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Environmental Clearance Certificate (ECC) Renewal Report:

The Proposed Base & Precious Metals Prospecting Activities on Exclusive Prospecting Licences (EPLs) 6011 and 5772 (previously 3905 and 3238) in the Khomas Region, Namibia

MEFT Application: APP-001867

Proponents: Manmar Investments 136 (Pty Ltd) and Manmar Investments 129 (Pty Ltd)

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Date: 17 September 2020

EXECUTIVE SUMMARY

Manmar Investments 136 (Pty Ltd) and Manmar Investments 129 (Pty Ltd) (hereinafter referred to as Manmar Investments 136 and Manmar Investments 129 or the *Proponents*) intend to commence with their proposed Base & Precious Metals prospecting activities on Exclusive Prospecting Licences (EPLs) 6011 and 5772 (previously 3905 and 3238). The EPLs are located approximately 25 km northeast of Windhoek in the Khomas Region and fall within the Windhoek Townlands as delineated by the City of Windhoek in 2012. The two EPLs are located next to each other, hence sharing a common environment (similar biophysical and social environmental conditions). The combined surface area covered by the EPLs at the time of the initial environmental impact assessment (EIA) study done for them in 2016 was 25 hectares (ha), EPL 5772 covering 14.524 ha and EPL 6011 covering 10.828 ha. The two projects were referred to as Ongombo Project (EPL 5772) and Ongeama Project (EPL 6011) during the EA study done by Enviro Dynamics CC in 2016.

An environmental assessment for the proposed prospecting and exploration activities on the two EPLs was conducted by Enviro Dynamics in 2016 and a single Environmental Clearance Certificate (ECC) was issued in May 2017. The ECC is only valid for three years, therefore this has expired in May 2020. Since there had not been capital and technical resources (no investors), only minimal work could be done on the EPLs in terms of the planned prospecting activities between the date of ECC issuance to date. Due to this, the surface area of the EPLs has since been reduced by the competent authority, the Ministry of Mines and Energy (MME). This was done because with every year of the EPLs not being upgraded to a mining license, the EPL area is subject to an annual 20% reduction. This reduction in the two EPLs' size areas will then mean that certain parts of some farms or entire parts of these farms that were listed as affected in the initial EIA study in 2016 have been removed too, therefore, will not be affected.

The exploration and subsequent mining activities of the above-listed minerals and stone are however associated with potential positive impacts such as income generation, employment creation, contribution to local and regional socio-economic development as well as the country's revenue through taxes and royalties by the project owners (Proponents). However, these activities are also associated with some potential negative (adverse) environmental and social issues / impacts. If these issues (impacts) are not well understood prior to project implementation and enable their timely avoidance or significance reduction, they can potentially harm both the physical and social environment or its components during the project lifecycle. It is for this that the project Proponents are required by the Law to have an environmental assessment conducted and an environmental management plan developed for their project activities prior to carrying them out / implementation.

It is for this reason that this document has been compiled as a supplementary document to the ECC renewal application to enable compliance of the project activities. The new ECC has been applied for and submitted to the Ministry of Mines and Energy (MME) as the Competent Authority for the project (submitted on 14 September 2020 to the Office of the MME's Executive Director). The date stamped copy of the ECC renewal application Form has been uploaded on the EIA online system (Portal) of the Ministry of Environment, Forestry and Tourism (MEFT). Upon submission of an updated draft Environmental Management Plan (EMP) / Renewal Report (this document), a new ECC for the project will be considered.

The potential (key) negative impacts that were identified, assessed and for which the current and updated management measures were recommended in 2016 (during the preceding environmental assessment done for the project, leading to the issuance of the first and expired ECC in May 2017) are as follows.

- Physical land / soil disturbance: The invasive (intrusive) exploration activities such as drilling could potentially lead to site soils' disturbance, Air quality issue and Health and safety hazards, Impact on local biodiversity (fauna and flora)
- Noise: potential increase in noise levels
- Environmental pollution through different types of waste generated on the site due to improper management and disposal.
- Impact on service infrastructure such as local roads
- Impact on groundwater quantity (demand)
- Soil and water resources pollution (from hydrocarbon spillages and wastewater)

- Impact of poor communication regarding project activities at sites between the landowners (farmers) and Proponents could lead to conflicts and tensions.

The management measures were made for these impacts in 2016 (EMP by Enviro Dynamics) and updated as deemed necessary in September 2020 (as part of the ECC). The EMP was (for the drilling of three to four exploration boreholes) and will be implemented (when the project commences upon renewal of the ECC):

RECOMMENDATIONS AND CONCLUSIONS

The aim of this document was to review the existing (old) environmental assessment Report and its EMP and based on new information to the project compile an ECC Renewal Report. Based on the old environmental Report and EMP review and information provided by the Proponents in September 2020, it was found that there has been minimal work conducted on site between 2017 and 2020 (drilling of three to four boreholes) but nothing more was done as described in the project description chapter of the environmental assessment Report. The minimal work done on the EPLs is because of lack of funds, i.e. there had not been capital and technical resources (no investors). Nevertheless, the Proponents had implemented the applicable provided management measures in the EMP when they carried out the said minimal work on site. Therefore, EMP implementation compliant in that regard. However, there has not been any environmental audit done on the sites, probably due to lack of intensive project activities.

Since the proposed activities have not been fully undertaken as anticipated in the 2016 environmental Report, the potential impacts remain the same, and their occurrence on sites will only be confirmed once the project commences. The implementation of the recommended management measures (actions) in the 2016 EMP and as updated in September 2020 (Table 4 of this document) will only then be fully done on project preparation (planning and design phase) and when the project activities commence (prospecting and exploration phase).

The Environmental Consultant is therefore confident that once the project activities start, the Proponents will mitigate the potential negative impacts by effectively implementing the appropriate recommended management actions and with more effort and commitment put on implementation monitoring. It is therefore, recommended that the ECC is renewed, provided that the following recommendations are implemented:

- All required permits, licenses and approvals for the proposed activities should be obtained as required. These permits and licenses include borehole drilling on farms, water abstraction & use permits, land/farm access agreements to explore, etc.
- All the management action plans in the EMP should be implemented and monitoring conducted as recommended.
- All the necessary environmental and social (occupational health and safety) precautions provided should be adhered to and ensure compliance with the appliable legal requirements.
- Site areas where exploration activities have ceased should be rehabilitated, as far as practicable.
- The implementation monitoring of mitigation measures should be conducted, applicable impact's actions taken, reporting done and recorded as recommended in the Draft EMP.
- The project' SHE Officer (or Environmental Coordinator) should effectively conduct EMP Compliance Monitoring. An Environmental Audit/Compliance Report shall be compiled for every monitoring and submitted to the DEAF at the Ministry of Environment, Forestry and Tourism for archiving This would make the next ECC Renewal easy because of an in-between track record of monitoring progress prior to the expiry date of the valid ECC.
- An ECC Renewal application should be submitted at least 3 months before the expiry date of the valid ECC to allow time for the evaluation of the ECC Renewal report by the DEAF.

Conclusions:

The Environmental Consultants recommend that the expired ECC be renewed so that the Proponents can commence with the proposed project activities. It is crucial for the Proponents to effectively implement the recommended management measures to protect both the biophysical and social environment. All these would be done with the aim of promoting environmental sustainability while ensuring a smooth and harmonious existence and purpose of the project activities in the host environment.

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LIST OF ABBREVIATIONS

ABBREVIATION	MEANING
DEAF	Department of Environmental Affairs and Forestry
EAP	Environmental Assessment Practitioner
EC	Environmental Coordinator
ECC	Environmental Clearance Certificate
ECO	Environmental Control Officer /
EHS	Environment, Health and Safety
EIA	Environmental Impact Assessment
EMA	Environmental Management Act
EMP	Environmental Management Plan
EPL	Exclusive Prospecting License
EPs	Equator Principles

ABBREVIATION	MEANING
ESSs	Environmental and Social Standards
GIIP	Good International Industry Practice
IFC	International Finance Corporation
MEFT	Ministry of Environment, Forestry and Tourism
MME	Ministry of Mines and Energy
NDPs	National Development Plans
NSAMT	Natural Source Audio Magneto-Tellurics
RC	Reverse Circulation
SHE	Safety, Health and Environment

1 INTRODUCTION

Mining is the backbone of the Namibian economy constituting about 9.3% contribution to Gross Domestic Product (GDP). About 52.7% of export-earnings from mining were recorded in the Chamber of Mines' 2013 Annual Report. Namibia is one of the countries with abundant natural resources such as minerals. These minerals range from diamonds, uranium, gold, industrial minerals, dimension stones, base metals (copper, lead, zinc, etc.), precious and semi-precious stones/gemstones. Depending on the market value and interest of different mining investors, these minerals and stones are explored for first, and once exploration activities yield positive results (commercial viability), the exploration site can then be developed into a mine. This is done in preparation for mining/extraction of the target mineral (ore). The minerals and stones are either mined at a small, medium, or large-scale level, depending on the; ore deposit, specimen size sought after, available resources (technology) and geological extent, etc.

To steer the country towards prosperity for the entire Namibian population and commitment to build the country, the Government of the Republic of Namibia has collectively put in place several policies such as the Namibia Vision 2030, National Development Plans (NDPs), and the new Harambee Prosperity Plan (HPP).

The Namibia Vision 2030 is one of the country's new development blueprint covering the period 2004 to 2030 which aims to drive Namibia towards economic, industrial, and social flourish by combining a synergy of policies that will ensure prosperity for all.

Among the NDPs, the Fifth National Development Plan (NDP 5) extending from 2017/2018 to 2021/2022 intends to involve up-scaling and modernizing all sectors that contribute to economic development of the country. The desired outcome from the mining pillar is by 2022 for Namibia to have an integrated mining industry value chain with double the share of valued added mining exports from 2015. According to the National Planning Commission of Namibia (2017), the key strategies for the NDP5 is to:

- Intensify value addition to make the sector more profitable and resilient.
- Establish mining value chain activities; and
- Promote industries that will produce mining inputs and services.

The Harambee Prosperity Plan aims to usher the country into a period of economic prosperity, fully supporting initiatives such as the development of renewable energy sources under the Pillars of Energy Infrastructure development. These development policies combined aim to transform Namibia into an industrialized country with a high quality of life for all citizens and take our country to a developed nation status by 2030 (OMAVI Geotechnical & Geo-Environmental Consultants, 2020).

The exploration and subsequent mining activities of the above-listed minerals and stone are however associated with potential positive impacts such as income generation, employment creation, contribution to local and regional socio-economic development as well as the country's revenue through taxes and royalties by the project owners (Proponents). However, these activities are also associated with some potential negative (adverse) environmental and social issues / impacts. If these issues (impacts) are not well understood prior to project implementation and enable their timely avoidance or significance reduction, they can potentially harm both the physical and social environment or its components during the project lifecycle. It is for this that the project Proponents are required by the Law to have an environmental assessment conducted and an environmental management plan developed for their project activities prior to carrying them out / implementation.

1.1 Project Background and Location

Manmar Investments 136 (Pty Ltd) and Manmar Investments 129 (Pty Ltd) (hereinafter referred to as Manmar Investments 136 and Manmar Investments 129 or the *Proponents*) intend to commence with their proposed Base & Precious Metals prospecting activities on Exclusive Prospecting Licences (EPLs) 6011 and 5772 (previously 3905 and 3238). The EPLs are located approximately 25 km northeast of Windhoek in the Khomas Region and fall within the Windhoek Townlands as delineated by the City of Windhoek in 2012. The two EPLs are located next to each other, hence sharing a common environment (similar biophysical and social environmental conditions). The combined surface area covered by the EPLs at the time of the initial environmental impact assessment (EIA) study done for them in 2016 was 25 hectares (ha), EPL 5772 covering 14.524 ha and EPL 6011 covering 10.828 ha. The farms whose parts are overlain by EPL 5772 and EPL 6011 are shown in the maps under **Figure 1** (initial maps from the Environmental Scoping Assessment Study in 2016) and **Figure 4** (updated EPLs' area sizes).

The two projects were referred to as Ongombo Project (EPL 5772) and Ongeama Project (EPL 6011) during the Environmental Scoping Assessment study done by Enviro Dynamics CC in 2016. A single Environmental Clearance Certificate (ECC) was issued for the two projects (EPLs) in May 2017, which expired in May 2020. However, since there had not been capital and technical resources (no investors), only minimal work could be done on the EPLs in terms of the planned prospecting activities between the date of ECC issuance to date. Due to this, the surface area of the EPLs has since been reduced by the competent authority, the Ministry of Mines and Energy (MME). This was done because with every year of the EPLs not being upgraded to a mining license, the EPL area is subject to an annual 20% reduction. **This reduction in the two EPLs' size areas will then mean that certain parts of some farms or entire parts of these farms that were listed as affected in the initial EIA study in 2016 have been removed too, therefore, will not be affected**.

Please refer to **Figure 1** (locality map from the 2016 Environmental Scoping Report with initial sizes and shapes of the two EPLs), **Figure 2** and **Figure 3** (amended boundary points of the EPL 6011 and 5772 as amended by the Proponents on the Namibia Mining Cadastre Portal in fulfilment of the MME's requirements). **Figure 4** is the new locality map of the EPLs and their amended shapes as well as the affected farms (overlain by the updated EPLs' areas). The GPS coordinates of the EPLs after annual reduction are presented in **Table 1.**

The Proponents have recently secured investors to enable the commencement of the proposed prospecting activities on the EPLs. Thus, the need to renew the expired ECC prior to starting with the activities on the project sites (EPLs).

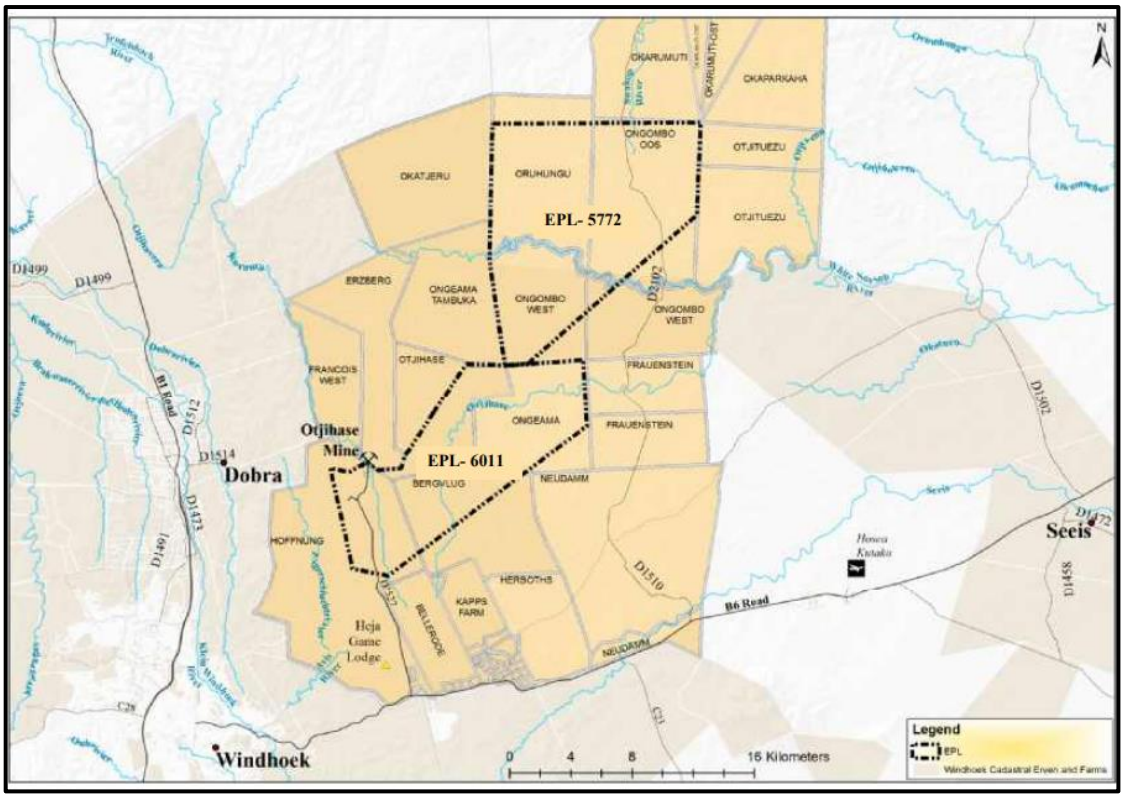

Figure 1: Locality map from 2016 EIA Study Scoping Report with initial sizes and shapes of EPL 6011 and 5772 (source: Enviro Dynamics, 2016)

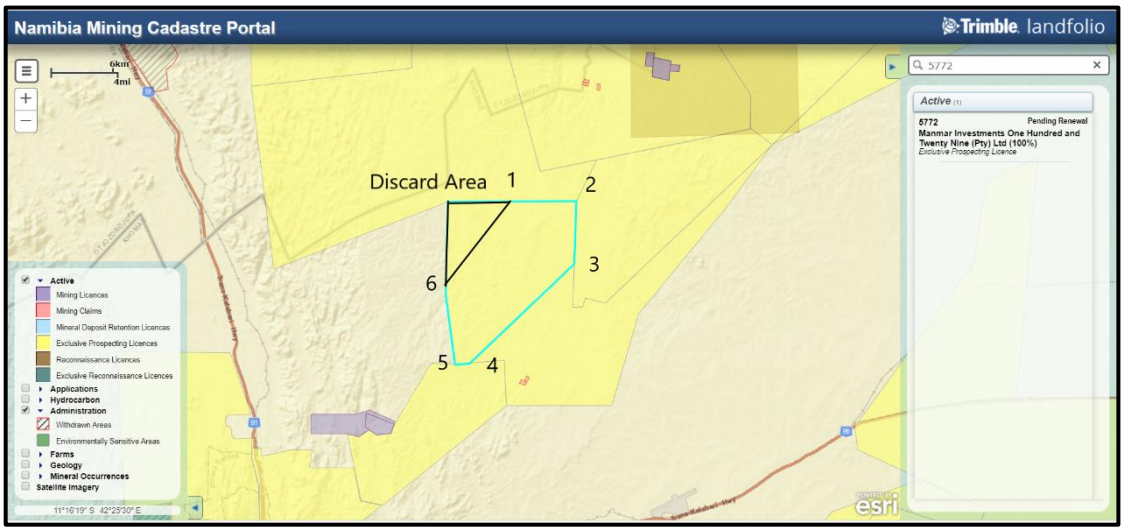

Figure 2: Amended EPL 5772 shape from the Namibia Cadastre portal (source: Proponents, 2020)

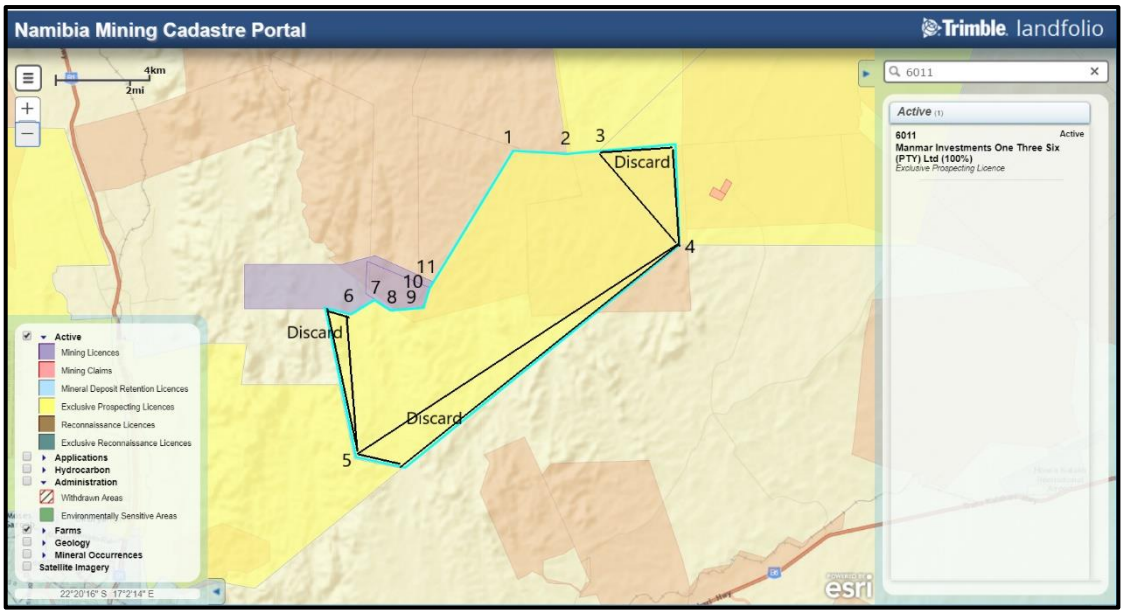

Figure 3: Amended EPL 6011 shape from the Namibia Cadastre portal (source: Proponents, 2020)

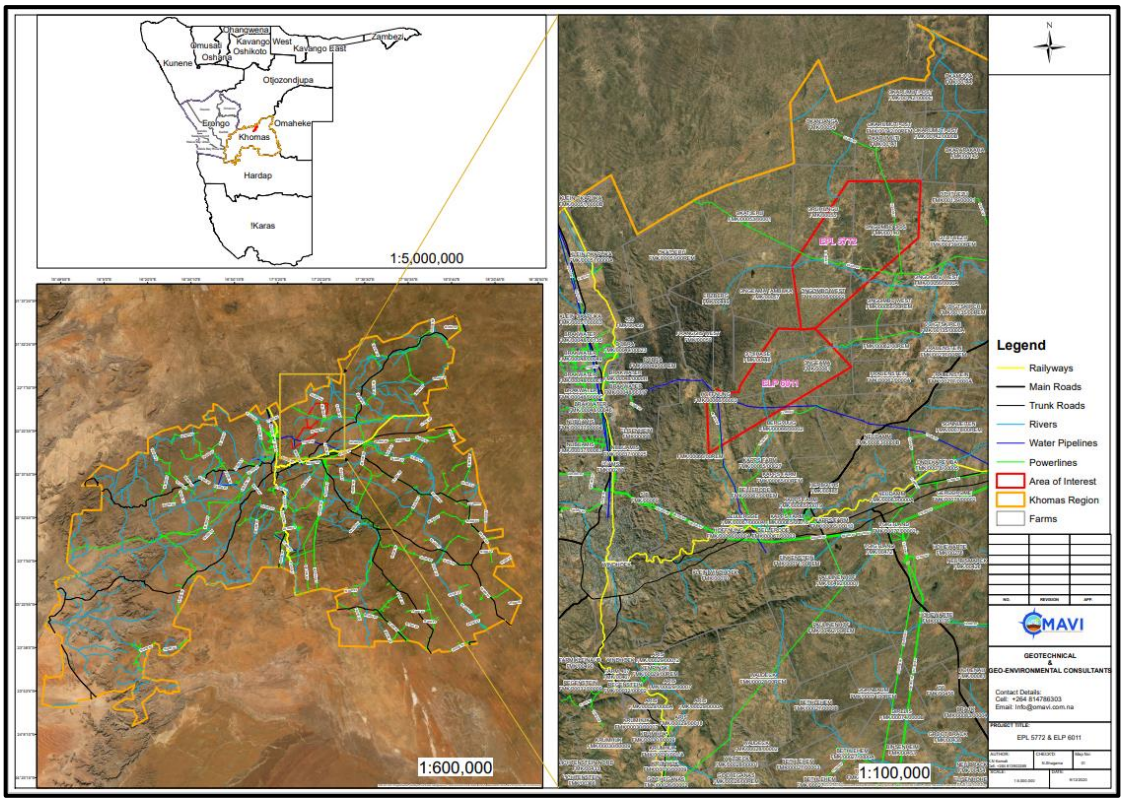

Figure 4: Updated Locality map of EPL 5772 & EPL 6011 in the Khomas Region

Table 1: GPS Coordinates of the EPLs (original and updated boundary coordinates)

EPL boundary points	Coordinates
EPL 5772	
New Corner Point 1	-22.217475° 17.308333°
Original Corner Point 2	-22.217100° 17.378239°
Original Corner Point 3	-22.272269° 17.376111°
Original Corner Point 4	-22.359789° 17.276611°
Original Corner Point 5	-22.360731° 17.263139°
Original Corner Point 6	-22.299381° 17.254219°
EPL 6011	
Original Corner Point 1	-22.359731° 17.240525°
Original Corner Point 4	-22.396789° 17.311472°
EPL5772 Corner Point 4	-22.359731° 17.357192°
EPL5772 Corner Point 5	-22.360731° 17.357192°
Original Corner Point 6	-22.480192° 17.173786°
Original Corner Point 8	-22.423894° 17.171706°
Original Corner Point 9	-22.418242° 17.181453°
Original Corner Point 10	-22.422558° 17.188572°
Original Corner Point 11	-22.421414° 17.202392°
Original Corner Point 12	-22.413886° 17.204819°
Original Corner Point 13	-22.411253° 17.206644°

1.2 Environmental Clearance Certificate (ECC)

Exploration (prospecting) activities is one of the listed activities in the Environmental Impact Assessment (EIA) Regulations (2012) of the Environmental Management Act (EMA) No. 7 of 2007 that may not be undertaken without an Environmental Clearance Certificate (ECC) and that the ECC needs to be renewed every three years. The activities that are relevant to the proposed project are as follows:

- *''Regulation 3.1: The construction of facilities for any process pr activities which requires a license, right or other form of authorization, and the renewal of a license, right or other form of authorization, in terms of the Minerals (Prospecting and Mining Act), 1992.*

- *Regulation 3.2: Other forms of mining or extraction of any natural resource whether regulated by law or not.*

- *Regulation 3.3: Resource extraction, manipulation, conservation, and related activities.''*

As mentioned earlier, the project (two EPLs) was initially issued with one ECC on the 10th of May 2017 by the Department of Environmental Affairs (now Department of Environmental Affairs and Forestry), but it has expired. Please refer to Appendix A for the copy of the old ECC.

Therefore, for the project to remain compliant to the environmental legislation and ensure sustainability, a new ECC should be applied for by submitting the ECC renewal application to the Ministry of Mines and Energy (MME) and an ECC Report (updated Environmental Management Plan (EMP) Report) submitted to the regulatory authority, the Ministry of Environment, Forestry and Tourism (MEFT)'s Department of Environmental Affairs and Forestry (DEAF) for the new ECC consideration. In accordance with the MEFT's instructions, the hard copy of the ECC renewal application (with revenue stamps) will be submitted to the MME. A date stamped copy of the ECC application (by MME) will then be uploaded on the Ministry of Environment, Forestry and Tourism (MEFT)'s EIA Portal for project registration purposes.

To comply with the EMA and its 2012 EIA Regulations, Manmar Investments 136 (Pty Ltd) and Manmar Investments 129 (Pty Ltd) appointed OMAVI Geotechnical & Geo-Environmental Consultants CC, independent Environmental Consultants to undertake the necessary tasks for the required ECC renewal. The required tasks include reviewing the old EIA Report and draft EMP, compiling an updated Environmental Management Plan (EMP) Report to incorporate the new proposed changes to the site and submitting the ECC renewal application and Report to the competent and regulatory authority, respectively.

The purpose of renewing an ECC is to ensure that the projects' activities are undertaken in an environmentally friendly and sustainably manner. This is done by the effective implementations of environmental management measures recommended in the preceding EMP document (and amendments thereof) to minimize the adverse identified impacts while maximizing the positive impacts. Not only by the mere implementation of these measures, but also monitoring of this implementation through audit and compliance exercises at the sites throughout the operations and validity of the ECC. This is also to ensure that ECC is renewed on time throughout the project operations, i.e. before the ECC' set expiry date.

Subsequently, to comply with the EMA and its 2012 EIA Regulations, Manmar Investments 136 (Pty) Ltd and Manmar Investments 129 (Pty) Ltd appointed OMAVI Geotechnical & Geo-Environmental Consultants cc, independent Environmental Consultants to undertake the necessary tasks for the ECC renewal. The required tasks include reviewing the old EIA Report and EMP compiled in 2016, compiling an updated Environmental Management Plan (EMP) Report as well as submitting the ECC renewal application and Report to the competent and regulatory authority, respectively.

This Report was prepared by Ms. Fredrika Shagama, an experienced & a registered Environmental Assessment Practitioner (with EAPAN) and qualified & experienced Hydrogeologist with 5 years of experience in the water and environmental consulting sector.

1.3 The Purpose of the Document

The document is aimed at updating the Ministry of Environment, Forestry and Tourism (MEFT) on the status of the project since the issuance of the expired ECC so that a new ECC can be issued for the project activities. The aim is also to report on the progress of actual work done on site, implementation of the Environmental Management Plan and new changes that may have arisen between the date of the ECC issuance to date.

For the project to remain compliant to the environmental legislation and ensure sustainability, a new ECC should be applied for by submitting it to the Ministry of Mines and Energy (MME) as the project competent authority. The ECC Renewal Report (updated Environmental Management Plan (EMP) Report) is submitted to the Department of Environmental Affairs and Forestry (DEAF) at the Ministry of Environment, Forestry and Tourism (MEFT) for evaluation and consideration of the new ECC.

The ECC is renewed to ensure that the proposed project activities are undertaken in an environmentally friendly and sustainably manner. This is done by the effectively implementing the recommended environmental and social management measures recommended in the 2016 EMP compiled by Enviro Dynamics and as updated in 2020. The management measures are aimed at minimizing the identified potential adverse impacts while maximizing the positive impacts. Not only by the mere implementation of these measures, but also monitoring of this EMP implementation through audit and compliance exercises on site throughout the project life cycle and validity of the project environmental clearances over time.

As part of the ECC renewal process, an updated Environmental Management Plan (EMP) Report will be compiled, taking into account aspects considered in the previous Environmental Assessment Report compiled by Enviro Dynamics in 2016 as well as the updated planned exploration activities.

Due to the fact that the environmental and management measures provided in the 2016 EMP were based on the proposed project activities, the description of the project activities presented in the main EIA Report from 2016 and updated proposed activities is presented under the next chapter.

2 PROJECT DESCRIPTION

The description of the proposed project activities has been sourced from the 2016 EIA Report compiled by Enviro Dynamics (The appointed Environmental Assessment Practitioner / Consultant at the time). **The 2016 project description has then been amended based on new information (changes to the activities) as provided by the Proponents and to be considered for the issuance of the new ECC.**

It is important to note that since the expired ECC was issued, there has been minimal exploration activities (drilling of three to four boreholes only) conducted on the two blocks (EPLs) to date. The given project description and associated activities in the 2016 EIA Report has been updated/amended and this is provided under the next sections of this chapter.

2.1 Scheduling of Planned Project Activities

According to Enviro Dynamics (2016), Manmar Investments have agreed that should the ECC be granted, communication with regards to non-invasive (intrusive) exploration will be initiated through established community communication channels. The work may follow on a mutual understanding with the community. This phase may last from a couple of months to up to three years. Once the results have been verified and proven feasible for continued exploration, a drilling programme will be drafted. This process is also result-driven and may last for a couple of months to many years.

The historical, planned prospecting and exploration activities and required resources and infrastructure are briefly described under the following subsections.

2.2 Historical Exploration (Baseline Works)

According to Enviro Dynamics (2016), exploration activities on both EPL's can be traced back as far as the 1890's when initial waggon drilling was conducted in the area. Since then numerous companies have not only explored these areas, but various sections along the Matchless Belt. During the 1970's transect exploration was conducted by Gold Fields. Remains of this exploration is still very visible as entire transect lines were cleared of vegetation and topsoil. Random cemented structures are further evidence of this exploration. More recent exploration initiatives included drilling and other technical work around the Ongombo copper-silver-gold deposit. An independent Scoping Study completed in 2013 by Coffey Mining in Johannesburg, South Africa suggests that the project has potential to be developed as an underground mining operation (Namibian Copper 2014). The Company had completed further drilling to collect information required to refine feasibility studies. These initiatives are still in the process of being rehabilitated.

All infrastructure has been removed and only capped drill holes remain on site as investigated during a site visit which was held on 7 February 2015 (Enviro Dynamics, 2016).

2.3 The Exploration Process

The identified area of exploration is largely a known geological locale. Varied mapping thereof had been conducted in the past. The objective of the planned exploration is consequently to generate more detailed geological data and to identify whether such base metal deposits therein, copper, are viable for commercial mining. The exploration is to be conducted in two phases. The second of these, invasive (intrusive) exploration, is dependent on the first non-invasive exploration phase. The latter provides information on the broader geological structure of the area and is indicative of possible ore bodies which may be explored further through drilling and resource evaluation (which forms part of invasive exploration).

2.4 The Exploration Techniques and Methods

During the proposed base and precious metals' exploration, a combination of non-invasive and invasive exploration techniques (preceded by a desk study) will be used.

Desk Study: The exploration program will commence with a review of geological maps and collectively, field evaluation and detailed geological mapping will result in the production of a refined and detailed geological map for the targeted sites on the EPLs.

Non-invasive (intrusive) exploration will be conducted through geophysical surveying and data analysis. Once the information gathered through these processes have been evaluated and confirmed, target areas will be identified for drilling (invasive exploration (Enviro Dynamics, 2016).

The main geophysical technique to be used will be Natural Source Audio Magneto-Tellurics (NSAMT). NSAMT has the advantages of not needing a transmitter, good depth of penetration as well as being able to pick up resistive and conductive targets. Clearing of lines to enable the laydown of geophysical cables and equipment will be necessary, where lines have not been previously cleared.

Invasive (invasive) exploration technique: The geophysical target will be drilled using Reverse Circulation (RC) drilling down to 10 m above the ore zone, followed by diamond tails (diamond core drilling). Water will be required to fill sumps for diamond drilling. The systematic evaluation of both the Central ore shoot and the Ost ore shoot at Ongombo using NSAMT in advance of drilling is expected to result in definition of a copper resource with gold and silver credits at Ongombo.

If the strategy is successful at Ongombo the same strategy will be used at Ongeama. If not found to be suitable for Ongeama project (EPL 6011 site), a new and suitable strategy will be investigated by the Proponents and implemented.

2.5 Deposit Description (According to Enviro Dynamics, 2016)

2.5.1 Ongombo Project (EPL 5772 Site)

The Ongombo deposit was discovered by Johannesburg Consolidated Investment Company Limited in the early 1970's by airborne magnetics. The gossanous magnetite quartzite outcrops for sporadic intervals over a strike length of 4.7km. Significant exploration was undertaken over the ensuing years. The work included more than 132 diamond drill holes and resulted in the definition of four individual ore shoots, Mineralisation at Ongombo is hosted by amphibolites and associated magnetitequartzites of the Matchless belt.

2.5.2 Ongeama Project (EPL 6011 Site)

The Ongeama project has not been as extensively explored as the Ongombo project and much less is known about it. It occurs however in the same geological environment as that of the Ongobo project. No recent drilling had been conducted and no drilling been completed there to date.

2.6 Project Inputs: Exploration Activities and Requirements

The inputs required for the exploration activities in terms of vehicles, resources (human and technical) and services infrastructure are presented in **Table 2** below.

Table 2: Project resources, requirements, and activities (edited after Enviro Dynamics, 2016)

	Non-Invasive Exploration	Invasive Exploration
Description of Exploration activities	• Historical data collation • Trenching • Geological field mapping, including soil sampling or ground geophysical surveys (such as line cutting)	• Field sampling • Reverse Circulation (RC) and/or Diamond Drilling
Equipment Requirements	• Geophysical survey vehicle(s) (4x4 vehicles) and equipment	• 4x4 vehicle(s) • Drilling support truck(s) • Reverse Circulation & Diamond drill rig(s)

	Non-Invasive Exploration	**Invasive Exploration**
		• Compressor and generator(s) • Fuel to power the drill rigs (transported in drums or in a small fuel truck)
Approximate In-house Labour Requirements	• Geologist(s) (two), • Field assistant(s), (two) • Health and Safety Officer • Logistics Officer	• Geologist(s) (two) • Field assistant(s) (two) • Health and Safety Officer • Logistics Officer • Drilling Crew (up to 10)
Site Access	• Via existing track	• Via existing track • Development of new tracks should be kept to a minimum if required
Storage Requirements	• Bag samples • Geo-mapping equipment	Lay down area to accommodate: • Hydrocarbon and fuel (storage in bunded area) • Core sample storage • Drill rig equipment
Accommodation Requirements	• Hired accommodation to accommodate all staff	Exploration Project Camp to accommodate: • 10 Crew and professional staff in n designated pre-determined area

As mentioned in **Table 2** above, the exploration (skilled) workers / employees who will be accommodated in nearby tourism facilities. However, given an amendment of 2016 project activities, the Proponents may resort to tented camp facilities for the duration of the project. The skilled and unskilled workers will be sourced from the site area / farms, depending on skills availability for skilled workers.

Should it come to campsites as sustainable form of long-term accommodation, **the temporary site camps will only be set up if the farmers/landowners and occupiers of land agree to this request by the Proponents. Therefore, agreements will need to be reached between the two parties (Proponents and farmers) prior to establishment of projects' related camps and associated facilities.**

2.6.1 Details on the Services Infrastructure and related infrastructure

Water: During the exploration phase over farms Ongombo East, Ongombo West and Ongeama water will be required for diamond drilling. It is anticipated this water will be taken from a borehole situated adjacent to the White Nosib River on Ongombo East, by arrangement with the landowner. Approximately 1 m^3 (1 000 litres) per day will be required. During the 10-week Namibian Copper 2014 drilling campaign this borehole provided this amount of water daily. This borehole is situated within a porous alluvial riverbed aquifer. The alluvium is probably only about 10 to 15 m in thickness. However, due to regular recharge by frequent flooding the borehole can provide high abstraction rates (Enviro Dynamics, 2016).

Enviro Dynamics (2016) further stated that possible future mining at Ongombo will obviously require significantly more water and the various methods of supplying water to the mine site without disturbing or effecting the local land owners water supply would be evaluated as part of a detailed full economic feasibility study.

Site accessibility (Road): One single dual-purpose RC and diamond drill rig will be mobilised to Ongombo. This rig will remain on site during the complete exploration phase and will only be moved from one drilling site to another on completion of each hole. Therefore, there is likely to be no more than one or two km of movement of the rig every few days. The additional traffic during the exploration phase should therefore not concern the local landowners

The water truck will move from the borehole on the White Nosib River to drill site about once per day. In addition, there will be 4x4 vehicles and bakkies transporting personnel and samples, in and out of site once per day. These levels of traffic are not considered to be significant, especially when company speed restrictions are adhered to. This level of additional traffic is not considered to have any significant effect on dust conditions.

The main access to Ongombo East will be from the track which joins the main dirt road just north of the White Nosib River. The track is not used daily by the local landowner.

The main access to Ongeama will be from the track directly to the north of the Ongeama East farmhouse. This track is used by the local landowner and the movement of all vehicles in and out of Ongeama will be subject to prior authorisation by the local landowner (Enviro Dynamics, 2016).

Domestic, general, and hazardous waste management: The different waste generated at the sites will be sorted and stored in different waste bins (drums) at the campsite and working sites. once the site waste containers have reached storing capacity and or when required, the waste will be transported to the nearest municipal waste management facility, i.e. in Windhoek.

Sanitation: The sites will be equipped with enough portable toilets.

Health and safety: All project workers will be adequately equipped with personal protective equipment (PPE) while performing tasks on sites. First aid kits, one at each working site and one at the campsite will be made available.

Fire management: Project vehicles and camps will be equipped with fire extinguishers.

2.7 Rehabilitation of Explored Sites and Decommissioning

With regards to rehabilitation of explored sites, specifically during the invasive phase (drilling), the impact on the physical environment can be lessened by implementing progressive rehabilitation EPLs towards the end of each exploration activity on active sites of the. This will be done to ensure that the disturbed land sites are left close to their pre-exploration states.

These proposed activities are governed by certain legislations (national and international) that will need to be complied with by the Proponents during the project life cycle. Since the list of legal framework relevant to the project were already provided by Enviro Dynamics in the EIA Report, the following chapter will only present the legal requirements that are applicable and relevant to this project and its related activities in terms of authorisations (permits / licenses).

3 APPLICABLE LEGISLATION: PERMITTING AND LICENSING OF ACTIVITIES

The proposed project activities will be undertaken in a specific biophysical and social environment and activities or some may even at minimum impact some of these environmental components. It is therefore necessary to consider the legislations and legal requirements governing the project and its associated activities.

The main legal framework presented herein is that of Namibia for the relevant project components under the scope of this document – detailed legislation that are applicable to the project are given in the EIA Report.

Apart from the presented Namibian legislation in **Table 3** and the fact that the project is funded by foreign investors (international financiers), the proposed project will be obliged to comply with certain International Standards. The summary of the relevant international legislations that are considered for the financing of such projects are listed below with details provided under section 3.1:

- The Equator Principles (EPs).
- The International Finance Corporation (IFC) Performance Standards; and
- Good International Industry Practice (GIIP).

For the purpose of this Report, **Table 3** presents the information on the legal obligations (legislations, policies and guidelines) in terms of legislation where permitting and/or licensing that may be required from different applicable regulatory authorities as a requirement to the ECC.

Table 3: List of applicable legislation where required, permits or licenses for the activities

Aspect: Legislation	Management Requirements	Implications for this project
Environmental: Environmental Management Act EMA (No 7 of 2007) Environmental Impact Assessment (EIA) Regulations GN 28-30 (GG 4878)	**ECC Renewal:** An ECC should be renewed every 3 years prior to its expiry date (as indicated on the new ECC format). The contact details at the Department of Environmental Affairs and Forestry (DEAF). Details requirements for public consultation within a given environmental assessment process (GN No 30 S21). The details the requirements for what should be included in an Environmental Scoping Report (GN No 30 S8) and an EIA report (GN No 30 S15) were already incorporated in the initial EIA Report submitted for the expired ECC in 2016. When required, constant consultations and engagements with the interested and affected parties (stakeholders) should be continued. In case of grievances raised by the neighbouring community to the Proponents, this should be addressed and resolved amicably.	**Department of Environmental Affairs and Forestry (DEAF)** **Tel.: 061 284 2701 OR** **Environmental Assessment Unit Mr. Damian Nchindo (Chief Conservation Scientist)** **Tel: 061 284 2717**
Soils: Soil Conservation Act (No 76 of 1969)	The Act makes provision for the prevention and control of soil erosion and the protection, improvement and conservation of soil, vegetation and water supply sources and resources, through directives declared by the Minister.	**No permit or license required, but adherence to the Act's Relevant Regulations is highly recommended.**

Aspect: Legislation	Management Requirements	Implications for this project
	Certain site activities may lead to soil disturbance, and soil erosion. Some materials handling such as hydrocarbons (fuels) may spill on the ground resulting in soil pollution. Therefore, mitigation measures proposed in the EMP to conserve and prevent or minimized erosion and pollution during operations should be implemented.	
Exploration: Mineral Prospecting & Mining Act (Act no. 33 of 1992)	Sections 50, 52, 54, 57 and 130 of this Act sets out provisions for environmental management for activities arising from mineral exploration and mining. Under this Act (Section 51 (1a)), holder of a mineral license cannot exercise any rights on a private land until the holder has entered into an agreement with the owner regarding payment of compensation. Section 54(2): details provisions pertaining to the decommissioning or abandonment of a mine The Proponents should ensure that all the necessary permits/authorisation for EPLs are obtained from the Ministry of Mines & Energy (MME)'s Mine Directorate.	**Mr Erasmus Shivolo (Mining Commissioner)** **Tel: 061 284 8167** **The Proponents should enter into and sign access and land use agreement with respective affected farm owners.**

Aspect: Legislation	Management Requirements	Implications for this project
Hydrocarbons (fuels): Petroleum Products and Energy Act (No. 13 of 1990) Regulations (2001)	Regulation 3(2)(b) states that "No person shall possess 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". If there is fuel stored or is intended to be stored on site, the relevant petroleum products storage licenses/permits should be applied for from the Petroleum Affairs at the Ministry of Mines and Energy	**Carlo Mcleod (Ministry of Mines and Energy: Acting Director – Petroleum Affairs** **Tel.: (061) 284 8291**
Vegetation: Forestry Act 12 of 2001	Section 10 (1) set out the aim of the forest management as to: The purpose for which forest resources are managed and developed, including the planting of trees where necessary in Namibia is to conserve soil and water resources, maintain biological diversity and to use forest produce in a way which is compatible with the forest's primary role as the protector and enhancer of the natural environment.	**Permits are required for the removal of protected plants species.** **The nearest Forestry Office (Ministry of Agriculture, Water and Land Reform)** **Mr Joseph Hailwa (Director: Forestry)** **Tel: (061) 208 7663**

Aspect: Legislation	Management Requirements	Implications for this project
Water resources: Water Act 54 of 1956 The Water Resources Management Act No. 11 of 2013 (unpromulgated)	The Water Act 54 of 1956 was formulated to consolidate and amend the laws relating to the control, conservation and use of water for domestic, agricultural, urban and industrial purposes; to make provision for the control, in certain respects, of the use of sea water for certain purposes; for the control of certain activities on or in water in certain areas. **Provision for a Groundwater abstraction and use permit for commercial use to be applied for and obtained from the Department of Water Affairs (DWA): Directorate of Water Resources Management. When issued, the permit should be renewed as required (as stipulated in therein).**	**Mr Franciskus Witbooi (Deputy Director: Water Policy and Water Law Administration.** **Tel: (061) 208 7158**
Communal land: Communal Land Reform Act 5 of 2002	To provide for the allocation of rights in respect of communal land; to establish Communal Land Boards; to provide for the powers of Chiefs and Traditional Authorities and boards in relation to communal land; and to make provision for incidental matters	The project site is in a communal area, therefore future changes on the site (that may overlie communal or even private lands), the Proponents should ensure proper consultations with the relevant authorities (if any), and that the project activities comply with the regulations provided in the Act. **If required, the relevant authorisation should be obtained.**

Aspect: Legislation	Management Requirements	Implications for this project
Archaeology: The National Heritage Act (No. 27 of 2004)	The Act extends the protection of archaeological and historical sites to private and communal land and defines permit procedures regarding activities at such sites.	If heritage resources (e.g. human remains, sites, objects etc.) are discovered at some point on and or around the site, these should be reported to the National Heritage Council of Namibia for relocation. **Contact: Mrs Erica Ndalikokule OR Mr. Manfred Gaeb** **Tel: 061 301 903**
Archaeology and culture: The National Monuments Act (No. 28 of 1969)	The Act enables the proclamation of national monuments and protects archaeological sites.	
Waste management: Pollution Control and Waste Management Bill	The bill aims to "prevent and regulate the discharge of pollutants to the air, water and land" Of particular reference to the Project is: Section 21 "(1) Subject to sub-section (4) and section 22, no person shall cause or permit the discharge of pollutants or waste into any water or watercourse." Section 55 "(1) No person may produce, collect, transport, sort, recover, treat, store, dispose of or otherwise manage waste in a manner that results in or creates a significant risk of harm to human health or the environment."	The Project should make it mandatory that all their site waste produced as a result of their activities, directly or indirectly is managed in a manner that do not cause environmental threat and risk both to the surroundings and the local communities. **No permit or license required, but adherence to the Act's Relevant Regulations is highly recommended.**
Health and safety: Public Health Act (No. 36 of 1919)	Section 119 states that "no person shall cause a nuisance or shall suffer to exist on any land or premises owned or occupied by him or of which he is in charge any nuisance or other condition liable to be injurious or dangerous to health."	The Proponents and all its employees should ensure compliance with the provisions of these legal instruments.

Aspect: Legislation	Management Requirements	Implications for this project
Health and Safety Regulations GN 156/1997 (GG 1617)	Details various requirements regarding health and safety of labourers.	**No permit or license required, but adherence to the Act's Relevant Regulations is highly recommended.**
Public and environmental health: Public and Environmental Health Act No. 1 of 2015	To provide a framework for a structured uniform public and environmental health system in Namibia; and to provide for incidental matters.	
Road use: Road Traffic and Transport Act, No. 22 of 1999	The Act provides for the establishment of the Transportation Commission of Namibia; for the control of traffic on public roads, the licensing of drivers, the registration and licensing of vehicles, the control and regulation of road transport across Namibia's borders; and for matters incidental thereto. Should the Proponents wish to undertake activities involving road transportation or access onto existing roads, the relevant permits will be required.	Should the Proponents wish to undertake activities involving road transportation or access onto existing roads, the relevant permits (access road) will be required from the Ministry of Works and Transport's Roads Authority. Contact: **Mr. Eugene de Paauw (Specialist Road Legislation, Advice & Compliance)** Tel: 061 284 7027
Workers welfare / wellbeing: Labour Act (No. 6 of 1992)	Adhere to all applicable provisions of the Labour Act and the Health and Safety regulations.	**No permit is required, but adherence to the Act's Relevant Regulations is highly recommended.**

3.1 Applicable International Standards and Policies

In addition to the Namibian environmental and social legal requirements presented in the 2016 EIA Report and above (**Table 3**), compliance with various International Standards will be required for the Manmar Investments 136 and Manmar Investments 129 Project. These are described in Subsections below.

3.1.1 The Equator Principles

A financial industry benchmark for determining, assessing, and managing environmental and social risk in projects (August 2013). The Equator Principles have been developed in conjunction with the International Finance Corporation (IFC), in an attempt to establish an International Standard with which companies must comply with in order to apply for approved funding by Equator Principles Financial Institutions (EPFIs). The Principles apply to all new project financings globally across all sectors. These principles are an attempt to:

'*…encourage the development of socially responsible projects, which subscribe to appropriately responsible environmental management practices with a minimum negative impact on project-affected ecosystems and community-based upliftment and empowering interactions.*'

The ten (10) Equator Principles governing the projects are listed below:

- **Principle 1: Review and Categorization**
- **Principle 2: Environmental and Social Assessment**
- **Principle 3: Applicable Environmental and Social Standards**
- **Principle 4: Environmental and Social Management System and Equator Principles Action Plan**
- **Principle 5: Stakeholder Engagement**
- **Principle 6: Grievance Mechanism**
- **Principle 7: Independent Review**
- **Principle 8: Covenants**
- **Principle 9: Independent Monitoring and Reporting**
- **Principle 10: Reporting and Transparency**

3.1.2 International Finance Corporation (IFC) Standards

The International Finance Corporation's (IFC) Sustainability Framework articulates the Corporation's strategic commitment to sustainable development and is an integral part of IFC's approach to risk management. The Sustainability Framework comprises IFC's Policy and Performance Standards on Environmental and Social Sustainability, and IFC's Access to Information Policy. The Policy on Environmental and Social Sustainability describes IFC's commitments, roles, and responsibilities related to environmental and social sustainability. IFC's Access to Information Policy reflects IFC's commitment to transparency and good governance on its operations and outlines the Corporation's institutional disclosure obligations regarding its investment and advisory services.

The Performance Standards are directed towards clients, providing guidance on how to identify risks and impacts, and are designed to help avoid, mitigate, and manage risks and impacts as a way of doing business in a sustainable way, including stakeholder engagement and disclosure obligations of the client in relation to project-level activities. In the case of its direct investments (including project and corporate finance provided through financial intermediaries), IFC requires its clients to apply the Performance Standards to manage environmental and social risks and impacts so that development opportunities are enhanced. IFC uses the Sustainability Framework along with other strategies, policies, and initiatives to direct the business activities of the Corporation to achieve its overall development objectives.

As of 28 October 2018, there are ten (10) Performance Standards (Performance Standards on Environmental and Social Sustainability) that the IFC requires a project Proponents to meet throughout the life of an investment. These standard requirements are briefly described below.

- **Performance Standard 1: Assessment and Management of Environmental and Social Risks and Impacts**

  This Standards sets out the Borrowers (Proponents) responsibilities for assessing, managing and monitoring environmental and social risks and impacts associated with each stage of a project supported by the Bank through Investment Project Financing (IPF), in order to achieve environmental and social outcomes consistent with the Environmental and Social Standards (ESSs).

- **Performance Standard 2: Labor and Working Conditions**

ESS2 recognizes the importance of employment creation and income generation in the pursuit of poverty reduction and inclusive economic growth. Borrowers can promote sound worker-management relationships and enhance the development benefits of a project by treating workers in the project fairly and providing safe and healthy working conditions.

- **Performance Standard 3: Resource Efficient and Pollution Prevention and Management**

  The Standard recognizes that economic activity and urbanization often generate pollution to air, water, and land, and consume finite resources that may threaten people, ecosystem services and the environment at the local, regional, and global levels. This ESS sets out the requirements to address resource efficiency and pollution prevention and management throughout the project life cycle.

- **Performance Standard 4: Community Health and Safety**

  ESS4 addresses the health, safety, and security risks and impacts on project-affected communities and the corresponding responsibility of Borrowers to avoid or minimize such risks and impacts, with particular attention to people who, because of their particular circumstances, may be vulnerable.

- **Performance Standard 5: Land Acquisition, Restrictions on Land Use, and Involuntary Resettlement**

  Involuntary resettlement should be avoided. Where involuntary resettlement is unavoidable, it will be minimized and appropriate measures to mitigate adverse impacts on displaced persons (and on host communities receiving displaced persons) will be carefully planned and implemented.

- **Performance Standard 6: Biodiversity Conservation and Sustainable Management of Living Natural Resources**

This Standard recognizes that protecting and conserving biodiversity and sustainably managing living natural resources are fundamental to sustainable development and it recognizes the importance of maintaining core ecological functions of habitats, including forests, and the biodiversity they support. ESS6 also addresses sustainable management of primary production and harvesting of living natural resources, and recognizes the need to consider the livelihood of project-affected parties, including Indigenous Peoples whose access to, or use of, biodiversity or living natural resources may be affected by a project.

- **Performance Standard 7: Indigenous Peoples/Sub-Saharan African Historically Undeserved Traditional Local Communities**

  It ensures that the development process fosters full respect for the human rights, dignity, aspirations, identity, culture, and natural resource-based livelihoods of Indigenous Peoples/Sub-Saharan African Historically Underserved Traditional Local Communities. ESS7 is also meant to avoid adverse impacts of projects on Indigenous Peoples/Sub-Saharan African Historically Underserved Traditional Local Communities, or when avoidance is not possible, to minimize, mitigate and/or compensate for such impacts.

- **Performance Standard 8: Cultural Heritage**

  The ESS8 recognizes that cultural heritage provides continuity in tangible and intangible forms between the past, present and future. ESS8 sets out measures designed to protect cultural heritage throughout the project life cycle.

- **Performance Standard 9: Financial Intermediaries (FIs)**

  ESS9 recognizes that strong domestic capital and financial markets and access to finance are important for economic development, growth, and poverty reduction. FIs are required to monitor and manage the environmental and social risks and impacts of their portfolio and FI subprojects, and monitor portfolio risk, as appropriate to the nature of intermediated financing. The way in which the FI will manage its portfolio will take various forms, depending on several considerations, including the capacity of the FI and the nature and scope of the funding to be provided by the FI.

- **Performance Standard 10: Stakeholder Engagement and Information**

ESS10 recognizes the importance of open and transparent engagement between the Borrower and project stakeholders as an essential element of good international practice. Effective stakeholder engagement can improve the environmental and social sustainability of projects, enhance project acceptance, and make a significant contribution to successful project design and implementation.

A full description of the IFC Standards can be obtained from

http://www.worldbank.org/en/projects-operations/environmental-and-social-framework/brief/environmental-and-social-standards?cq_ck=1522164538151#ess1

3.1.3 Good International Industry Practice (GIIP)

In addition to legislation provided by local Government bodies, the World Bank Group and IFC have provided a range of technical reference documents with general and industry-specific examples of Good International Industry Practice ('GIIP'). The Environmental, Health, and Safety (EHS) Guidelines are technical reference documents with general and industry specific examples of GIIP 1. These industry sector EHS guidelines are designed to be used together with the General EHS Guidelines document, which provides guidance to users on common EHS issues potentially applicable to all industry sectors. These EHS guidelines can be considered relevant to the proposed project in terms of workers involved in the proposed prospecting and exploration activities on the two EPLs.

The project is being carried in an environment that is sensitive in terms of its biophysical and social features. The potential and known impacts that have been assessed in the initial environmental assessment report of the project were identified based on these environmental components/features in terms of their sensitivities to the project activities.

The summary of the environmental baseline of the project area is presented under Chapter 5 of the 2016 EIA (Environmental Assessment) Report by Enviro Dynamics.

Based on the sensitivity of environmental and social components to the proposed project activities, the environmental management measures were provided for implementation. It is crucial that the implementation responsibilities of these measures are clearly indicated in the EMP. Therefore, to ensure effective implementation of the EMP and subsequent environmental protection and sustainability, the EMP implementation responsibilities need to be assigned to all vital parties that are involved in the project. This is to ensure that all project personnel are aware of what is required of them throughout the project phases. These roles and responsibilities are presented under Chapter 4.

4 EMP IMPLEMENTATION: ROLES AND RESPONSIBILITIES

The chapter gives a presentation of the roles of different parties involved in all stages of the proposed project and their respective responsibilities towards the implementation of the EMP.

This EMP informs all relevant parties listed below and everyone employed at the sites as to their duties in the fulfilment of the legal requirements for the project. This is done with reference to the prevention and mitigation of anticipated potential negative environmental and social impacts. All parties should note that obligations imposed by the EMP are legally binding in terms of the Environmental Clearance granted by the Environmental Commissioner, to:

- Ensure compliance with regulatory authority stipulations and guidelines which may be local, provincial, national, and/or international.
- Verify environmental performance through information on impacts as they occur.
- Provide feedback for continual improvement in environmental performance.
- Identify a range of mitigation measures which could reduce and mitigate the potential impacts to minimal or insignificant levels.
- Detail specific actions deemed necessary to assist in mitigating the environmental impact of the project.
- Create management structures that addresses the concerns and complaints of interested and affected parties (I&APs) with regards to the development/project; and
- Establish a method of monitoring and auditing environmental management practices during all phases of the activity.

The EMP has identified the Exploration Managers, Safety, Health and Environment (SHE) Officers and Public Relation Officers (PROs) as important roles to guide the environmental management of the proposed exploration activities.

A list of specific responsibilities and duties to be undertaken by each are provided below. It should also be noted that the above-mentioned roles are delegated roles and Manmar Investments 136, and Manmar Investments 129 are ultimately responsible for the implementation of the EMP.

4.1 The Exploration Manager(s)

The Managers (in case a manager will be assigned to each EPL) who may also be the Proponents, will be responsible for the following:

- Familiarize themselves with the requirements of the EMP.
- Monitor employees' and contractors' compliance with the environmental specifications and enforce adherence.
- Communicate all environmental related incidents with the environmental coordinator and distribute internally to avoid repeats.
- Maintain a record of activities relevant to environmental management.
- The exploration manager(s) shall be responsible for monitoring and the enforcement of the environmental management specifications on a day-to-day basis. Any violation of the environmental specifications shall be recorded and the agreed on disciplinary measures taken (Enviro Dynamics, 2016).

Further duties of the exploration manager(s) include:

- Managing/overseeing the implementation of this EMP and updating and maintaining it when necessary.
- Issuing fines to individuals who contravene EMP provisions and if necessary, removing such individuals from site.
- Setting up and managing the schedule for the day-to-day activities.
- Liaison with all relevant interested and affected parties/stakeholders.
- Ensuring all incidents are recorded and documented.
- Undertaking an annual review of the EMP and amending the document when necessary.

4.2 Senior Personnel and Contractors

The duties of the senior personnel/contractors are as follows:

- Familiarize themselves with the requirements of the EMP.

- Comply with the environmental management specifications.
- Ensure that all team members are familiar with the environmental management specifications.

4.3 Safety, Health and Environmental (SHE) Officer or Coordinator

The SHE Officer or Environmental coordinator (EC) will inspect the combined EPL areas on a three-monthly basis to ensure that all specifications are met. The duties of the environmental coordinator will be the following:

- Advise the exploration team in respect of implementation of the environmental
- Specifications.
- Conduct visits to ensure all work is aligned to the EMP.
- The environmental coordinator shall inspect the site during the three-monthly visits. All rehabilitation results will be included in the quarterly report.
- Conduct inspections of the rehabilitation area and give guidance regarding rehabilitation measures.
- Planning and carrying out site inductions to the workers on-site and visitors to the worksites.
- Ensure that the requirements of the EMP are carried out during applicable activities throughout the project life span.
- Monitor the overall implementation of the EMP.

4.4 Public Relation Officer (PRO)

The Public Relation Officer will be responsible for the following tasks:

- Liaising between the affected farmers (property owners) and/or occupiers of land and the Manmar Investments 136, and Manmar Investments 129.
- Ensure effective communication with stakeholders (affected farmers or landowners or occupiers of land), media (if necessary) and the public.
- Managing public relations issues.
- Preparing and submitting public relations reports, if required.
- Collaborating with personnel and maintaining project-related open communication among personnel.

The Proponents should assess these commitments in detail and should acknowledge their obligation to the specific management actions detailed in the Tables under the next chapter.

5 ENVIRONMENTAL AND SOCIAL MANAGEMENT ACTIONS

This chapter presents the potential impacts that were identified at the time the expired environmental clearance was issued, the environmental management actions (measures) recommended in 2016 and as amended / updated in 2020 (by OMAVI Consultants). It is also under this chapter that the new or updated EMP implementation roles and responsibilities and updated / additional environmental management measures (actions) are covered.

5.1 Identified Potential Impacts from the 2016 EIA

The potential negative impacts were identified during the preceding environmental assessment done for the site which led to the issuance of the ECC in 2015. Mitigation measures or management action plans were also made for these covered impacts. The impacts that had been identified and managed on site are as follows (per project phase):

5.1.1 Positive impacts

- Socio-economic development through temporary employment creation, skills transfer, and contribution to the tourism sector through the provision of accommodation services to project workers when needed.
- Increased support for local businesses through the procurement of consumable items such as Personal Protective Equipment (PPE), machinery spare parts, lubricants, etc.
- Contribution to national economic development through annual levies paid to the Government (through the Ministry of Mines and Energy) for Exclusive Prospecting Licenses (EPLs).
- Improved geological understanding of the site area regarding base and precious metals.

5.1.2 Negative (adverse) impacts

- **Physical land / soil disturbance:** The invasive exploration activities could potentially lead to site soils' disturbance.
- **Air quality issue**: potential dust generated from drilling and movement of heavy vehicles on gravel (access) roads could compromise the surrounding air quality during the duration of project activities on sites.
- **Impact on local biodiversity (fauna and flora):** some vegetation may need to be removed to create access roads and working spaces on the EPLs. This may potentially lead to loss of the vegetation and habitat disturbance. Some

exploration activities such as drilling could potentially disturb local / farm and poaching of wildlife that may be on the farms.

- **Noise:** potential increase in noise levels from exploration vehicles and machinery (such as drilling) through the area covered by the EPLs.
- **Environmental pollution** through different types of waste generated on the site due to improper management and disposal.
- **Impact on service infrastructure such as local roads:** the temporary potential increase in vehicular traffic during exploration may exert additional pressure on the local roads, especially by heavy vehicles such as trucks carrying project materials and equipment (drill rigs).
- **Impact on groundwater quantity (demand):** The project activities such as (diamond) drilling usually requires a lot of water. If the local aquifers have low groundwater potential, this could affect the local groundwater resource (depletion of aquifers), if they are over-abstracted. This impact will be insignificant because the water required is 1 000 liters and the aquifer yield is sufficient for the required volume, i.e. 1 000 liters (1 m^3) according to the 2016 EIA Report.
- **Soil and water resources pollution:** the potential risk of hydrocarbon spillages and wastewater in the working areas if not properly managed may contaminate the site soils and eventually reach groundwater systems.
- **Health and safety hazards** to personnel associated with the movement / operating of machinery. Not only to project personnel but also nearby residents (locals) in the project area.
- **Impact of poor communication (proper liaison) and social nuisance to farmers / landowners** between the Proponents and the farmers or occupier of land with regards to the project activities and workers (intolerable behaviours) could result in long-terms unresolved conflicts. This may include attempted private property intrusion by project workers and leaving farm gates open when entering or leaving the farm. This may lead to farm animal (both domestic and wildlife) escaping the property, resulting in conflicts and tensions between the farm owner(s) and the Proponents.

It should be noted the environmental management actions measures provided under the next section and Table 4 are mainly for the potential adverse impact, as they are the ones that would negatively affect the environmental if nothing is done.

5.2 Old and Updated Environmental and Social Management Action Plans

The new / updated management plan actions for the proposed prospecting and exploration are presented under **Table 4** below, for which the Planning and Design section of the Table has been derived from the 2016 EMP. The Table contains the environmental aspect for which the management actions are required, mitigation measures, key performance indicators, responsible person(s), resources or proof and the timeline of such management actions.

A detailed presentation of the generic and site-specific management action measures provided in the 2016 EMP document for the exploration phase are attached as **Appendix B** to this Report.

The two (**Table 4**) and **Appendix B** of this document should be implemented collectively, especially where implementation responsibilities are not assigned to any of the project parties listed under Chapter 4. **Table 4** would also be useful in tracking performance indicators, timelines and resources needed for ease and concise EMP implementation.

Table 4: Environmental Management Plan Actions for the proposed Prospecting and Exploration Activities on EPL 6011 and 5772

Aspect	Impact	Management actions (measures)	Key Performance Indicator (KPI)	Responsible Party	Resources	Timeline
PLANNING AND DESIGN PHASE						
EMP implementation and training	Lack of EMP awareness and implications thereof	Develop an effective strategy to accurately carry out the mitigation actions relevant to the exploration activities in this environment. Establish an applicable internal disciplinary system for noncompliance. An EMP non-compliance penalty system should be implemented on site. The Proponents should appoint an SHE Officer to be responsible for managing the EMP implementation and monitoring	All required Plans and systems are compiled and in place Safety, Health and Environmental (SHE) Officer is appointed	Proponents	Records of EMP implementation Plans and Systems	Pre-prospecting and exploration (project activities)
Authorizations	Lack of Agreements, Permits/ Licenses	All the required agreements and licenses or permits should be applied for and signed, respectively before commencement of work on EPLs, or as required The permits, agreements referred to herein include land access & use (by land/farm or property owners) for exploration activities, as well as road access and petroleum storage permits. The Proponent should enter into a written agreement with landowners before	Applicable permits and licenses to obtained from relevant authorities and kept on site for records keeping and future inspections Agreements signed and obtained from landowners or occupiers of land	Proponents and or Exploration Manager(s)	Signed Land Access and Use Agreements	Prior to prospecting and exploration works

Aspect	Impact	Management actions (measures)	Key Performance Indicator (KPI)	Responsible Party	Resources	Timeline
		carrying out exploration activities on their land.				
Financial Provisions	Failure in implementation and managing potential environmental and social impacts	Allocate appropriate budgetary allowances to develop proper exploration planning and environmental rehabilitation actions through the compulsory development of plans and strategies to mitigate negative environmental and social impact.	Availability of these funds on the Proponents' banking accounts	Exploration Manager(s)	Financial statements, when and if required by the competent and relevant representatives of the two authorities	Prior to the exploration works
Health and Safety	Injuries and health and safety risks to workers	Adhere to all legal requirements pertaining to health and safety and Compile a health and safety plan. A Comprehensive Health and Safety Plan for the project activities should be compiled. This will include all the necessary health, safety, and environmental considerations applicable to respective works on sites	A Comprehensive Health and Safety Plan	Exploration Manager(s)	N/A	Prior to project activities
Communication between the Proponent and landowners or occupiers of land	Lack of communication (proper liaison) between farmers and Proponent with regards to land use	The Proponent should appoint a Public Relation Officer (PRO) to liaise with the farmers/landowners. The PRO should be introduced to the farm owners and his or her contact details provided to them prior to undertaking activities for easy communication during exploration.	A PRO is appointed	PRO	Complaints logbook PRO contact details to be provided to the affected farmers/landowners	PRO appointment (Prior to project activities) and their responsibilities throughout the project activities

Aspect	Impact	Management actions (measures)	Key Performance Indicator (KPI)	Responsible Party	Resources	Timeline
		A clear communication procedure/plan which should include a grievance mechanism should be compiled				
Recruitment	Creation of employment opportunities	If recruitment is applicable: Adhere to the legal provisions for the recruitment of labour (target percentages for gender balance, optimal use of local labour and SME's, etc.) in the contract aiming for a 15% representation of women. The recruitment process must be formal and organised Preference should be given to recruit those who live within the project area and are fit to work. Non-skilled labour should be sourced from the locally affected area, in accordance with procedures approved by the relevant authorities.	Number of locals employed for exploration activities	Exploration Manager(s) Senior contractors' Personnel	Record of employees	Pre-project activities and when necessary, throughout
Specialised procurement of services	Exploration contractors and services	All services related to exploration activities such as drilling that the Proponents may need, preference should be given to local providers of such services. If not available locally, the services search should be extended to a Regional level (Khomas Region) and	Number of hired contractors	Exploration Manager(s)	Record of hired or contracted companies or services providers	Pre-project activities and when necessary, throughout

Aspect	Impact	Management actions (measures)	Key Performance Indicator (KPI)	Responsible Party	Resources	Timeline
		lastly, nationally, or international, if all efforts lead to no success.				
PROSPECTING AND EXPLORATION PHASE						
EMP implementation and training	Lack of EMP awareness and implications thereof	EMP trainings should be provided to all new workers on site and to old workers (as a refresher) every 6 months. All site personnel should be aware of necessary health, safety, and environmental considerations applicable to their respective work The implementation of this EMP should be monitored. The site should be inspected, and a compliance audit done on a **three-monthly basis.** An EMP non-compliance penalty system should be implemented on site.	Compliance monitoring conducted on a three-monthly basis and recorded EMP Refresher training for employees/workers every 6 6 months in both phases Timely renewal of the Environmental Clearance Certificate (ECC) every 3 years	SHE Officer	Monitoring reports ECC renewed on time Records of EMP training conducted	Throughout the exploration phases
Stakeholder Communication	Lack of communication (proper liaison) between farmers and Proponent with regards to land use	The PRO should be introduced to the farm owners and his or her contact details provided to them prior to undertaking activities for easy communication during the exploration activities. The Proponent should compile a clear communication procedure/plan which	PRO is part of the project personnel	PRO	Complaints logbook PRO contact details to be provided to the affected farmers/landowners	Throughout the project activities

Aspect	Impact	Management actions (measures)	Key Performance Indicator (KPI)	Responsible Party	Resources	Timeline
		should include a grievance and response mechanism. Communicate planned activities with affected parties through established community communication channels				
Water Resources Use	Over-abstraction (water demand and availability)	Water should be efficiently used by implementing water saving measures such as recycle and re-use where necessary and possible. This includes using water for cooling equipment for the cleaning of project equipment. Water to be pumped from the borehole on certain days of the week only (not every day) and store the required water in industry standard water tanks on site. This is to avoid abstracting water from the borehole daily and allow the borehole water level some time to recover from the pumping. The site borehole water should be used efficiently, i.e. by limiting water use to the intended project activities only. Water conservation awareness and saving measures training should be provided to all the project workers in both phases so that they understand the	Proof/ recording/ quantification of water saving efforts.	Exploration Manager(s)	N/A	Throughout the exploration phase

Aspect	Impact	Management actions (measures)	Key Performance Indicator (KPI)	Responsible Party	Resources	Timeline
		importance of conserving water and become accountable.				
Soils	Physical soil/land disturbance and loss of topsoil	Overburden should be handled more efficiently during exploration to avoid erosion when subjected erosional processes Prevent creation of huge piles of soils and rock chips (samples) from drilled holes by performing sequential backfilling. Soils that are not within the intended ad targeted footprints of the site should be left undisturbed and soil conservation implemented as far as possible. Project vehicles and machinery should stick to access roads provide and or meant for the project operations but not to unnecessarily create further tracks on site by driving everywhere resulting in soil compaction.	No proliferation of informal vehicle tracks. No new erosion gullies.	SHE Officer	Complaints logbook	Throughout the exploration phase
Soils and water resources	Soils and water resources pollution	Spill control preventive measures should be in place on site to management soil contamination, thus preventing and or minimizing the contamination from reaching groundwater bodies. Some of the soil control preventive measures are:	No complaints of pollutants on the soils and eventually in the water due to exploration activities No visible oil spills on the ground or	SHE Officer	Complaints logbook Waste containers Non-permeable material to cover the ground surface	Throughout exploration phase

Aspect	Impact	Management actions (measures)	Key Performance Indicator (KPI)	Responsible Party	Resources	Timeline
		-Identification of oil storage and use locations on site and allocate drip trays and polluted soil removal tools suitable for that specific surface (soils) on the sites. -Vehicles, machinery, equipment, and fuel storage tanks should be maintained to ensure that they are in good condition thus preventing leaks and spills. -The oil storage and use locations should be visually inspected for container or tank condition and spills. -Maintain a fully provisioned, easily accessed spill kit. Spill kits should be located throughout the active project sites contain the floor dry absorbent material and absorbent booms, pads, mats. -All project employees should be made aware of the impacts of soil pollution and advised to follow appropriate fuel delivery and handling procedures. -The Proponent should develop and prepare countermeasures to contain, clean up, and mitigate the effects of an oil spill. This includes keeping spill response procedures and a well-stocked cache of supplies easily accessible.	contaminated/polluted spots.		at areas where hydrocarbons and potential pollutants are utilized.	

Aspect	Impact	Management actions (measures)	Key Performance Indicator (KPI)	Responsible Party	Resources	Timeline
		-Ensure employees receive basic Spill Prevention, Control, and Countermeasure (SPCC) Plan training and mentor new workers as they get hired in each phase of the project. Exploration site areas where hydrocarbons will be utilized, the surface should be covered with an impermeable plastic liner (e.g. an HDPE liner), carefully placed so as to minimize risk of puncturing, to prevent any spillages from getting into direct contact with the soils and prevent eventual infiltration into the ground. Project machines and equipment should be equipped with drip trays to contain possible oil spills when operated during exploration works. All wastewater and hydrocarbon substances and other potential pollutants associated with the project activities should be contained in designated containers on site and later disposed of at nearby approved waste sites in accordance with MAWLR's Water Environment Division standards on waste discharge into the environment. This is to ensure that these hazardous substances				

Aspect	Impact	Management actions (measures)	Key Performance Indicator (KPI)	Responsible Party	Resources	Timeline
		do not infiltrate into the ground and affect the groundwater quality. In cases of accidental fuel or oil spills on the soils from site vehicles, machinery and equipment, the polluted soil should be removed immediately and put in a designate waste type container for later disposal as per the preceding bullet point. The removed polluted soil should either be completely disposed of or cleaned and returned to where it was taken from on site or can be replaced with a cleaner soil. This is to ensure that the pollutants contained int the soil does not infiltrate into the site soils and eventually reach to groundwater. Although fuel (diesel) required for exploration equipment will be stored in a tank mounted on a mobile trailer, drip trays must be readily available on this trailer and monitored to ensure that accidental fuel spills along the tank trailer path/route around the exploration sites are cleaned on time (soon after the spill has happened).. The fuel storage tank should be placed on a bunded and impervious surface. Polluted soil must be collected and transported away from the site to an				

Aspect	Impact	Management actions (measures)	Key Performance Indicator (KPI)	Responsible Party	Resources	Timeline
		approved and appropriately classified hazardous waste treatment facility. 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. Toilet water should be treated using one of the following methods: -discharged into chemical toilets and periodically emptied out before reaching capacity and transported to a wastewater treatment facility. -type of pit latrine (where excreta in the pit is treated to prevent the waste from being a water pollution risk).				
Biodiversity	Loss of Fauna and Flora	**Flora:** The Proponent should avoid unnecessary removal of vegetation, thus promoting a balance between biodiversity and their operations. Vegetation found on the site, but not in the targeted exploration areas should not be removed but left to preserve biodiversity on the site. Movement of vehicle and machinery should be restricted to existing roads and	No disturbance to unmarked areas. No complaints of livestock theft, snaring or killing related to the project personnel.	SHE Officer	Barricading tape (to indicate working areas) Complaint logbook	Throughout the exploration phase

Aspect	Impact	Management actions (measures)	Key Performance Indicator (KPI)	Responsible Party	Resources	Timeline
		tracks to prevent unnecessary damage to the vegetation. No onsite vegetation should cut or used for firewood related to the project's operations. The Proponent should provide firwood for his onsite camping workers from authorized firewood producer or seller. Even if a certain shrub or tree is found along exploration sites, this does not mean that it should be removed. Therefore, care should be taken when exploring without destroying the site vegetation. **Fauna** Workers should refrain from killing species (big or small and all types) that may be found on and around the site. Workers should refrain from disturbing, killing or stealing locals' animals and killing small soil and rock outcrops' species found on sites. Environmental awareness on the importance of biodiversity preservation should be provided to the workers.				

Aspect	Impact	Management actions (measures)	Key Performance Indicator (KPI)	Responsible Party	Resources	Timeline
Illegal hunting	Illegal hunting of wildlife	For future provision, should the wildlife re-appear in the area during good rainy seasons, no hunting by exploration personnel on-site is allowed. Site personnel should refrain from killing/poaching or snaring or intentionally disturbing local animals that may be found on and around the exploration sites. Personnel are not allowed to kill or in any way disturb local livestock.	Incident reports of illegal hunting of wildlife by the crew.	SHE Officer	Complaints logbook	During site set up, and throughout exploration phase
Health and safety	General health and safety associated with project activities in both phases	The Labour Act's Health and Safety Regulations should be complied with. As part of their induction, the project workers should be provided with an awareness training of the risks of mishandling equipment and materials on site as well as health and safety risk associated with their respective jobs. When working on site, employees should be properly equipped with adequate personal protective equipment (PPE) such as coveralls, gloves, safety boots, earplugs, dust masks, safety glasses, etc. Heavy vehicle, equipment and fuel storage site should be properly secured,	Comprehensive health and safety plan for all exploration activities compiled.	Exploration Manager(s)	Time, printing resources.	Prior to site setup activities and throughout the phase

Aspect	Impact	Management actions (measures)	Key Performance Indicator (KPI)	Responsible Party	Resources	Timeline
		and appropriate warning signage placed where visible. Drilled boreholes that will no longer be in use or to be used later after being drilled should be properly marked for visibility and capped/closed off. Ensure that after completion of exploration holes, drill cuttings are put back into the hole and the holes filled and levelled. An emergency preparedness plan should be compiled and all personnel appropriately trained. Workers should not be allowed to drink alcohol prior to and during working hours as this may lead to mishandling of equipment which results into injuries and other health and safety risks. Workers should not be allowed on site if under the influence of alcohol. The site to be equipped with "danger" or "cautionary" signs for any potential danger or risk area identified on site. Temporary enclosed boundaries should be erected around high risk area sites for the duration of project activities at that specific site area. This is done to control				

Aspect	Impact	Management actions (measures)	Key Performance Indicator (KPI)	Responsible Party	Resources	Timeline
		access to the site, in such a way that the public, especially children do not access the site and play with equipment and machinery on days when no work is done. A security guard or guards should be part of the team so that they can look after the project equipment and vehicles that would be left on site in weekends or public holidays (when no work is done) to ensure that no unauthorized person enters the area. To discourage the unsuspecting and uniformed local community from eyeing the empty hazardous containers, the site workers should if possible, drill holes in these containers while kept on site (before transporting the containers to the waste site). All employees and contractors (personnel) to be trained on environmental awareness, the Proponent's internal Environmental Health and Safety Policy, Environmental Management Plan, and engagement with key stakeholders, specifically the key government ministries and farmers				

Aspect	Impact	Management actions (measures)	Key Performance Indicator (KPI)	Responsible Party	Resources	Timeline
Health and safety	Accidental fire outbreak	Portable fire extinguishers should be provided on site. No open fires to be created by exploration personnel. Potential flammable areas and structures such as fuel storage tanks should be marked as such with clearly visible signage.	No wildfires recorded (due to presence of workers)	SHE Officer	Fire extinguishers (1 per vehicle) and 1 per working site	Throughout exploration phase
Archaeology and heritage	Accidental disturbance and destruction of archaeological or heritage objects and sites	Caution should be exercised when carrying out excavations associated with the exploration activities if archaeological/heritage remains are discovered Identified of any archaeological significant objects on the site should not be disturbed but are to be reported to the project Environmental/Safety officer or National Heritage Council offices for further instructions and actions. Workers should be educated to not destroy or throw away but report (to the environmental/Safety officer) of any unknown object found/discovered on site. The worksite manager(s) should familiarise themselves with the National Heritage Council's Chance Find	Preservation of all artefacts that are discovered around project area	SHE Officer Exploration Manager(s)	Salvage equipment	Prior to site setup activities and upon encounter

Aspect	Impact	Management actions (measures)	Key Performance Indicator (KPI)	Responsible Party	Resources	Timeline
		Procedure and if uncertain about the procedure 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 throughout the project activities' duration.				
Local Services infrastructure	Damage to buried water pipelines and or cables	The Proponent's Public Relation Officer (PRO) should consult with the farmers to help in locating potential buried water pipelines or power cables on their properties (farms) to avoid damages. If possible, heavy trucks should avoid driving over farm areas that are known to have pipelines or any related infrastructure buried. The project personnel should be informed not to leave the farms' gates open, but close or lock them as instructed by the farm owners. Project equipment and machinery should not be left leaning on the farm fences (using the fences as support). Agreement and continued engagement with landowners / farm owners on use and maintenance of farm infrastructure	Complaints from farm owners or occupiers of land about damaged water pipes and fences or gates left open (livestock escaping from the farm through unclosed or locked gates).	PRO SHE Officer	Complaints logbook Gate locks Record of known areas with buried services infrastructure	Pre- exploration phase and then throughout

Aspect	Impact	Management actions (measures)	Key Performance Indicator (KPI)	Responsible Party	Resources	Timeline
		(roads, fences, gates, boreholes, etc.) should be implemented and maintained.				
Littering and waste management (general waste and sanitation)	Environmental Pollution	Project workers should be sensitized to dispose of waste in a responsible manner and not to litter. After each daily works, there should not be waste left scattered on site, but rather be disposed of in allocated site waste containers. No waste may be buried or burned on site or anywhere else throughout the project lifecycle. All domestic and general waste produced daily should be contained until such that time it will be transported to designated waste sites on a weekly basis. The sites should be equipped with separate waste bins for hazardous and general waste/domestic. Hazardous waste, including emptied chemical containers should be safely stored on site where they cannot be accessed and used by uniformed locals for personal use. These containers can then be transported to the nearby	No visible litter around the project area	SHE Officer	Waste storage containers	Throughout exploration phase.

Aspect	Impact	Management actions (measures)	Key Performance Indicator (KPI)	Responsible Party	Resources	Timeline
		approved hazardous waste sites for safe disposal. No waste should be improperly disposed of on site or in the surroundings, i.e. unapproved waste sites. As an emphasis on the preceding point, empty hazardous substance containers should not be disposed of anywhere on the project site or its surrounding, but instead they should be kept at a designated storing place on site until such time that they can be safely taken to the nearest approved hazardous waste sites. A penalty system for irresponsible disposal of waste on site and anywhere in the area should be implemented.				
	Wastewater generated by exploration workers living on-site.	Provision of toilet facilities for exploration workers (type of pit latrine or chemical toilet). Emptying of chemical toilets according to the manufacturer's specifications. Treating latrine waste to render non-polluting.	Adequate toilet facilities on site.	SHE Officer	Chemical toilets or excavator (pit creation), waste treatment agents/chemicals	At site setup and throughout exploration phase
Vehicular Traffic	Traffic safety	The transportation of exploration materials, equipment and machinery should be limited to once or twice a week only, but not every day.	No complaints from members of the public regarding vehicular	SHE Officer	None	Throughout exploration phase.

Aspect	Impact	Management actions (measures)	Key Performance Indicator (KPI)	Responsible Party	Resources	Timeline
		The heavy truck loads should comply with the maximum allowed limit while transporting materials and equipment/machinery on the public and access roads. The carted water into the area from Walvis Bay or other source of water supply should be done once or twice a week in container that can supply and store water for most of the week, thus reducing the number of trucks on the road on a daily basis. The site access road(s) should be upgraded to an unacceptable standard to be able to accommodate project related vehicles and access permits obtained from the Roads Authority. The site access road(s) should be provided for in such ways that they do not interfere with other traffic movement and/or compromise traffic safety on the host farms. Drivers of all project phases' vehicles should be in possession of valid and appropriate driving licenses. Vehicle drivers should adhere to the road safety rules.	traffic issues related to the project All personnel operating the project vehicles and machinery are appropriately licensed and possession of valid driving licenses. Demarcated areas for parking, offloading, and loading zones are on sites Ste access road permits obtained, and requirements fulfilled			Site access permit (s) to be applied for and obtained prior to commencement of exploration works

Aspect	Impact	Management actions (measures)	Key Performance Indicator (KPI)	Responsible Party	Resources	Timeline
		Drivers should drive slowly (40km/hour or less), and on the lookout for livestock and wildlife. Ensure that the site access roads are well upgraded and in good condition to cater for vehicles travelling to and from site throughout the project's life cycle Project vehicles should be in a road worthy condition and serviced regularly to avoid accidents due to mechanical faults of vehicles. Vehicle drivers should only make use of designated site access roads provided. Vehicles drivers should not be allowed to operate vehicles while under the influence of alcohol. Sufficient parking area for all project vehicles should be provided for and clearly demarcated son sites. The Proponent should make provision for safe materials and equipment offloading and loading areas on sites. No heavy trucks or project related vehicles should be parked outside the project site boundary or demarcated areas for such purpose.				

Aspect	Impact	Management actions (measures)	Key Performance Indicator (KPI)	Responsible Party	Resources	Timeline
		Truck movements, frequency, times, and routes should be carefully planned and scheduled – please refer to the next point. To control traffic movement on site, deliveries from and to site should be carefully scheduled. This should optimally be during weekdays and between the hours of 8am and 5pm. Site access roads should be provided for in such ways that they do not interfere with other traffic movement and/or compromise traffic safety on the host farms				
Air Quality	Dust generation	Drill and excavating equipment should be regularly maintained to ensure drilling and excavation efficiency and so reduce dust generation. Dust masks, eye protective glasses and other respiratory personal protective equipment PPE) accessories should be provided to the workers on site, specifically the ones exposed to dusty site area and activities. The impact mitigation measures should be covered in the relevant farm access agreement as required by law on	No complaints from the public about vehicle emissions and dust generation. Visible efforts to curb dust	SHE Officer	Complaints logbook Vehicle and machinery mechanic	Throughout exploration phase

Aspect	Impact	Management actions (measures)	Key Performance Indicator (KPI)	Responsible Party	Resources	Timeline
		commercial farms. This should also be considered for resettled farms. The Proponent should ensure that the project activities schedules are limited to the given number of days of the week, but not every day. This will keep the vehicle-related dust level minimal in the area. Since the project site is in an area where due to little vegetation cover, soils are exposed, it is highly probable that more dust will be generated from excavation and drilling works and heavy vehicle movements on bare dry soils. It is therefore advised that in extremely windy days, a reasonable amount of water should be used to supress the dust that may be emanating from certain exploration areas at the sites. In other words, Dry dust suppression methods such as reasonable amount of water should be employed to minimise dust generation. The transportation of exploration materials, equipment and machinery should be limited to certain days of the week only as so to reduce dust generated by heavy vehicles in the area.				

Aspect	Impact	Management actions (measures)	Key Performance Indicator (KPI)	Responsible Party	Resources	Timeline
Noise	Nuisance	The transportation of exploration materials, equipment and machinery should be limited to once or twice a week only, but not every day. Noise from project vehicles and equipment on site should be reduced to acceptable levels. The exploration times should be set such that, no such activities are carried out during the night or very early in the mornings (to be limited between 8am and 5pm on weekdays). Project activity hours should be restricted to between 8am and 5pm to avoid noise generated by project equipment and the movement of vehicles before or after hours. When operating drilling machinery onsite, workers should be equipped with personal protective equipment (PPE) such as earplugs to reduce noise exposure. Target exploration sites that may be found to be within less than 1 km from the residence (farmhouses) should be avoided at all cost. This is done to	Complaints from residents about excessive noise.	SHE Officer	Complaints logbook	At site set up and throughout exploration phase

Aspect	Impact	Management actions (measures)	Key Performance Indicator (KPI)	Responsible Party	Resources	Timeline
		preserve some tranquillity for the residents. An experienced drilling contractor should be hired to carry out exploration activities in a professional manner such that noise is kept at minimum as a result of a very good ''know-how'' with the utilized drilling machinery and equipment.				
Social nuisance	Job seeking and crashes due to differing norms, culture, and values	Priority of employment should be given to local people, and only if necessary and due to lack of skills in the area, out-of-area people can be given some of the work. The locals to be employed during the project phases should be provided with the necessary training of skills required for the project to avoid bringing in many out-of-area employees. The workers should be engaged in health talks and training about the dangers of engaging in unprotected sexual relations which results in contracting HIV/AIDS and other sexual related infections. Out-of-area workers that may be employed (due to their unique work skills) on site should be sensitized on the importance of respecting the local	Correct and fair recruitment procedures are followed and practised. More local people are employed for both skilled, semi and unskilled works Out-of-area people only employed for specialized skills that are not found in the project area. No complaints of unfair recruitment procedures. Grievance and response records	Exploration Manager(s) PRO	Records of employees and their places of origins in relation to the site area	Pre-exploration works. In special cases, during the project phases, depending on the project needs

Aspect	Impact	Management actions (measures)	Key Performance Indicator (KPI)	Responsible Party	Resources	Timeline
		values and norms, so that they can co-live in harmony with the local communities during the duration of their employment on site				
	Potential increase of prevalence of HIV and AIDS, as well as other sexually transmitted diseases (STIs) prevalence	The workers should be engaged in health talks and training about the dangers of engaging in unprotected sexual relations which results in contracting HIV/AIDS and other sexual related infections. Provision of condoms and sex education through distribution of pamphlets. These pamphlets can be obtained from local health facilities.	No new infections recorded linked to exploration workers	SHE Officer	None	During site setup and throughout exploration
	Private and Public Property intrusion and Disturbance or Damage	Project workers should be educated on the importance of respecting the locals' properties by not intruding or damage their homes, fences or snaring and killing their livestock. Any workers or site employees that will be found guilty of intruding peoples 'privately owned properties should be called in for disciplinary hearing and/or dealt with as per their employer' (Proponent)'s code of employment conduct	Harmonious interaction between the project personnel and property owners. No complaints of property damaged, or intrusion caused by project personnel	Exploration Manager(s) PRO	Complaints logbook or records of grievances and how they were addressed	Throughout the exploration phase.

Aspect	Impact	Management actions (measures)	Key Performance Indicator (KPI)	Responsible Party	Resources	Timeline
		Project workers should be advised to respect the community and local's private properties, values, and norms. No worker should be allowed to wander in people's private yards or fences without permission. Site workers are not allowed to kill or in any way disturb local livestock. No worker should be allowed to, without permission cut down or damage trees belonging either the farm owner, the neighbouring farms or in the already scarce community vegetation.				
PROGRESSIVE REHABILITATION AND DECOMMISSIONING PHASE						
Rehabilitation	Disturbance and damaging of land site land (soils)	All drilled boreholes related to the project activities should be capped and backfilled after they are no longer needed (upon completion of work on the site areas). All waste generated and stored on site during exploration activities should be disposed of at the respective nearest solid waste management sites (Windhoek waste management sites). The stockpiled topsoil should be levelled during exploration activities.	Capped boreholes and backfilled after the site works. No sign of waste or littering seen on site and around site areas No stockpiled topsoil (topsoil is levelled after	Exploration Manager(s)	Record of boreholes drilled, and pits excavated (if any) Waste containers on sites Photo records of backfilled sites	At the end of each exploration activities at site areas

Aspect	Impact	Management actions (measures)	Key Performance Indicator (KPI)	Responsible Party	Resources	Timeline
		Any temporary work camps setup should be dismantled, and the area rehabilitated as far as practicable, to its original state. Explored areas on worksites should be progressively rehabilitated by stockpiling and backfilling. Provision of both financial and technical resources for progressive rehabilitation and post-exploration activities should be made.	completion of each work) Campsite dismantled and materials taken away from site Visible signs of stockpiled topsoil Annual update of finances reserved for decommissioning		Records of campsite Records of finances (financial statements) set aside for decommissioning activities	

5.3 EMP Implementation: Monitoring

To support and ensure that the proposed mitigation measures are achieving the desired results throughout the project life cycle, a monitoring plan must be implemented alongside the mitigation plan. **Table 5** presents the required environmental monitoring in terms of potential impacts, parameters to be monitored and monitoring objective. Included in the same Table is the reporting structures for monitoring, frequency, methods to be used, reporting structure, any thresholds that apply and relevant recommended actions.

Table 5: Monitoring requirements for impact mitigation measures (adopted from Resilient Environmental Solutions, 2019)

Impact	Parameter to be Monitored	Monitoring Objective	Key Performance Indicator (KPI)	Methods of Monitoring	Frequency	Responsible Party	Reporting structure	Threshold	Action if threshold is exceeded
Water and soil pollution									
Compromised water quality due to fuel and lubricant spills or wastewater	Complaints from farmers within the project sites	To prevent contamination of surface water and groundwater.	No complaints from farmers about visible oil spills	Inspection of complaints logbooks	Weekly	SHE officer	SHE Officer> Exploration Manager(s)	A logged complaint	Further consultations with the farm/landowners and tests
Wastewater generated by exploration workers living on-site.	Open defecation and urination.	To prevent environmental pollution	Adequate toilet facilities on site. Complaints from the public about open defecation and urination.	Visual observation. Inspection of complaints logbook.	Weekly	SHE Officer	SHE Officer> Exploration Manager(s)	A logged complaint	Clean-up of affected areas.
Soils									
Loss of topsoil	Increased loss of soil	To prevent loss of topsoil	No proliferation of informal vehicle tracks. No new erosion gullies	Visual observation	Weekly	SHE Officer	SHE Officer> Exploration Manager(s)	Proliferation of new vehicle tracks Formation of new gullies in work areas	Rehabilitation of affected explored areas

Impact	Parameter to be Monitored	Monitoring Objective	Key Performance Indicator (KPI)	Methods of Monitoring	Frequency	Responsible Party	Reporting structure	Threshold	Action if threshold is exceeded
Air quality									
Increase in dust generation, which might negatively affect occupational and residential respiratory health.	Complaints from public about increased in dust generation.	To reduce public complaints and prevent negative changes in air quality due to exploration activities	No complaints from the public about increased dust generation.	Inspection of complaints logbook.	Weekly	SHE Officer	SHE Officer> Exploration Manager(s)	A logged complaint	Dust suppression around working areas to reduce fugitive dust
Hydrocarbon emissions from vehicles	Complaints from the public about increased vehicles fumes	Same as above.	No complaints from the public about increased vehicle emissions	Inspection of complaints logbook.	Weekly	SHE Officer	SHE Officer> Exploration Manager(s)	A logged complaint	Servicing of vehicles and machinery by a certified service provider
Poaching (Illegal hunting)									
Illegal hunting of wildlife	Reported poaching incidents by projects team	To prevent illegal hunting of wildlife	Incidents reports of illegal hunting of wildlife by exploration workers.	Consultation with the local Police Service for reported incidents of poaching.	Weekly	SHE Officer	SHE Officer> Exploration Manager(s)> local police service	An incidents report logged with the local Police Service	Appropriate action will be decided by the local Police Service

Impact	Parameter to be Monitored	Monitoring Objective	Key Performance Indicator (KPI)	Methods of Monitoring	Frequency	Responsible Party	Reporting structure	Threshold	Action if threshold is exceeded
Habitat loss (Biodiversity)									
Localised loss of habitat and vegetation	Loss of habitat	To prevent loss of habitat outside areas of interest	No disturbance to unmarked areas within the project area	Visual observation	Weekly	SHE Officer	SHE Officer> Exploration Manager(s)	Vegetation clearance outside of marked areas.	Rehabilitation of affected areas to the satisfaction of the SHE Officer
Health and safety									
No health and safety plan for exploration activities.	Compiled health and safety plan for exploration activities.	To prevent health and safety impacts	No significant health and safety incidents (i.e. serious injuries or loss of life)	Visual observation Inspection of complaints logbooks	Daily/ weekly	SHE Officer and Exploration Manager(s)	SHE Officer> Exploration Manager(s)	Health and safety incident	Remedy the consequences
Potential increase in outbreak of wildfires due to project activities	Occurrence of wildfires	To prevent environment damage caused by wildfires	No wildfires recorded (due to presence of exploration workers)	Visual observation	Daily	SHE Officer	SHE Officer> Exploration Manager(s) > local police service	Outbreak of wildfires due to the exploration workers	Rehabilitation of affected areas
Archaeology and cultural heritage									
Potential disturbance to archaeologi	Presence or unearthing of archaeologi	To prevent destruction of artefacts	Preservation of all artefacts that are discovered	Inspection of records of findings	Daily	SHE Officer	SHE Officer> Project Archaeologist>National Heritage Council (NHC)	Unearthing of archaeological or	Cease all activity on site and wait for

Impact	Parameter to be Monitored	Monitoring Objective	Key Performance Indicator (KPI)	Methods of Monitoring	Frequency	Responsible Party	Reporting structure	Threshold	Action if threshold is exceeded
cal and cultural heritage resources	cal or cultural heritage resources		around project area					cultural heritage resources	NHC to inspect site
Employment creation									
Creation of employment	Creation of employment opportunities	To ensure that locals benefit from the project	Number of locals employed during exploration activities	Inspection of employment records	Monthly	Exploration Manager(s)	Proponents	Number employed people	None
Noise									
Potential increase in noise	Above ambient noise levels.	To ensure that generated noise does not disturb residents.	Complaints from residents about noise generated.	Inspection of complaints logbook	Weekly	SHE Officer	SHE Officer> Exploration Manager(s)	A logged complaint about above normal noise levels	Revision of site activities
Vehicular Traffic									
Increase in traffic density on declared Roads Authority (RA) roads or	Complaints from the public about increase in traffic on RA roads. Complaints about	To ensure continued ease of access to RA roads by residents	No complaints from the public about increase off traffic due to exploration activities	Inspection of logbooks	Weekly	SHE Officer	SHE Officer> Exploration Manager(s) > Roads Authority	A logged complaint about traffic increase or damage to RA roads	Find alternative access roads for the team. Rehabilitation of affected roads

Impact	Parameter to be Monitored	Monitoring Objective	Key Performance Indicator (KPI)	Methods of Monitoring	Frequency	Responsible Party	Reporting structure	Threshold	Action if threshold is exceeded
damage to these.	damage to RA roads caused by movement of project vehicles and machinery.								
HIV and AIDS									
Potential increase in HIV and AIDS prevalence.	New HIV or STIs infections	To prevent new infections in the area	No new HIV or STIs infections recorded	Liaison with local health facilities	Monthly	SHE Officer	SHE Officer> Exploration Manager(s) > Ministry of Health and Social Services	Recorded new HIV or STIs linked to the exploration workers	Continued sex education and provision of condoms
Social nuisance: Property invasion or disturbance and damage									
Potential intrusion or damage/destruction of private or public properties	Unauthorized intrusion and or damage to properties	To prevent crashes and tensions between the Proponents and the landowners	No complaints of property damage or intruding by project personnel	Liaison with property owners or occupiers of land	Monthly	PRO	Exploration Manager(s) (or Proponents)>PRO>Landowners/Occupiers of land	Arising new complaints	PRO to warn the personnel on respecting people's properties. If persists then Code of Conduct to be implemented
Environmental Pollution (Littering)									

Impact	Parameter to be Monitored	Monitoring Objective	Key Performance Indicator (KPI)	Methods of Monitoring	Frequency	Responsible Party	Reporting structure	Threshold	Action if threshold is exceeded
Environmental pollution from solid waste during exploration activities.	Scattered litter	To prevent littering of the general project area	No visible litter around the project area	Visual observation	Daily	SHE Officer	SHE Officer> Exploration Manager(s)	Visible littering around project site	Clean-up of the affected areas and ensuring exploration workers utilise waste containers provided.
Exploration Sites' Rehabilitation									
Soil and land disturbance because of exploration activities.	Abandoned and stockpiled topsoil as well as very disturbed land surface	To prevent major soil and land damage by project activities	No major soil and land disturbance	Visual observation	Daily	SHE Officer	SHE Officer> Exploration Manager(s)	Visible soil and land disturbance	Effective progressive backfilling of topsoil and borehole rock samples (chips)

6 RECOMMENDATIONS AND CONCLUSIONS

The aim of this document was to review the existing (old) environmental assessment Report and its EMP and based on new information to the project compile an ECC Renewal Report. Based on the old environmental Report and EMP review and information provided by the Proponents in September 2020, it was found that there has been minimal work conducted on site between 2017 and 2020 (drilling of three to four boreholes) but nothing more was done as described in the project description chapter of the environmental assessment Report. The minimal work done on the EPLs is because of lack of funds, i.e. there had not been capital and technical resources (no investors). Nevertheless, the Proponents had implemented the applicable provided management measures in the EMP when they carried out the said minimal work on site. Therefore, EMP implementation compliant in that regard. However, there has not been any environmental audit done on the sites, probably due to lack of intensive project activities.

Since the proposed activities have not been fully undertaken as anticipated in the 2016 environmental Report, the potential impacts remain the same, and their occurrence on sites will only be confirmed once the project commences. The implementation of the recommended management measures (actions) in the 2016 EMP and as updated in September 2020 (Table 4 of this document) will only then be fully done on project preparation (planning and design phase) and when the project activities commence (prospecting and exploration phase).

The Environmental Consultant is therefore confident that once the project activities start, the Proponents will mitigate the potential negative impacts by effectively implementing the appropriate recommended management actions and with more effort and commitment put on implementation monitoring. It is therefore, recommended that the ECC is renewed, provided that the following recommendations are implemented:

- All required permits, licenses and approvals for the proposed activities should be obtained as required. These permits and licenses include borehole drilling on farms, water abstraction & use permits, land/farm access agreements to explore, etc.
- The Proponents comply with the legal requirements governing this type of project and its associated activities.

- All the management action plans in the EMP should be implemented and monitoring conducted as recommended.
- All the necessary environmental and social (occupational health and safety) precautions provided should be adhered to.
- Site areas where exploration activities have ceased should be rehabilitated, as far as practicable.
- The implementation monitoring of mitigation measures should be conducted, applicable impact's actions taken, reporting done and recorded as recommended in the Draft EMP.
- The project' SHE Officer (or Environmental Coordinator) should effectively conduct EMP Compliance Monitoring. An Environmental Audit/Compliance Report shall be compiled for every monitoring and submitted to the DEAF at the Ministry of Environment, Forestry and Tourism for archiving This would make the next ECC Renewal easy because of an in-between track record of monitoring progress prior to the expiry date of the valid ECC.
- An ECC Renewal application should be submitted at least 3 months before the expiry date of the valid ECC to allow time for the evaluation of the ECC Renewal report by the DEAF.

Conclusions

The Environmental Consultants recommend that the expired ECC be renewed so that the Proponents can commence with the proposed project activities. It is crucial for the Proponents to effectively implement the recommended management measures to protect both the biophysical and social environment. All these would be done with the aim of promoting environmental sustainability while ensuring a smooth and harmonious existence and purpose of the project activities in the host environment.

7 LIST OF REFERENCES

Enviro Dynamics. (2016a). *Environmental Assessment For Proposed Base & Precious Metals Prospecting Activities on EPLs 6011 and 5772 (previously 3905 & 3238) Khomas Region, Namibia.* Windhoek: Unpublished.

Enviro Dynamics. (2016b). *Environmental Management Plan: Proposed Base & Precious Metals Prospecting Activities on EPLs 6011 and 5772 (previously 3905 & 3238) Khomas Region, Namibia*. Windhoek: Unpublished.

National Planning Commission of Namibia. (2017). *5th National Development Plan (NDP5)*. Windhoek: National Planning Commission of Namibia.

OMAVI Geotechnical & Geo-Environmental Consultants. (2020). *Desktop Groundwater Impact Assessment (DGIA) for the Proposed Exploration Activities on Exclusive Prospecting License (EPL) 5161 near Arandis Town in the Erongo Region.* Windhoek: Unpublished.

Resilient Environmental Solutions. (2019). *Environmental Assessment for Exclusive Prospecting License (EPL) 7264 near Talismanis in the Omaheke Region.* Windhoek: Unpublished.

APPENDIX A: COPY OF THE EXPIRED ENVIRONMENTAL CLEARANCE CERTIFICATE (ECC)

REPUBLIC OF NAMIBIA

MINISTRY OF ENVIRONMENT AND TOURISM

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8 May 2017

OFFICE OF THE ENVIRONMENTAL COMMISSIONER

The Managing Director
Manmar Investments 136 and 129 (Pty) (Ltd)
P.O. Box 11808
Windhoek
Namibia

Dear Sir or Madam,

ENVIRONMENTAL CLEARANCE CERTIFICATE FOR THE PROPOSED EXPLORATION /PROSPECTING OF BASE AND PRECIOUS METALS IN THE EXCLUSIVE PROSPECTING LICENSE (EPL) NO. 6011 AND 5772 (PREVIOUSLY 3905 AND 3238), KHOMAS REGION

The Environmental Scoping Report and Environmental Management Plan submitted are sufficient as it made an adequate provision of the environmental management concerning proposed activities. From this perspective regular environmental monitoring and evaluations should be conducted. Targets for improvements should be established and monitored from time to time.

This Ministry reserves the right to attach further legislative and regulatory conditions during the operational phase of the project.

On the basis of the above, this letter serves as an Environmental Clearance Certificate for the project to commence. However, this clearance letter does not in any way hold the Ministry of Environment and Tourism accountable for misleading information, nor any adverse effects that may arise from this project activity. Instead, full accountability rests with Manmar Investments 136 and 129 (Pty) (Ltd) and their consultants.

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

Yours sincerely,

Teofilus Nghitila
ENVIRONMENTAL COMMISSIONER

"Stop the poaching of our rhinos"

APPENDIX B: A DETAILED PRESENTATION OF THE GENERIC AND SITE-SPECIFIC MANAGEMENT ACTIONS FOR THE EXPLORATION PHASE AS PROVIDED IN THE 2016 EMP DOCUMENT BY ENVIRO DYNAMICS.

3.3 Exploration Mitigation Details

The following table provides an overview of all the major environmental management themes pertaining to both generic and site-specific exploration mitigation details. This table serves to act as quick reference (by colour), for the detailed mitigation details that follow below, for the implementation of the non-invasive and invasive components of this EMP. The identified impacts in the Scoping Study are mitigated under these themes.

Table 3: Generic and site-specific environmental management actions for exploration phases

THEME	OBJECTIVE	MITIGATION DETAIL	
		GENERIC	SITE-SPECIFIC
Waste management	Avoid and where not possible minimise all pollution associated with exploration	Section A	Section A
Health and safety	Safeguard health and safety of staff and the general public	Section B	N/A
Dust and noise	Avoid and where not possible minimise dust and noise associated with prospecting activities	Section C	Section C
Environmental training and awareness	Awareness creation regarding the provisions of the EMP as well as the importance of safeguarding environmental resources	Section D	N/A
Environmental conservation	Minimise exploration activity footprint and safeguard biodiversity in ecologically sensitive areas	Section E	Section E
Employment/ Recruitment	Minimise negative conflict through legal and fair recruitment practices	Section F	Section F
Stakeholder communication	Provide a platform for stakeholders to raise grievances and receive feedback and hence minimise negative conflict	Section G	Section G
Social and Cultural Heritage	Ensure due consideration is given to matters regarding the cultural and general wellbeing of the affected community and matters incidental thereto	Section H	N/A

SECTION A: WASTE MANAGEMENT

ASPECT	MITIGATION MEASURE
GENERIC MITIGATION DETAILS	
Waste Management Plan	The Proponent should compile a Waste Management Plan that should address as a minimum the mitigation measures included below
Hazardous waste	• All exploration vehicles (4x4 vehicles and trucks) and equipment on site should be provided with a drip tray/oil spill kit: o Drip trays and sealable containers are to be transported with vehicles wherever they go o Drip trays should be cleaned daily and spillage handled, stored and disposed of as hazardous waste • All exploration vehicles should be maintained regularly to prevent oil leakages. Maintenance of vehicles is not permitted to occur on site as far as reasonably possible, but if maintenance is to be undertaken on site, measures need to be put in place to avoid hydrocarbon spillages • Maintenance and washing of exploration vehicles should be conducted at a suitable site/facility which adhere to the following: o The work area/facility should be lined to be impermeable o The work area/facility should have an oil-water separator (oil trap) to collect any run-off from the washing and or maintenance activities, or be equipped with an oil and water separation system • Spilled oil or fuel should be treated as hazardous waste, disposed of as it occurs in the appropriate hazardous waste containers (sealable drums) on site, and removed off site at the end of each day to the closest recognised, appropriate hazardous waste disposal site in the vicinity or as soon as possible when working in remote areas. All such waste should be provided to specialists in the handing and treatment of such materials • All hazardous substances (e.g. fuel, grease, oil, drilling fluids etc.) or chemicals should be stored in a specific location at the exploration campsite on an impermeable surface which is bunded
Sewage and grey water from temporary portable toilets on site	• Use of the toilets instead of the veld must be strictly adhered to • If grey water can be collected from ablution facilities at the campsite it should be recycled and: o Used for dust suppression o Used to water vegetable gardens or to support a small nursery in local communities (as and when agreed upon by such communities) o Used to clean equipment
General waste	• The exploration site should be kept tidy at all times. All domestic and general waste produced daily should be contained • No waste may be buried or burned • No waste is to be left uncontained, in suitable containers, over night • Waste containers (bins) should be emptied regularly and removed from site to the nearest official waste disposal site. All recyclable waste needs

ASPECT	MITIGATION MEASURE
	to be taken to the nearest recycling depot if available • A sufficient number of separate waste containers (bins) for hazardous and domestic/general waste must be provided on site. These should be clearly marked as such • Exploration personnel should be sensitised to dispose of waste in a responsible manner and not to litter • No waste may remain on site after the completion of the project
Residual samples	• Samples that will not be used for further analysis, or submitted to MME should be taken off site or used (with the required permission from the affected landowner and/or tenant) to repair any possible damaged roads. No samples are to be dumped at site or in the vicinity of the site as to not affect rehabilitation efficiency through physical and chemical pollution of weathering samples
SITE SPECIFIC MITIGATION	
Sewage and grey water from temporary portable toilets on site	• Portable toilets such as portable camping units, must be provided during exploration: o At all drill sites • Discharging of the portable units are to be conducted at an existing suitable facility • The Solid Waste division of the City of Windhoek should be contacted should permission be sought to dump at the municipal landfill site
MONITORING REQUIREMENTS	
• Monitor whether the provisions set out in this EMP concerning waste management is being applied as per instructions • All non-compliances should be recorded and discussed at weekly site meetings and timeous remedial actions taken • All guilty parties that are in contravention of the provisions set out for managing waste should be given a penalty and according to the severity of the impact appropriate steps taken	

SECTION B: HEALTH AND SAFETY

ASPECT	MITIGATION MEASURE
GENERIC MITIGATION MEASURES	
Health and Safety Plan	The Proponent should compile a Health and Safety Plan that should address as a minimum the mitigation measures included below, as well as the Regulations Pertaining to Health and Safety at the Workplace.
Road Safety	• Demarcate roads clearly • Off-road driving should not be allowed unless tracks have been approved by the affected landowner/occupant/ person or entity responsible for the road • All vehicles that transport materials to and from the site must be roadworthy • Drivers that transport materials should have a valid driver's license and should adhere to all traffic rules. • Loads upon vehicles should be properly secured to avoid items falling off the vehicle • Maintain national speed limits at all times (120km per hour on national roads, 80km/hour on district roads), and 30km/hour on the internal tracks.
Safety around drill holes and general work areas	• Drill holes should be left open for an absolute minimum time. • Demarcate the following areas with danger tape: o All drilling works o Temporary waste stockpiles • Provide additional warning signage in areas of movement and in "no personnel" areas where workers are not active • Demarcate general work area (that is the area adjacent to the drill site and associated activities) with a suitable and visible marker • All exploration materials and equipment are to be stored only within demarcated work areas in the smallest space necessary on site • Only exploration personnel will be allowed within these work areas • Fire extinguishers should always be available at the drill sites • Comply with all mitigation measures laid out in Section A (Waste Management mitigation details)
Ablutions	• Separate ablutions (toilet and shower) should be available for men and women if required • Portable toilets (i.e. easily transportable camp toilets) should be available at every exploration site: o Sewage waste needs to be removed on a regular basis to Divundu or Rundu's sewage disposal site. Alternatively, it is to be pumped into sealable containers and store until it can be removed to such sites o Workers responsible for cleaning the toilets should be provided with latex gloves and masks and any other related PPE.
Open fires	• No open fires may be made anywhere on the drill sites • No wood may be collected within or near the project area except with

ASPECT	MITIGATION MEASURE
	the required permit.
General	• Dust protection masks should be provided to workers when working at the drill rigs or in other dusty environments • No person should be allowed to smoke close at the drill site • No workers should be allowed to drink alcohol or be under the influence of recreational drugs during work hours • No workers should be allowed on site if under the influence of alcohol or recreational drugs • Proper safety gear to be supplied to all personnel according to each one's level of risk exposure • Provide at least 5 litres of fresh potable water to each personnel member per day during work hours to prevent dehydration and promote productivity • Provide adequate shading accessories to personnel to prevent sunstroke and excessive sunburn • Frequent, short breaks in between work hours should be implemented
MONITORING REQUIREMENTS	
• Non-compliances should be recorded and discussed at the weekly meetings with the exploration manager and coordinator and appropriate steps taken to rectify such recorded non-compliances	

SECTION C: DUST AND NOISE

ASPECT	MITIGATION MEASURE
GENERIC MITIGATION DETAILS	
Dust	• Appropriately rated and fitted dust masks should be given to personnel working in areas of dust exposure • Grey water should be used for dust suppression on a constant basis if available and as required • Maintain speed limited as specified under Section B.
Noise	• Work hours should be restricted to between dawn and dusk where exploration involving the use of heavy equipment, power tools, and the movement of heavy vehicles is within 500 m from sensitive receptors. In the event that this is not possible, the affected community need to be consulted well in advance to agree on a mutually acceptable solution
SPECIFIC MITIGATION DETAILS	
Noise and dust	• No field exploration work may be conducted on Sundays. • Field exploration activities may only be conducted on public holidays with the permission of the relevant affected community. • The movement of vehicles are restricted to working hours or times agreed upon between the team and the land owners and or affected community. • Maintain speed limits as specified under Section B.
MONITORING REQUIREMENTS	
When complaints are received from tourism faclities or affected communities regarding noise and dust nuisance, abatement in the form of water spraying and restricted work hours should be implemented. Communication with those that complained should be continued to determine whether the problem has been resolved	

SECTION D: ENVIRONMENTAL TRAINING AND AWARENESS

ASPECT	MITIGATION MEASURE
GENERIC MITIGATION DETAILS	
Environmental Induction (Training)	All exploration personnel are to undergo environmental induction (training) for both exploration stages, which should include as a minimum the following: • Detailed review of the current EMP to familiarize personnel with requirements • Explanation of the importance of complying with the EMP • Discussion of the potential environmental impacts of the exploration activities • Employees' roles and responsibilities, including emergency preparedness • Explanation of the mitigation measures that must be implemented when particular work groups carry out their respective activities • Explanation of the specific mitigation measures within this EMP especially unfamiliar provisions
MONITORING REQUIREMENTS	
Environmental Manager to request attendance registers be completed by all personnel attending induction training sessions.	

SECTION E: ENVIRONMENTAL CONSERVATION

ASPECT	MITIGATION MEASURE
GENERIC MITIGATION DETAILS	
Conservation of vegetation	• The layout of the drill grid once developed should consider and avoid sensitive vegetation or mature trees on the project site. • The proponent should compile a Vegetation Management Plan which should include the following as a minimum: o No trees occurring in this environment may be damaged or removed for any purpose o Protected trees need to be marked and their location recorded on a map
Conservation of fauna (includes livestock)	• Movements of drilling staff are restricted to the drill sites and work areas only • No hunting, trapping, fishing, setting of snares, or any other disturbance of any fauna species allowed
Drill site locations	• Suitable locations should be identified with the assistance of the EC and various specialists and the following should be considered in selecting these sites: o First choice should be degraded land o Avoid sensitive areas (e.g. protected archaeological sites or drainage lines) • Drill sites will be kept to a minimum size (the required footprint only) and the working area will be clearly demarcated
Track creation	• Do not remove trees for the purposes of track creation • Access tracks and roads should not be wider than the normal width to accommodate an exploration truck • No tracks must be created unless unavoidable
Rehabilitation	• During the initial prospecting phase, only limited surface rock and soil sampling will take place and it is unlikely that any scars be left by this activity. Remove all waste, defunct samples, and any other remains from the site • Remove all sample bags, plastic waste, survey pegs, materials used for sump creation etc. from site at completion of sampling schedule • Site should be rehabilitated to as close as possible to its original condition • Re-contour and rip the drill site before the site is finally decommissioned • Fill holes, rip up, rake track, and spread stockpiled topsoil back over the entire new tracks made, to allow re-vegetation • Make sure that the environmental coordinator has a site inspection to check rehabilitation efforts of each drill sites
SPECIFIC MITIGATION MEASURES	
Protection of crops	• Buffer zones of at least 200m must be established around crops. In the event that this is not possible, the community need to be consulted well in advance to agree on mutually acceptable solution (which may

ASPECT	MITIGATION MEASURE
	include compensation)
Soil Preservation	• Existing tracts to be used and new track usage to be limited. No continual re-entering of new tracks by vehicles after rehabilitation. Rehabilitation monitoring to be conducted on foot.
Protection of groundwater	• Where the water table is penetrated by drilling and the water flows out onto the surface, a furrow needs to be dug that diverts the water to vegetation. • All boreholes should be capped and labelled. In the instances where water is encountered the water should be sampled and tested and the local farm owner be made aware thereof. • Water saving measures should be applicable at all times. No taps or pipes left to run, leakings to be detected immediately. Vehicles only to be washed with buckets, not running water.
MONITORING REQUIREMENTS	
• Check for traps along fences and during a general drive-through weekly • Monitor drill areas and all access tracks and roads. Record all negligent plant destruction sightings, and apply the penalty system to all guilty parties • If protected species are removed (after the proper permits have been acquired), negotiations with the land owner and or affected community about the replanting of this specie at a specific location, e.g. their homestead, should be undertaken • Constant monitoring and record keeping of progress must be made until all rehabilitation is done, approved and signed off by the Environmental Coordinator at the decommissioning of exploration • Photo logs to be kept of are prior to new track begin created and continued throughout the monitoring phase off rehabilitation. • Take borehole water level at the start of exploration and at the end of exploration. Keep the records. • Monitor the use of water and keep records of daily requirements.	

SECTION F: EMPLOYMENT/RECRUITMENT

ASPECT	MITIGATION MEASURE
GENERIC MITIGATION DETAILS	
Legislation	Adhere to the legal provisions in the Labour Act for the recruitment of labour (target percentages for gender balance, optimal use of local labour and SME's, etc.) in the Contract.
Recruitment	• Where and if applicable • A formal recruitment process including the following provisions as a minimum should be adhered to: o The authority (Regional Council) and Traditional Authority (for each respective area) should assist with the recruitment process o Ensure that all are aware of recommended recruitment procedures and discourage any recruitment of labour outside the agreed upon process o Preference should be given in terms of recruitment of sub-contractors and individual labourers to those from the project o Clearly explain to all job-seekers the terms and conditions of their respective employment contract (e.g. period of employment etc) and make use of interpreters when necessary
MONITORING REQUIREMENTS	
• The Exploration Manager should monitor the effective implementation of the recruitment process • Work should only continue until all requirements are met, with the submission of records	

SECTION G: STAKEHOLDER ENGAGEMENT

ASPECT	MITIGATION MEASURE
GENERIC MITIGATION DETAILS	
Communication plan	• The proponent should draft a Communication Plan, which should outline as a minimum the following: o How Affected parties, who require ongoing communication for the duration of the exploration period, will be identified and recorded and who will manage and update these records (i.e. use the distribution list list for this study as a basis); o How these parties will be consulted on an ongoing basis o Make provision for grievance mechanisms – i.e. how concerns can/ will be lodged/ recorded and how feedback will be delivered as well as further steps of arbitration in the even feedback is deemed unsatisfactory.
SITE SPECIFIC MITIGATION DETAILS	
Access Agreements	• An access agreement/ broad based community consent need to be made with affected communities prior to any exploration taking place at drilling sites • Broad based community consent and/or access agreements should be in a format which is culturally acceptable for the area • The owner of the land and of affected community must be given an opportunity to negotiate the terms of the agreement • The following needs to be included in the agreement: • Legally required compensation • Operating hours • A commitment from the prospector to rehabilitate damage done and remove all waste from site • Agreements on how access will be gained and managed e.g. two lock system • That no gates may be left opened or fences damaged • A commitment that this EMP will be adhered to • Liability insurance for fire damage • As appendices: A copy of the EMP and a short explanation of the Environmental Assessment that was conducted • This also applies to the adjacent farm owners land where vehicular access needs to be obtained.
Safety and Security	• Land owners and or affected communities need to be given a list containing names and photographs of the exploration team for identification purposes prior to the start of any exploration • Each member of the team needs to wear an ID tag (with a photo on) at all times when on site as well as a team uniform • Bright, reflective jackets need to be worn by each person on the drill sites • All exploration vehicles must be marked for easy identification • At the project camp the following needs to be adhered to: o No visitors allowed to visit staff o No individual social interaction with local workers to be allowed

ASPECT	MITIGATION MEASURE
	except for corporate social gatherings or unless authorized by Nanmar Investments o A perimeter around the camp must be established within which the team may reside and are restricted to
MONITORING REQUIREMENTS	
• Ensure that the necessary contracts are signed and in place • Keep constant updated records of all concerns and issues logged during the course of the exploration programme • Monitor the speed and effectiveness of remedial actions taken upon concerns and issues raised by the public during exploration and remedy all timeously	

SECTION H: SOCIAL AND CULTURAL HERITAGE

ASPECT	MITIGATION MEASURE
GENERIC MITIGATION DETAILS	
Archaeology	• Should a heritage site or archaeological site be uncovered or discovered during either exploration phases of the project, a "chance find" procedure should be applied in the order they appear below: o If operating machinery or equipment, stop work o Demarcate the site with danger tape o Determine GPS position if possible o Report findings to foreman o Report findings, site location and actions taken to superintendent o Cease any works in immediate vicinity o Visit the site and consult with any potentially affected community to determine whether work can proceed without damage to findings o Determine and demarcate the exclusion boundary o Site location and details to be added to the project's Geographic Information System (GIS) for field confirmation by an archaeologist o Inspect site and confirm addition to project GIS o Advise the National Heritage Council (NHC) and request written permission to remove findings from work area o Recover, package and label findings for transfer to the National Museum • Should human remains be found, the following actions will be required: o Apply the chance find procedure as described above o Schedule a field inspection with an archaeologist to confirm that remains are human o Advise and liaise with the NHC and Police o Remains will be recovered and removed to either the National Museum or the National Forensic Laboratory. • Contact person at NHC: Rev. Soloman April; Tel: (061) 244 375/ 385/594
SPECIFIC MITIGATION DETAILS	
Archaeology	• Obtain inputs from an archaeologist to identify potential archaeological sites in the area and to determine further mitigation where necessary.
MONITORING REQUIREMENTS	
• Check that the archaeologist has given a written statement about the location of the known archaeological sites in the area vs the location of the drilling area. • Make sure no archaeological site is disturbed whilst excavation and recovery takes place • Make sure everything of importance, as identified by a appropriate specialist, is removed from site and declared safe by an archaeologist before exploration can continue on the site • Daily monitoring of fences and gates which have been entered through to ensure no	

ASPECT	MITIGATION MEASURE
	unplanned movement of livestock or animals occur

3.4 Rehabilitation and Decommissioning

This phase contains elements that should be considered when exploration activities have been completed by the holder of the EPL rights. These management requirements are important to ensure that rehabilitation of the environment is optimised. It is important to note that ongoing rehabilitation initiatives have been captured and detailed in the various themes (as set out above) of the exploration phase.

Table 4: Management requirements for Rehabilitation and Decommissioning

ASPECT	MANAGEMENT REQUIREMENT
EMP IMPLEMENTATION RECORD	• Filing and dating of all reports (including photographic documentation of successful rehabilitation initiatives) • A final site inspection to be conducted and documented 6 months after all activities associated with the exploration initiative has been competed
FINANCIAL PROVISIONS	• Allocate appropriate budgetary allowances for all possible rehabilitation activities and initiatives (including such requirements for a communication strategy)
LANDOWNER AND I&AP	• Develop a communication strategy which will clearly indicate the future of the project (i.e. will further drilling activities be conducted or Application for a Mining Rights Licence be made)

Appendix A

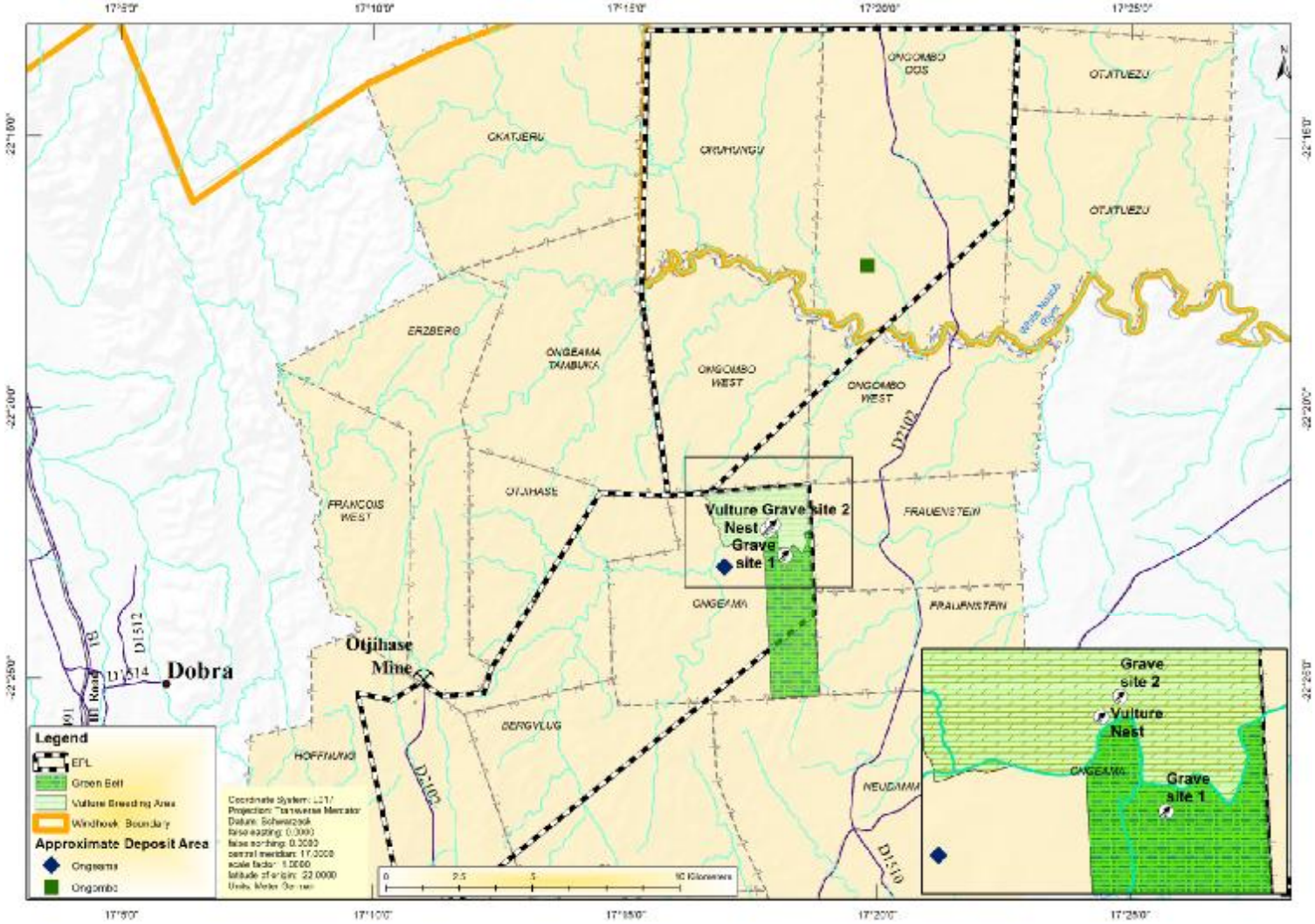

Figure 1: Map indicating vulture breeding sites and green belt in relation to the EPL boundaries (ED 2015)