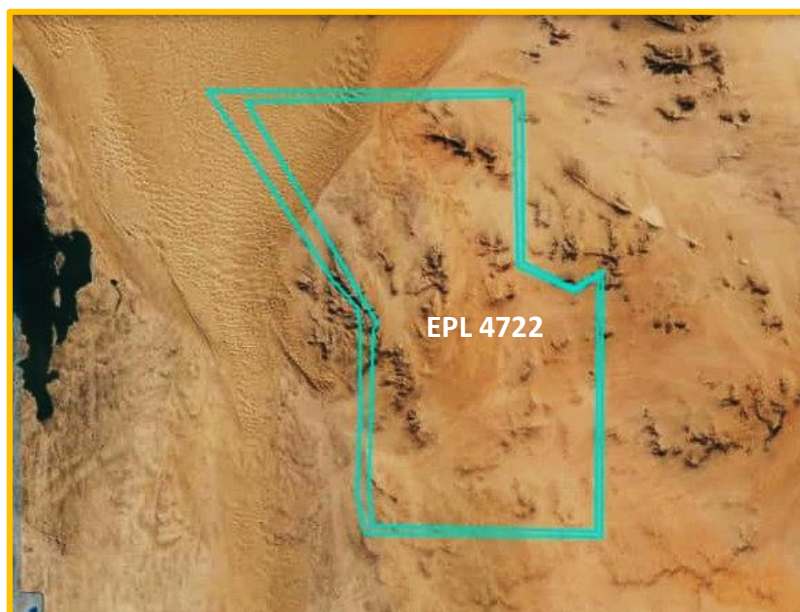


EIA & EMP report for proposed mineral exploration in the EPL 4722, Luderitz District, Karas Region, Namibia



**ENVIRONMENTAL IMPACT ASSESSMENT & ENVIRONMENTAL
MANAGEMENT PLAN REPORT *for* PLANNED MINERAL EXPLORATION
IN THE PROPOSED EPL 4722, LUDERITZ DISTRICT, KARAS REGION,
NAMIBIA.**



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LIST OF ACRONYMS

EPL	Exclusive Prospecting Licence
Ga	A billion years
GSN	Geological Survey of Namibia
ENE	East North East



EIA	Environmental Impact Assessment
EMP	Environmental Management Plan
ECC	Environmental Clearance Certificate
SF	Site Foreman
PS	Project Staff
PP	Project Proponent
EIAC	Environmental Impact Assessment Consultant
EC	Environmental Commissioner
I & AP	Interested and Affected parties



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1. Executive summary

1.1 Background information

Loide Ndapewa Ekandjo has lodged an application for Environmental Clearance for mineral exploration in the EPL 4722 placed in Luderitz District, approximately 18 km north west of Namibia (Figure 2.1). The suggested prospect treasures Aeolian diamondiferous sandy gravels and is exclusively owned by Loide Ndapewa Ekandjo. Positioned approximately 19 km ENE of Luderitz, the prospect covers an area of 43326.1864 hectares. All EPLs are granted for three years, and each time a renewal application is made, it should be submitted three months prior to the expiry date. The following three mineral commodity groups are targeted in the planned EPL extents:

- (i) Precious stones (ii) Industrial minerals (iii) Base and rare metals (iv) Nuclear fuels (v) Non-nuclear fuel Semi-precious stones (applied for) (vi) Dimension stones (applied for)*

Pantarei Divinitus Commodity Enterprises (Pty) Ltd is a Namibian registered company, which has made a joint venture with Mrs. Loide Ndapewa Ekandjo, the legal owner of EPL 4722. Under this joint venture, Pantarei Divinitus Commodity Enterprises (Pty) Ltd will undertake exploration activities on EPL 4722 for precious stones, base and rare metals, nuclear fuels, industrial minerals, and non-nuclear fuels. Dimension stones and semi-precious stones mineral rights have been applied for at the Ministry of Mines and Energy. The EPL is partially located in the Namib-Naukluft National Park and the remained portion befalls in the Sperrgebiet National Park.

The proposed project triggers listed activities in terms of the Environmental Management Act 7 of 2007, therefore, an environmental clearance certificate is required. As part of the environmental clearance certificate application, an environmental impact assessment has been undertaken to satisfy the



requirements of the Environmental Management Act, 2007. This Environmental Scoping Report plus assessment and Environmental Management Plan shall be submitted as part of the application for the Environmental Clearance. The planned project will constitute exploration techniques on EPL 4722 site which may include grab sampling, stream bed sampling, geological mapping, diamond and RC drilling, aerial or remote sensing, ground penetrating radar, and mineral sampling. To carefully set exploration targets in the said prospect, processed geophysical maps were acquired from Greg Symons Geophysics. In the event mineralisation is identified, further exploration methods shall be undertaken; if not identified, the EPL shall be rehabilitated and reclaimed and subsequently returned to the government.

The area where the EPL is located is categorized as Zone 2,

Areas of Medium Sensitivity: which is a zone permitted for exploration and mining projects. The site is in an area that received less than 100mm of rainfall per annum and has a distinct vegetation (flora) and wildlife species (fauna) including reptiles and avifauna, many of which are endemic to the Namib Desert. The EPL befalls within the Namib Desert Biome and Central Desert vegetation type, which tends to have grassland occupying the gravel plains. The cover of grass is very sparse but nevertheless dominates the little vegetation that grows on the gravel plains. Majority of grasses are annuals and coverage are sparse. The plant diversity of the areas is low (less than 50 species). EPL 4722 has a broad diversity of grasses and shrubs, however still sparse, with no visible outcrops. Along the natural drainage channels, camelthorn trees (*Acacia erioloba*) can narrowly be found. On EPL 4722 the presence of animal activity was observed during the site visit. Various animal droppings and burrows were observed, as well as various sightings gemsbok, springbok, and wild horses. The EPL is covered with soil with limited geological features and



prominently comprises of plains with various surface water features across the site that are likely to have runoff during rainy seasons.

Through the scoping process, a review of the site and surrounding environment was completed by drafting a geological desktop study and taking an excursion to the site. The assessment is comprehensive and adequate to identify environmental impacts, and it is concluded that the likely effects were not deemed significant and therefore no further assessment is required. On this basis, it is of the opinion of ECC that an environmental clearance certificate could be issued, on conditions that the management and mitigation measures specified in the EMP are implemented and compiled to.

2. INTRODUCTION

2.1 The background and Context of this report

As per the Constitution of The Republic of Namibia, an Exclusive Prospecting Licence (EPL) is conferred by the Ministry of Mines and Energy in terms of section 48(4) of the Minerals (Prospecting and Mining) Act, No.33 of 1992 to an applicant under guaranteed terms and conditions that constitute the documents of the exploration licence.

The proponent, holds minerals rights under the exploration licence 4722 and commodities to be prospected in the proposed area are: precious stones, base and rare metals, nuclear fuels, non-nuclear fuels, industrial minerals, semi-precious stones (applied for) and dimension stones (applied for). Mineral



rights are customarily granted for three years and renewal application ought to be submitted three months prior to the expiry date.

The fundamental motive of the exploration project is to conduct mineral exploration in order, through resource estimation, to prove the prospectivity and economic viability of the potential minerals, and consequently apply for a mining licence (rights to extract and process minerals) given the projected resource is economically viable.

For the envisaged development of the prospect, an EIA is mandatory. The EIA needs to be reviewed by the relevant authorities before a final decision is undertaken on whether the project can be given a go-ahead. The completion of an EIA before the project commences is parallel with the Namibia's Environmental Assessment Policy (1995) and the Environmental Management Act (GN27, 2007: GG3966). It is intended to identify potential environmental and social impacts associated with a project of this nature. This is essential to ensure that relevant mitigatory measures , if required, are included into the initial stages of the project and the identification of possible impacts and issues associated with the planned development.

Terrain Prospect Investment CC was appointed to facilitate the completion of the Environmental Impact Assessment Report for proposed exploration project. The principal motive is to identify the potential impacts associated with a development of this nature and to provide mitigation recommendations to ensure that potential impacts to the environment are managed effectively and efficiently.



This report comprises an assessment of the likely impacts, and aspects relating to the planned mineral exploration in the Luderitz Area. These were identified through site visits/excursions, investigations, and review of existing geological information available for the area.

2.2 Approach Methodology

The intention of the assessment is to ensure the envisaged activities by Terrain Prospect Investment CC are aligned with the Namibian legal requirements. Furthermore, proper mitigation measures should be implemented to ensure the success of the project. The following approach was used during the completion of the EIA:

1. Site visit and evaluation site sensitivity.
2. Investigation and assessment of potential effects associated with the envisaged mineral exploration project.
3. Consultation with the Authorities.
4. Completion of a risk assessment, to predict the conditions likely to result from activities associated with this development.
5. Development of a management plan to mitigate potential negative impacts.

Terrain Prospect Investment CC takes acquaintance that the Environmental Assessment report will be independently reviewed by the Ministry of Environment and Tourism (MET). In this way, practical and realistic solutions to potential problems can be recognized via a consultative approached where all stakeholders are involved. The intention of this report is to ensure the project achieves regulatory



compliance, appropriate environmental evaluation is in place and proper mitigation measures are implemented.

3. PROJECT DESCRIPTION

3.1 The need for this project

The aim of the project is to prove through mineral exploration and resource estimation if the potential mineral deposits are economically viable (mineable) and consequently apply for a mining licence. The proposed mineral exploration is aligned with the Namibian Government's vision to effectively develop Namibia's mining sector. Pantarei Divinitus Commodity Trading Enterprises (Pty) Ltd will duly conduct mineral exploration in the EPL 4722 and report to Loide Ndapewa Ekandjo, who holds mineral rights over the said prospect. In January 2019, a geological desktop study report was drafted in order to give an detailed overview of the prospect, based on existing exploration and mining data.

N\$60 million has been allocated for the exploration campaign for the EPL 4722 which entails the following:

1. Creation of employment opportunities
2. Support of local businesses
3. Socio-corporate responsibilities



4. LOCATION

The proposed EPL is situated about 19 km east-north-east of the harbouring town of Luderitz in the Karas Region. Situated on a rocky shore bordering a harsh desert environment, Lüderitz is one of Namibia's truly unique destinations. The surroundings are characterized by large stretches of unspoiled beach, rare succulent flora, exclusive animal species, agates and desert roses, and remnants of a rush for diamonds that officially put the area on the map.

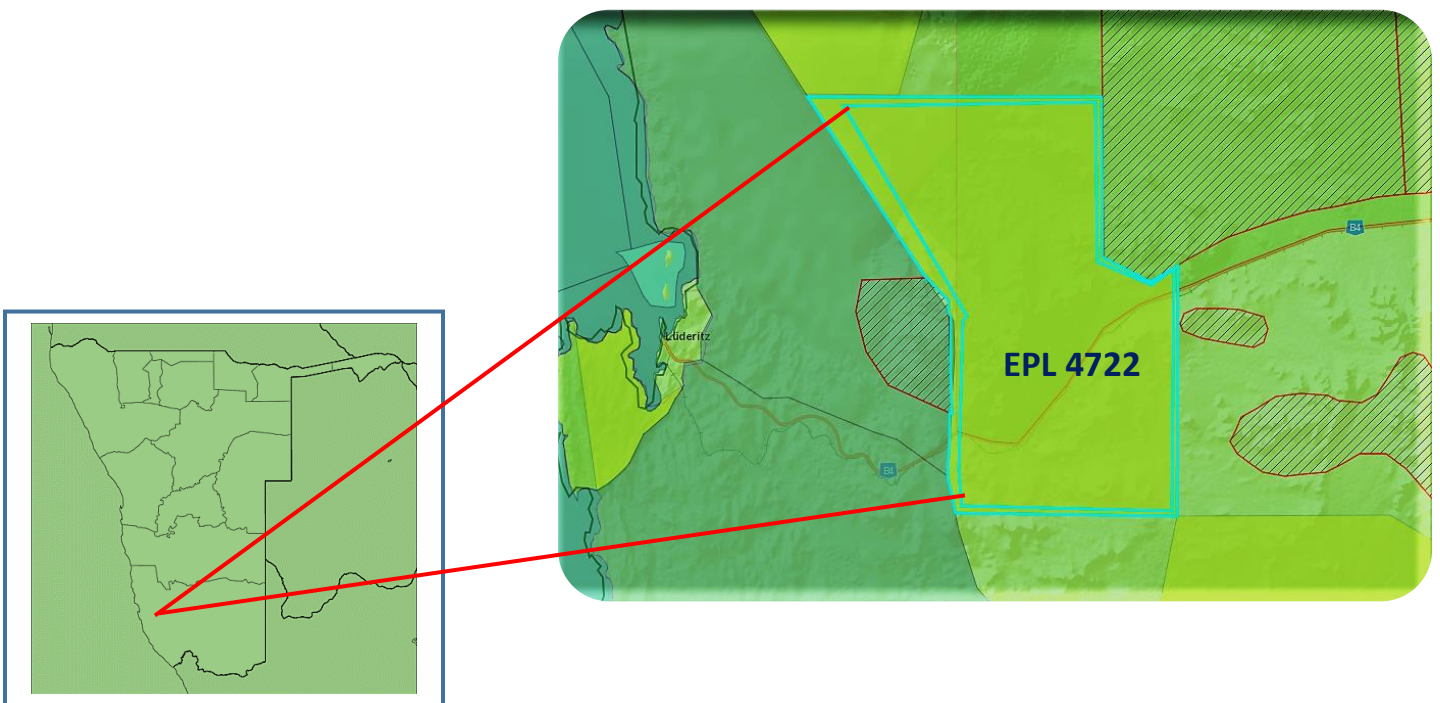


Figure 4.1 *Approximate location of EPL 4722*

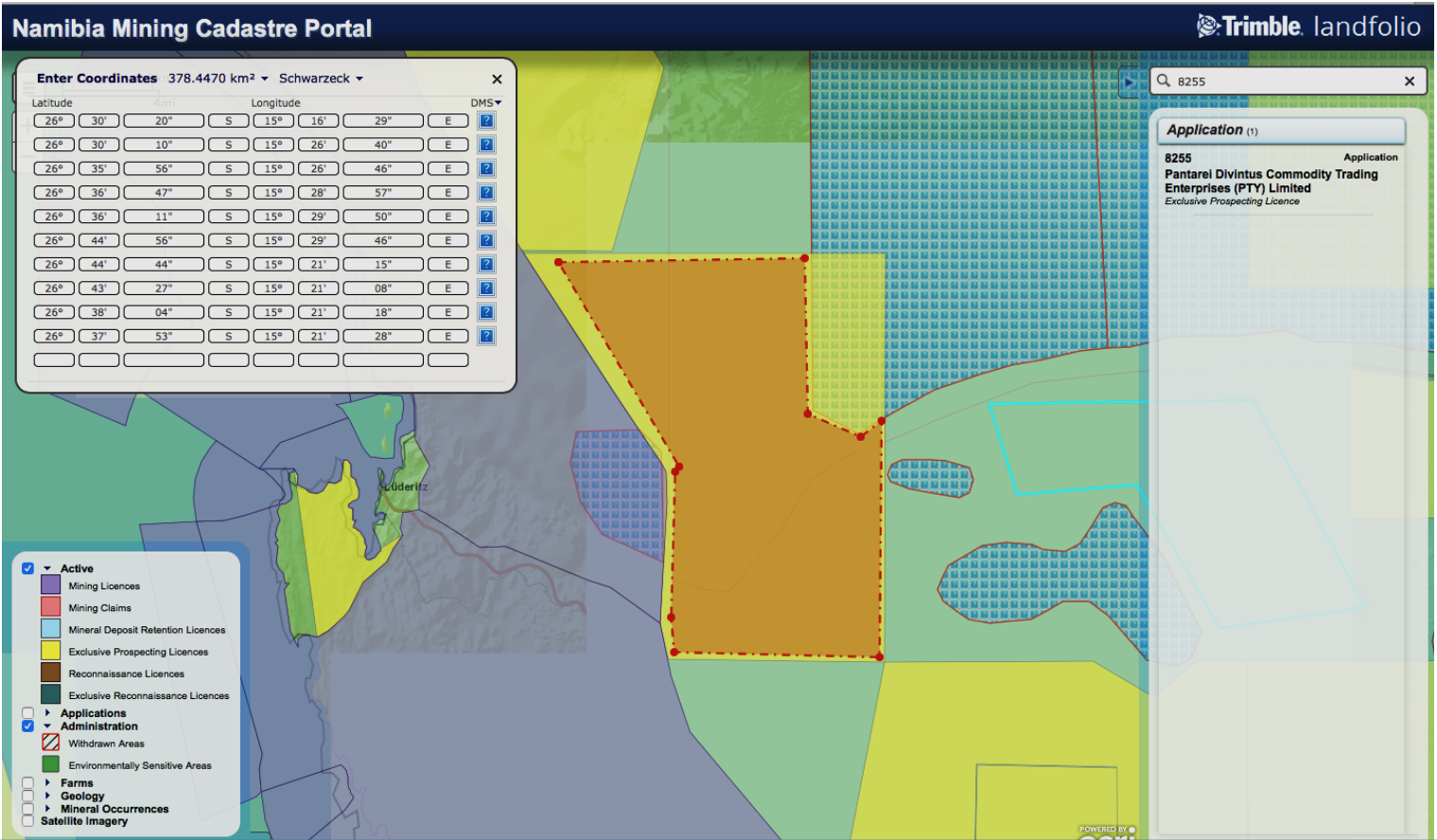


Figure 4.2 Proposed EPL geometry and coordinates



Figure 4.3: Image depicting a portion of the area which befalls on the EPL 4722 between Luderitz and Aus.



Figure 4.3: An image depicting a section of EPL 4722. The prospect comprises mainly calcrete, gravel and loose sand (dunes) and has very limited vegetation.



5. THE PROPOSED MINERAL EXPLORATION PROJECT

5.1 CURRENT CONDITION OF, AND ANY EXISTING DAMAGE TO, THE ENVIRONMENT IN THE AREA TO WHICH THE APPLICATION RELATES:

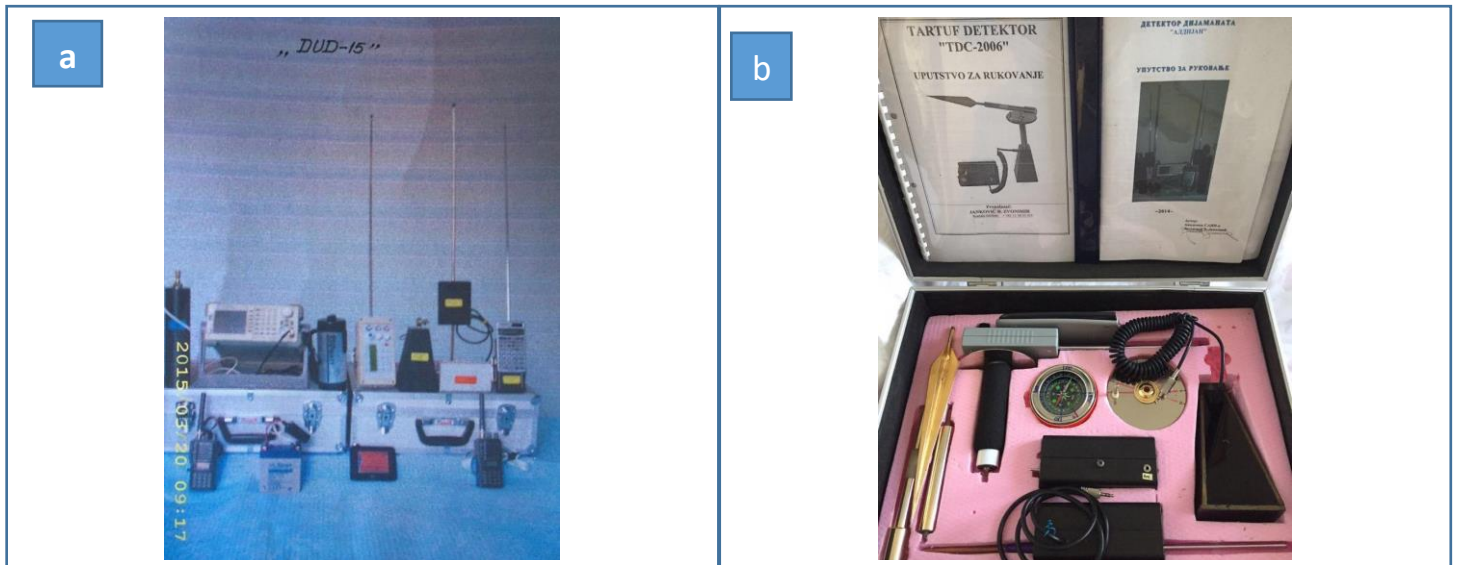
Since all the exploration techniques used thus far has been **non-invasive** and only through remote sensing and geophysical data acquisition there has been no effect on environment pertaining to prospecting. Portable geophysical equipment will be utilized to acquire in-situ geophysical, without inducing damage to the environment.

Effect of proposed exploration: The only significant environmental disturbance to the area related to exploration, would be drilling activities. The environmental impact of such activities will be responsibly managed by an Environmental Management Plan, which will include thorough and complete rehabilitation of any damaged land.

Estimate of effect which proposed exploration will have on environment and proposed steps to be taken to prevent or minimise resulting damage.

Rehabilitation: All campsites, cutlines, tracks and possible drillsites will be rehabilitated. All excavations will be backfilled and waste will be disposed in an environmentally friendly manner.

Environmental Audit: Due to the minimal impacts on the area an environmental audit is only scheduled when exploration activities have been concluded.



New invention, “ALDIAN”, belongs to the family of electromagnetic prospecting devices, operates at low frequencies, able to detect elements of the Periodic Table which, as free elements or as compounds with other elements, are found in diamonds, changing their physical properties, “ALDIAN” has two types of signal-generators, with very sensitive frequency division (microhertz), and especially with adjustable intensity and shape of output signal. This time, the magnetic sensor has a pronounced sensitivity and self-tuning width of the frequency spectrum of the interference field.

The emitter-tracer is specially designed and adapted for this purpose. It can radiate a beam of search from four to 20 millimeters wide. Power supply is standard, 220 volt mains voltage or a 12 volt rechargeable battery with an inverter.

The principle of operation of “ALDIAN” is based on radiating electromagnetic waves to the set frequency of diamonds through the emitter-tracer, forming a beam of four to 20 millimeters wide, and then using a magnetic sensor with adjusted frequency, detects the interference field where the diamonds are located. “ALDIAN” can also detect objects of advanced “stealth” technology, based on new advanced carbon-based materials.

Given that Class D diamonds contain pure, 100% carbon, and that other classes (up to Class 3) have admixtures of other elements, it was necessary to define the issue of crystal structure recognition in order to avoid false reflection in the search process.

Figure 5: Image displaying some of the exploration equipment for non-invasive exploration techniques a & b) A geophysical (electromagnetic frequency) equipment for finding minerals.



THE PROPOSED MINERAL EXPLORATION PROJECT

Item #	Description
1.	ENVIRONMENTAL IMPACT ASSESSMENT (EIA) for EPLs 4722
2.	<p>-Site familiarization</p> <p>RANDOM SAMPLING for geochemical and petrographic analyses</p> <p>-Collection of samples (<i>stream bed samples are high interest</i>)</p> <p>-Geological description of the samples</p> <p>-Quality control and quality assurance</p> <p>-Capturing of GPS points of sampling points</p> <p>-Transportation, storage and lab/off-site analyses of the samples</p> <p>-Field report</p> <p>-Compilation of the quarterly report</p> <p>-Geochemical/sampling map/GIS</p> <p>-Technical and monthly reports</p> <p>-logistics: PPE, accommodation and food</p>
3.	<p>SYSTEMATIC SAMPLING</p> <p>- geochemical and petrographic analyses</p> <p>-Collection of samples (<i>stream bed samples are high interest</i>)</p> <p>-Sieving</p> <p>-Geological description of the samples</p> <p>-Quality control and quality assurance</p> <p>-Capturing of GPS points of sampling points</p> <p>-Transportation, storage and lab/off-site analyses of the samples</p> <p>-Field report</p> <p>-Compilation of the quarterly report</p> <p>-Geochemical/sampling map/GIS</p> <p>-Technical and monthly reports</p> <p>- Logistics: PPE, accommodation and food</p>
4.	<p>DETAILED GEOLOGICAL MAPPING</p> <p>-Geological mapping and sampling</p> <p>-GIS work/map work/digitizing – geological map</p> <p>-Geological interpretation & reporting</p> <p>-Quarterly reporting</p> <p>-Technical and monthly reports</p> <p>-Yearly report</p> <p>- Logistics: PPE, accommodation and food</p>



Exploration programme subsequent years	Time frame	Expenditure
+		
Exploration programme first year	Time frame	Expenditure
Literature review, Desktop Study and Technical Report preparation.	1 months	60 000.00
Environmental Impact Assessment (To acquire environmental clearance certificate)	2 months	150 000.00
Geological Mapping	2 months	250 000.00
Sampling and Rock Mechanical test	2 months	100 000.00
Drilling and Jack hammer sampling	5 months	500 000.00
3 x Quarterly Reports		6 000.00
Yearly Report		10 000.00
Total:	12 months	1 076 000.00

Grade and Tonnage Resource Estimations	2 months	100 000.00
2 x Quarterly Reports		4 000.00
Other Technical and Specialised Studies for Mining (Geotechnical Engineering; Environmental Management Plan; Mining Method and Plans Assessments)	6 months	500 000.00
2 x Quarterly Reports		4 000.00
Yearly Report		10 000.00
Bankable feasibility study	6 months	200 000.00
2 x Quarterly Reports		4 000.00
Application for Mining License if the project is viable	6 months	100 000.00
2 x Quarterly Reports		4 000.00
Yearly Report		10 000.00
Total:	24 months	936 000.00



6. REGULATORY FRAMEWORK AND OTHER REQUIREMENTS

6.1 Regulatory Agencies

The regulatory agencies guarding or implementing the relevant environmental regulations are listed as follows:

Table 1: Government agencies regulating environmental protection in Namibia.

REGULATING AGENCY	ROLE IN REGULATING ENVIRONMENTAL PROTECTION
Ministry of Environment and Tourism (MET)	<p>MET is the lead government agency charged with Environmental Monitoring, Assessment and Management. The mission of MET is to maintain and rehabilitate essential ecological processes and life-supported life-support systems, to conserve biological diversity and to ensure that the utilization of natural resources is sustainable for the benefit of all Namibians, both present and future, as well as the international community, as provided for in the Constitution.</p> <p>MET lays a foundation to implementation and promulgation of regulations relevant to this project including the Environmental Act no7. Of 2007, Park and Wildlife Management Bill, the Pollution Control and Waste Management Act, The MET plays role in approval of Environmental Impact Assessments (EIAs) which are prepared under Environmental Assessment Policy for Sustainable Development and Environmental Conservation (1995). Provisions in other line ministries' legislation (strengthens MET's position.</p>



6.2 ENVIRONMENTAL MANAGEMENT REQUIREMENTS

An important component of an Environmental Assessment process is the review of applicable and relevant legislation pertaining to this project. The legislative and regulatory foundation for protection and management of the environment and its natural resources is governed by the Namibian Constitution. Article 95(l) of the constitution clearly emphasizes the promotion of the welfare of the people, whereby *the maintenance of ecosystems, essential ecological processes and biological diversity of Namibia and utilization of living natural resources on a sustainable basis for the benefit of all Namibians, both present and future; in particular.*

In terms of the Environmental Management Act (7 of 2007) and the 2012 Environmental Impact Assessment (EIA) Regulations, this activity triggers the Environmental Impact Assessment process. The intended activity is a listed activity under Annexure 1(b) of the EIA Regulations and it states that the “the transmission and supply of electricity” may not be undertaken without an Environmental Clearance Certificate.

The completion of an EIA before this development is consistent with the Namibian environmental regulatory requirements.

These instruments make it mandatory for any proposed development to be subjected to an Environmental Assessment procedure. Both promote sustainable development and economic growth while safeguarding the environment in the long run. The figure below illustrates the Environmental Assessment process in Namibia.



6.3 LEGISLATION OF INTERNATIONAL SIGNIFICANCE

6.3.1 CONVENTION ON WETLANDS AND BIOLOGICAL DIVERSITY

The Convention on Wetlands of International Importance, especially as Waterfowl Habitat, 1971 (Ramsar) aims primarily to prevent the loss of wetlands, to promote the wise use of these, and to give special protection to listed wetlands. The Convention stresses a habitat-type approach rather than a species-specific approach.

The primary goal of the Convention on Biological Diversity, 1992, is the conservation of biodiversity. The causes of threats to biodiversity should be anticipated and prevented, and the precautionary principle should be applied. Parties to the convention are obliged to:

- Establish a network of protected areas;
- Create buffer areas adjacent to these protected areas using environmentally sound and sustainable development practices; and
- Rehabilitate degraded habitats and populations of species.

6.3.2 Convention on Combat Desertification (CBD)

The convention recognized that the conservation of biological diversity is “a common concern of humankind” and is an integral part of the development process. The agreement covers all ecosystems, species, and genetic resources. It links traditional conservation efforts to the economic goal of using biological resources sustainably. It sets principles for the fair and equitable sharing of the benefits arising from the use of genetic resources, notably those destined for commercial use.

The objectives of the CBD are:

- The conservation of biological diversity,
- The sustainable use of its components and
- The fair and equitable sharing of the benefits arising out of the utilization of genetic resources, including by appropriate access to genetic resources and by appropriate transfer of relevant technologies, taking into account all rights over those resources and to technologies, and by appropriate funding.

The Proponent and the contractors should therefore prevent the unnecessary disturbance of any species during the construction and operational phases. Conservation of species and ecosystem



to combat the increasing rate of loss of biological diversity is one of Namibia's challenges due to a heavy reliance on natural resources and ecosystem goods and services. In the interest of welfare of the people, the state has adopted policies aimed at maintaining ecosystems, ecological processes and biodiversity for the benefit of present and future generations. The National Biodiversity Strategy and Action Plan (NBSAP) and the Namibia Community-based Tourism Association (NACOBTA) can assist the Proponent in environmental management issues. Direct impact on biodiversity is minimal but a precautionary approach is necessary to ensure those disturbances are avoided.

6.4 Legal Requirements of national significance

National legislation exists to protect the environment and threats to public health. Included, among others, are issues related to the protection of public water supplies, nuisances and other public health issues. Nuisances are broadly defined as any condition which is considered to be offensive, injurious or dangerous to health. This definition is broad enough to cover a range of issues, and thus this law may be effective in any instance where public health might be compromised.

6.4.1 Applicable general provisions related to Vehicles and Driving:

6.4.1.1 People may use a vehicle in the park with their permit at any time except between 21:00 and 05:00. This provision does not apply to proclaimed roads and people may use those roads at any time.

6.4.1.2 Young people aged 16 years or younger may only drive or use a vehicle if an adult



accompanies him/her.

6.4.1.3 A valid driver's license will be required to use any motor vehicle in the park.

6.4.1.4 No person shall drive or use any vehicle in the park whilst under the influence of alcohol or any other narcotic substance or in such a way that is dangerous to human life or that may cause damage to any property or the environment.

6.4.2 Legislation related to Public Health

Section 119 of this Act prohibits the existence of a nuisance on any land owned or occupied by the Proponent. The term nuisance is important for the purpose of this EIA, as it is specified, where relevant in Section 122 as follows:

- a) any dwelling or premises which is or are of such construction as to be injurious or dangerous to health or which is or are liable to favour the spread of any infectious disease;
- b) any dung pit, sloptank, ash pit or manure heap so foul or in such a state or so constructed as to be offensive or to be injurious or dangerous to health;
- c) any area of land kept or permitted to remain in such a state as to be offensive, or liable to cause any infectious, communicable or preventable disease or injury or danger to health; or
- d) any other condition whatever which is offensive, injurious or dangerous to health.

practicable, he or she shall reduce the level to as low as is practicable and take all reasonable steps to the satisfaction of an inspector, isolate the source of the noise. Of relevance is the fact that holes will be drilled with noisy equipment for the planting of wooden poles.

6.4.3 Legislation related to Air Quality

Air pollution is controlled primarily by the Atmospheric Pollution Prevention Ordinance (11 of 1976). This Ordinance generally provides for the prevention of the pollution of the atmosphere.

Part IV of this ordinance deals with dust control. The Ordinance is clear in requiring that any



person carrying out an industrial process which is liable to cause a nuisance to persons residing in the vicinity or to cause dust pollution to the atmosphere, shall take the prescribed steps or, where no steps have been prescribed, to adopt the best practicable means for preventing such dust from becoming dispersed and causing a nuisance.

Of applicability to the envisaged project, is dust generated by vehicles or equipment as well as dust generated during excavation of foundation and earth works. The risk of dust generation is however low.

6.4.4 Legislation related to Soil Conservation

The objectives of the Soil conservation Act 76, 1969 are to make provision for the combating and prevention of soil erosion, and for the conservation, protection and improvement of the soil, the vegetation and the sources and resources of the water supplies.

Part II, deals with soil conservation works and it further states that in section 4(1) The Minister may by means of a direction order the owner of land to construct the soil conservation works referred to in such direction either on land belonging to such owner or on land belonging to another person, in such manner and within such period as may be mentioned in such direction, if the Minister is of the opinion that the construction of such soil conservation works is necessary in order to achieve any object of this Act in respect of the land belonging to such owner.

Of relevance is the fact that adjacent areas to the project site should not be disturbed. The use of existing tracks is essential. The Proponent should however ensure that when areas outside the project site boundaries are disturbed, rehabilitation should be conducted immediately once the activity has been completed.



6.4.5 Legislation related to petroleum products

Regulations made under the Petroleum Products and Energy Act 13 of 1990 states that:

A license or certificate is required for purposes of storing or keeping fuel in a quantity of 200 liters or less in any container kept at a place within a local Authority area or fuel in a quantity of 600 liters or less in any container kept at a place outside a local authority area.

Containers used to store or convey petroleum products

Petroleum product containers must be completely leak-proof and spill-proof and otherwise safe and suitable for storage and conveyance. Such containers may not be used as water trough or for any purpose that may cause environmental harm, safety or health of any person or animal.

Of relevance is that fact that heavy equipment or vehicles may carry significant quantities of fuel and proper precaution should be taken to prevent spills.

6.4.6 Legislation related to Nature Conservation

The Nature Conservation Ordinance (1975) as amended through the Nature Conservation Amendment Act of 1996 states that permits are required for entering the Namib National Park and for the removal of any indigenous plant or tree. It also stipulates that no damage may be done to any object of geological, ethnological, archaeological, historical or other scientific interest without the appropriate **permits**.

Off relevance is that the Proponent may only make use of the access road to the site and that no activities will be conducted in the Dorob National Park.



7. PHYSICAL GEOGRAPHY, CLIMATIC CONDITION AND GEOLOGY OF THE PROPOSED EXPLORATION SITE: EPL 4722

7.1 PHYSICAL GEOGRAPHY

The EPL locality constitutes a desert environment and is close to the vast African Plateau, which is segregated from the coastal Namib Desert to the west by a great escarpment (Gallo, undated). It is typified by sparse flora (vegetation) and fauna (animals). The targeted area comprises of alluvium, sand, dunes, calcrete and gravel. The vegetation around the EPL area is fundamentally xerophytic in nature with sparse semi-desert shrubs and grasses with some stunted trees (*Adenolobus garipensis*, *Euclea pseudebenus* or wild ebony 34 and others) along water courses (Walker, 2016). In terms of vegetation, the EPL comprises primarily of low short bushes and desert shrubs (Gallo, undated).



7.2 CLIMATIC CONDITION

The proposed EPL is positioned in the extreme south-west of Namibia and it is peculiar that it befalls on the margin between the summer and winter rainfall regions. In summer the temperature can go as high as the mid 40°C, while in winter it can go below 0 °C. Rainfall in winter is largely light showers with irregular hard drops. In summer the rainfall is interrelated to sporadic thunderstorms and is of a short-lived timeframe although it can be substantial. All the streams within the area are ephemeral but can flow very strongly after summer storm rainfall. Mean annual rainfall ranges between 25 and 50 mm (Walker, 2016). Annual precipitation is approximately 12 cm. Rainfall occurs between April to October when evaporation is at its peak.



7.3 GEOLOGY

7.3.1 GEOLOGY OF THE EPL LOCALITY

7.3.1.1 Mineralization Model and Exploration Targets

The selection of the potential mineralization model and exploration targets has been opted based on the regional and local geology, as well as the results of foregoing regional exploratory campaigns

The following three mineral commodity groups are targeted in the planned EPL extents:

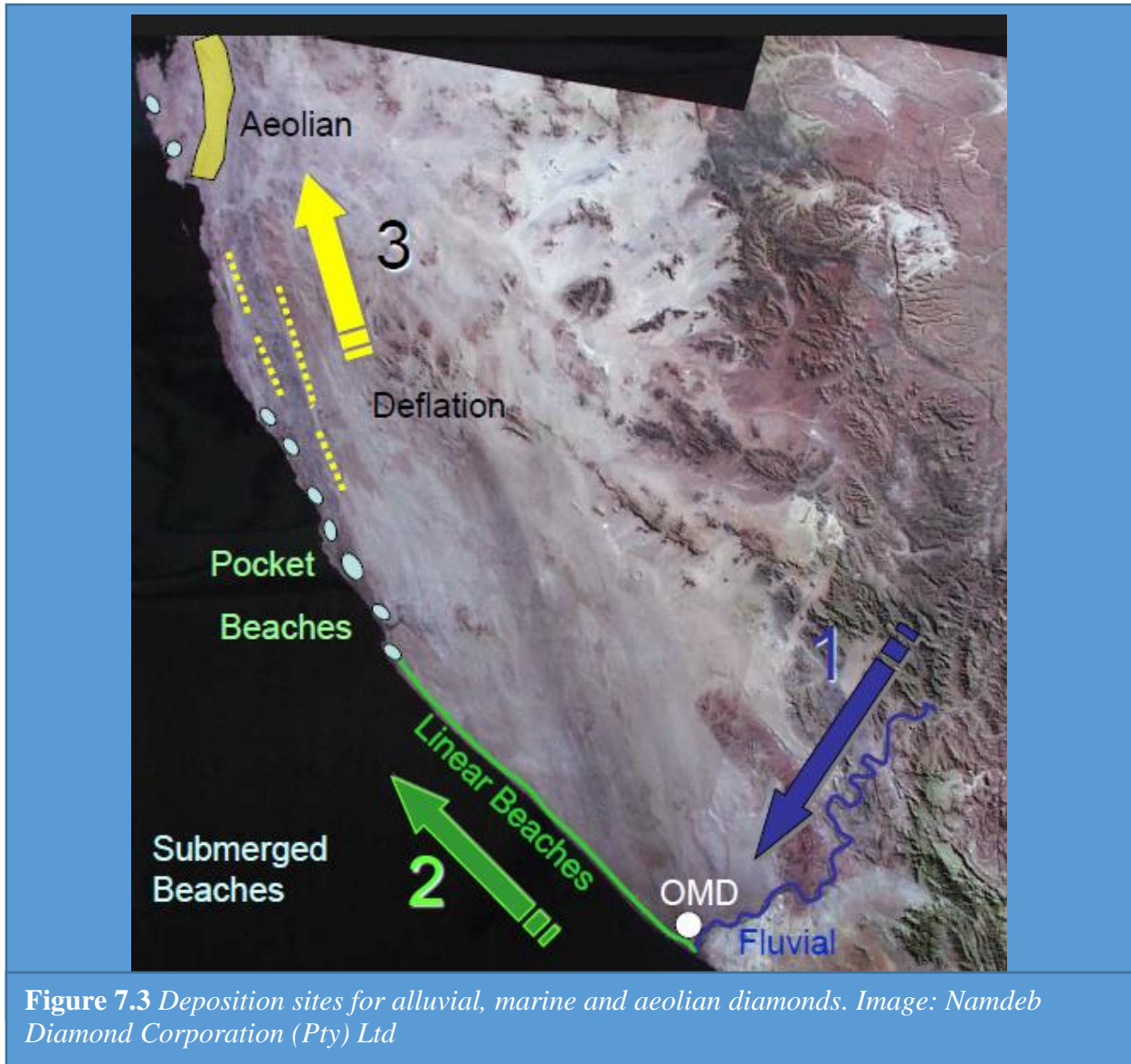
- (ii) Precious stones (ii) Industrial minerals (iii) Base and rare metals (iv) Nuclear fuels*
- (v) Non-nuclear fuel Semi-precious stones (applied for) (vi) Dimension stones*
- (applied for)*

The following is summary of the mineralization model and potential exploration targets: The area applied is geologically located on the Namaqua Metamorphic Complex (~1.8 Ga). These rocks are covered by wind-blown diamondiferous sand of Quaternary Age. The area covered by the proposed EPL comprises occasional ridges and dunes. It is entrained in linear aeolian transport passageways between which are defined by trains and barchans dunes. Bedload creep transport, often accompanied by the formation of granule ripples, is significantly boosted by saltation grain impact. Pebbles, boulders and crosscutting quartz veins and dykes form natural barriers that disturb the smooth flow the load, prompting the better deposition of heavy minerals on either side of these features.



The geological history of the marine placer deposits on the continental shelf of Namibia involves the interaction of fluvial (river-transported), marine and aeolian processes. The rock record of events is incomplete due to the perpetual erosion of sequences by the marine and aeolian processes.

Diamond deposition onto the continental shelf was triggered by numerous river systems draining the interior of southern Africa. The offshore deposits contained in composite marine sandy gravels are the product of continual reworking of the continental shelf materials during numerous regressions and transgressions. The formation of the offshore deposits has largely been controlled by marine coastal and near shore processes, but in Namibia aeolian processes reworked palaeo-shorelines whilst they were subaerially exposed during regression(s). This permitted the high-energy, unidirectional aeolian system functioning within the narrow, coastally placed depression basin to transport diamonds up the continental shelf, resulting in the formation of aeolian diamond placers.



7.4 Mineralization

Placer diamonds and other heavy minerals in the deflation belt could be related to the south-aligned re-entrant embayments of the coast and the palaeo-embayments of Luderitz, from which



the aeolian or wind deposited belts originated. Aeolian deposition gradually remobilized diamonds and other heavy minerals northwards towards the targeted area. In a different place, approximately 80 km to the northeast of the EPL area, exploration undertaken by other exploration companies have unveiled the presence of potential economic concentrations of heavy mineral sands with ilmenite, magnetite, rutile, zircon and possibly monazite. The occurrence of the ephemeral (short-lived) Koichab river is likely to impact fluvial activity by confined reworking of the aeolian deposits resulting in possible cyclical reworking of unconsolidated sediments which are subsequently transported and deposited along the banks of the river, as well as in the Koichab pan, within the EPL area (Macuvele, 2012). The onshore diamond deposits extending both onshore and offshore over some 600 km of coastline represent the world's greatest secondary diamond deposit (Corbett, 1996).

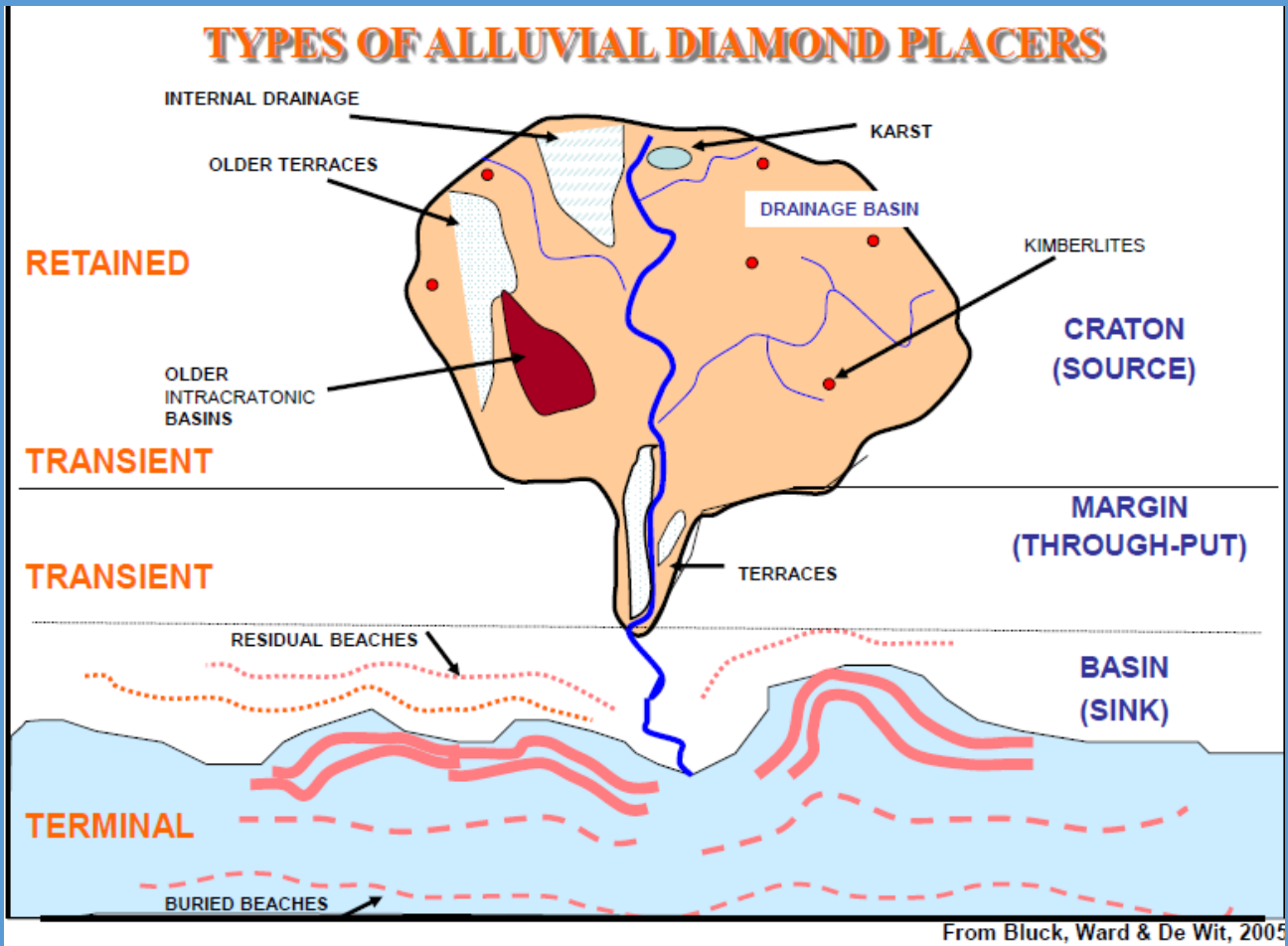


Figure 7.4: Primary and secondary diamond occurrences. Primary diamonds are hosted in the kimberlite volcanic pipes which typically resides on cratons. Due to fluvial processes, primary diamonds were transported from the kimberlite host rocks in Kimberly (South Africa) and subsequently washed into the Orange River as fluvial diamonds. Some fluvial diamonds were drained into the Atlantic Ocean and became marine diamonds. Due to continual regression and transgression, diamonds were deposited onshore in residual beaches, and were eventually transported by aeolian systems into deflated basins as aeolian placer diamonds. Image: Namdeb Diamond Corporation (Pty) Ltd



8. STAKEHOLDER CONSULTATION

The aim of stakeholder consultation process is to increase alertness by engaging people who are directly affected or concerned about this development. This is a crucial aspect during the planning and success of the exploration project. Permitting stakeholder approval offers guarantee and a sense of partnership/belonging with the developer and prevents unnecessary disputes and expenses during the setting of the project.

The Proponent has consulted with The Ministry of Environment and Tourism and The Ministry Of Mines and Energy, regarding the envisaged exploration project. Notices informing the public, stakeholders, interested and affected parties about the proposed mineral exploration were placed in two local newspapers, The Namibia and The Republikein.

No concerns or remarks were received from the public and from interested and affected parties as far as the environmental clearance application is concerned.



FRIDAY 14 AUGUST 2020

Market Watch

Market Watch

Kleinadvertensie

SPERTYE: 13:00 TWEE WERKSDAE VOOR PLASING
DEADLINES: 13:00 TWO WORKING DAYS PRIOR TO PLACEMENT

Geen advertensies sal telefonies aanvaar word nie.

INHOUDSOPGAWE CONTENTS

001 Sterfgevalle	001 Death Notices
002 In Memoriam	002 In Memoriam
003 Dankbetuigings	003 With Gratitude
004 Verlore	004 Lost
005 Kennisgewings	005 Notices
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010 Spesiale dienste	010 Services
011 Gelukwensings	011 Congratulations
012 Eiendomme	012 Properties
013 Bou en verf	013 Construction
014 Akkommodasie	014 Accommodation
015 Te huur gevra	015 Wanted to Let
016 Te huur	016 To Let
017 Komersieel te huur gevra	017 Commercial Wanted to Let
018 Komersieel te huur	018 Commercial to Let
019 Komersieel te koop gevra	019 Commercial Property to Buy
020 Komersieel te koop	020 Comm. Property for Sale
021 Allerlei te koop gevra	021 Goods Wanted to buy
022 Allerlei te koop	022 Goods for Sale
023 Diere	023 Animals
024 Motorfiets en fietse	024 Bicycles and Motorcycles
025 Motors	025 Vehicles
026 Vragmotors en sleepwaens	026 Trucks and Trailers
027 Huise te koop gevra	027 Residential Prop. to Buy
028 Huise te koop	028 Residential Prop. for Sale
029 Besighede	029 Businesses
030 Plase te koop gevra	030 Farms Wanted to Buy
031 Plase te koop	031 Farms for Sale
032 Veilings	032 Auctions
033 Erwe te koop gevra	033 Erven Wanted to Buy
034	034 Erven for Sale

005

Kennisgewings
Notices

BEGRAFNISPOLIS: Verseker u lewe + wys u liefde vir familie. Kry N\$100 000 vir man en vrou vir N\$150 met onmiddellike dekking. Plaas N\$500 maandeliks met 10% verhogings jaarliks, vir u aftrede, en kry na 20 jaar N\$655 000. Skakel 081-1220040/ 081-6

010

Spesiale dienste
Services

BRILLIANT DEVELOPMENT! Drawing plans, quick approvals, cost estimates, bills of quantities, quotations, construction management, bank approvals and finance sales and tenants. Call 081-1424248/ 085-1424248.

DM0202000366533

KENNISGEWING: Hiermee word die publiek, belanghebbendes en diegene wat daardeur beïnvloed mag word, in kennis gestel van 'n aansoek vir omgewingsklaring vir eksplorاسie vir minerale in EPL 4722, in die Lüderitz-gebied in die Karas-streek. Vir navrae kan die publiek en belanghebbendes in verbinding tree met +264-816113653 of E-pos aan principal_geologist@pantarei-divinitus-commodity.com

DM0202000366717

KENNISGEWING: Hiermee word die publiek, belanghebbendes en diegene wat daardeur beïnvloed mag word, in kennis gestel van 'n aansoek vir omgewingsklaring vir eksplorاسie vir minerale in EPL 8255, in die Lüderitz-gebied in die Karas-streek. Vir navrae kan die publiek en belanghebbendes in verbinding tree met +264-816113653 of E-pos aan principal_geologist@pantarei-divinitus-commodity.com

DM0202000366718

PRIVATE TRUCK RENTALS: 5-Ton trok te huur binne en buite Windhoek. Ons vervoer alles. Drywer ingesluit. Skakel vir bekostigbare pryse. PW 081-1834893.

DM0202000366565

BUILDING AND RENOVATIONS: Plumbing, burst pipes, leaking taps, roof sealing, fitting glass panes, fitting doors and welling. Call 081-3771003.

DM0202000366614

ARCHITECTURAL AND ENGINEERING: Drawings and inspections, commercial and residential structures, double storey buildings, farms, amending plans. Call 081-3771003.

DM0202000366511

**UBI CARITAS
GRAVESTONES
& TABLE TOPS**

19 ISCOR STR.
NORTHERN IND. WINDHOEK
TEL: 061-230965
FAX: 061-208957

Figure 8.1: Newspaper advertisement about the proposed mineral exploration in the Republiek in Newspaper.



THURSDAY 14 AUGUST 2020 29

Notices	Notices
• Legal •	• Name Change •
<p>MINISTRY OF TRADE AND INDUSTRY LIQUOR ACT, 1998 NOTICE OF APPLICATION TO A COMMITTEE TERMS OF THE LIQUOR ACT, 1998 (regulations 14, 26 & 33) Notice is given that an application in terms of the Liquor Act, 1998, particulars of which appear below, will be made to the Regional Liquor Licensing Committee, Region: OMAHEKE</p> <ol style="list-style-type: none"> 1. Name and postal address of applicant: HENRY MARENGA, P.O BOX 38 TALLISMANES 2. Name of business or proposed business to which application relates: TALLISMANES BAR 3. Address / location of premises to which application relates: P.O BOX TALLISMANES 4. Nature and details of application: SPECIAL LIQUOR LICENCE 5. Clerk of the court with whom application will be lodged: GOBABIS 6. Date on which application will be lodged: 04/08/2020 7. Date of meeting of Committee at which application will be heard: 04/08/2020 <p>Any objection or written submission in terms of section 28 of the Act in relation to the application must be sent or delivered to the Secretary of the Committee to reach the Secretary not less than 21 days before the date of the meeting of the Committee at which the application will be heard.</p> <p>4722 This serves to kindly inform the public, affected parties and stakeholders of an application of an environmental clearance for mineral exploration on EPL 4722, Luderitz Area, Karas Region, Namibia. For inquiries, the public, affected parties and stakeholders can contact +264 81 6113653 principal_geologist@pantar-ei-divinitus-commodity.com</p> <p>8255 This serves to kindly inform the public, affected parties and stakeholders of an application of an environmental clearance for mineral exploration on EPL 8255, Luderitz Area, Karas Region, Namibia. For inquiries, the public, affected parties and stakeholders can contact +264 81 6113653 principal_geologist@pantar-ei-divinitus-commodity.com</p>	<p>THE ALIENS ACT, 1937 NOTICE OF INTENTION OF CHANGE OF SURNAME I, (1) SHAPOPI MICHAEL residing at ERF 100 HAVANA CARSBERN, WINDHOEK and carrying on business / employed as (2) UNEMPLOYED intend applying to the Minister of Home Affairs for authority under section 9 of the Aliens Act, 1937, to assume the surname GUSTAF for the reasons that (3) BECAUSE ON MY BIRTH CERTIFICATE THERE IS NO SURNAME ONLY TWO NAMES I previously bore the name (s) SHAPOPI MICHAEL I intend also applying for authority to change the surname of my wife and minor child (ren) (5) Any person who objects to my/ our assumption of the said surname of GUSTAF should as soon as may be lodge his/ her objection, in writing, with a statement of his/her reasons therefor, with the Magistrate of WINDHOEK Date: 13 JULY 2020</p> <p>CLAO200005743</p> <p>Government Gazette THE ALIENS ACT, 1937 INTENTION OF CHANGE OF SURNAME I, Herman Daniel Lusae residing at No 11 Baltimore Court, Schepmann Street, Pionierspark Extension 1 and employed as a salesman, intend applying to the Minister of Home Affairs for authority under section 9 of the Aliens Act, 1937, to assume the surname Oosthuizen for the reason that I want to use my step father's surname. I previously bore the name Lusae. Any person who objects to my assumption of the said surname of Oosthuizen should as soon as may be lodge his or her objection, in writing, with a statement of his or her reasons therefor, with the Magistrate of Windhoek. H D. LUSSE P.O. BOX 8419 Windhoek North NAMIBIA.</p> <p>CLAO200005939</p> <p>NOTICE TO CREDITORS IN DECEASED ESTATES All persons having claims against the estates below are called to lodge their claims with the executors concerned within a period of 30 days (or otherwise as indicated) from the date of publication hereof. Registration number of estate: 1224/2020 Surname: Anona Christian Names: Isafina Identity Number/DOB: 3030600569 Region/Last Address: Opundja, Oshakati - Karas Region Date of death: 14 August 2016 Christian Name and Surname of Surviving Spouse: Identity number:</p>

Figure 8.2: Newspaper advertisement about the proposed mineral exploration in The Namibian Newspaper.



9. ENVIRONMENTAL IMPACTS

9.1 Positive Impacts

9.1.1 Employment/job creation

The exploration project creates both direct and indirect employment opportunities. The geochemical sampling, geophysical data acquisition, geological mapping, among other exploratory activities will employ of about 8 to 10 people, whereas, the transporting, offloading and shipping, quality control and quality assurance of geochemical samples will create about 3 more jobs.

9.1.2 Enhancement measures for employment/job creation

- Where unskilled and semi-skilled labour can be utilized, local people will be considered first Pantarei Divinitus Commodity.
- It is proposed that local people, meaning the community members from Aus and Luderitz, should be employed as far as possible, especially where no particular skills are sought after.
- Both men and women should be granted the opportunity to be part of this project and benefit economically to support their families.

9. 1.3 Benefits to local retailers' shop

Mining is the highest foreign currency earner and GDP generator in Namibia, therefore the presence of an exploration project stands to benefit the local economies from project related to consumption, for example, the retail, accommodation, medical, pharmaceutical and recreation sectors



9.1.4. Enhancement measures for support to local retailers' shops

Pantarei Divinitus Commodity Trading Enterprises (Pty) Ltd and its employees are encouraged to purchase or support local retailers in Luderitz and Aus Towns unless the intended material/product to purchase is not locally available.

9.1.5 Export taxes and VAT payment

Export taxes and VAT payments contribute prominently to the revenue generation of the country. Thus, without these payments our government will not be able to sustain projects on infrastructure, being it water, roads or electricity and also sanitation facilities nationwide.

9.1.6 Enhancement measures for export taxes and VAT payment

- Pantarei Divinitus Commodity Trading (Pty) Ltd and its workforce are encouraged to make these payments when applicable to support the economic growth of the country.

9.2 NEGATIVE IMPACTS

9.2.1 Solid waste: wires, drill bits, and human waste

Human activities at the exploration camp will to some extent produce litter. This impact will be minimized or/and eliminated by providing adequate waste collection cans. In addition, awareness posters are proposed as constant reminders in emphasizing compliance.

9.2.1.1 Mitigation

- Provision of sufficient waste bins, particularly in areas of the site where litter is in abundance, and
- Awareness enhancement measures by use of visual posters, mainly for illiterate.
- For human waste, mobile toilet should be made available on site for employees and visitors, once these facilities are full, the collected human waste should be disposed at the Luderitz or Aus human waste disposal site. Prior to the disposal of the above-mentioned wastes, Pantarei Divinitus Commodity Trading Enterprises (Pty) Ltd must entered into agreement with the Luderitz and Aus for consent to use their facility.



9.2.2 Impact of oil spills on groundwater aquifer and surface water streams

The use of heavy exploration vehicles and air compressor generators on the exploration site will pose a risk of oils spillage. Besides the health risk of its biodiversity, oil and oil spillage contaminates topsoil and, both secondary and primary aquifer, and it inhibits biological productivity of top soil.

9.2.2.1 Mitigation

- Offer skills training and supervision to staff to ensure minimal oil spillage.
- Daily inspections before the start of every work schedule or shift involving potential or possible oil spillage.
- Used oil to be given to recycling companies.

9.2.3 Land or soil disturbance: on site and the proposed access stretch road

The sampling technique will involve collecting about 1 kg soil or rock samples from outcrops and therefore disturbing the landform and the soil cover in the immediate surroundings of the exploration site. This undertaking will have visual effect and has the potential of harming the structural nature and biological productivity of topsoil.

9.2.3.1 Mitigation

- The topsoil from 0 to 30cm to be excavated and stockpiled for the rehabilitation and reclamation processes.
- The topsoil in the immediate vicinity of the sampling site should be removed and stockpiled for re-cultivation during decommissioning.
- It is suggested that topsoil to be removed down to the subsoil as topsoil is always a rare resource, which is crucial in reclamation.
- Where topsoil is less than 150mm thick, the unconsolidated (lose) material below should also be removed and treated as topsoil.
- Land markings and shallow pits formed during geochemical sampling shall be retrieved to original landform and visual state as much as possible. Furthermore, this mitigation measure shall extend and applies to any disturbance induced by any access road



9.2.5 Biodiversity (fauna and flora)

Some of the anthropogenic activities of the proposed project i.e. vehicles, human movements, excavating and drilling pose a risk to the integrity of crucial biodiversity as well as the biological productivity of the proposed mineral exploration site and the adjacent localities.

9.2.5.1 Mitigation

- Disturbed areas must be kept to a minimum
- Barriers/barricades/road signs confining driving trucks must be put up to avoid stray driving and trampling on the sensitive fauna and flora of the Namib Naukluft Nation.
- Rules pertaining to safe guarding against poaching and collection of plant and plant products must be established and enforced.
- Avoid damage to endangered flora during exploration and usage of heavy machines.
- Disturbance of marginal vegetation/plants at hills/ridges should be restricted or avoided if need be.
- Avoid disturbance on invertebrates such as wild horses, springboks and gemsboks on site and along the gravel road.
- During operation avoid the creation of multiples roads, which could result in the disturbance of breeding sites for mammals.

9.2.6 Potential spread of HIV/AIDS

In the proposed exploration project area, it is estimated that about one out of every four people could be HIV positive. Foregoing studies has indicated that employees or exploration workers residing in explorations camps may involve in risky sexual behaviour with members of the community near the exploration site. This can contribute to the spread of HIV both in the project area and beyond to another region.



9.6.1. Mitigation

- Pantarei Divinitus Commodity Trading Enterprises should sensitize and emphasize on the risks of sexual behaviour, and also the impacts of HIV/AIDS to its employees. Condoms to be distributed to employees at all to ensure safe sexual practices. Workers should be prohibited to engage in such activities with minors. Mitigation measures as outlined in the EMP should be adhered to.



10. IMPLEMENTING THE ENVIRONMENTAL MANAGEMENT PLAN (EMP)

10.1 Overview

In the preceding sections, the environmental aspects which may be affected by the planned exploration project have been categorized into negative and positive impacts. As an extension of the preceding sections, this section is a summary of the objectives, indicators to be observed, schedules to be adhered to obligations and responsibilities of various stakeholders to the EMP.

The following abbreviations are used to indicate who is accountable for what impact mitigation or **impact minimization** goal:

- Exploration Manager and Environmental Coordinator SM/ENCO
- Site Foreman SF
- Project Staff PS
- Project Proponent PP
- Environmental Impact Assessment Consultant EIAC
- Environmental Commissioner EC
- Interested and Affected parties I & AP



Table 1: Project Planning and Implementation Objectives	Indicators	Schedule	Responsibility
Establish a strong environmental protocol from project implementation to final closure to ensure least possible impacts to the environment	Resources (Financial, human, equipment and safety gear) are provided for the awareness, meetings, monitoring and reporting.	At the beginning of the exploration phase.	PP, SM
Expedite the appointment of a		At the planning	PP, I & AP

Objectives	Indicators	Schedule	Responsibility
senior person to assume the responsibility of an environmental coordinator (ENC)	senior person to assume the responsibility of an environmental coordinator (ENC)	stage or at the beginning of the implementation phase of the exploration phase	To maximize the economic spin off into the local economy.



Table 2: Implementing the EMP Objectives	Indicators	Schedule	Responsibility
To define roles and responsibilities according to the EMP	Staff and site visitors are aware of requirements and contents of the EMP	From the start to the closure of the exploration phase	ENC
To implement environmental management that is preventative and proactive	Inappropriate behavior will be corrected. Explanation as to why inappropriate behavior is unacceptable, and if appropriate the perpetrator is disciplined.	From the start to the closure of the exploration phase	ENC

Objectives	Indicators	Schedule	Responsibility
employing local people, particular in semi to unskilled job categories			
To maximize the economic spin off into the local economy and nation at large through export taxes and VAT payment	The towns of Luderitz and Aus should first be considered in the procurement of services and equipment, particularly those which can be sourced locally	From the planning of the exploration phase right through to the end	PP, SM



Table 4: Implementing of the Negative Impacts Objectives	Indicators	Schedule	Responsibility
To avoid any form of litter by paper, wires, human waste and drill bites on and around the exploration site	No litter or/and remnants of liter shall be visible around the project site	From the beginning of the exploration phase right through to the end	SF, PS, SM
To avoid any form of oil spills on and around the exploration site	No oil spillage or/and remnants of oil spillage shall be visible around the	From the beginning of the exploration phase right through to the	SF, PS

Objectives	Indicators	Schedule	Responsibility
site	project site	end	
To minimize land and soil disturbance	Driving tracks and excavation shall be restricted and only be visible within the project site.	From the beginning of the exploration phase right through to the end	SM, SF
To minimize dust generation on site and atmospheric pollution	Emissions/generation particulate content of the dust around the site and gravel roads shall not exceed maximum allowable concentration that may affect human being and animals.	From the beginning of the exploration phase right through to the end	SM, SF
To protect and conserve fauna and flora within the exploration project area	Minimum levels of habitat disturbance as prescribed in the EMP to be adhered to.	From the beginning of the exploration phase right through to the end	SM, SF



To prevent the potential spread of HIV/AIDS	No potential spread of HIV/AIDS by the employees and mitigation measures prescribed in the EMP should be adhered to	From the beginning of the exploration phase right through to the end	SM, SF
To ensure compliance with statutory requirements	Assurance measures shall be put in place and Periodic inspections aimed at corrective action undertaken, recorded and documented	From the beginning of the exploration phase right through to the end	EC, PP

11. MONITORING, REPORTING AND CORRECTIVE ACTION

11.1. Overview

Monitoring of the EMP performance for the proposed mineral exploration project by Pantarei Divinitus Commodity Trading Enterprises (Pty) Ltd emphasizes early dictation, reporting and corrective action. It is divided into three parts, namely:

- Monitoring of activities and effects to be undertaken by the environmental coordinator (ENC)
- Reporting of all incidents and situations which have the potential of jeopardizing compliance of statutory provisions as well as provisions of this EMP.
- Taking corrective measures which are prompt, adequate and long lasting in addressing non-compliance activities or behaviour.



Table 5: Solid waste, Oil spillage or used oil, Land and Soil Disturbance, Dust generation on site and gravel roads stretch, Biodiversity (fauna and flora), Compliance

Mitigation	Compliance	Follow up Action Required	By Whom	When	Date Completed
Are disposal drums/bins available or full?					

12. Environmental awareness

Environmental regulations, rules and procedures apply to everybody, including subcontractors, visitors, permanent and short-term workers. Therefore, anybody who finds him or herself within the boundaries of the planned exploration site must **comply fully** to the Environmental Code of Conduct as outlined in this section of the EMP.

- The term environment entails a whole surrounding around us, or conditions in which a person, animal, or plant lives or operates/functions. In the essence of this project, the term environment denotes the spontaneous surroundings in a particular geographical area, especially as affected by human activity.
- The environmental coordinator will implement on site environmental guidelines and has the authority to issue warnings as well as discipline any person who transgresses environmental rules and procedures. Continuous transgression of environmental rules will result in a disciplinary hearing and thereafter continued non-compliance behaviour will result in permanent removal from the exploration site.
- Continuous assistance from the environmental coordinator must be maintained in case some members of the project team do not understand or do not know how to keep up with established environmental guidelines.



12. Management guidelines

12.1. Natural environment management guidelines

- a. Never feed, tease or play with, hunt, kill, destroy or set devices to catch any wild animal (including birds, reptiles and mammals), livestock or pets. Do not bring any wild animal or pet to the exploration site.
- b. Do not pick any plant or take any animal out of the exploration area. You will be prosecuted and asked to leave the project area.
- c. Never leave litter and food scraps or bones where it will attract animals, birds or insects. Rubbish must be thrown into the correct rubbish bins or bags provided.
- e. Do not drive over, build upon, or camp on any sensitive habitats for plants and animals.
- d. Do not cut down any part of living trees / bushes for firewood.
- f. Do not destroy bird nest, dens, burrow pits, termite hills etc. or any other natural objects in the area.



12.2. Vehicle use and access guidance

- i. Never drive any vehicle without a valid licence for that particular vehicle and do not drive any vehicle that lacks roadworthiness.
- ii. Never drive any vehicle when under the influence of alcohol or drugs.
- iii. DO NOT make any new roads without consent. Stay within demarcated areas.
- iv. Avoid U-Turns and large turning circles. 3-point turns are encouraged.
- v. Stay on the road, do not make a second set of tracks.
- vi. DO NOT SPEED - 60 km per hour for normal vehicles and 30km per hour for heavy trucks on gravel roads and around the site.
- vii. No off-road driving is allowed.
- viii. Vehicles may only drive on demarcated roads.
- ix. Adhere to speed limits (i.e. 60 km per hour for normal vehicles and 30km per hour for heavy trucks on gravel roads and around the site) and drive with headlights switched on along any gravel road **as per the National road authority regulations.**

12.3. Control of dust guidance

- a. Do not make new roads or clear any vegetation unless instructed to do so by your Contractor or the Environmental Coordinator or site manager.
- b. Do not try to disturb the surface of the natural landscape.
- c. Do not speed on gravel roads and around the exploration site and adhere to the speed limits.
- d. Apply water to suppress the dust were the generation of the dust on either gravel roads or exploration site is beyond control.

12.4. Health and safety guidance

- a. Consume lots of water on a daily basis, but only from the fresh water supplies. **The Namib Desert is arid, and this procedure should be deemed mandatory.**
- b. Take the reasonable precautions to avoid contracting the HIV/AIDS virus; **Use protection every time you engage in sexual activities or else abstain.**
- c. Never enter any area that is out of bounds, or demarcated as dangerous or wander off without informing or permission of team leader.
- d. Never climb over any fence or trespass on private property without consent of the landowner or consultation with the Environmental Coordinator, Site Manager.



Report to your Contractor if you see a stranger or unauthorized person in the exploration area.

f. Do not remove any vehicle, machinery, equipment or any other object from the exploration camp site or along the profile or at a seismic testing station without permission of your Contractor or Site Manager.

g. Wear protective clothing and equipment required and according to instructions from your Contractor or Site Manager. Mandatory.

h. Do not engage in sexual relationship with minor and also adhere to zero tolerance to spread HIV/AIDS.

12.5. Preventing pollution and hazardous working conditions guidance

I. Never throw any hazardous substance such as fuel, oil, solvents, etc. into streams or onto the ground.

II. Never allow any hazardous substance to soak into the soil.

III. Inform your Contractor or Environmental Coordinator when you spill, or notice any hazardous substance being spilled anywhere in the field or camp.

IV. Report to your Contractor or Environmental Coordinator when you notice any container, which may hold a hazardous substance, overflow, leak or drip.

V. Immediately notify to your Contractor or Environmental Coordinator when you notice overflowing problems or unhygienic conditions at the ablution facilities, vehicles, equipment and machinery, containers and other surfaces.

12.6. Disposal of solid and liquid waste guidance

a. Learn to know the difference between the two main types of waste, namely: General Waste; and Hazardous Waste.

b. Learn how to identify the containers, bins, drums or bags for the different types of wastes. Never dispose of hazardous waste in the bins or skips intended for general waste or exploration rubble.

c. Never burn or bury any waste on the camp or in the field.

d. Never overfill any waste container, drum, bin or bag. Inform your Contractor or the Environmental Coordinator/ the Project Geologist / Site Manager if the containers, drums, bins or skips are nearly full.

e. Never litter or throwaway any waste on the site, in the field or along any road.



f. No illegal dumping.



12.7 Dealing with environmental complaints guidance

- a. If you have any complaint about dangerous working conditions or potential pollution to the environment, immediately report this to the Environmental Coordinator
- b. If any person complains to you about noise, lights, littering, pollution, or any other harmful or dangerous condition, immediately report this to your Contractor.

12.8. Environmental Personnel Register

Table 11 shows the Environmental Personnel Register to be signed by every person who receives or attends the Environmental Awareness Training or who has the training material explained to him or her or in possession of the training material.

Table 11: Environmental Personnel Register Date	Name	Company	Signature



13. SITE CLOSURE AND REHABILITATION

In the context the proposed project, rehabilitation refers to the process of returning, restoring reclaiming disturbed land and soil to some extent of its spontaneous state. The scope of the Pantarei Divinitus Commodity Trading Enterprises (Pty) Ltd in site rehabilitation emphasizes the backfilling of sampling/drilling holes and cover with topsoil in areas that will be disturbed by the planned exploration work. These will be but not limited to the access road, vehicle tracks around the site, removal and restoration of areas covered by stockpile and rock piles. Furthermore, this section outlines rehabilitation objectives and proposes or recommends rehabilitation and reclamation obligations which the proponent shall comply to.



13.1. Objectives of the site closure and rehabilitation

- Reduction or elimination of the need for a long-term management program to control and minimize the long term impacts.
- Clean up, treatment or restoration of disturbed or/and contaminated areas.

In addition, the following rehabilitation measures are important and should be implemented wherever necessary:

- A site inspection will be held after completion of the exploration process to determine the nature and scope of the rehabilitation work to be undertaken. The rehabilitation will be done to the satisfaction of both Pantarei Divinitus Commodity Trading Enterprises (Pty) Ltd and MET.
- The rehabilitation work should commence soon after the end the active exploration period.
- The access road and all vehicle tracks should be rehabilitated by raking or dragging with tyres or tree branches (other suitable methods) behind a vehicle.
- With regard to both biological productivity and erosion, topsoil is arguably the significant resource in the project area, for that reason, the recovered to topsoil and subsoil should be utilized to reconstruct the original soil profile.
- All waste shall be removed, and potential hazards, particularly pits closed and left in a safe disposition.
- All rehabilitated areas shall be considered **no-go areas** and the **environmental coordinator shall ensure that none of the staff members enters the area after rehabilitation/reclamation.**



14. Conclusion and recommendations

14.1 Conclusion

The fundamental principle or rationale behind environmental assessments (EAs) is to ensure a balance in socio-economic and environmental necessities, more so when proposed mineral exploration projects are of such a nature that they negatively affect some needs at the expense of the other. Ultimately, EIAs should enhance and optimize proposed projects towards being more beneficial and important by suggesting mitigation or precautionary measures, designing and executing strategies.

Against this backdrop, it is expected that this project will be beneficial and important to the proponent, national economy, the local social conditions and the local economy if the mitigation measures suggested in this EMP are adhered to. However, it should be acknowledged that disturbance to the environment will be encountered, but that will be minimal and within legally satisfactory margins.

This EMP should be looked upon as an outline for integrating or combining mitigation measures and practical legal instruments to ensure both compliance and sustainability. It is highly crucial that the proponent provides adequate means (human, financial, tangible and intangible assets) for the fulfillment of the strategy.



14.2 Recommendations

The proposed exploration project may go ahead provided that all the provisions of the EMP as well as all issued permit are followed. Recommended actions to be implemented by Pantarei Divinitus Commodity Trading Enterprises (Pty) Ltd as part of the management of the likely impacts through implementations of the EMP are:

- Contract an Environmental Coordinator / Consultant / suitable in-house resources person to lead and further develop, implement and promote environmental culture through awareness raising of the workforce, contractors and sub-contractors in the field during the whole duration of the proposed exploration programme period;
- Provide with other support, human and financial resources, for the implementation of the proposed mitigations and effective environmental management during the planned exploration activities
- Develop a simplified environmental induction and awareness programme for all the workforce, contractors and sub-contractors
- Where contracted service providers are likely to cause environmental Impacts, these will need to identify and contract agreements need to be developed with costing provisions for environmental liabilities;
- Implement internal and external monitoring of the actions and management strategies developed during the mineral exploration and possible exploration duration and a final Environmental Monitoring report be prepared by the Environmental Coordinator / Consultant / Suitable in-house resource person and to be submitted to the regulators and to end the proposed exploration project;
- Develop and implement a monitoring programme that will fit into the overall company's Environmental Management Systems (EMS) as well as for any future EIA for possible exploration projects.



It is hereby recommended that Pantarei Divinitus Commodity Trading Enterprises (Pty) Ltd take all the necessary steps to implement all the recommendations of the EMP for the successful implementation and completion of the proposed mineral exploration project.



15. REFERENCES

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16. Appendices