

**Environmental Assessment for
Exclusive Prospecting Licenses 7414 and 7415 in the
Omaheke Region**

Draft Scoping Report for First Round Public Consultation

20 May 2021

Executive Summary

Introduction

Heyn Ohana Investment CC (the Proponent) intends to carry out mineral prospecting activities on Exclusive Prospecting Licenses (EPLs) 7414 and 7415 (the project).

Geological information within the EPLs is required with respect to base and rare metals, industrial minerals and precious stones. Furthermore, this project has the potential to advance two key national priorities – i.e. economic growth and employment creation. It is therefore desirable and arguably necessary to carry out minerals exploration within these EPLs.

Public Consultation

The first round of public consultation took place from 5 February 2021 to 15 March 2021. The main issues that were raised during the first round of public consultation are as follows:

- Impact on farm infrastructure (roads, fences, gates, water infrastructure etc.) (negative).
- Waste management impacts (open defecation, waste disposal) (negative).
- Impact on water availability (negative).
- Impacts on water quality (negative).
- Impacts on wild animals (poaching and disturbance) (negative).
- Impacts on conservation and commercial tourism activities (hunting and game viewing) (negative).
- Potential discovery of groundwater from holes drilled by the Proponent (positive).
- Post exploration rehabilitation concerns (negative).
- Impacts associated with wildfires (negative).

The second round of public consultation took place from the 20th of April to the 3rd of May 2021. No comments on the content of the draft scoping report were submitted during the aforementioned period.

Conclusions and Recommendations

Based on the findings of this impact assessment, the following can be concluded with respect to the social environment:

- The creation of temporary skilled and unskilled employment for Namibians is a **positive** impact of low-medium significance.

- The impact associated with an improved geological understanding regarding base and rare metals in the project area and the potential improved access groundwater are significant **positive** impacts.
- Impacts associated with traffic safety, dust, health and safety, archaeology and potential conflict with tourism and conservation activities are **negative** impacts of low or low-medium significance.

Mitigation measures and recommendations have been prescribed in this report (and the EMP – Appendix B) to reduce the significance of these key impacts (and others) to acceptable levels.

Based on the findings of the impact assessment, the following can be concluded with respect to the biophysical environment:

- Potential faunal and floral disturbance, poaching and unnecessary movement of workers, owing to the relatively small extent of the exploration activities, constitutes a **negative** impact of low significance.
- Accidental spreading of wildfire after implementation of mitigation measures constitutes a **negative** impact of low significance.
- Impacts associated with pollution of surface and groundwater resources and water demand, because of the relatively small scale of the proposed activity, constitutes a **negative** impact of low significance.

Mitigation measures and recommendations have been prescribed in this report and the EMP (Appendix B) to reduce the significance of the negative impacts to acceptable levels.

Based on the project information provided by the Proponent and the findings of the impact assessment conducted, it can be concluded that that the proposed project may be granted an Environmental Clearance Certificate, provided recommendations and impact mitigation measures in this report and all the provisions in the EMP are adhered to.

The findings of this scoping phase conclude that no further detailed assessments are required.

Furthermore, the implementation of the aforementioned recommendations, impact mitigation measures and EMP provisions should be monitored by the applicable Competent Authority to ensure that all potential impacts identified in this study and other impacts that might arise during implementation are properly identified in time and addressed.

It is therefore recommended that an Environmental Clearance Certificate be issued for the proposed project, subject to the following recommendations:

- All required permits, licenses and approvals for the existing activity should be obtained as required.

- The owners of all farms where minerals exploration work is carried out, should establish a written agreement with the proponent before any work starts. The discussions regarding the agreement should address the issues laid out in Section 7.3.1 – Planning Phase Considerations of this report.
- All mitigations listed in Table 7-3 to Table 7-15 and the Environmental Management Plan (Appendix B) should be implemented as stipulated.
- All the necessary traffic safety and occupational health and safety precautions as laid out in Chapter 7 – Impact Assessment should be adhered to.
- Where clearing is unavoidable, permits for clearing protected plant species should be obtained from the nearest forestry office.
- Areas where exploration activities have ceased should be rehabilitated, as far as practicable, to their original state.

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Abbreviations and Acronyms

CV	Curriculum Vitae
DD	Diamond drilling
DEA	Department of Environmental Affairs
EA	Environmental Assessment
EAP	Environmental Assessment Practitioner
ECC	Environmental Clearance Certificate
EIA	Environmental Impact Assessment
EMA	Environmental Management Act
EMP	Environmental Management Plan
EPL	Exclusive Prospecting License
GG	Government Gazette
GN	Government notice
I&AP	Interested and Affected Party
MAWLR	Ministry of Agriculture, Water and Land Reform
MEFT	Ministry of Environment, Forestry and Tourism
MME	Ministry of Mines and Energy
NSA	Namibia Statistics Agency
RA	Roads Authority
RC	Reverse Circulation
ToR	Terms of Reference

Appendices

Appendix A: Application for Environmental Clearance Certificate

Appendix B: Environmental Management Plan

Appendix C: CVs of EAPs responsible for the Environmental Assessment

Appendix D: Public Consultation

Appendix D1: List of pre-identified Interested and Affected Parties (I&APs)

1st Round of Public Consultation

Appendix D2: Notification email sent to I&APs

Appendix D3: Background Information Document (BID)

Appendix D4: Proof of registered post sent to one farm owner

Appendix D5: Proof of correspondence sent via WhatsApp Messenger

Appendix D6: Notification letter and proof of hand delivered to MAWLR situated in Windhoek

Appendix D7: Copies of newspaper notices

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Appendix D9: Public meeting minutes

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2nd Round of Public Consultation

Appendix D12: Notification email sent to I&APs

Appendix D13: Proof of correspondence sent via WhatsApp Messenger

Appendix D14: Comments by I&APs

Glossary

Cumulative Impacts - in relation to an activity, means the impact of an activity that in itself may not be significant but may become significant when added to the existing and potential impacts eventuating from similar or diverse activities or undertakings in the area.

Environment - As defined in Environmental Management Act - the complex of natural and anthropogenic factors and elements that are mutually interrelated and affect the ecological equilibrium and the quality of life, including – (a) the natural environment that is land, water and air; all organic and inorganic matter and living organisms and (b) the human environment that is the landscape and natural, cultural, historical, aesthetic, economic and social heritage and values.

Environmental Management Plan – as defined in the EIA Regulations, a plan that describes how activities that may have significant environments effects are to be mitigated, controlled and monitored.

Interested and Affected Party (I&AP) - in relation to the assessment of a listed activity includes - (a) any person, group of persons or organisation interested in or affected by an activity; and (b) any organ of state that may have jurisdiction over any aspect of the activity.

Mitigate - practical measures to reduce adverse impacts.

Proponent – as defined in the Environmental Management Act, a person who proposes to undertake a listed activity.

Significant impact - means an impact that by its magnitude, duration, intensity or probability of occurrence may have a notable effect on one or more aspects of the environment.

1 Introduction

This chapter of the report provides a background and motivation to the project; the study's terms of reference; purpose of this report; the assumptions and limitations of the study; and an outline of the remainder of the report.

1.1 Project Background

Heyn Ohana Investment CC (the Proponent) intends to carry out mineral prospecting activities on two Exclusive Prospecting Licenses (EPLs) – i.e. EPL 7414 and EPL 7415 (see Figure 3-1 below) located north of Gobabis in the Omaheke Region, Namibia (the project). The Proponent was issued with the aforementioned EPLs in 2019.

1.2 Project Need and Desirability

Namibia's Vision 2030 and Namibia's National Development Plan 5 both recognise a need for, and place significant value on, economic growth and employment creation. The potential mining of minerals, in the event of a significant discovery during exploration, within the areas covered by the two EPLs has the potential to contribute to both of these national priorities.

Exploration activities within the EPLs seek to identify potential economic mineralisation, which will require feasibility studies, and if proven to be economic, will contribute to mine planning. Future exploration programmes will utilise this information to enable a more effective and efficient exploration targeting and potential mining of any identified target deposits in future.

More geological information within the EPLs is required with respect to mineral deposits. Geological information collected during the exploration process will be made available to the Ministry of Mines and Energy.

It is therefore desirable and arguably necessary to carry out minerals exploration on the EPLs within the Omaheke Region.

1.3 Terms of Reference

In light of the need to undertake the project, Resilient Environmental Solutions cc (hereafter referred to as RES or the Environmental Assessment Practitioner (EAP)) was appointed by the Proponent to undertake an environmental assessment (EA) for purpose of applying for an Environmental Clearance Certificate (ECC) for the project.

No formal Terms of Reference (ToR) were provided by the Proponent. Therefore, the ToR for conducting this EA were taken to be the requirements of the Environmental Management Act

(No. 7 of 2007) (EMA) and its Environmental Impact Assessment (EIA) Regulations (GN. No. 30 of 2012) (see Chapter 4 – Legislation Relevant to the Project).

This EA has been conducted with the aim to apply for an ECC only. Any additional permits or licenses and/or approvals that are required (see Chapter 4) for the operation of the project should be applied for by the Proponent.

1.4 Environmental Assessment Process

The steps followed as part of this EA process are (i) registration of application for an ECC and (ii) carry out the scoping phase of the EA process as prescribed by the EIA Regulations.

1.4.1 Registration of Application for Environmental Clearance Certificate

The first step was to identify the listed activities which the proposed project entails, as stipulated in the ‘List of Activities that may not be undertaken without an Environmental Clearance Certificate’ (GN. No. 29 of 2012). One listed activity, listed below, was identified.

Mining and Quarrying Activities

3.1 The construction of facilities for any process or activities which requires a licence, right or other form of authorisation, and the renewal of a licence, right or other form of authorisation, in terms of the Minerals (Prospecting and Mining Act), 1992.

In accordance with Section 32 of the EMA, applications for an ECC should be submitted to the relevant Competent Authority. The Competent Authority is defined as that authority having the jurisdiction to approve or permit a particular listed activity in accordance with the relevant national legislation. The Ministry of Mines and Energy (MME) was identified as the Competent Authority. Therefore, the application for an ECC was submitted on 7 December 2020 to the MME (Appendix A) and a copy of the same application submitted to the Environmental Commissioner (Appendix A) as prescribed by Regulation 6 (Form 1 of Annexure 1) of the EIA Regulations (GN. No. 30 of 2012), as provided for under Section 56 of the EMA.

1.4.2 The Scoping Phase

After submitting an application for an ECC the scoping phase commences, culminating in the production of a draft scoping report, which includes all the findings of the scoping phase. This report includes the following:

- A description of the proposed project (including need and desirability of the proposed activity and no-action alternative) (Chapter 3);
- A description of the existing biophysical and social conditions of the receiving environment (Chapter 5);
- Legislative provisions that have relevance to the proposed project (Chapter 4);

- A description of the public consultation process followed (as described in Regulations 7 and 21 of the EIA Regulations) (Chapter 6);
- A description and significance assessment of all identified potential impacts (positive and negative) associated with the proposed project (Chapter 7); and
- Management and mitigation measures required to avoid or minimise the potential negative impacts as outlined in the Environmental Management Plan (EMP) (Appendix B).

The purpose of this report is to provide the Environmental Commissioner's office with sufficient information on the potential impact of the proposed project to make a decision with respect to the associated application for an ECC.

2 Project Team

The project team for this EA consists of John Pallett and Sheldon Husselmann, both of whom have significant experience conducting EAs (scoping and assessment level) within the Namibian environmental context.

2.1 John Pallett

John Pallett is a certified Environmental Assessment Practitioner (EAP), with qualifications in geology (BSc) and zoology (BSc Honours). He specialises in providing environmental advice and evaluating environmental issues, particularly through Environmental Impact Assessments (EIAs) and strategic SEAs, for the benefit of managers, decision-makers and the lay public. He has been affiliated to the Southern African Association for Impact Assessment (SAIEA) since 2008, and the Desert Research Foundation of Namibia – Environmental Evaluation Associates of Namibia (DRFN-EEAN) for 14 years up to 2008. See CV (Appendix C1).

2.2 Sheldon Husselmann

Sheldon Husselmann is the holder of BSc, BSc (Honours) and MSc in Environmental and Geographical Science (2010, 2011 and 2016 respectively).

During his 6 years as an EAP with Enviro Dynamics cc, GCS Water Environmental Engineering (Pty) Ltd and Urban Green cc, he has gained valuable experience in conducting EAs (including public consultation), both in team set-up as well as individual team leader. Sheldon has also been affiliated with SAIEA since June 2018. Find attached his CV (see Appendix C2).

3 Project Description

3.1 Project Location

The project is located approximately 60 km north of Gobabis in the Omaheke Region (Figure 3-1). The two EPLs cover an area measuring approximately 200,000 ha. The Proponent aims to evaluate and explore across both of its granted EPL areas.

3.2 Project Inputs, Processes and Outputs

The EPLs allow prospecting for base and rare metals, industrial minerals and precious stones. Base metals are relatively common and inexpensive metals, as opposed to rare metals such as platinum or gold. In mining terms base metals are specifically non-ferrous (i.e. contain no iron). Industrial minerals are often used in their natural state and include limestone and clay. Precious stones according to the Minerals Act (33 of 1992) include diamonds, emeralds, rubies and sapphires.

3.2.1 Project Inputs

The inputs required for minerals exploration activities in terms of vehicles and equipment include the following:

- 4x4 vehicles
- Truck mounted drill rig and diesel-powered generator for reverse circulation and diamond drilling.
- Diesel bowser (bunded)
- One compressor
- Oils, grease and drilling fluid (stored in manufacturers approved containers)
- Water bowser

Accommodation for all staff utilised for soil/rock sampling and ground geophysics will be sourced at nearby urban settlements. Only for the geological drilling activities will staff reside in temporary accommodation near exploration sites. A reverse circulation [RC] drilling team will consist of up to 6 personnel and the geological team that attends to the sampling will consist of at least 1 geologist and 4 assistants (i.e. up to a maximum of 11 people at a given time); a diamond drilling (DD) team consists of about 4 personnel with periodic visits from the geologist and 1 other to check the drill progress and remove the core boxes to other premises for logging and sampling. Drilling teams will be temporarily accommodated in tents close to the rigs. All equipment and vehicles and equipment will be stored at a designated area near the temporary accommodation.

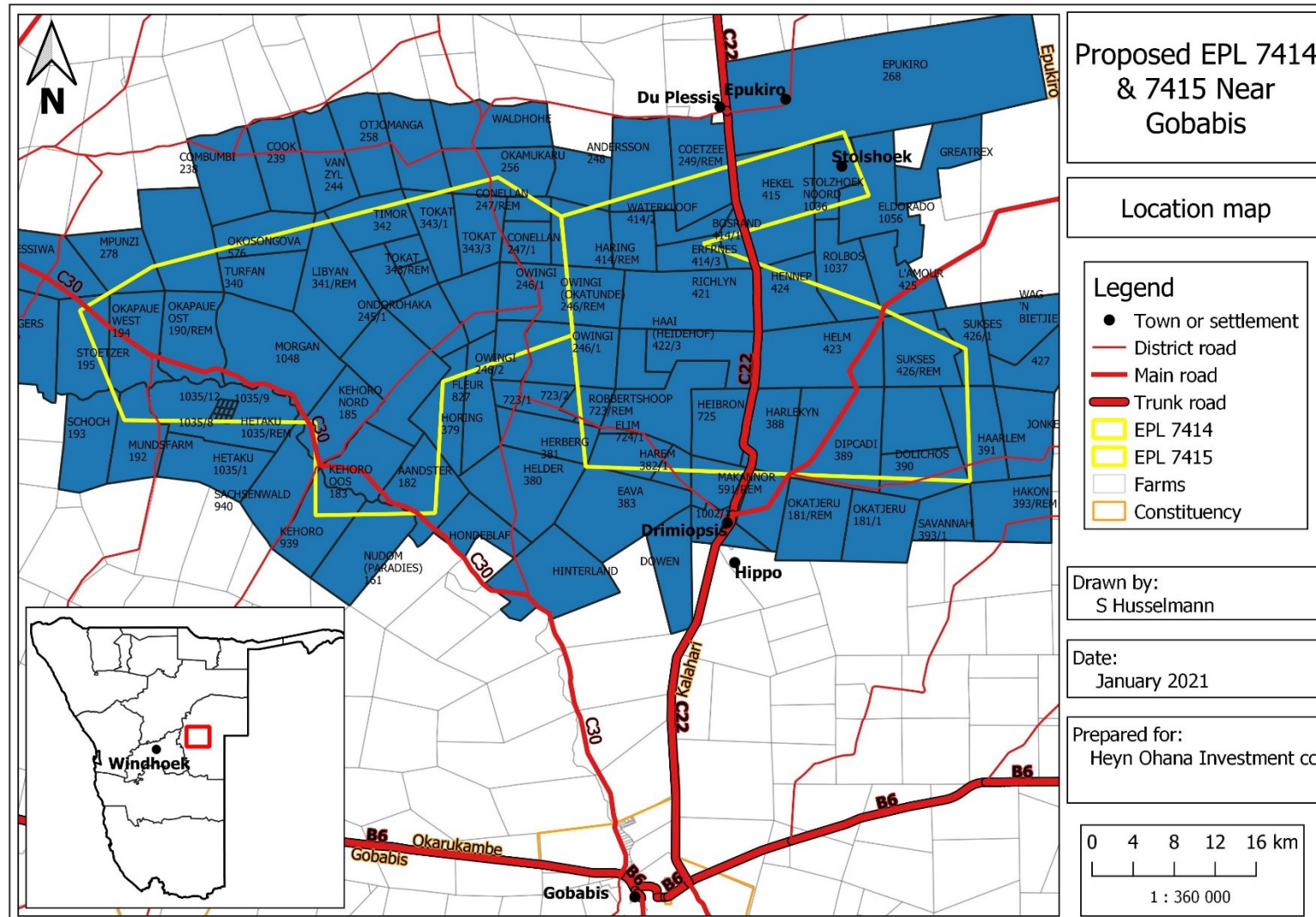


Figure 3-1: Location of EPL 7414 and EPL 7415 in the Omaheke Region

The resource inputs required for the mineral exploration activities include the following:

- **Water** – Up to 4,000 litres of water per week for domestic use, bought from the nearest supplier. Reverse Circulation (RC) drilling does not require water for drilling. Diamond drilling requires 5,000 to 10,000 litres per hole if losses occur, otherwise 2,000 to 3,000 litres per hole depending on subsurface conditions. Water will be delivered to site by a bowser and be standing by to add water to a sump dug adjacent to the rig while drilling. In some cases stabilising agents and packing materials may be used to seal the water loss and minimise water usage. This is uncommon but can happen if the ground conditions are porous.
- **Fuel** – Both drilling methods usually supply fuel in 200 litre drums. RC drilling will use considerably more as it requires a large compressor.
- **Electricity** – The drilling rigs are normally self-contained and only use electricity to power welders to cap the holes. RC rigs power their grinders with compressed air. Hence generators tend to be small and transportable.
- **Personnel** – Each drill rig has up to 6 personnel, while the geological team consists of up to 5 personnel. A maximum of 11 people will reside on-site at any given time during drilling operations.
- **Sanitation** – temporary pit latrine toilets will be available at the temporary accommodation near exploration sites. Pit latrines will be covered when exploration moves on from a given site.

3.2.2 Project Processes

The minerals exploration activities intended can be divided into two categories:

1. Non-invasive techniques: airborne geophysics, ground geophysics and soil sampling
2. Invasive techniques: DD and RC drilling

3.2.3 Sequence of Mineral Exploration Activities

The project will include a variety of exploration techniques, described in the following sections. The early phase, regional exploration, normally comprises a mixture of non-invasive techniques such as soil sampling and ground geophysics and invasive drilling techniques. During these early phases, all the Proponent's employees and contractors will employ industry standard best practice techniques and will incorporate the taking of 'before' and 'after' photographs. This photographic record will be included in annual environmental monitoring reports to show the minimum impact and environmental best practice that is adopted by the Proponent and all sub-contractors, as well as provide a record for the Department of Environmental Affairs (DEA) and Interested and Affected Parties (I&APs).

Before any work is carried out, all personnel (including fully employed, contracted, and casual) will be inducted on the Proponent’s environmental health and safety procedures and processes to follow while conducting the work.

Consultations with all the relevant landowners, users and government stakeholders will commence to introduce the company, to explain the purpose and stage of the proposed exploration. The consultations will also be done to determine the current operating procedures and rules of the farm or area, and to develop land access agreements with each owner or user.

Due to the iterative, results-driven and phased nature of mineral exploration programmes, it is not possible at an early stage of exploration to give exact areas for future drilling or an exact duration of the exploration activities. The duration of soil sampling work depends on the area covered and sample and line spacing and could take up to a few weeks. RC test drilling of anomalies (soil or geophysical) of, for example, 3,000m could take 2 to 3 weeks. DD will be much slower and take approximately 4 to 6 weeks. The Proponent undertakes to work with all relevant stakeholders to keep them informed of exploration progress and scheduling.

In general, the mineral exploration activities can last in order of several years.

3.2.3.1 Airborne Geophysics

The Proponent will conduct a series of airborne geophysical surveys.

The airborne geophysical technique seeks to measure electrical (conductor) and magnetic variations in the physical parameters of the earth. Changes up to 600m below the earth’s subsurface can produce measurable variations, which can be collected and analysed by highly sophisticated measuring instruments attached to an aircraft (see Figure 3-2 for example).



Figure 3-2: Airborne geophysics instruments

3.2.3.2 Soil Sampling

Soil sampling is the process of collecting and analysing unconsolidated soil in order to locate geochemical anomalies in the underlying rock and to use these to find mineralisation.

3.2.3.3 Diamond Drilling

Exploration diamond drilling is used in the mining industry to probe the contents of potential mineralisation. By withdrawing a small diameter core of rock from the geologists can study and analyse the core and conduct petrologic, structural and mineralogical studies of the rock.

Diamond core drilling uses a diamond-studded drill bit attached to the end of a hollow drill rod. Diamond drilling differs from other geological drilling in that a cylindrical core of solid rock is extracted during the process. Water is injected into the drill pipe, which serves the purpose of cooling and lubricating the drill bit as well as washing out drill cuttings.



Figure 3-3: Example drill rig

Inside the drill rod, a core tube is attached to a cable via a latching mechanism. The core tube is lifted to the surface using the cable, so the solid core can be removed.

3.2.3.4 Reverse Circulation Drilling

Reverse circulation drilling is achieved by blowing compressed air down the annulus of the drill rod, the differential pressure creates air lift pushing water and cuttings up the inner tube that is inside each rod.

The drill cuttings travel up the inside of the drill rod and are collected in a sample bag on the surface. Samples are usually collected every metre and the number of samples is therefore dictated by the depth of the hole.

Generally, a RC drilling program will see multiple holes drilled at 60-90° inclination and can range from 60 to 500m in depth.

3.2.4 Project Outputs

The main project outputs are as follows:

- **Solid waste** – general solid waste (food waste, plastic, paper, etc.) and mining exploration solid waste (used drill rig components, discard/waste rock samples etc.) will be generated by the minerals exploration activities.
- **Liquid waste** – Wastewater will be produced by temporary pit latrine toilets at the exploration sites. Pit latrines will be covered when exploration moves on from a given site. Fuels and oils will be used on site and may spill.
- **RC samples** – Usable rock and/or soil samples. These will be removed from site for logging and analyses.

3.3 No-Action Alternative

In the event that the proposed project was denied an Environmental Clearance Certificate (ECC) no minerals exploration would take place. The default activity taking place within the area bounded by the EPLs would be a mix of agricultural activities (livestock and game farming and crop cultivation), wildlife conservation and tourism-related activities (e.g. trophy hunting, accommodation, wildlife viewing experiences). This would entail the following (among other consequences):

- Negative:
 - The loss of a few potential semi and unskilled jobs and associated income for a few individuals (and their dependents).
 - The loss of potential detailed geological information regarding mineral deposits in the area bounded by the EPLs.
 - Loss of potential groundwater information and potential water-yielding boreholes.
- Positive:
 - No added pressure on existing infrastructure and resources (water, roads, fences, gates etc.).
 - No nuisance/inconvenience (leaving farm gates open etc.).
 - No waste generation.

The loss of potential groundwater information and potential water yielding boreholes is potentially significant and therefore represents a potentially significant opportunity cost in light of the scarcity of water and high-water demand. The loss of a few potential jobs represents a small opportunity cost given the current unemployment situation within the Okarukambe constituency (and the Omaheke Region and Namibia at large).

The use of the land for various agricultural activities will not be significantly influenced by the exploration activities and therefore these land uses can co-exist.

The proposed exploration activities will conflict somewhat with the existing wildlife conservation and tourism-related activities. The environmental sensitivity of these activities will need to be carefully considered and mitigation measures put in place to minimise conflict between these land uses.

The increase in pressure on existing infrastructure will be relatively small – a few large vehicles and service vehicles on roads, and small volumes of water for most exploration activities.

Based on the above, the no-action/“no-go” alternative is not recommended.

4 Legislation Relevant to the Project

Natural resource management within the Namibian context is provided for by legislation regulating its various social and biophysical sectors.

There are several sectoral laws that fall under the general category of environmental law. Examples of relevant sectors include forestry, water and mining. Any development, such as the proposed project, is expected to have certain impacts and would therefore have to comply with the relevant legislative requirements before being implemented.

This chapter provides an overview to the legislation that is applicable to both the assessment process and the various project activities. It is accordingly divided into: (i) national legislative requirements – i.e. the legal framework for environmental management in Namibia and national sectoral legislative requirements (including required approvals/permits) applicable to the activities of the proposed project; and (ii) relevant international legislation.

4.1 National Legislative Requirements

The legal framework for EA in Namibia and national sectoral legislation pertaining to various environmental aspects (including approval and permit requirements) are listed in Table 4-1 below.

Table 4-1: Legislation applicable to the project

Statute	Provisions	Project Implications
Environmental Assessment Legal Framework		
The Namibian Constitution (1990)	Article 95 (1) states that <i>“the State shall actively promote and maintain the welfare of the people by adopting, inter alia, policies aimed at... maintenance of ecosystems, essential ecological processes and biological diversity of Namibia and utilization of natural resources on a sustainable basis”</i> Article 100 stipulates that all natural resources are vested in the state, unless otherwise legally owned. The use of such resources is only allowed within reasonable limits and beyond such limits, permission should be obtained from a	The project should support the provisions of the Namibian Constitution

Statute	Provisions	Project Implications
	competent authority responsible for the use and governance of the concerned natural resources.	
Environmental Management Act (No 7 of 2007)	<p>Section 3(2) of the EMA provides a set of principles that give effect to the provisions of the Namibian Constitution for integrated environmental management.</p> <p>Section 27(3) stipulates that no party, whether private or governmental, can conduct a listed activity without an ECC obtained from the Environmental Commissioner.</p> <p>Section 40(1) stipulates that an ECC remains valid for a period not exceeding three years, subject to cancellation or suspension.</p>	<p>The project should adhere to the principles provided in the EMA.</p> <p>An ECC should be obtained for the proposed project.</p> <p>The Proponent should renew the ECC (if granted) every three years.</p>
Environmental Impact Assessment (EIA) Regulations GN 28-30 (GG 4878)	<p>Details requirements for public consultation within a given environmental assessment process (Rs21-24).</p> <p>Details the requirements for what should be included in a Scoping Report (R8) and an Assessment Report (R15).</p>	The EIA Regulations should inform and guide this EA process.
National Sectoral Legislation (Including Approvals/ Permits)		
Minerals (Prospecting and Mining) Act (No. 33 of 1992)	<p>Section 52 requires mineral license holders to enter into a written agreement with affected land owners before exercising rights conferred upon the license holder.</p> <p>Section 52 prohibits the exercise of rights in a town or village, proclaimed transport infrastructure, on land under cultivation, within a 100m of water sources or any building.</p> <p>Section 54 requires written notice to be submitted to the Mining Commissioner in the event that the holder of a mineral</p>	<p>The Proponent should enter into a written agreement with land owners before carrying out exploration on their land.</p> <p>The proponent may not exercise rights in prohibited areas.</p> <p>The Proponent should carry out an assessment of the impact on the receiving environment.</p>

Statute	Provisions	Project Implications
	<p>license (which includes and EPL) intends to abandon the mineral license area.</p> <p>Section 68 stipulates that an application for an exclusive prospecting license (EPL) shall contain the particulars of the condition of, and any existing damage to, the environment in the area to which the application relates and an estimate of the effect which the proposed prospecting operations may have on the environment and the proposed steps to be taken in order to prevent or minimize any such effect.</p> <p>Section 91 requires that rehabilitation measures should be included in an application for a mineral license.</p>	<p>The Proponent should include as part of their application for this EPL measures by which they will rehabilitate the areas where they intend to carry out minerals exploration activities.</p>
<p>Mine Health & Safety Regulations, 10th Draft</p>	<p>Makes provision for the health and safety of persons employed or otherwise present in mineral license areas. These deal with among other matters; clothing and devices; design, use, operation, supervision and control of machinery; fencing and guards; and safety measures during repairs and maintenance.</p>	<p>The Proponent should comply with all these regulations with respect to their employees.</p>
<p>Petroleum Products and Energy Act (No. 13 of 1990) Regulations (2001)</p>	<p>Regulation 3(2)(b) states that “No person shall possess [sic] or store any fuel except under authority of a licence or a certificate, excluding a person who possesses or stores such fuel in a quantity of 600 litres or less in any container kept at a place outside a local authority area”</p>	<p>The Proponent should obtain the necessary authorisation from the MME for the storage of fuel on-site.</p>
<p>Water Act (No. 54 of 1956)</p>	<p>Makes provision for a number of functions pertaining to the management, control and use of water resources, water supply and the protection of water resources.</p>	<p>The Proponent should prevent any potential pollution of groundwater.</p>

Statute	Provisions	Project Implications
Water Resources Management Act No. 11 of 2013	<p>Provides for the management, development, protection, conservation, and use of water resources.</p> <p>Part XIII of the Act requires that efficient water management practises be applied by each and every person or organisation and organ of state.</p> <p>This Act has not yet been brought into force.</p>	Water should be used in a sustainable way.
Forestry Act (No. 12 of 2001)	<p>Part IV of this Act provides for the general protection of the environment.</p> <p>Permits are required for the removal of protected plants species.</p>	Permits should be obtained if there will be any removal of or damage to protected plant species.
Nature Conservation Ordinance No. 4 of 1975 (as amended)	<p>Makes provision for the protection of indigenous flora and fauna.</p> <p>Permits are required for the removal of protected plants species.</p>	
Soil Conservation Act No. 76 of 1969	Provides for the prevention and combating of soil erosion; conservation, improvement and manner of use of soil and vegetation, and protection of water sources.	Removal of vegetation cover and contamination of soil must be minimised as far as practicable.
Aviation Act No. 74 of 1962 Namibian Civil Aviation Regulations, 2001	<p>Regulates various matters pertaining to the flying of aircraft.</p> <p>External loads attached to helicopters need special permission.</p>	The proponent should obtain the necessary authorisations before commissioning aerial surveys.
Atmospheric Pollution Prevention Ordinance No. 11 of 1976 (as amended)	Provides for the prevention of pollution of the atmosphere. Part IV of the Ordinance deals with control of dust and provides for the proclamation of dust control areas.	A general obligation not to contribute or cause dust pollution.
Public Health Act No. 36 of 1919 (as amended)	<p>Provides for the prevention of pollution of public water supplies.</p> <p>Section 119 of this Act prohibits the existence of a 'nuisance' on any land owned or occupied by any person.</p>	<p>A general obligation not to pollute the water bodies in the area.</p> <p>Care should be taken to limit dust and noise pollution.</p>

Statute	Provisions	Project Implications
Labour Act (No. 11 of 2007)	<p>The Labour Act of 1992 (Act 6), the New Labour Act of 2007 (Act 11) and Government Notice 156 of 1997: Labour Act, 1992: Regulations Relating to the Health and Safety of Employees at Work, governs working conditions of employees. These regulations are prescribed for among others safety relating to hazardous substances, exposure limits and physical hazards. Special consideration must be given to:</p> <p>Chapter 3: Welfare and Facilities at Work-Places</p> <p>Chapter 4: Safety of Machinery</p> <p>Chapter 5: Hazardous Substances</p> <p>Chapter 6: Physical Hazards and general provision</p>	The Proponent should comply with health and safety regulations pertaining to the health and safety of their employees.
Regulations relating to the health and safety of employees at work (GN 156/1997 (GG 1617))	Details conditions, pertaining to occupational health and safety applicable to manual labour.	Work conditions during exploration should comply with these regulations.
National Heritage Act (Act 27 of 2004)	Provides for the protection of cultural and archaeological sites.	Any protected heritage resources discovered, need to be reported immediately to the National Heritage Council (NHC) and require a permit from the NHC before they may be relocated.
Road Ordinance 1972 (Ordinance 17 of 1972)	<p>Width of proclaimed roads and road reserve boundaries (S3.1)</p> <p>Control of traffic on urban trunk and main roads (S27.1)</p> <p>Infringements and obstructions on and interference with proclaimed roads. (S37.1)</p>	The conditions applicable to RA proclaimed roads and road accesses should be adhered to.

4.2 International Treaties and Conventions

The international treaties and conventions applicable to the project are listed below in Table 4-2 below.

Table 4-2: International Treaties and Conventions applicable to the Project

STATUTE	PROVISIONS	PROJECT IMPLICATIONS
The United Nations Convention to Combat Desertification (UNCCD)	Addresses land degradation in arid regions with the purpose to contribute to the conservation and sustainable use of biodiversity and the mitigation of climate change.	Activities should not be such that they contribute to desertification.
Convention on Biological Diversity 1992	Regulate or manage biological resources important for the conservation of biological diversity whether within or outside protected areas, with a view to ensuring their conservation and sustainable use. Promote the protection of ecosystems, natural habitats and the maintenance of viable populations of species in natural surroundings.	Removal of vegetation cover and destruction of natural habitats should be avoided and where not possible minimised.
Stockholm Declaration on the Human Environment, Stockholm (1972)	It recognizes the need for: “a common outlook and common principles to inspire and guide the people of the world in the preservation and enhancement of the human environment.	Protection of natural resources and prevention of any form of pollution.

5 Description of the Receiving Environment

5.1 Biophysical Environment

5.1.1 Climate

The study area is situated in the eastern part of Namibia in the Omaheke Region which is characterised by semi-arid climatic conditions – i.e. hot and dry summers and moderate dry winters.

Rainfall is erratic and unpredictable within the project area, with the highest rainfall months being January to March. Most rainfall takes place as thunderstorms. The average annual rainfall for the project area and surroundings is approximately 350 - 400 mm (Mendelsohn, et al., 2003).

Temperatures are moderate during summer (average maximum 30°C – 32°C) and cold (average minimum 2°C – 4°C) during winter.

The low average rainfall and high temperatures during the rainy season results in high rates of evaporation, restricting aquifer recharge. Average annual potential evaporation at Gobabis is 2,000 mm, more than five times the average rainfall (Mendelsohn & el Obeid, 2002)).

Winds are not a dominant feature in the area; they blow mainly from the north-east (12%) and north-west (10%) (Mendelsohn, et al., 2003).

5.1.2 Topography

The landscape of the project area is Kalahari Sandveld (Mendelsohn, et al., 2003). The topography of this landscape is made up of sandy, mostly flat plains with some low undulations at an altitude ranging from 1,200m to 1,400m above sea level.

The project area is located mainly in the catchment areas of the Epukiro and Eiseb Rivers, which are ephemeral and drain in an easterly direction. Due to the sandy substrate of the Kalahari, which creates very little surface runoff, these rivers and their tributaries very rarely hold water.

5.1.3 Geology and Soil

The geology of the area is largely hidden beneath the relatively thick layer of sand cover known as the Kalahari Group (Figure 5-1). Smaller portions of the project area are comprised of Witvlei Group limestones and shales rock types of the Damara Supergroup and Gariiep Complex (Mendelsohn, et al., 2003).

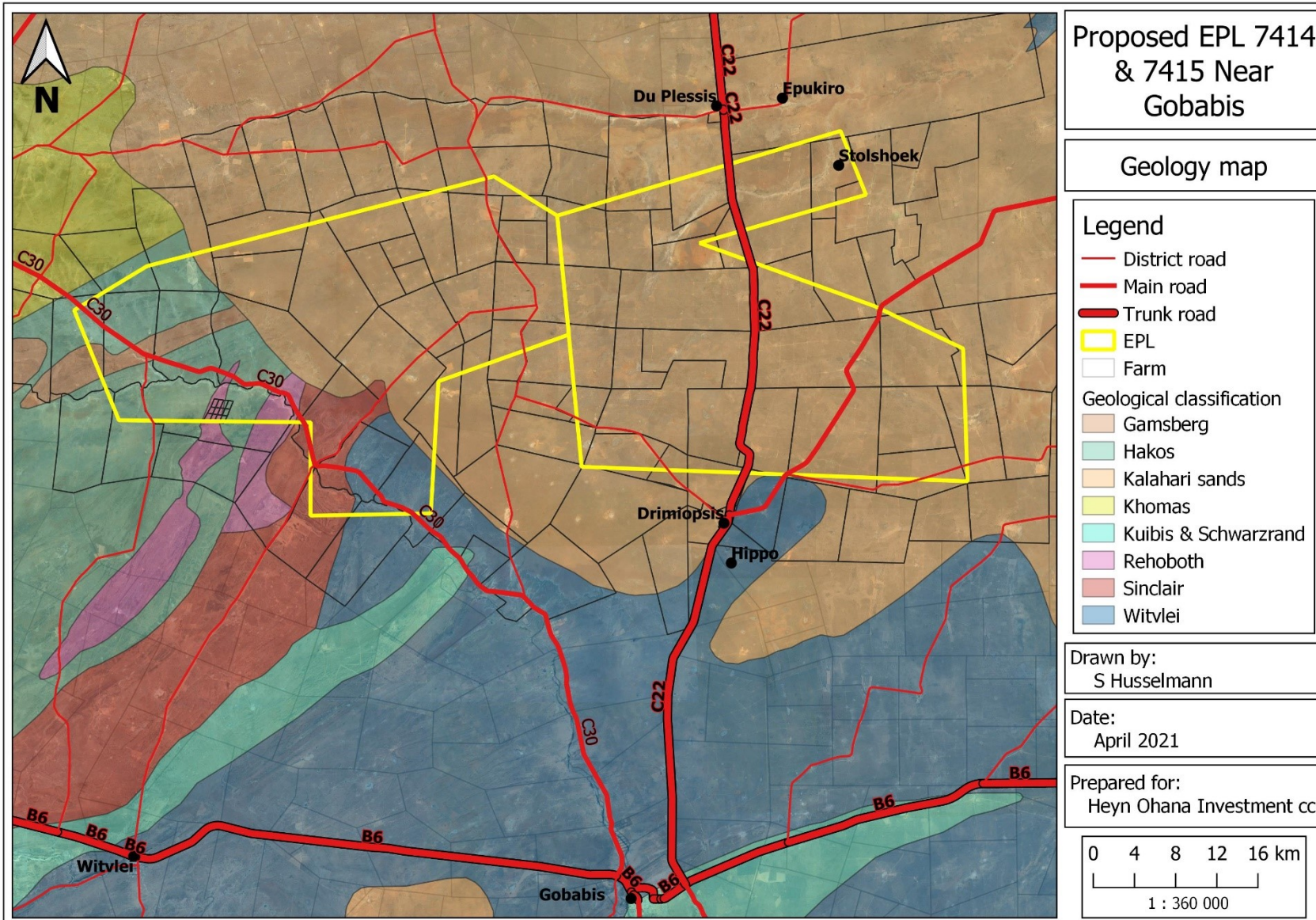


Figure 5-1: Map displaying geology of the project area

5.1.4 Hydrogeology

Water resources within the Omaheke Region generally are scarce. Groundwater is the primary source of water utilised in the project area. The groundwater potential in most of the project area is classified as moderate, with porous aquifers over most of the area but fractured aquifers in the south and west (Christelis & Struckmeier, 2001).

5.1.5 Biodiversity

5.1.5.1 *Biomes and Vegetation Types*

The project area is located within the Central Kalahari vegetation type, which forms part of the Acacia Tree-and-Shrub Savanna biome (Mendelsohn, et al., 2003). The dominant tree species within the Central Kalahari are the *Acacia erioloba* (camelthorn tree) and *Terminalia sericea* (silver terminalia). Other common trees and shrubs may include *Acacia mellifera* (blackthorn), *A. hebeclada* (candle-pod acacia), *Tarchonanthus camphoratus* (camphorbush) and *Grewia flava* (raisin-bush). Although several protected plant species (as listed in the Forest Act (2001) and the Nature Conservation Ordinance (1975)) occur within the project area, none of these are range-restricted or endemic to the project area, but rather occur throughout the wider biome area. Bush encroachment is a feature over much of the area. The reasons for bush encroachment include heavy stocking practices and reduced fire frequency (O'Connor, et al., 2014; Mendelsohn & el Obeid, 2005).

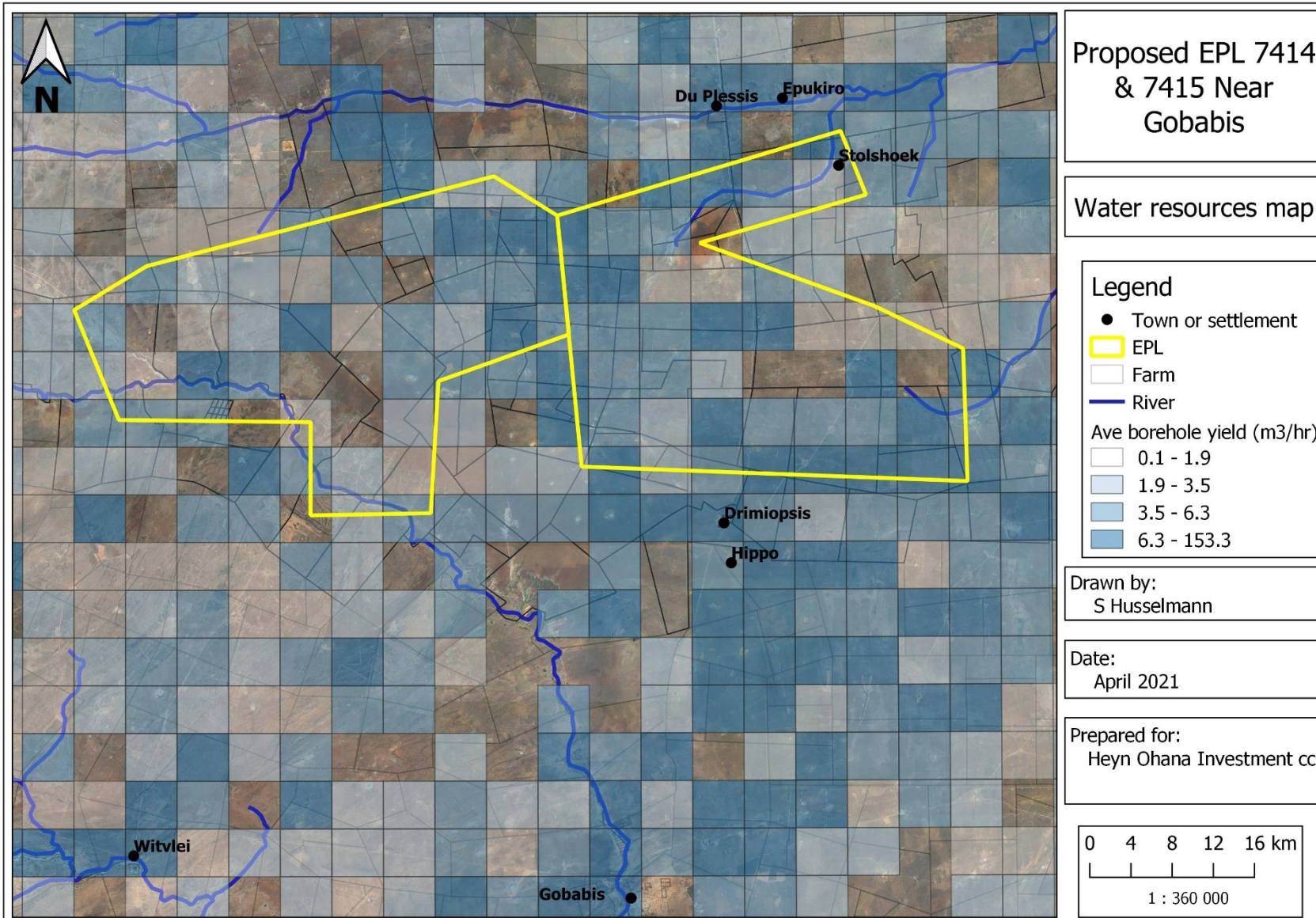


Figure 5-2: Map displaying water resources in the project area

5.1.5.2 Fauna

Faunal species diversity in Omaheke’s Kalahari savanna is less diverse than in other parts of Namibia because of the relatively lower habitat variety and the lack of surface water. Within the project area in general, there are no outstanding landforms or unique habitats (such as specific dune forms, wetlands or rocky outcrops) that host particular endemic species. The animal life that is expected to occur in the project area is expected to be widely distributed in similar habitats within the wider area of the biome (SAIEA, 2016).

Mammals

Occurrence and conservation status of mammals described here is drawn from SAIEA 2016.

The small mammal fauna is reasonably diverse and the species are all widespread, with the exception of one species - Woosnam’s desert rat (*Zelotomys woosnami*) – which is endemic to the central Kalahari (Griffin & Coetzee, 2005). All of these species are classified as Secure in Namibia, or Least Concern internationally i.e. not threatened.

Ground pangolin (*Smutsia temminckii*) occur in the area. This species is listed as Vulnerable internationally (Pietersen, et al., 2014), because it is targeted in illegal poaching for trade to Asia and for traditional ‘muti’.

Approximately ten species of ungulates occur in the region. Species such as oryx, springbok, kudu, red hartebeest, steenbok and warthog are common, while more unusual are introduced species such as waterbuck and sable which are kept on game farms in the region. The latter species were historically absent from the Kalahari due to lack of surface water but this is now provided on farms and the animals do well in the savanna habitat. Black rhino (*Diceros bicornis*) (Critically Endangered) (Emslie, 2019) and white rhino (*Ceratotherium simum*) (Near-Threatened) (Emslie, 2012) are found on a few game farms.

There is a fair diversity of mammal predators found in Kalahari savanna:

- Smaller species include four species of mongooses and the suricate, small-spotted genet and striped polecat, all of which are Secure / Least Concern.
- Honey badger is Secure in Namibia, but Lower Risk internationally.
- Medium-sized predators occurring in the area include small-spotted cat (*Felis nigripes*) (Vulnerable) (Sliwa, et al., 2016), which is naturally rare and occupies a relatively small range in arid to semi-arid habitat in southern Africa.
- African wild cat (*Felis sylvestris*) (Least Concern) (Yamaguchi, et al., 2015); this species interbreeds with domestic cats, so the threat against it is hybridisation and loss of the integrity of the species.
- Caracal cat (*Caracal caracal*) (Least Concern) (Avgan, et al., 2016), often killed by farmers because it is accused of killing small livestock.

- Cape fox (*Vulpes chama*) and bat-eared fox (*Otocyon megalotis*) are both classified as Least Concern internationally (Hoffmann, 2014a) (Hoffmann, 2014b). Although they eat mainly insects and are very useful for this role, they are often killed in anti-predator activities by small-stock farmers.
- Aardwolf (*Proteles cristata*) (Least Concern) (Green, 2015) has teeth that can only manage to eat ants and other insects, but is often wrongly targeted as a predator that kills small livestock, or innocently killed as 'by-catch' in predator traps.
- Black-backed jackal (*Canis mesomelas*) (Least Concern) (Hoffmann, 2014c) is widespread throughout Namibia but anti-predator activities by some farmers such as electrified fences, setting of gin-traps and shotgun traps, active hunting and poisoning, create pockets where jackals and other small carnivores are totally eliminated.

Large mammal carnivores that occur or can be expected in the project area include cheetah, leopard, cheetah and brown hyena.

- Cheetah (*Acinonyx jubatus*) (Vulnerable (Durant, et al., 2015) but upgraded to Endangered in Namibia (NCE, in prep.)) are naturally sparse but Namibia is renowned to have the largest free-range population in the world, i.e. outside of protected areas. This species is classified as Vulnerable but conservation efforts at encouraging co-existence of cheetahs with livestock have been successful.
- Leopards (*Panthera pardus*) (Vulnerable) (Stein, 2016) are relatively common on freehold farm land, and are less restricted by game fences.
- Brown hyena (*Parahyaena brunnea*) (Near-Threatened) (Wiesel, 2015) are relatively scarce; early indications are that numbers are increasing.

Birds

The project area supports birds that are typical of Kalahari savanna: relatively low diversity (approximately 80 – 90 species), and the species that occur are widely distributed in this habitat. Wetland species are largely absent or only occasional visitors, as well as birds of mountain habitats. There are no species that are range-restricted, and no Important Bird Areas in the region (Simmons, et al., 2015).

Birds of conservation concern are predominantly raptors or birds of prey (e.g. vultures and eagles) (Table 5-1). The region is well represented by such birds, which rely on food such as carcasses and small mammals, birds and invertebrates, and undisturbed conditions during breeding. While these conditions may exist on many large livestock farms, raptor populations are generally depressed due to the use of poisons against mammal predators (Simmons, et al., 2015). Other threats to various raptors include drowning in open water reservoirs, killing/trapping for traditional medicines, human disturbance, and a declining prey base due to factors such as bush encroachment.

Table 5-1: Birds expected to occur in the project area that are conservation priorities.

Common English name	Species	Namibian conservation status	Habitat/Biome
Birds of prey and scavengers			
White-backed vulture	<i>Gyps africanus</i>	Endangered	Savanna and open veld
Cape vulture	<i>Gyps coprotheres</i>	Critically endangered	Savanna and open veld
Lappet-faced vulture	<i>Torgos tracheliotos</i>	Vulnerable	Savanna and open veld
White-headed vulture	<i>Trigonoceps occipitalis</i>	Vulnerable	Savanna and open veld
Bateleur	<i>Terathopius ecaudatus</i>	Endangered	Savanna
Tawny eagle	<i>Aquila rapax</i>	Endangered	Savanna
Booted eagle	<i>Aquila pennatus</i>	Endangered	Mountains
Martial eagle	<i>Polemaetus bellicosus</i>	Endangered	Savanna and open veld
Black harrier	<i>Circus maurus</i>	Endangered	Open veld, wetlands
Red-footed falcon	<i>Falco vespertinus</i>	Near-threatened	Savanna and open veld
Secretarybird	<i>Sagittarius serpentarius</i>	Vulnerable	Savanna and open veld
Marabou stork	<i>Leptoptilus crumeniferus</i>	Near-threatened	Wetlands, waste dumps, abattoirs
Others			
European roller	<i>Coracias garrulus</i>	Near-threatened	Open savanna
Kori bustard	<i>Ardeotis kori</i>	Near-threatened	Open veld and savanna

Reptiles

There is a reasonably diverse array of reptiles in the project area (Griffin, 2005), including interesting species which inhabit loose sand such as blind snakes and legless lizards. Most of the reptiles are not under threat, with some exceptions. Those which could be influenced by the proposed activities, include:

- Two species of tortoise - threatened by humans who pick them up for food, or to keep as pets, or for the commercial pet trade;
- Among the lizards is veld leguaan, which is commonly captured for the pet trade especially for the USA;
- Snakes, which are usually killed on sight. The southern African python is classified as Vulnerable due to persecution and capturing for the pet trade.

5.2 Socio-Economic Environment

5.2.1 Regional Demographic Overview

The 2011 Population and Housing Census shows that the Omaheke Region has a total population of 71,223, which accounted for approximately 3.4% of Namibia's estimated total population at the time. The annual population growth rate for the Omaheke Region was estimated at 0.5% for the period 2001 to 2011. 70.2% of the population live in rural areas compared to only 29.8% in urban areas (NSA, 2012) .

The population density of the Omaheke Region was 0.8 people/km² (NSA, 2012), which is significantly lower than the national average of 2.6 people/km², and the Okorukambe and Kalahari Constituencies are even lower, at 0.6 people/km². The project area is therefore among the most sparsely populated areas in Namibia.

The Omaheke Region has a significant percentage of its population younger than 15 years of age – 39%, which is 2% higher than the national percentage. Of those 15 years and older (i.e. the labour force) 65% are actively engaged, with 61% employed and 39% unemployed. The percentage of those unemployed is higher than the national percentage for the same, which was 37% in 2011.

Most formal employment opportunities in the region are limited to urban areas. 'Agriculture, Forestry and Fisheries' dominated as the main industry of the workforce (45%), whereas 'Administrative and Support service activities' and 'Construction', employed 8% and 7% of the regional workforce respectively (NSA, 2015). Private employment provided jobs to the largest portion of employees (30%) in the region (NSA, 2015).

The majority of people in the Omaheke Region are Herero speaking (41.5% of households), with Nama/Damara (28.1% of households) and Afrikaans (10% of households) occupying second and third places respectively (NSA, 2012).

5.2.2 Okorukambe and Kalahari Constituencies

5.2.2.1 Demographic Profile

The affected constituencies in which the project is located are Okorukambe and Kalahari Constituencies. Population statistics for the two constituencies are shown in Table 5-2 Table 5-2.

Table 5-2: Population statistics for Okorukambe and Kalahari Constituencies in Omaheke Region.

Constituency	Population figures from national censuses		Average annual growth rate (2001-2011)	Population 2016 (extrapolated)	Population density 2016 (estimated) (people/km ²)
	2001	2011			
Okorukambe	9,600	10,060	0.5	10,298	0.59
Kalahari	9,443	7,661	-2.1	6,833	0.56

The project area and surrounds are very sparsely populated, with concentrations of people at Drimiopsis, Du Plessis and Epukiro RC (Figure 5-3).

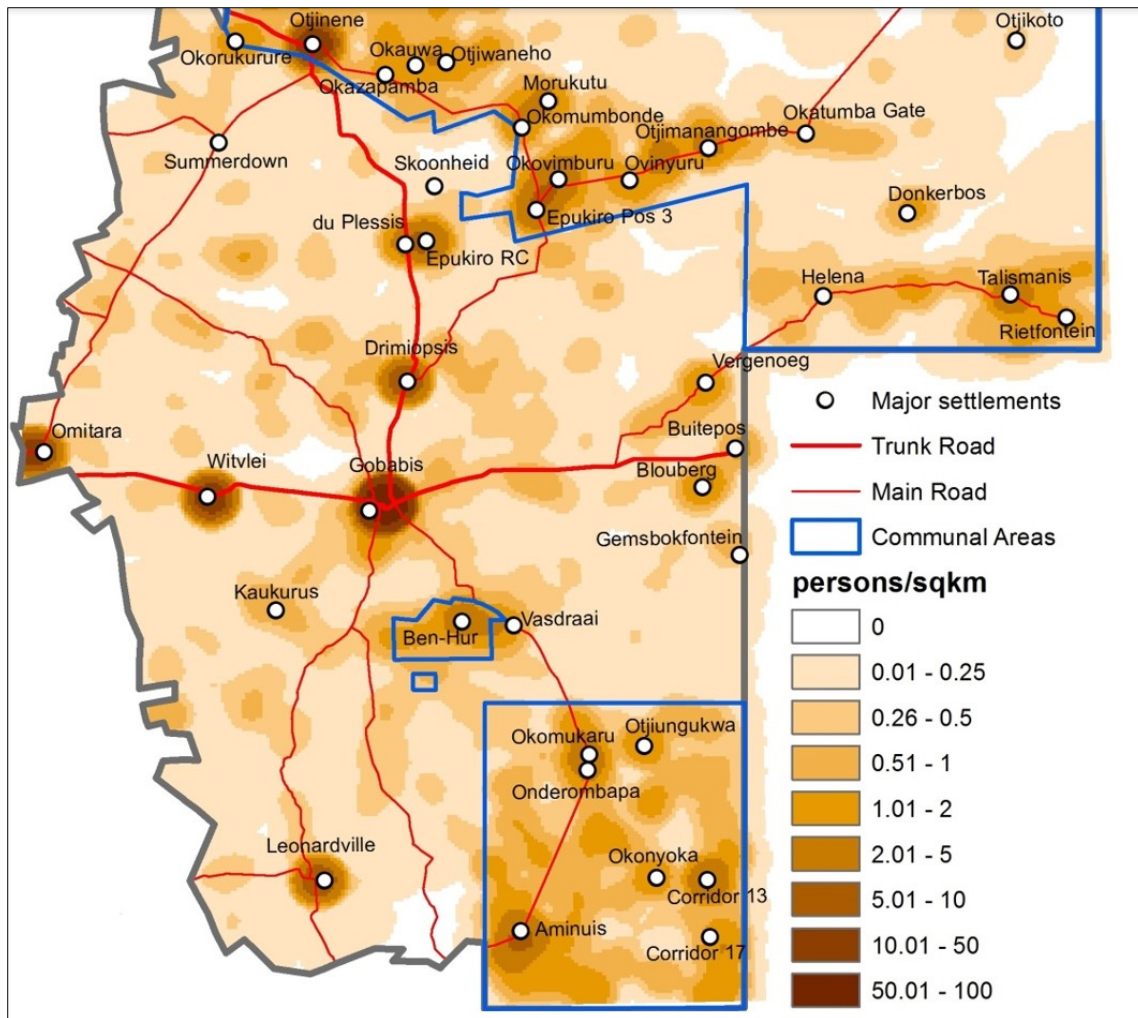


Figure 5-3: Population density map of central and southern Omaheke Region (MLR, 2017).

5.2.2.2 Main population centres and services

There are no formally proclaimed urban centres (i.e. centres proclaimed as a municipality, town, village or settlement) in the project area.

The major population centres in the project area and surrounds are Drimiopsis, Farm Du Plessis and Epukiro RC. Du Plessis and Epukiro RC are (largely informal) settlements that have established at the government group resettlement farm at Du Plessis and the church-owned farm at Epukiro RC. There are clinics and primary schools at Du Plessis and Epukiro RC. Du Plessis is the site of the Okorukambe Constituency Office, and it also has a police station. Drimiopsis has two primary schools.

The remainder of the area is made up of freehold farms, and commercial livestock farming and game farming are the dominant land uses (MLR, 2017).

5.2.2.3 *Socio-economic characteristics*

The information in this section is drawn from the Omaheke Integrated Regional Land Use Plan (MLR, 2017).

According to the 2014 Labour Force Survey (NSA, 2015) more than half of all households in Omaheke Region (55.3%) derive their main income from salaries and wages. For 12.5% of households, old age pensions form the main income. 11.6% of households derive their main income from subsistence farming and 10.3% from cash remittances. Commercial animal rearing was found to be the main source of income for only slightly less than 3% of households.

In 2014, the employment to population ratio, i.e. the number of (formally or informally) employed people given as a percentage of the working age population, was 57.9% in Omaheke Region (NSA, 2015). Of all employed people in Omaheke Region, 27.5% were found to be informally employed. The unemployment rate, i.e. the number of people who are available for work but do not have work, given as a percentage of the working age population, was 26.9% in 2014.

According to the 2014 Labour Force Survey (NSA, 2015), a total of 28,652 people were employed (formally and informally) in 2014 in Omaheke Region. Forty-one percent of these were employed in the agriculture, forestry and fishing sector, with livestock agriculture being by far the most important sub-sector in the region.

In 2011, the literacy rate for the population aged 15 years and above was 73.3% in Omaheke Region. The 2011 census, however, also found that of the population aged six years and above, more than one quarter never attended school. For the rural population, this rate is particularly high with almost 29%, while for the urban population it was 17.4%. Only 42.2% of the population aged fifteen years and above had completed their primary education before leaving school and less than a quarter had completed their secondary education. The school enrolment rate for children between 7 and 13 years of age was between 77%.

5.2.3 Land Use

The dominant land use in the project area is livestock farming, game farming and tourism. Extensive livestock farming generates the most income for the region. Bush encroachment, as stated above, as well as water scarcity are two significant concerns for livestock farming in the project area. Game farming and tourism are closely linked, as many of the game farms are hunting farms, attracting international and South African clientele. Conservation research is also undertaken on select farms in the project area.

5.2.4 Archaeology and Heritage Resources

The Omaheke Region IRLUP identified a few sites of historical/heritage importance (MLR, 2017). Sites linked to the Herero-German War 1902-1904 are east of Epukiro (i.e. outside the project area), and the route of the historic Dorsland Trekkers (~1875) from Rietfontein towards Gam also lies east of the project area.

6 Public Consultation

Public consultation is an important aspect of an Environmental Assessment (EA) process. During public consultation, potential impacts that the proposed project may have on the receiving environment, were identified. Consultation with Interested and Affected Parties (I&APs) (state and non-state) enables transparent decision-making.

This chapter describes the details of the public consultation process that was followed and the I&APs that were notified of the EA being undertaken. It also includes the main issues and concerns raised during the public consultation process and comments received on the Background Information Document (BID) distributed during the first round of public consultation.

Public consultation was carried out as prescribed by Regulations 21 to 24 of the Environmental Impact Assessment Regulations (GN. 30 of 2012).

6.1 First Round of Public Consultation

Engagement with I&APs as part of the first round of public consultation commenced on the 5th of February 2021 and concluded on the 15th of March 2021. During the first round of consultation, I&APs and authorities were given an opportunity to register and submit comments on the proposed project.

6.1.1 Public Consultation Activities

Activities undertaken to ensure effective and adequate I&AP involvement, are as follows:

- A list of pre-identified I&APs was compiled. Approximately 120 I&APs were identified and included in the database (Appendix D1).
- A notification email (Appendix D2) with BID (Appendix D3) was distributed to all pre-identified I&APs who have an email address (Appendix D1) on 5 February 2021.
- A letter was sent via registered post on 11 February 2021 to a landowner who was unable to receive project information via email or WhatsApp (mobile phone) (Appendix D4).
- A communication group was created and a notification message was sent on 13 February 2021 via WhatsApp Messenger to all owners and occupiers of land potentially affected by the proposed project (see Appendix D5 for export of group chat).
- A notification letter was hand delivered on 18 February 2021 (Appendix D6) to the Ministry of Agriculture Water and Land Reform, situated in Windhoek, which owns several farms.

- Public notices announcing the commencement of the EA and an invitation to register as an I&AP were placed in “Die Republikein” on 8, 9 and 15 February 2021 and “The Namibian” on 8 and 15 February 2021 (Appendix D7).
- A notice board (with the dimensions 60cm x 42cm) was placed near the intersection of B6 with the C30 and C22 (Appendix D8).
- A public meeting was held on 18 February 2021, at 15:00 in the meeting hall at Quain Quaz Camp, located approximately 5 km west of Gobabis on the B6 (see Appendix D9 for meeting minutes).
- The meeting minutes were circulated on 26 February 2021 to all owners and occupiers of land (Appendix D1) via email (Appendix D10) and WhatsApp Messenger (Appendix D5).

6.1.2 Comments Received and Responses Provided

All comments and feedback regarding significant issues received from I&APs and Authorities are summarised in Table 6-1 below, while a copy of all the original written correspondence (including feedback that does not raise significant issues) is attached as Appendix D11.

Table 6-1: Comments received and responses provided during the first round of public consultation

No.	Name	Comment	Name	Response
1.	H. Steinbruck (Hetaku Safari Lodge (Pty) Ltd) 6-Feb-21, email	Concerns regarding potentially unpredictable movement by strangers on the affected farms and the implications for the operations of Hekatu Safari Lodge (Pty) Ltd	S. Husselmann (RES) 8-Feb-21, email	Regarding the first concern I am sure you are aware that the proponent needs to secure an access agreement with land owners before entering their land. You can specify all your conditions of entry as part of that agreement. Furthermore, the Environmental Management Plan, which forms part of the legally binding Environmental Clearance Certificate (ECC), will prohibit poaching. Non-compliance with the EMP can result in the cancellation of the ECC by the Ministry of Environment Forestry and Tourism (MEFT).
2.	H. Steinbruck (Hetaku Safari Lodge (Pty) Ltd) 6-Feb-21, email	Concerns about the changes associated with potential mining, in the event of a “successful” exploration programme. These include the effect on the movement of wildlife and the potential conflicts between mining operations and eco-tourism.	S. Husselmann (RES) 8-Feb-21, email	Regarding the second point, if the proponent finds a significant deposit of some mineral, there will be a long lead-up process (potentially 7-10 years) before any serious mine planning would begin. There would also be a mandatory EIA for that process. While every exploration company has a mine as its long-term objective, the chances that this is achieved are usually very small.

No.	Name	Comment	Name	Response
4.	Meeting attendee 18-Feb-21, public meeting	There are big problems with water in this area. If you find water, what then?	T. Smalley (Geologist) 18-Feb-21, public meeting	The borehole can be left for the farmer to develop further if he wants to.
5.	Meeting attendees 18-Feb-21, public meeting	<p>Concern over fire hazards: a very serious issue:</p> <ul style="list-style-type: none"> - eg workers walk around after hours, look for honey, smoke out the bees – fire! - Another example: a large fire that happened about 7 years ago, did severe damage, and then took a very long time for the farmer to get any compensation. - Farmers want it to be very clear that for any fire that starts when the exploration activities are in the area, the exploration team will immediately be held responsible. The insurance cover should be not less than N\$10 million. - Any labour camp or drill site should be cleared of all vegetation for a distance of 150 m around the site. 	T. Smalley (Geologist) 18-Feb-21, public meeting	We will obviously take proper precautions against fires. Heyn Ohana will be covered by insurance so that there will be compensation to any farmer who suffers from fire, where we are proven to be responsible.
			J. Pallett (RES) 18-Feb-21, public meeting	Is there a fire committee or some organisation that can help to ensure that all risks of fire are minimised, and to assist if/when a fire occurs?
			Farmer 18-Feb-21, public meeting	Every Farmers Association has their own fire arrangements. As soon as a fire starts, every farmer in the area is called and everyone comes to assist.
6.	Farmer 18-Feb-21, public meeting	Each and every farmer should make a contract with Heyn Ohana, using a template version that he provided in hard copy. It should be individualised for each farm's specific activities and wishes (eg no exploration during hunting periods, no alcohol, arrangements for using water, etc).	J. Pallett (RES) 18-Feb-21, public meeting	The Environmental Management Plan can include this template contract, as a basis for the agreement between each farmer and Heyn Ohana
			T. Smalley (Geologist) 18-Feb-21, public meeting	All activities on the farms will be done in consultation with farmers and according to the contract. Heyn Ohana would like to work in a spirit of cooperation

No.	Name	Comment	Name	Response
				with the land-owners. Heyn Ohana will set up such a contract with each farmer who requires it.
7.	Meeting attendee 18-Feb-21, public meeting	Concern over measles that is carried by many workers, which can be transmitted to cattle from human faeces.	T. Smalley (Geologist) 18-Feb-21, public meeting	Workers will be required to take anti-measles pills when starting their contracts. Toilet facilities will be available so that workers don't use the 'bush toilet'.
8.	Meeting attendee 18-Feb-21, public meeting	Concern over conflict between hunting activities and exploration teams.	T. Smalley (Geologist) 18-Feb-21, public meeting	Heyn Ohana will coordinate with the farmers to ensure such conflicts are avoided. The programme is flexible and will be adjusted so that exploration activities do not overlap with hunting activities on a particular farm.
9.	Meeting attendee 18-Feb-21, public meeting	There must be good communications between Heyn Ohana and the farmers to prevent problems. Any activities (e.g. clearing a track to the work site, arranging when the helicopter survey will happen) must be arranged with full consultation between both parties.	T. Smalley (Geologist) 18-Feb-21, public meeting 1-Sept-18, public meeting	Agreed.
10.	Owners of Hetaku Safari Lodge (Pty) Ltd	During hunting time, few months in a year, they do not want drilling machines / workers / equipment on the farm	S. Husselmann (RES) 15-Mar-21, email	Noted, we will include as a requirement in the Environmental Management Plan (EMP) that the Proponent should establish a written agreement with each affected land owner. A template of such an agreement will be provided in the EMP. Matters such as periods when no exploration should take place should be addressed in this agreement.

No.	Name	Comment	Name	Response
11.	Owners of Hetaku Safari Lodge (Pty) Ltd	No damage caused to any water boreholes, solar pumps, hunting sites, earth dams and fences etc - any inventory of farm.	S. Husselmann (RES) 15-Mar-21, email	Noted. It is standard practice to avoid any damage to existing infrastructure. Heyn Ohana Investment will have insurance cover so that there will be compensation to any farmer who suffers from any damages, where Heyn Ohana is proven to be responsible.
12.	Owners of Hetaku Safari Lodge (Pty) Ltd	Communication with farm owners / manager, when, where the drilling teams will start, when will they enter farm, because our gates are permanently locked.	S. Husselmann (RES) 15-Mar-21, email	Communication procedures should be addressed in the agreement referred to in comment 1 above.
13.	C. Grobbelaar (Morgan 1048, Mundsfarm 192, Hetaku 1035) 7-Mar-21, email	Concern about wildfire risks.	S. Husselmann (RES) 24-Mar-21, email	Heyn Ohana Investment (the Proponent) will have insurance cover. We will find out the value of the insurance cover and give you feedback. Most insurance companies will require some form of proof when it comes to any claims. The Proponent has committed to providing compensation (via insurance cover) to any farmer who suffers from any damages, where Heyn Ohana Investment is proven to be responsible.
14.	C. Grobbelaar 7-Mar-21, email	Concern about water availability.	S. Husselmann (RES) 24-Mar-21, email	Noted. We will include as a requirement in the Environmental Management Plan (EMP) that the Proponent should establish a written agreement with each affected land owner. A template of such an agreement will be provided in the EMP. Matters

No.	Name	Comment	Name	Response
				regarding water availability and water demand for exploration should be addressed this agreement.
15.	C. Grobbelaar 7-Mar-21, email	Concerns regarding clearing of new roads	S. Husselmann (RES) 24-Mar-21, email	Matters such as the clearing of roads for prospecting purposes should be addressed in the agreement referred to in the bullet above (second bullet).
16.	C. Grobbelaar 7-Mar-21, email	Concerns regarding damage to farm infrastructure.	S. Husselmann (RES) 24-Mar-21, email	Yes, Heyn Ohana Investment will have insurance cover so that there will be compensation to any farm owner who suffers from any damages, where Heyn Ohana is proven to be responsible.
17.	C. Grobbelaar 7-Mar-21, email	All waste generated as part of exploration activities should be removed from site (off the farm) for disposal.	S. Husselmann (RES) 24-Mar-21, email	Agreed. This will be prescribed as part of waste management requirements in the EMP.
18.	C. Grobbelaar 7-Mar-21, email	Concerns regarding undesirable movement on farmland.	S. Husselmann (RES) 24-Mar-21, email	We will include a requirement in the EMP that no movement other than that required for the purposes of prospecting will be allowed. The details regarding the appearance of the temporary accommodation, including matters such as fencing off the camp, should be addressed in the agreement referred to above in the second bullet.
19.	C. Grobbelaar 7-Mar-21, email	Identification documents of all exploration personnel should be provided to me.	S. Husselmann (RES) 24-Mar-21, email	We will include a requirement in the EMP that all minerals exploration personnel should carry an official Namibian identification document at all times while on-site.

No.	Name	Comment	Name	Response
20.	C. Grobbelaar 7-Mar-21, email	All exploration activity should be communicated with me before commencing.	S. Husselmann (RES) 24-Mar-21, email	We will include a standard communication procedure as a requirement in the EMP. Any specific communication matters should be addressed in the agreement referred to above in the second bullet.
21.	C. Grobbelaar 7-Mar-21, email	All workers should take deworming medication, with evidence of deworming provided.	S. Husselmann (RES) 24-Mar-21, email	We will include a requirement in the EMP that the proponent should provide evidence of deworming medication purchased and ensure that all workers take the medication. The farm owner should be allowed to attend the dosing.
22.	C. Grobbelaar 7-Mar-21, email	Workers should be provided with toilet facilities.	S. Husselmann (RES) 24-Mar-21, email	Agreed. This will be prescribed as part of waste management requirements in the EMP.
23.	C. Grobbelaar 7-Mar-21, email	Work sites should be rehabilitated once work at a site has ceased.	S. Husselmann (RES) 24-Mar-21, email	Agreed. This will be prescribed as part of site rehabilitation requirements in the EMP.
24.	C. Grobbelaar 7-Mar-21, email	No poaching may take place on the farm. All work should be suspended in the event of a poaching incident.	S. Husselmann (RES) 24-Mar-21, email	Prohibition of poaching will be included as a requirement in the EMP. Any individuals caught not complying with the EMP or a provision of the agreement should be removed from site immediately
25.	C. Grobbelaar 7-Mar-21, email	Compensation amounts for various animals (livestock and game) prescribed.	S. Husselmann (RES) 24-Mar-21, email	This should be addressed in the agreement referred to above in the second bullet.

No.	Name	Comment	Name	Response
26.	C. Grobbelaar 7-Mar-21, email	Daily communication is required.	S. Husselmann (RES) 24-Mar-21, email	Communication requirements will be included in the EMP. The frequency of communication should be addressed in the agreement referred to above in the second bullet.
27.	C. Grobbelaar 7-Mar-21, email	Aerial surveys should be communicated to all farmers in advance. Specific swath prescribed.	S. Husselmann (RES) 24-Mar-21, email	Communication requirements will be included in the EMP. The details regarding the Proponent's specific airborne geophysics programme should be addressed in the agreement referred to above in the second bullet.
28.	C. Grobbelaar 7-Mar-21, email	Aerial surveys should have the required authorisation..	S. Husselmann (RES) 24-Mar-21, email	Agreed. We will specify that all the required authorisations should be obtained prior to any prospecting activity.
29.	Mr & Mrs Oelkers (Farm Libyan) 7-Mar-21, email	We would like to know the names/ manufacturers/ suppliers of ALL the drilling fluids (mentioned above) and an exact description of usage and of the foam used for the percussion drilling (mentioned to be biodegradable)	S. Husselmann (RES) 29-Mar-21, email	Examples of typical drilling fluids, which are poured down a borehole to aid drilling efficiency and sample recovery, used by drilling companies for typical drilling operations include AMC EZYCORE (https://amcmud.com/product/amc-ezycore/) and AMC CAP 21 (https://amcmud.com/product/amc-cap-21/) (please see safety data sheets for each attached). We will include as a requirement in the Environmental Management Plan (EMP) that the Proponent's appointed representative should provide safety information on drilling-related fluids upon request.

No.	Name	Comment	Name	Response
30.	Mr & Mrs Oelkers (Farm Libyan) 7-Mar-21, email	What happens if a farmer can't provide any water because his borehole just provides enough for his own demands?	S. Husselmann (RES) 29-Mar-21, email	We will include as a requirement in the EMP that the Proponent should establish a written agreement with each affected land owner. A template of such an agreement will be provided in the EMP. Matters regarding water availability and water demand for exploration should be addressed in this agreement.
31.	Mr & Mrs Oelkers (Farm Libyan) 7-Mar-21, email	If the proponent knows that poaching will be one of the negative impacts, we would like to know his/her precautionary measures, he/she will be held responsible for the staff's wrong decisions and actions! One suggestion is: Provide enough food (on top of the grocery list: meat!)	S. Husselmann (RES) 29-Mar-21, email	We will include a requirement in the EMP that no movement other than that required for the purposes of prospecting will be allowed. We will include adequate provision of food to exploration workers as a requirement in the Environmental Management Plan.
32.	Mr & Mrs Oelkers (Farm Libyan) 7-Mar-21, email	Not preventing a fire whilst welding a cap onto a pipe is recklessness. A wind shield easily can be created to prevent sparks from flying into a grass or bush area.	S. Husselmann (RES) 29-Mar-21, email	Noted, we will include this as a requirement for welding in the EMP.
33.	Mr & Mrs Oelkers (Farm Libyan) 7-Mar-21, email	So also, the fire to prepare food should be kept in a wind shield.	S. Husselmann (RES) 29-Mar-21, email	Noted, we will address this issue in the EMP.
34.	Mr & Mrs Oelkers (Farm Libyan) 7-Mar-21, email	The proponent has to realize that he /she will be held liable if a fire breaks out.	S. Husselmann (RES) 29-Mar-21, email	Heyn Ohana Investment will have insurance cover so that there will be compensation to any farmer who suffers from any damages, where Heyn Ohana is proven to be responsible.

No.	Name	Comment	Name	Response
35.	Mr & Mrs Oelkers (Farm Libyan) 7-Mar-21, email	Knowing that the pit latrines will be spread all over the place is not very pleasant! What about groundwater pollution?	S. Husselmann (RES) 29-Mar-21, email	This impact will be addressed and included in the draft scoping report.

6.1.3 Outcome of First Round of Public Consultation

No critical issues, with the potential to stop the proposed exploration activities, were raised during the first round of public consultation.

The following is a summary of the issues raised by I&APs during the first round of public consultation:

- Impact on farm infrastructure (roads, fences, gates, water infrastructure etc.) (negative).
- Waste management impacts (open defecation, waste disposal) (negative).
- Impact on water availability (negative).
- Impacts on water quality (negative).
- Impacts on wild animals (poaching and disturbance) (negative).
- Impacts on conservation and commercial tourism activities (hunting and game viewing) (negative).
- Potential discovery of groundwater from holes drilled by the Proponent (positive).
- Post exploration rehabilitation concerns (negative).
- Impacts associated with wildfires (negative).

Engagement with I&APs as part of the first round of public consultation commenced on the 5th of February 2021 and concluded on the 15th of March 2021. During the first round of consultation, I&APs and authorities were given an opportunity to register and submit comments on the proposed project.

6.2 Second Round of Public Consultation

Engagement with I&APs as part of the second round of public consultation commenced on the 20th of April 2021 and concluded on the 3rd of May 2021. During the second round of consultation, I&APs (including affected authorities) were given an opportunity to review the draft scoping report and submit comments.

6.2.1 Public Consultation Activities

Activities undertaken to facilitate adequate I&AP involvement, are as follows:

- A notification email (Appendix D12) with the draft scoping report was distributed to all I&APs who have an email address (Appendix D1) on 20 April 2021.
- A notification message was sent on 20 April 2021 via WhatsApp Messenger to the communication group with all owners and occupiers of land potentially affected by the proposed project (see Appendix D13 for export of group chat for April and May 2021).

6.2.2 Comments Received and Responses Provided

No comments on the content of the draft scoping report were received (via email or WhatsApp Messenger) from I&APs (including authorities) during the second round of public consultation.

Emails received during the second round of consultation (including feedback that does not raise significant issues) is attached as Appendix D14

7 Impact Assessment

The proposed project is expected to have varied impacts on the immediate and surrounding receiving socio-economic and biophysical environment. An understanding of these impacts together with effective mitigation measures can however minimise such impacts, and even avoid impacts in certain instances.

The purpose of this chapter is to identify potential impacts that the project is expected to have on the receiving environment and determine their significance. Some impacts might be insignificant while others might need special attention or even further investigation.

This chapter provides a description and assessment of potential impacts associated with the project. Mitigation measures relevant to the operational phase of the project as appropriate are recommended. These measures are aimed at avoiding, minimising or mitigating negative impacts or enhancing potential benefits. The significance of potential impacts without and with mitigation is also provided.

7.1 Assessment Method

Each of the potential impacts identified by Interested and Affected Parties (I&APs) during public consultation and by the EAP based on professional experience was screened according to a set of questions (Figure 7-1), which resulted in highlighting the key impacts requiring further detailed assessment.

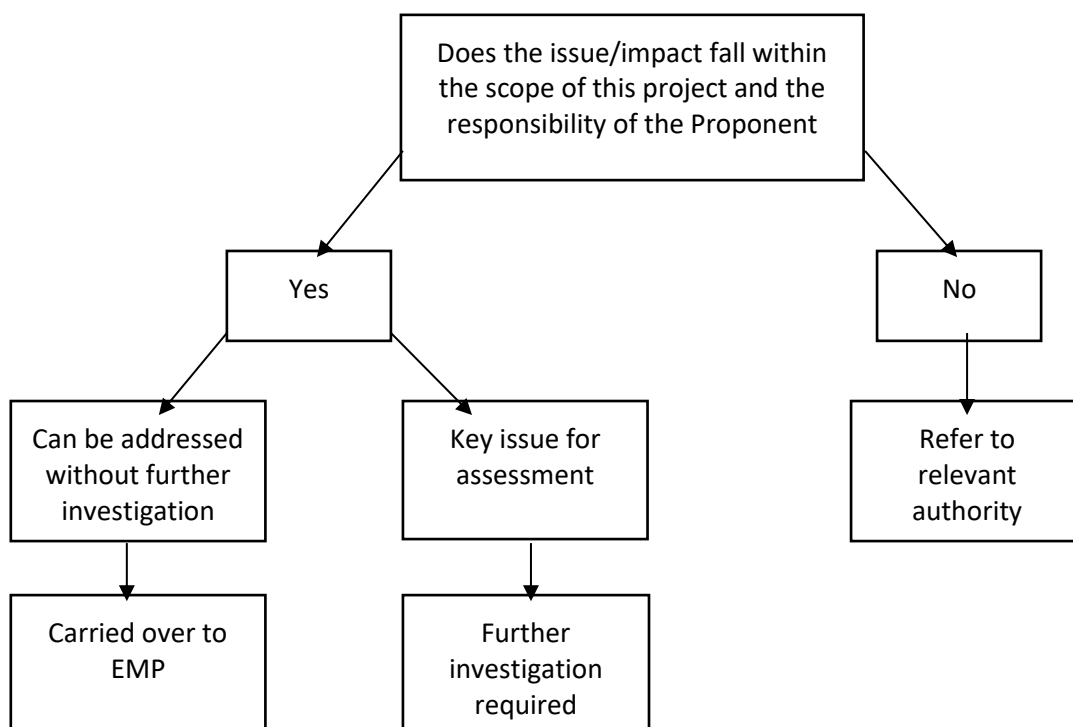


Figure 7-1: Screening process for determining key impacts

This list of impacts that were subjected to a detailed assessment is presented in Table 7-2, below, as per the evaluation criteria presented in Table 7-1.

7.2 Comprehensive Assessment

The identified impacts are assessed according to a synthesis of criteria required by the integrated environmental management procedure. This entails the establishment of the expected impact’s duration (time scale), extent (spatial scale), magnitude (intensity), probability, and status, in combination providing the expected significance (see Table 7-1).

Table 7-1: Criteria applied to each potential impact

Criteria	Category
Impact	This is a description of the expected impact.
Nature Describe the type of impact.	<p><i>Positive:</i> The activity will have an environmental (social or biophysical) benefit.</p> <p><i>Neutral:</i> The activity will have no effect.</p> <p><i>Negative:</i> The activity will have an environmentally (social or biophysical) harmful effect.</p>
Extent The area affected by the impact.	<p><i>Site Specific:</i> Expanding only as far as the activity itself (<i>on-site</i>)</p> <p><i>Small:</i> Restricted to the site’s immediate environment within 1 km of the site (<i>limited</i>)</p> <p><i>Medium:</i> Within 5 km of the site</p> <p><i>Large:</i> Beyond 5 km of the site (<i>regional</i>)</p>
Duration Predicts the lifetime of the impact.	<p><i>Temporary:</i> < 1 year</p> <p><i>Short-term:</i> 1 – 5 years</p> <p><i>Medium term:</i> 5 – 15 years</p> <p><i>Long-term:</i> >15 years (impact will stop after the operational or running life of the activity, either due to natural causes or by human interference)</p> <p><i>Permanent:</i> Impact will be where mitigation or moderation by natural causes or by human interference will not occur in a particular means or in a particular time period that the impact can be considered temporary.</p>

Criteria	Category
<p>Magnitude</p> <p>Describe the scale/size of the Impact.</p>	<p><i>Very low:</i> Affects the environment in such a way that natural and/or social functions/processes are not affected.</p> <p><i>Low:</i> Natural and/or social functions/processes are slightly altered.</p> <p><i>Medium:</i> Natural and/or social functions/processes are notably altered in a modified way.</p> <p><i>High:</i> Natural and/or social functions/processes are severely altered and may temporarily or permanently cease.</p>
<p>Probability of Occurrence</p> <p>Describe the probability of the Impact actually occurring.</p>	<p><i>Improbable:</i> Not at all likely.</p> <p><i>Probable:</i> Distinctive possibility.</p> <p><i>Highly probable:</i> Most likely to happen.</p> <p><i>Definite:</i> Impact will occur regardless of any prevention measures.</p>
<p>Degree of Confidence in Predictions</p> <p>State the degree of confidence in predictions based on availability of information and specialist knowledge</p>	<p><i>Unsure/Low:</i> Little confidence regarding information available.</p> <p><i>Probable/Med:</i> Moderate confidence regarding information available.</p> <p><i>Definite/High:</i> High confidence regarding information available.</p>
<p>Significance</p> <p>The impact on each component is determined by a combination of the above criteria.</p>	<p><i>No change:</i> A potential concern which was found to have no impact when evaluated.</p> <p><i>Very low:</i> Impacts will be site-specific and temporary with no mitigation necessary.</p> <p><i>Low:</i> The impacts will have a minor influence on the project and/or environment. These impacts require some thought to adjustment of the project design where achievable, or alternative mitigation measures.</p> <p><i>Moderate:</i> Impacts will be experienced in the local and surrounding areas for the life span of the development and may result in long term changes. The impact can be lessened or improved by an amendment in the project design or implementation of effective mitigation measures.</p> <p><i>High:</i> Impacts have a high magnitude and will be experienced regionally for at least the life span of the development, or will be</p>

Criteria	Category
	irreversible. The impacts could have the no-go proposition on portions of the development in spite of any mitigation measures that could be implemented.

Significance is determined through a synthesis of impact characteristics as described in Table 7-1 above. It provides an indication of the importance of the impact in terms of both tangible and intangible characteristics. The significance of the impact “without mitigation” is the prime determinant of the nature and degree of mitigation required. Where the impact is positive, significance is noted as “positive”. Significance will be rated on the following scale:

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

7.3 Key Impacts Identified

It should be noted that no construction of new infrastructure is envisaged as part of this project, therefore mitigation measures for the operational phase have been provided below. Section 7.3.1 gives a broad overview of each potential impact expected during the operational phase, while a comprehensive assessment outcome with mitigations is presented for each potential impact.

7.3.1 Planning Phase Considerations

According to Section 52 of the Minerals Act, before the Proponent’s appointed workers (e.g. geologist, drilling teams etc.) may begin working within privately owned farm land, he/she must establish a written agreement with the owner(s) of such land (see Chapter 4 – Legislation relevant to the project).

The discussions regarding the agreement are a significant operational planning aspect. An example agreement will be appended to the EMP (Appendix B). The following types of issues should be addressed as part of the agreement discussions:

- Periods when exploration activities are undesirable.
- Arrangements for access.
- Water availability and water demand for exploration.
- Compensation (e.g. value of a cow, in the event of unintended death).
- Details of actual drilling fluids used.
- Numbers of workers residing on-site.
- The clearing of new roads for prospecting purposes.
- Frequency of communication.
- The appearance of the temporary accommodation at drill sites.
- Specific details regarding aerial surveys (e.g. timing etc.)
- The location of pit latrines.
-

7.3.2 Operation Phase Impacts

The operational activities which have been considered include those activities based on the information provided by the Proponent.

Details with respect to the potential impacts expected during the operational phase are discussed below. Detailed mitigation measures are presented in the tables below and Environmental Management Plan (Appendix B).

Table 7-2 below presents the potential impacts expected to occur during the operational phase of the project, while Table 7-3 to Table 7-15 present the detailed assessment and outcome of each of the key impacts listed in Table 7-2.

Table 7-2: Key potential impacts expected during the operational phase

Aspect	Potential Impacts
Socio-economic environment	Employment creation and skills transfer (Positive)
	Improved geological understanding (Positive)
	Improved Access to groundwater (Positive)
	Traffic safety impacts
	Dust impacts
	Health and safety impacts
	Impact on heritage/archaeological resources

Aspect	Potential Impacts
	Conflict with tourism and conservation activities
Biophysical environment	Disturbance of fauna and flora
	Soil, ground and surface water pollution
	Impact on water availability
	Poaching and movement of workers
	Accidental spreading of wildfire

7.3.2.1 Employment and Skills Transfer

The exploration mining activity will provide a few temporary skilled employment opportunities and a few individuals from the project area with temporary semi- and unskilled jobs. The income generated will benefit the individuals' households. Furthermore, the proposed activity will result in the improvement in skills and therefore improved employability for the staff employed.

Table 7-3 below presents an assessment of the impact associated with employment maintenance and income generation.

Table 7-3: Assessment of impact associated with employment creation

Criteria	Description
Potential impact	Employment creation (a few temporary skilled and unskilled opportunities) Potential for tertiary and secondary industrial growth if mining commences.
Nature	Employment opportunities will be created enabling a potential reduction, though limited in number and duration, in unemployment. Potential tertiary and secondary industrial growth if mining commences.
Status (+ or -)	Positive
Extent	Large
Duration	Short-term
Magnitude	Low

Criteria	Description
Probability	Probable
Significance (no mitigation)	Low
Mitigation	Namibian citizens from the locally affected area should be employed for the unskilled labour preferentially to foreigners where possible. Equal opportunity should be provided for both men and women.
Significance (with mitigation)	Low-medium
Confidence level	High

7.3.2.2 Improved Geological Understanding

As stated in Section 1.2 – Project Need and Desirability, Insufficient geological information of the project area has been generated with respect to base and precious metals deposits. Furthermore, some of the geological information gathered during the exploration process will be made available to the Ministry of Mines and Energy and thus placed within the public domain for use in future.

Table 7-4 below presents an assessment of the impact associated with an improved geological understanding.

Table 7-4: Assessment of impact associated with improved geological understanding

CRITERIA	DESCRIPTION
Potential impact	Improved geological understanding
Nature	Geological information gathered during the exploration process will be made available to the Ministry of Mines and Energy and thus placed within the public domain for use in future.
Status (+ or -)	Positive
Extent	Large
Duration	Long-term
Magnitude	Medium
Probability	Probable
Significance (no mitigation)	Medium

CRITERIA	DESCRIPTION
Mitigation	N/A
Significance (with mitigation)	Medium
Confidence level	High

7.3.2.3 Improved Access to Groundwater

Water resources are generally scarce in the project area (see Section 5.1.4 – Hydrogeology) and essential for one of the main economic activity within the area – i.e. livestock farming.

Minerals exploration reveals valuable information for groundwater investigations. Geological drilling has the potential to strike groundwater. In the event that the Proponent has no objection and the relevant authorisations are obtained from the Ministry of Agriculture Water and Land Reform (MAWLR) access might be provided to local farmers within the project area.

Table 7-5 below presents the detailed assessment of the impact associated with improved access to groundwater.

Table 7-5: Assessment of impact associated with improved access to groundwater

CRITERIA	DESCRIPTION
Potential impact	Improved access to groundwater.
Nature of Impact	Minerals exploration reveals valuable groundwater information. Geological drilling might strike groundwater which might be accessible by local farmers.
Status (+ or -)	Positive
Extent	Small
Duration	Medium-term
Magnitude	Medium
Probability	Probable
Significance (no mitigation)	Low-medium
Mitigation	Legal procedures should be adhered to by both the Proponent and the affected local farmers when abstracting water from potential water yielding boreholes

CRITERIA	DESCRIPTION
Significance (with mitigation)	Medium
Confidence level	Moderate

7.3.2.4 Traffic Safety

The C30 and C22 is the main transportation routes for all vehicular movement between Gobabis and the areas due north. Heavy vehicles associated with the project will obtain access to the C30 and C22 from the B2 (Trans-Kalahari Highway) road connecting the EPLs to minerals exploration service providers inland.

Operational activities associated with the project increases slow moving heavy vehicular traffic along the C30 and C22.

Table 7-6 below presents an assessment of the potential traffic safety impact.

Table 7-6: Assessment of potential traffic safety impact

CRITERIA	DESCRIPTION
Potential impact	Traffic safety impacts
Nature	The road access to the B2 will be utilised by slow moving heavy vehicles associated with the mining exploration activity. The C30 and C22 are the main roads between Gobabis and areas due north. The movement of slow-moving heavy vehicles might negatively impact road traffic safety along the C22 and C20.
Status (+ or -)	Negative
Extent	Site-specific
Duration	Medium-term
Magnitude	Low
Probability	Improbable
Significance (no mitigation)	Low-medium
Mitigation	All personnel operating vehicles and all vehicles used should be appropriately licensed and adhere to road traffic regulations/signs.
Significance (with mitigation)	Low

CRITERIA	DESCRIPTION
Confidence level	High

7.3.2.5 Dust Impacts

Generation of dust from the operation of geological drill rigs could result in the production of respirable dust (particulate matter smaller than 50 µm or even 10 µm in size), which could impact the respiratory health of the drill rig operators. The dust produced might also settle on nearby vegetation and may affect rates of photosynthesis and transpiration.

The main respiratory diseases related to inhaled mineral dusts include, pneumoconiosis (which includes silicosis, asbestosis and coal miner’s pneumoconiosis), and cancer (including bronchogenic carcinoma and malignant mesothelioma) (Fubini & Areal, 1999). It should be noted however that the scale and nature of the operation (i.e. drilling for exploration purposes only) is such that prolonged and continuous exposure to mineral dust (as experienced during a full production mining operation) is not expected. Furthermore, the work environment – i.e. open air, is of such a nature that particulate matter is freely dispersed, as opposed to mineral dust generation within a confined space.

Considering the scale and nature of the operation (i.e. drilling for exploration purposes only) the impact on the rates of photosynthesis and transpiration of nearby plants are expected to be limited in extent and duration and therefore negligible. Furthermore, no range restricted species plant species are expected within the project area.

Table 7-7 below presents an assessment of dust impacts.

Table 7-7: Assessment of dust impacts

CRITERIA	DESCRIPTION
Potential impact	Dust impacts
Nature	Respirable dust may be generated during geological drilling and pose an occupational (i.e. for exploration staff) respiratory health risk. Dust which settles on nearby vegetation might affect rates of photosynthesis and transpiration.
Status (+ or -)	Negative
Extent	Site-specific
Duration	Temporary
Magnitude	Low

CRITERIA	DESCRIPTION
Probability	Improbable
Significance (no mitigation)	Low
Mitigation	<p>Personnel should be provided with dust masks.</p> <p>Drill equipment should be regular maintained to ensure drilling efficiency and so reduce dust generation.</p> <p>Dry dust suppression methods should be employed, when necessary, to minimise dust generation.</p>
Significance (with mitigation)	Low
Confidence level	Moderate

7.3.2.6 Health and Safety Impacts

Activities associated with the operational phase have the potential to cause accidental injury, owing to either minor (i.e. superficial physical injury) or major (i.e. involving heavy machinery or vehicles) accidents, to the Proponent’s personnel. On-site safety of all personnel is the responsibility of the Proponent and should be adhered to as per the requirements of the Labour Act (No 11 of 2007) and the Public Health Act (No. 36 of 1919). The heavy vehicle, equipment and fuel storage area should be properly secured in order to prevent any harm or injury to the Proponent’s personnel or animals.

Table 7-8 below presents an assessment of the potential health and safety impacts.

Table 7-8: Assessment of potential health and safety impacts

CRITERIA	DESCRIPTION
Potential impact	Health and safety impacts
Nature	<p>Injury during operational activities.</p> <p>Explosion of fuel storage and associated injury to Proponent’s personnel or animals.</p>
Status (+ or -)	Negative
Extent	Site specific
Duration	Short to long-term
Magnitude	Medium

CRITERIA	DESCRIPTION
Probability	Improbable
Significance (no mitigation)	Medium
Mitigation	<p>The Labour Act's Health and Safety Regulations should be complied with.</p> <p>All personnel should be trained in/sensitised to the potential health and safety risks associated with their respective jobs.</p> <p>Provide appropriate personal protective equipment to personnel.</p> <p>Heavy vehicle, equipment and fuel storage site should be properly secured and appropriate warning signage placed where visible.</p> <p>An emergency preparedness plan should be compiled and all personnel appropriately trained.</p>
Significance (with mitigation)	Low
Confidence level	High

7.3.2.7 Heritage/Archaeological Remains

No known heritage sites or proclaimed national monuments are located within the footprint of the proposed project. If any heritage or cultural significant artefacts are however found during mining exploration activities operations must stop and the National Heritage Council of Namibia immediately notified.

In the event that any archaeological materials/ heritage resources, such as human remains, burial sites and other artefacts, are uncovered during exploration, works in the area are to be stopped immediately, and the chance-find immediately reported to the worksite manager and the National Heritage Council.

Table 7-9 below presents the comprehensive assessment outcome.

Table 7-9: Impact assessment pertaining to heritage/archaeological remains

CRITERIA	DESCRIPTION
Risk event	Disturbance/destruction of heritage/archaeological remains
Nature	Destruction of archaeological remains might occur during excavations/ exploration site preparation.
Status (+ or -)	Negative

CRITERIA	DESCRIPTION
Extent	Small
Duration	Permanent
Magnitude	Medium
Probability	Improbable
Significance (no mitigation)	Low
Mitigation	<p>Caution should be exercised when carrying out excavations associated with the exploration activities in the event that archaeological/heritage remains are discovered.</p> <p>The worksite manager should receive training by a suitably qualified archaeologist with respect to the identification of archaeological/heritage remains and the procedures to follow in the event that such remains are discovered during construction.</p> <p>If any archaeological materials are found, the National Heritage Council's Chance Find Procedures should be followed. Furthermore, the worksite manager should be notified and all on-site activities stopped immediately.</p>
Significance (with mitigation)	Low-none
Confidence level	High

7.3.2.8 Conflict with tourism and conservation related activities

The proposed exploration activities will conflict somewhat with the existing wildlife conservation and tourism-related activities. The noises and visual impressions (sense of place) associated with minerals exploration activities are at odds with tourism and wildlife conservation activities. The timing of minerals exploration activities should be planned carefully to avoid coinciding with tourism and wildlife conservation activities where possible.

Table 7-10 below presents an assessment of the conflict between minerals exploration activities and tourism and conservation related activities.

Table 7-10: Assessment of conflict with tourism and conservation related activities

CRITERIA	DESCRIPTION
Potential impact	Change in sense of place.

CRITERIA	DESCRIPTION
Nature	The temporary change in sense of place associated with minerals exploration activities (particularly drilling and aerial surveys).
Status (+ or -)	Negative
Extent	Site-specific
Duration	Temporary
Magnitude	Medium
Probability	Probable
Significance (no mitigation)	Medium
Mitigation	Aerial surveys and invasive minerals exploration activities (e.g. setting up and operating drilling sites) should be carefully scheduled to avoid the peak tourism season (i.e. when international tourists are more likely to visit Namibia) generally considered to be May to October (i.e. dry season which is best suited for game viewing) where possible. Discussions regarding the agreement (see Chapter 4 and Section 7.3.1 – Planning phase mitigation measures above) should establish specific sensitive time periods (whether conservation or tourism related) when invasive exploration activities and aerial surveys should be avoided.
Significance (with mitigation)	Low-medium
Confidence level	Moderate

7.3.2.9 Disturbance of Fauna and Flora

Some of the minerals exploration activity (i.e. airborne geophysics, setting up drill rigs and line cuttings for ground geophysics) will result in the disturbance of plants (in some cases clearance) and animals. Secondary habitat disturbance effects include the generation of noise and dust.

It is established that low flying aircraft disturb animal activity (Churchill & Holland, 2003). Furthermore, drilling generates noise and vibrations. Given the temporary nature of the impact (in the order of days to weeks at a time for flying and up to a few months for drilling activity), the significance of this disturbance is expected to be low. However, if the flying

(which affects large areas) and/or drilling activity coincides with peak tourism season, when hunting and game viewing takes place, this impact can be considered high.

Table 7-11 below presents a detailed assessment of the impact associated with the disturbance of fauna and flora.

Table 7-11: Assessment of impact associated with disturbance of flora and fauna

CRITERIA	DESCRIPTION
Potential impact	Disturbance of fauna and flora
Nature	Minerals exploration activity (i.e. airborne geophysics, setting up drill rigs and line cuttings for ground geophysics) will disturb plant and animal habitat.
Status (+ or -)	Negative
Extent	Site-specific
Duration	Temporary
Magnitude	Low-medium
Probability	Probable
Significance (no mitigation)	Low
Mitigation	<p>All owners and occupiers of land where aerial surveys (airborne geophysics) will be carried out should be notified at least one week in advance.</p> <p>All areas of interest to be clearly marked to prevent damage to areas unintended for exploration.</p> <p>Where clearing and/or damage is unavoidable, permits for clearing protected plant species should be obtained from the nearest forestry office.</p> <p>Areas where exploration activities have ceased should be rehabilitated, as far as practicable, to their original state.</p>
Significance (with mitigation)	Low
Confidence level	High

7.3.2.10 Soil, Ground and Surface Water Pollution

The proposed exploration activities are associated with a variety of potential pollution sources (i.e. lubricants, fuel and wastewater) that may contaminate/pollute groundwater,

surface water or soil. However, it should be noted that the scale and extent/footprint of the activities where potential sources of pollution will be handled is relatively small and the duration of the activities is temporary (in the order of weeks to 2 or 3 months at a time).

Hydrogeology in the project area is characterised by mostly moderate potential. Groundwater is the only source of water available to farm owners in the surrounding areas.

Human faecal matter might contain parasites or diseases which could be passed on to livestock. This becomes a concern in the event of open defecation.

Table 7-12 below presents the detailed assessment of impact associated with soil, surface and groundwater contamination.

Table 7-12: Assessment of impacts associated with surface water, groundwater and soil contamination/pollution

CRITERIA	DESCRIPTION
Potential impact	Soil, surface and groundwater contamination/pollution
Nature	<p>Groundwater is the only source of water for farmers in the area. Hazardous substances stored, handled and utilised on-site might leach into groundwater sources at sites where spills occur.</p> <p>Hazardous substances (i.e. wastewater, fuel and lubricants) are stored, handled and used during the operational phase.</p> <p>Leakages from heavy vehicles, accidental spills of fuel, wastewater and lubricants might occur and the associated contamination of soil and groundwater.</p> <p>Workers, who might have parasites, might defecate in the open as opposed to using the toilet provided.</p>
Status (+ or -)	Negative
Extent	Small
Duration	Medium-term
Magnitude	Low-medium
Probability	Improbable
Significance (no mitigation)	Low-medium
Mitigation	<p>Soil contaminated with hydrocarbons must be collected and stored in appropriate containers for transport waste treatment facility after work at a given site has ceased.</p> <p>A toilet should be provided at each work site.</p>

CRITERIA	DESCRIPTION
	<p>Workers should be informed that open defecation is prohibited.</p> <p>The siting of pit latrine toilets should be discussed and agreed on with each farm owner.</p> <p>The fuel storage tank should be placed on a bunded and impervious surface.</p> <p>Washing of equipment contaminated hydrocarbons, as well as the washing and servicing of vehicles should take place at a dedicated area, where contaminants are prevented from contaminating soil or water resources.</p> <p>The proponent should provide evidence of deworming medication purchased and ensure that all workers take the medication. The farm owner should be allowed to attend the dosing.</p>
Significance (with mitigation)	Low
Confidence level	High

7.3.2.11 Impact on Water Availability

Water resources in the project area are scarce. The minerals exploration activities will utilise approximately 4000 litres of water per week for domestic purposes. Approximately 5,000 to 10,000 litres are required for diamond drilling per hole if losses occur, otherwise 2,000 to 3,000 litres per hole depending on subsurface conditions. Water for exploration activities will be sourced/bought from a nearby supplier. It should be noted that reverse circulation drilling does not require any water for operation.

Table 7-13 below presents the detailed assessment of the impact associated with water demand.

Table 7-13: Assessment of impact associated with water demand

CRITERIA	DESCRIPTION
Potential impact	Reduction in availability of water resources
Nature	Farmers in and adjacent to the areas where water will be sourced from might experience a reduction in the amount of the groundwater resources available for abstraction owing to water use for exploration activities.
Status (+ or -)	Negative

CRITERIA	DESCRIPTION
Extent	Medium
Duration	Short-term
Magnitude	Low-medium
Probability	Improbable
Significance (no mitigation)	Low-medium
Mitigation	Water reuse/recycling methods should be implemented as far as practicable for the diamond drilling. Water used for the cooling of diamond drill rig components should be captured and used for the cleaning of equipment if possible. Water availability and water demand for exploration should be addressed during the discussions surrounding the written agreement.
Significance (with mitigation)	Low
Confidence level	Medium

7.3.2.12 Poaching and unnecessary movement of workers

The poaching of wildlife or livestock by the proponent’s appointed workers is a possibility. This activity is linked with unnecessary (i.e. non exploration related) movement on affected farms. However, this activity is not primarily associated with minerals exploration and the activity itself will be temporary. Therefore, the significance of this impact is expected to be low.

Table 7-14 below presents a detailed assessment of the impact associated with poaching and unnecessary movement of workers.

Table 7-14: Assessment of poaching and unnecessary movement of workers

CRITERIA	DESCRIPTION
Potential impact	Poaching and disturbance associated with unnecessary movement of workers on farm land.
Nature	Poaching of wildlife and livestock will cause loss of income. Unnecessary movement of workers will disturb animals and affect their movement, which can affect hunting and game viewing activities.

CRITERIA	DESCRIPTION
Status (+ or -)	Negative
Extent	Site-specific
Duration	Temporary
Magnitude	Low-medium
Probability	Improbable
Significance (no mitigation)	Low
Mitigation	<p>No movement of workers other than for the purpose of minerals exploration is allowed. Workers caught moving for purposes other than that required for exploration activities will be removed from site immediately.</p> <p>All minerals exploration personnel should carry an official Namibian identification document at all times while on-site and produce this upon request.</p> <p>An agreement will be established with land owners before the proponent's workers access farm land. The number of workers, timing and locations of exploration activity should be communicated as part of the agreement discussions.</p> <p>Poaching is prohibited by law and workers caught poaching will be removed from site immediately.</p> <p>Sufficient food should be provided to all workers, including meat.</p>
Significance (with mitigation)	Low
Confidence level	High

7.3.2.13 Accidental spreading of wildfire

Activities associated with the operational phase such as smoking and building of open fires (for cooking or keeping warm) have the potential to cause unintended spread of wildfire. Wildfire may result in injury to land owners, their workers or animals as well as loss of grazing. This will have negative economic effects.

Table 7-15 below presents an assessment of the impact associated with accidental spreading of wildfire.

Table 7-15: Assessment of impact associated with accidental spreading of wildfire

CRITERIA	DESCRIPTION
Potential impact	Economic losses owing to damage caused by wildfire
Nature	Injury (of people or animals) owing wildfire. Loss of grazing owing to wildfire.
Status (+ or -)	Negative
Extent	Small to medium
Duration	Short to long-term
Magnitude	Medium
Probability	Improbable
Significance (no mitigation)	Medium
Mitigation	<p>The proponent should be adequately insured for a wide range of occupational hazards (including accidental spreading of wildfire) up to a minimum of N\$5 million.</p> <p>A designated cooking area should be identified and cleared of all grass and bushes (i.e. large trees excluded) for a radius of 15m.</p> <p>A smoking area (if necessary) should be designated and cleared of all grass and bushes (i.e. large trees excluded) for a radius of 15m.</p> <p>A windshield should be used for all open fires and when operating machinery which produces sparks (e.g. grinder and welding machine).</p> <p>Adequate firefighting equipment should be kept on-site near all sites where wildfire risk is high (e.g. cooking, smoking, welding area, etc.).</p> <p>An emergency preparedness plan should be compiled and all personnel appropriately trained/made aware of. This plan should include as a minimum:</p> <ul style="list-style-type: none"> • Contact information of the surrounding farmers associations (who generally coordinate firefighting activity). • Establish who the designated member of staff trained to coordinate firefighting efforts.
Significance (with mitigation)	Low
Confidence level	High

7.3.3 Cumulative Impacts

Cumulative impacts are defined as “those that result from the successive, incremental, and/or combined effects of an action, project, or activity (collectively referred to in this document as “developments”) when added to other existing, planned, and/or reasonably anticipated future ones” (International Finance Corporation, 2013).

One cumulative impact to which proposed project potentially contributes is the impact on road infrastructure. The proposed exploration activity contributes cumulatively to various activities such as commuting, farming activities and travelling associated with tourism. The contribution of the proposed project to this cumulative impact is however not considered significant given the scale and extent of the minerals exploration activities.

8 Conclusions and Recommendations

This chapter presents the conclusions of the scoping phase of the EA conducted and the recommendations for consideration by the Proponent and relevant authorities. The conclusions and recommendations presented are based on the impact assessment presented in Chapter 7 above.

8.1 Conclusion

Heyn Ohana Investment cc (the Proponent) has applied for and been granted Exclusive Prospecting Licenses (EPLs) EPL 7414 and EPL 7415) by the Ministry of Mines and Energy (MME). These EPLs were issued in respect of base and rare metals, industrial minerals and precious stones. The Proponent intends to carry out minerals exploration within the EPLs.

More geological information within the two EPLs is required with respect to base and rare metals, industrial minerals and precious stones. Some of the geological information gathered during the exploration process will be made available to the Ministry of Mines and Energy. Furthermore, this project has the potential to advance two key national priorities – i.e. economic growth and employment creation. It is therefore desirable and arguably necessary to carry out minerals exploration within these EPLs.

Based on the findings of this impact assessment, the following can be concluded with respect to the social environment:

- The creation of temporary skilled and unskilled employment for Namibians is a **positive** impact of low-medium significance.
- The impact associated with an improved geological understanding regarding base and rare metals in the project area and the potential improved access groundwater are significant **positive** impacts.
- Impacts associated with traffic safety, dust, health and safety, archaeology and potential conflict with tourism and conservation activities are **negative** impacts of low or low-medium significance.

Mitigation measures and recommendations have been prescribed in this report (and the EMP – Appendix B) to reduce the significance of these key impacts (and others) to acceptable levels.

Based on the findings of the impact assessment conducted the following can be concluded with respect to the biophysical environment:

- Potential faunal and floral disturbance, poaching and unnecessary movement of workers, owing to the relatively small extent of the exploration activities, constitutes a **negative** impact of low significance.

- Accidental spreading of wildfire after implementation of mitigation measures constitutes a **negative** impact of low significance.
- Impacts associated with pollution of surface and groundwater resources and water demand, because of the relatively small scale of the proposed activity, constitutes a **negative** impact of low significance.

Mitigation measures and recommendations have been prescribed in this report (and the EMP – Appendix B) to reduce the significance of these key impacts (and others) to acceptable levels.

Based on the project information provided by the Proponent and the findings of the impact assessment conducted, it can be concluded that that the proposed project may be granted an Environmental Clearance Certificate, provided recommendations and impact mitigation measures in this report and all the provisions in the EMP are adhered to.

The findings of this scoping phase conclude that no further detailed assessments are required.

Furthermore, the implementation of the aforementioned recommendations, impact mitigation measures and EMP provisions should be monitored by the applicable Competent Authority to ensure that all potential impacts identified in this study and other impacts that might arise during implementation are properly identified in time and addressed.

8.2 Recommendations

It is therefore recommended that an Environmental Clearance Certificate be issued for the proposed project, subject to the following recommendations:

- All required permits, licenses and approvals for the existing activity should be obtained as required.
- The owners of all farms where minerals exploration work is carried out, should establish a written agreement with the proponent before any work starts. This discussions regarding the agreement should address the issues laid out in Section 7.3.1 – Planning Phase Considerations.
- All mitigations listed in Table 7-3 to Table 7-15 and the Environmental Management Plan (Appendix B) should be implemented as stipulated.
- All the necessary traffic safety and occupational health and safety precautions as laid out in Chapter 7 – Impact Assessment should be adhered to.
- Where clearing is unavoidable, permits for clearing protected plant species should be obtained from the nearest forestry office.

- Areas where exploration activities have ceased should be rehabilitated, as far as practicable, to their original state.

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