners before utilising any water resources or any associated infrastructure. 12. If there is a need to drilling a water borehole to support the exploration programme the proponent (Proponent) must obtain permission form the land owner and Department of Water Affairs in the Ministry of Agriculture and Forestry. In an event of discovery of economic minerals resources, the sources of water supply for the mining related operations will be supplied by NamWater. 13. If there are any further (larger scale) exploration/drilling activities and/or mining activities to follow from the initial planned drill holes, groundwater monitoring must be implemented to include water level monitoring and also water sampling on a bi-annual basis. In order to have greater transparency on the water monitoring activities, the affected landowners / farmers must be given full access to the results of the water monitoring analyses.	(i) Regional reconnaissance field-based mapping and sampling activities. (ii) Initial local field-based mapping and sampling activities. (iii) Detailed local field-based activities such as local geological mapping, geochemical mapping, and sampling, trenching and drilling of closely spaced boreholes and bulk sampling. (iv) Prefeasibility and feasibility studies.	(i) Proponent's Representative (PR) (ii) Project Manager (PM) (iii) Project HSE (iv) Contractor (v) Subcontractors	Proponent met the provisions of the EMP.

Table 3.12: Mitigation measures to minimise negative socioeconomic impacts.

OBJECTIVES	MITIGATION MEASURES	SCHEDULE	RESPONSIBILITY	MONITORING RESULTS
Effective management of socioeconomic benefits of the proposed / ongoing project activities	1. The employment of local residents and local companies should be a priority. To ensure that potential employees are from the area, they need submit proof of having lived in the area for a minimum of 5 years. 2. Providing information such as the number and types of jobs available, availability of accommodation facilities and rental costs and living expenses, could make potential job seekers wary of moving to the area. 3. Addressing unrealistic expectations about the large number of jobs would be created. 4. Exploration camp if required should be established in close consultation with the land owners. 5. Exploration camp should consider provision of basic services. 6. When employees contracts are terminated or not renewed, contractors should transport the employees out of the area to their hometowns within two days of their contracts coming to an end. 7. Tender documents could stipulate that contractors have HIV/AIDS workplace policies and programmes in place and proof of implementation should be submitted with invoicing. 8. Develop strategies in coordination with local health officers and NGO's to protect the local communities, especially young girls. 9. Contract companies could submit a code of conduct, stipulating disciplinary actions where employees are guilty of criminal activities in and around the vicinity of the EPL. Disciplinary actions should be in accordance with Namibian legislation. 10. Contract companies could implement a no-tolerance policy regarding the use of alcohol and workers should submit to a breathalyser test upon reporting for duty daily. 11. Request that the Roads Authority erect warning signs of heavy exploration vehicles on affected public roads. 12. Ensure that drivers adhere to speed limits and that speed limits are strictly enforced. 13. Ensure that vehicles are road worthy and drivers are qualified. 14. Train drivers in potential safety issues.	(i) Regional reconnaissance field-based mapping and sampling activities. (ii) Initial local field-based mapping and sampling activities. (iii) Detailed local field-based activities such as local geological mapping, geochemical mapping and sampling, trenching and drilling of closely spaced boreholes and bulk sampling. (iv) Prefeasibility and feasibility studies.	(i) Proponent's Representative (PR) (ii) Project Manager (PM) (iii) Project HSE (iv) Contractor (v) Subcontractors	Proponent met the provisions of the EMP.

Table 3.13: Mitigation measures to minimise health and safety impacts.

OBJECTIVES	MITIGATION MEASURES	SCHEDULE	RESPONSIBILITY	MONITORING RESULTS
Promotion of health and safe working environment in line with national Labour Laws	1. Physical hazards: Follow national and international regulatory and guidelines provisions, always make use of correct Personal Proactive Clothing, training programme, as well as the implementation of a fall protection program in accordance with the Labour Act. 2. Some of the public access management measures that may be considered in an event of vandalism occurring are: • All exploration equipment must be in good working condition and serviced accordingly. • Control access to the exploration site through using gates on the access road(s) if required. • The entire site, must be fenced off. the type of fencing to be used would, however, be dependent on the impact on the visual resources and/or cost. and. • Notice or information boards relating to public safety hazards and emergency contact details to be put up at the gate(s) to the exploration area. 3. There is a comprehensive First Aid Kit on site and that suitable anti-histamine for bee stings / snake bites should be available. 4. Rubber gloves are used in case of an accident to reduce the risk of contracting HIV/AIDS. 5. All individuals have received instructions concerning the dangers of dehydration or hyperthermia. Encourage all to drink plenty of clean water not directly from the surface water bodies. 6. No person under the influence of alcohol or drugs is allowed to work on site. 7. The Exploration Manager ensures compliance with the requirements of the relevant Namibian Labour, Mining and Health and Safety Regulations. 8. Dangerous or protected / sensitive areas are clearly marked and access to these areas is controlled or restricted. 9. Due care must be taken when driving any vehicles on any roads particularly the gravel roads. ALL Drivers must drive with their headlights switched on when travelling on the gravel roads (day and night). 10. Persons driving a vehicle must be in possession of a valid driver's license 11. Awareness on HIV/AIDS among workers is raised	(i) Regional reconnaissance field-based mapping and sampling activities. (ii) Initial local field-based mapping and sampling activities. (iii) Detailed local field-based activities such as local geological mapping, geochemical mapping and sampling, trenching and drilling of closely spaced boreholes and bulk sampling. (iv) Prefeasibility and feasibility studies.	(i) Proponent's Representative (PR) (ii) Project Manager (PM) (iii) Project HSE (iv) Contractor (v) Subcontractors	Proponent met the provisions of the EMP.

Table 3.14: Mitigation measures to minimise visual impacts.

OBJECTIVES	MITIGATION MEASURES	SCHEDULE	RESPONSIBILITY	MONITORING RESULTS
Preserve the landscape character in the development of supporting infrastructure and choice of visual screening	1. Consider the landscape character and the visual impacts of the exploration area including camp site from all relevant viewing angles, particularly from public roads. 2. Use vegetation screening where applicable. Do not cut down vegetation unnecessarily around the site and use it for site screening. 3. Avoid the use of very high fencing. 4. Minimise access roads and no off-road that could result in land scarring is allowed. 5. Minimise the presence of secondary structures: remove inoperative support structures. 6. Remove all infrastructure and reclaim or rehabilitate the project site after exploration activities are completed.	(i) Regional reconnaissance field-based mapping and sampling activities. (ii) Initial local field-based mapping and sampling activities. (iii) Detailed local field-based activities such as local geological mapping, geochemical mapping and sampling, trenching and drilling of closely spaced boreholes and bulk sampling. (iv) Prefeasibility and feasibility studies.	(i) Proponent's Representative (PR) (ii) Project Manager (PM) (iii) Project HSE (iv) Contractor (v) Subcontractors	Proponent met the provisions of the EMP.

Table 3.15: Mitigation measures to minimise vibration, noise and air quality.

OBJECTIVES	MITIGATION MEASURES	SCHEDULE	RESPONSIBILITY	MONITORING RESULTS
Promote of effective management of vehicle movement, drilling and blasting operations and use of Personal Protective Equipment (PPE) in mitigating air quality and vibrations impacts in line with national laws	1. Limit vehicle movements and adhere to the speed of 60 km/h. 2. Vehicles and all equipment must be properly serviced to minimise noise pollution. 3. Make use of Personal Protective Equipment (PPE) to minimise Occupational Health Safety impacts dues to noise pollution around the site. 4. National or international acoustic design standards must be followed. 5. Drilling and blasting operations can major sources of vibration, noise and dust and where required the following mitigation measure shall be implemented. • Drilling and blasting operations shall only be done by a qualified person who must at all times adhere to the required blasting protocol. • Prior warning shall be given to all persons, neighbor and visitors before the blasting takes place. • Careful planning and timing of the blast program to minimise the size of the charge. • Where practicable, use of explosive products with lower detonation velocities, but noting that this would require more explosives to achieve the same blast result. • Use of detonating caps with built-in time delays, as this effectively reduces each detonation into a series of small explosions. • Use of a procedure ("decking the charge") which subdivides the charge in one blast hole into a series of smaller explosions, with drill patterns restricted to a minimum separation from any other loaded hole. • Over-drilling the holes to ensure fracturing of the rock. • Staggering the detonation for each blast hole in order to spread the explosive's total overpressure over time. • Matching, to the extent possible, the energy needed in the "work effort" of the borehole to the rock mass to minimise excess energy vented into the receiving environment.	(i) Regional reconnaissance field-based mapping and sampling activities. (ii) Initial local field-based mapping and sampling activities. (iii) Detailed local field-based activities such as local geological mapping, geochemical mapping and sampling, trenching and drilling of closely spaced boreholes and bulk sampling. (iv) Prefeasibility and feasibility studies.	(i) Proponent's Representative (PR) (ii) Project Manager (PM) (iii) Project HSE (iv) Contractor (v) Subcontractors	Proponent met the provisions of the EMP.

Table 3.16: Mitigation measures for waste (solid and liquid) management.

OBJECTIVES	MITIGATION MEASURES	SCHEDULE	RESPONSIBILITY	MONITORING RESULTS
Promotion of effective waste (solid and liquid) management through the adoption of sound and hierarchical approach to waste management, which would include waste minimisation, re-use, recovery, recycling, treatment, and proper disposal.	1. Burial of waste on anywhere within the EPL area is not allowed and all generated solid waste must be disposed at the at an approved municipal waste disposal site. 2. Toilet and ablution facilities must be provided on site and should not be located close to Ephemeral Rivers or visible discontinuities (fractures, joints or faults). 3. Provide site information on the difference between the two main types of waste, namely: • General Waste. and • Hazardous Waste. 4. Sealed containers, bins, drums or bags for the different types of wastes must be provided. Never dispose of hazardous waste in the bins or skips intended for general waste. 5. All solid and liquid wastes generated from the proposed / ongoing project activities shall be reduced, reused, or recycled to the maximum extent practicable. 6. Trash may not be burned or buried, except at approved sites under controlled conditions in accordance with the municipal regulations. 7. Never overfill any waste container, drum, bin or bag. Inform your Contractor or the Environmental Control Officer / Site Manager if the containers, drums, bins or skips are nearly full. 8. Never litter or throwaway any waste on the site, in the field or along any road. No illegal dumping. 9. Littering is prohibited. 10. Latrines and French drains built >100m from watercourses or pans to avoid pollution of primary and secondary aquifers. 11. Chemical toilets or suitable waste water management system shall be provided on site and around the camp as may be required.	(i) Regional reconnaissance field-based mapping and sampling activities. (ii) Initial local field-based mapping and sampling activities. (iii) Detailed local field-based activities such as local geological mapping, geochemical mapping, and sampling, trenching and drilling of closely spaced boreholes and bulk sampling. (iv) Prefeasibility and feasibility studies.	(i) Proponent's Representative (PR) (ii) Project Manager (PM) (iii) Project HSE (iv) Contractor (v) Subcontractors	Proponent met the provisions of the EMP.

Table 3.17: Rehabilitation plan.

OBJECTIVES	MITIGATION MEASURES	SCHEDULE	RESPONSIBILITY	MONITORING RESULTS
Contributions toward environmental preservation and sustainability through rehabilitation of disturbed areas such as exploration sites and remove all unwanted part of the fixtures and restore the sites to close an approximation of the pristine state as is technically, financially and reasonably possible.	1. The following rehabilitation actions are practiced: • Small samples are preferably removed from site to avoid additional scars in the landscape. • Litter from the site has been taken to the appropriate disposal site. • Debris, scrap metal, etc is removed before moving to a new site or closure of the mine. • Water tanks are dismantled and removed if not need for after use. • Tracks on site and the access road are rehabilitated by smoothing the 'middle mannetjie'(middle ridge between the tracks) and raking the surface. 2. The following should be undertaken at all disturbed areas that require further rehabilitation: • if applicable the stockpiled subsoil to be replaced (spread) and/or the site is neatly contoured to establish effective wind supported landscape patterns. • Replace the stored topsoil seed bank layer. • Five (5) years after rehabilitation the sites are not visible from 500 m away.	(i) Regional reconnaissance field-based mapping and sampling activities. (ii) Initial local field-based mapping and sampling activities. (iii) Detailed local field-based activities such as local geological mapping, geochemical mapping and sampling, trenching and drilling of closely spaced boreholes and bulk sampling. (iv) Prefeasibility and feasibility studies.	(i) Proponent's Representative (PR) (ii) Project Manager (PM) (iii) Project HSE (iv) Contractor (v) Subcontractors	Proponent met the provisions of the EMP.

Table 3.18: Environmental data collection.

OBJECTIVES	MITIGATION MEASURES	SCHEDULE	RESPONSIBILITY	MONITORING RESULTS
1. Collect data that will add value to environmental monitoring and reporting to the regulators 2. Collect data that will add to the general scientific and geographic knowledge of the environment in which the exploration process takes place. 3. Acknowledged that the required skills and knowledge to collect all the suggested data may not be available within the mine /exploration team, however, as much data as is practical should be collected.	1. Environmental Monitoring Report Compiled and submitted by the Environmental Coordinator to the regulators 2. The following types of information should be gathered: • Fauna. What tracks or signs of animal activity have been seen? (Photographs and GPS recording) What animals, birds etc were identified? Alternatively, provide a description and/ or photo if unidentified. • Unusual weather conditions, e.g., records of the prevailing wind direction and the direction from which storm events come. Was there fog or rain, frost overnight or intense heat? Preferably have a thermometer and rain gauge on site. • Vegetation. Record trees, shrubs, grass, etc. that are found in the vicinity along each of the profiles. Some plants do only occur after rainfall and might not have been seen for decades. • Any archaeological, cultural, or historical sites that may be found. GPS coordinates, photograph and plot the position on a 1: 50 000 maps. • other including surface water, spring, large scale geological features etc	(i) Regional reconnaissance field-based mapping and sampling activities. (ii) Initial local field-based mapping and sampling activities. (iii) Detailed local field-based activities such as local geological mapping, geochemical mapping and sampling, trenching and drilling of closely spaced boreholes and bulk sampling. (iv) Prefeasibility and feasibility studies.	(i) Proponent's Representative (PR) (ii) Project Manager (PM) (iii) Project HSE (iv) Contractor (v) Subcontractors	Proponent met the provisions of the EMP.

4. CONCLUSIONS AND RECOMMENDATIONS

4.1 Conclusions

Osino Gold Exploration and Mining (Pty) Ltd (**the Proponent**) is current undertaking exploration activities in the Exclusive Prospecting Licence (EPL) No. 6872. As part of the implementation of the EMP, the following key issues were also addressed:

(i) The proponent negotiated Access Agreements with the land owner/s as required.

(ii) The Proponent adhered to all the provisions of the EMP and conditions of the Access Agreement entered between the proponent and the land owner/s in line with all applicable national regulations, and.

(iii) Before entering any private property such as a private farm, the proponent gave advanced notices and always obtained permission from the land owners to access the license area.

(iv) The proponent always implemented the precautionary measures / approach to environmental management.

(v) The proponent provided all the necessary support including human and financial resources, for the implementation of the proposed / ongoing mitigations and effective environmental management.

(vi) Implemented internal and external (contracted Risk-Based Solutions) monitoring of the actions and management strategies developed during the mineral exploration process, and.

(vii) This final Environmental Monitoring report has been prepared with the support of the external specialist consultants and will be submitted to the regulators as part of the required environmental monitoring process.

Based on the results of the overall environmental performance monitoring undertaken for the period April 2019 - April 2022 under review, no diversions from the environmental commitments as outlined in the Environmental Policy of the Proponent (Osino Gold Exploration and Mining (Pty) Ltd), Environmental Management Plan (EMP) and the Environmental Clearance Certificate (ECC) have been observed or recorded (Annex 1). The ongoing exploration activities are being undertaken with the highest Health, Safety and Environment (HSE) commitments.

Annex 1

Questionnaire Annex to the Environmental Monitoring Report

ENVIRONMENTAL REPORT (ER)
(Prospecting Companies)

INSTRUCTIONS:

1. An Environmental Report shall be submitted to the Ministry of Environment, Forestry, and Tourism (MEFT).

Period April 2019 - April 2022

2. This form shall be the minimum reporting format. Prospecting Companies are expected to attach a map of their prospecting area to this report. Prospecting Companies are welcome to attach any other information they like, such as copies of new agreements, letters of explanation, aerial photographs, or anything else of interest.

3. The map shall be used to indicate the following:

* areas where prospecting has taken place,
* roads or tracks made and/or used,
* houses and other infrastructure erected,
* excavations or other scars which have been rehabilitated,
* conflict areas, etc….

4. It is recommended (but not compulsory) that Prospecting Companies attach photographs to their report that visually illustrate the activities described in their report.

5. Failure to submit an Environmental Report shall constitute a breach of the Environmental Contract, which could result in steps taken against the Prospecting Company.

6. All information contained in the Environmental Report shall be treated as confidential.

7. The Prospecting Company shall ensure that all the information recorded in the Environmental Report is, to their best knowledge, accurate and correct.

Completed Environmental Reports should be sent to:

Environmental Commissioner
Department of Environmental Affairs (DEA)
Ministry of Environment and Tourism
Private Bag 13306
Windhoek

A. COMPANY DETAILS AND REPORTING PERIOD:

Name of Company: Osino Gold Exploration and Mining (Pty) Ltd

Address of Company: 13 Feld Street, PO Box 3489, WINDHOEK, NAMIBIA

Telephone: 061-246533 **Fax number:** 061 246 588
E-mail: ftuneeko@osinoresources.com

Name of person compiling report: Dr Sindila Mwiya

Reference number(s) of prospecting area / block / license: EPL 6872

Geographical location of area / block / license: Otjiwarongo District, Otjozondjupa Region

This report is for the period of: (tick the relevant box and fill in the year)
Other (please specify) April 2019 - April 2022

B. POLLUTION AND WASTE

Has all domestic refuse (eg. Household waste, bottles, tins, paper, plastic, etc) been removed from the prospecting area? **yes** ☒ **no** ☐

If "yes" above, specify the site where such refuse has been deposited: At the official municipal waste sites in Windhoek.

How often is refuse removed to the site mentioned above? :
every week ☒
every two weeks ☐
every three weeks ☐
once a month ☐
at irregular intervals ☐

If refuse has not been removed, where has it been dumped?

As far as litter is concerned, would you describe your prospecting area as: **Very clean** ☒ **Reasonably clean** ☐ **Filthy** ☐

If your prospecting area is littered with refuse, please indicate how you intend cleaning it up:

……

Are toilets provided for all staff employed by the prospecting company: **yes** ☒ **no** ☐

If "yes" above, are they: **Flush toilets** ☐ **Chemical Toilets** ☒ **Pit Latrines** ☒ **Other** ☐

If chemical toilets are used, how are old chemicals disposed of:
Deposited in evaporation ponds ☐ **Deposited in a municipal refuse dump** ☐
Buried on site ☐
Other (specify) ☒ Municipal Waste Water Management Facility

C. VEHICLES AND EARTHMOVING EQUIPMENT

Indicate the types and number of vehicles and earthmoving equipment used on site during the reporting period (tick box in front of the category of vehicles used and then fill in the next boxes to indicate numbers)

☒	**Pick-up trucks ("bakkies"), either 2x4 or 4x4**	**How many in use** (2) Vehicles
☐	**Lorries / trucks between 5 - 10 ton capacity**	**How many in use** ☐☐
☐	**Lorries / trucks larger than 10 ton capacity**	**How many in use** ☐☐
☐	**Bulldozer of any size**	**How many in use** ☐☐
☐	**Road Grader of any size**	**How many in use** ☐☐
☐	**Front-end loader of any size**	**How many in use** ☐☐
☐	**Drilling machine of any type**	**How many in use** ☐☐
☐	**Other (specify) ……**	**How many in use** ☐☐

D. ROADS AND TRACKS *(In addition to ticking the following boxes, please draw roads/tracks made on an accompanying map in blue ink. Roads which have been rehabilitated (ie. restored to their natural state) can be scratched out in red pen.*

Have new roads or tracks been made during the reporting period? yes ☐ no ☒

If "yes" above how long are these (in kilometres)? ☐☐☐ Km

If "yes" above are these still in use? yes ☐ no ☐

If "no" above have any of these roads or tracks been rehabilitated? yes ☐ no ☐

If "yes" above, how have you done such rehabilitation?: Ripping ☐ Raking ☐ sweeping ☐
Other (specify) ☐……

If road / track rehabilitation has taken place, how many kilometres of roads or tracks have been rehabilitated? ☐☐☐ kilometres

E. TRENCHES OR PITS: *If new trenches or pits were made in the site / area during the reporting period, please indicate these by ticking the appropriate boxes AND by means of illustrating them on the same map described above. New pits or trenches made, should be numbered and drawn as a CIRCLE in blue ink, while pits or trenches which were rehabilitated during the reporting period should be scratched out in RED ink.*

Have new trenches or pits been excavated in your area during the reporting period? yes☐ no☒

If "yes" above, what are their approximate sizes or dimensions? (in metres)

1. Trench / pit No.1: Size / dimensions : ☐☐ Cubic metres or ….. ☐ length x ☐ breadth x ☐ depth
2. Trench / pit No.2: Size / dimensions : ☐☐ Cubic metres or ….. ☐ length x ☐ breadth x ☐ depth
3. Trench / pit No.3: Size / dimensions : ☐☐ Cubic metres or ….. ☐ length x ☐ breadth x ☐ depth
4. Trench / pit No.4: Size / dimensions : ☐☐ Cubic metres or ….. ☐ length x ☐ breadth x ☐ depth
5. ……
6. ……

Were any holes/trenches rehabilitated during this period of reporting? yes☐(show on map) no☐

F. INFRASTRUCTURAL DEVELOPMENT

Infrastructural Developments means any offices, houses, sheds, cement slabs, or other buildings or foundations for buildings. It also includes storage tanks (for water, fuel, or other substances), temporary housing such as mobile homes & caravans, prefab units and tented camps. Please report on new construction or additions to buildings you reported on, in your previous Environmental Report.

Was any NEW infrastructure established during this period? yes ☐ No ☒
If "yes" above, is this infrastructure: Permanent ☐ Temporary ☐ A combination ☐

Describe infrastructure by ticking boxes: Offices ☐ Housing ☐ Sheds ☐
Prefab structure ☐ Garages ☐ Storage tanks ☐
Cement slabs ☐ Foundations ☐ Other ☐
If "other", please specify: ……..

G. BOREHOLES, SAMPLE HOLES OR OTHER DRILLING

This category includes holes drilled for water, for taking mineral or other samples, for setting explosives, for testing mineral quality, or any other purpose.

Were any holes drilled during this period? yes ☐ no ☒

If "yes", for which purpose were they drilled? Water ☐ depth ☐☐☐ Quantity ☐☐
Sampling ☐ depth ☐☐☐ Quantity ☐☐☐
Explosives ☐ depth ☐☐☐ Quantity ☐☐☐

Other ☐ (specify) …….. depth ☐☐☐ Quantity ☐☐☐

H. WATER

Your estimated monthly water consumption during this period was: None

Water was obtained from: River☐ Borehole☒ Dam☐ Water Affairs☐ Other ☐

Please estimate the percentage of water used for the following activities during this period:

Human consumption	**10 %**
Toilets	**☐☐ %**
Prospecting activities	**90 %**
Washing vehicles & equipment	**☐☐ %**
Dust control	**☐☐ %**
Building activities	**☐☐ %**
Gardens	**☐☐ %**
Recreation	**☐☐ %**
Other (specify)	**☐☐ %**

Were there any accidents which caused a loss of water? **No**

If "yes", please give details :……

I. PROTECTION OF FAUNA AND FLORA

Please answer the following questions by ticking the appropriate boxes:

Question:	Yes	No	Unsure
Were any mammals, birds, reptiles or fish killed or wounded (purposefully or accidentally) in the prospecting site or area?	☐	☒	☐
Were any plants (excluding grasses) picked, damaged or removed?	☐	☒	☐
Was there any wood collecting in the area?	☐	☒	☐

J. RELATIONS WITH NEIGHBOURS, OFFICIALS AND/OR THE GENERAL PUBLIC

Were there any conflicts with neighbours, land-owners, Government Officials or the public during this period? **Yes** ☐ **No** ☒

If "yes" above, what was the nature of these conflicts? (tick boxes to provide answers)

People entered the prospecting area without permission or prior arrangement	☐
Complaints about reduced access to water or other resources	☐
Complaints about danger posed to livestock or wildlife	☐
Allegations about stock-theft or poaching	☐
Complaints about vehicle or equipment movement on access roads / tracks	☐
Complaints about litter or other types of pollution (eg. Noise, dust, etc.)	☐
Complaints about the activities / actions of company staff	☐
Allegations that the Company was not adhering to contracts / agreements	☐
Allegations that the Company damaged property or installations	☐
Allegations that gates were left open or unlocked	☐
Other (specify)……	☐

If conflicts arose, indicate how these were resolved ? (tick boxes)

Verbal agreement after discussions…… .	☐
Written agreement by special contract……	☐
Instructions to company staff to avoid conflicts…….. …..	☐
Company rectified its mistakes and undertook to avoid future wrong-doing….	☐
Court action or other third party arbitration…….	☐
Other (specify) ……	☐
The conflicts remain unsolved……	☐

Any other comments or information:

The ongoing exploration activities are being undertaken with the highest Health, Safety and Environment (HSE) commitments

I declare that the information provided in this Environmental Report is, to the best of my knowledge, accurate and correct as provided by the Proponent.

Dr Sindila Mwiya: External Environmental Consultant