# **ENVIRONMENTAL MANAGEMENT PLAN**

ENVIRONMENTAL ASSESSMENT (EA) FOR EXCLUSIVE PROSPECTING LICENSE (EPL) No. 6526 LOCATED NEAR LUDERITZ, KARAS REGION, NAMIBIA

### **ENVIRONMENTAL MANAGEMENT PLAN – FINAL DRAFT**

**ECC Application Reference: APP-001575** 

Author(s): Ms. Rose Mtuleni

Reviewer: Mr. Nerson Tjelos

Company: Excel Dynamic Solutions Ltd

Telephone: +264 (0) 61 259 530

Email: info@edsnamibia.com

Client: Mr Franklin Ailohi Ohiozebau

Contact person: Mr Franklin Ailohi

Ohiozebau

Telephone: +264 81 307 4719

Email: divinelink.consult@gmail.com

December 2020

## **TABLE OF CONTENTS**

	1.1 Pr	oject Background	3
	1.2 Ai	m of the Draft Environmental Management Plan (EMP)	6
	1.3	Appointed Environmental Assessment Practitioner	7
	1.4	Details of the Project Proponent	7
	1.5	Environmental Assessment Legal Requirements	8
	1.6	Draft EMP Limitations	10
2	EMI	PROLES AND RESPONSIBILITIES	11
	2.1 Ma	anagement of Key Potential Environmental Impacts	13
	2.2 Ai	m of the EMP Actions	14
	2.3 O	peration Phase Management Action Plans	14
	2.4 M	onitoring Phase Management Action Plans	20
	2.5 De	commissioning and Rehabilitation Phase	31
3	EΝ\	/IRONMENTAL MONITORING	32
4	COI	NCLUSION	32
5	COVIE	0-19 Influences	. Error! Bookmark not defined.
	IST (	OF FIGURES	
-			

Figure 1: Location of EPL No. 6526 near Luderitz in the Karas Region...... 5

### LIST OF TABLES

Table 1: Proponent contact details and purpose of the required ECC	
Table 2: Applicable legal requirements and permits to the EMP for offshore exploration activity on EPL 652	26 9
Table 3: Summary of key potential environmental impacts per project phase13	
Table 4: Management action plans for the Operation and Maintenance Phase14	
Table 5: Management action plans for the Monitoring Phase	

### 1 INTRODUCTION

## 1.1 Project Background

Mr. Franklin Ailohi Ohiozebau (hereinafter referred to as The Proponent), a holder of the Exclusive Prospecting License (EPL) 6526 granted by the Ministry of Mines and Energy (MME) intends to acquire an Environmental Clearance Certificate (ECC) in order to conduct exploration and test mining activities on the EPL. The Proponent focuses on the acquisition, exploration and development of Precious Stones. EPL 6526 covers an area of 28681.28113 hectares (ha), and is located 70km NNW of Lüderitz and 43km west of Hottentots Bay, off the southwestern coast of Namibia. The locality map of the EPL is shown in **Figure 1**.

The Proponent has submitted an application seeking approval of the Ministry of Environment, Forestry and Tourism (MEFT) to undertake exploration works on EPL 6526.

In terms of Section 27 (1) of the Environmental Management Act (EMA), No. 7 of 2007, in line with Section 32-37 of the Environmental Management Act as stipulated in the Gazette of 2012, indicating the listed activities that may not be carried out without an Environmental Impact Assessment (EIA) being undertaken and Environmental Clearance Certificate (ECC) being obtained. The relevant listed activities as per EIA regulations are:

- 3.1 The construction of facilities for any process or activities which requires a license, right of other forms of authorization, and the renewal of a license, right or other form of authorization, in terms of the Minerals (Prospecting and Mining Act, 1992).
- 3.2 other forms of mining or extraction of any natural resources whether regulated by law or not.
- 3.3 Resource extraction, manipulation, conservation and related activities.

It is important that any relevant listed activity that occurs adheres to the Regulations of the EIAs. This document has been prepared as a requirement by Regulation 8 of the Environmental Management Act (EMA) 2012 Regulations. The compilation of this EMP was also conducted as one of the requirements presented to EDS by the Proponent. Therefore, it is required from an Environmental Consultant (Environmental Assessment Practitioner (EAP)) to comply with the Environmental Management Act and provide for the following:

- Carry out an explicit Environmental Management Plan as a guideline to monitor compliance to the recommendations stipulated
  in the EIA and to assist in managing and monitoring activities throughout the operation and maintenance of the proposed
  exploration, sampling and waste dumps mining/test mining activities.
- Furthermore, the Environmental Consultant must clearly elucidate in the EMP the roles and responsibilities of the Proponent, the contractors and any other identified stakeholders.

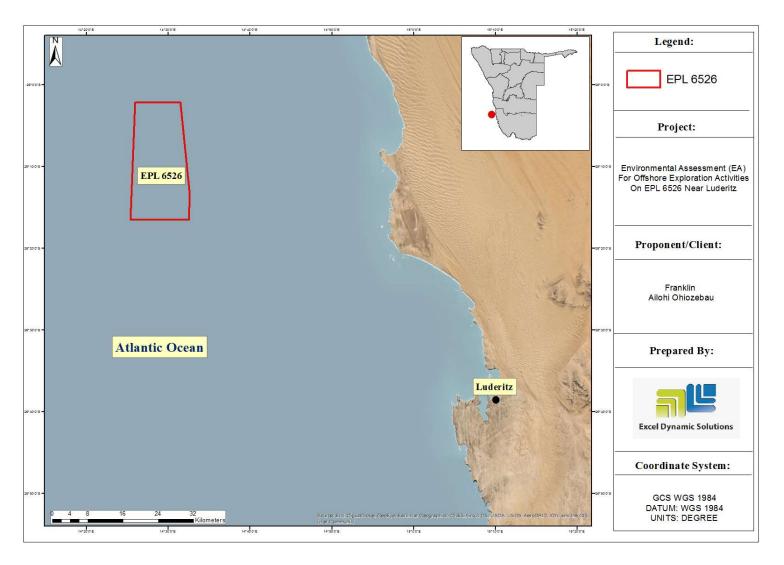


Figure 1: Location of EPL No. 6526 near Luderitz in the Karas Region

## 1.2 Aim of the Draft Environmental Management Plan (EMP)

Regulation 8(j) of the EMA, 2007 and its EIA Regulations (2012) requires that a draft EMP be included as part of the Scoping Report. The Act defines a 'Management Plan' as:

"...a plan that describes how activities that may have significant effects on the environment are to be mitigated, controlled and monitored."

An EMP is one of the most important outputs of the EA process as it synthesizes all the proposed mitigation and monitoring actions, set to a timeline and with specific assigned responsibilities. It provides a link between the impacts identified in the EA process and the required environmental management on the ground during project implementation and operation. It is important to note that an EMP is a statutory document and a person who contravenes the provisions of this EMP may face imprisonment and/or a fine. This EMP is a living document and should be amended to adapt to address project changes and/or environmental conditions and feedback from compliance monitoring.

The purpose of this document is to provide a guideline to environmental management throughout the different phases of the proposed exploration project, namely: operation and maintenance; and decommissioning phases:

- Operation and Maintenance This is the current phase of the exploration, which includes marine sampling and geophysical surveying, and related activities. It is also the phase during which maintenance of the site, equipment and machinery is done by the Proponent.
- Decommissioning and Rehabilitation This is the phase during which the exploration, activity on the EPL 6526 will come to an
  end. Decommissioning of the operation would be considered due to a number of factors, which may include amongst others,
  poor exploration results, or a decline in the target commodities market price. During the operational phase and before
  decommissioning, the Proponent will need to put site rehabilitation measures in place.

This draft EMP will be used by the Proponent, employees and/or contractors to provide management measures to be followed during the exploration phase, to address the impacts on the environment that have been identified in the Environmental Assessment Report; and to ensure that the impacts on the environment are avoided or limited as far as possible if they cannot be avoided completely.

Environmental Monitoring Requirements: In order to ensure that the desired results are achieved and supported by the proposed mitigation measures; a monitoring plan must be implemented alongside the mitigation plans. Bi-annual environmental performance audits should be also undertaken.

## 1.3 Appointed Environmental Assessment Practitioner

In order to satisfy the requirements of the EMA and its 2012 EIA Regulations, the Proponent appointed Excel Dynamic Solutions Pty Ltd (EDS), an independent team of environmental consultants, to conduct the required Environmental Assessment (EA) process and submit the ECC application on their behalf.

This draft Environmental Management Plan (EMP) is submitted as part of an application for an ECC to the Environmental Commissioner at the Department of Environmental Affairs (DEA) in the Ministry of Environment, Forestry and Tourism (MEFT) and the Ministry of Mines and Energy (MME).

The EA project is headed by Mr. Nerson Tjelos, a qualified and experienced Geoscientist and experienced EAP. The consultation process and reporting are done by Ms. Rose Mtuleni with support from Ms. Althea Brandt and Mr. Silas David. The geological desktop study has been prepared by Mr. Tjelos, while the Marine ecological studies of the EPL have been provided by Dr. Lisa Guastella.

# 1.4 Details of the Project Proponent

The details of the Proponent are presented in **Table 1** below.

•

Table 1: Proponent contact details and purpose of the required ECC

Full name of Proponent	Contact number	Postal Address	ECC Application for:
Mr. Franklin	Erf. 813, Geelsysie Street,	P.O. Box 26422	Exploration activities on
Ailohi	Windhoek	Windhoek	Exclusive Prospecting License
Ohiozebau	Tel/Fax: +264-61 255488	Namibia	(EPL) No. 6526 near Lüderitz in the //Karas Region, Namibia.
	Cell: +264-81-307 4719		
	Fax2Email: 088615252 (Namibia)		

# 1.5 Environmental Assessment Legal Requirements

The content of the EMP must meet the requirements of Section 8 (j) of the EIA Regulations. The EMP must address the potential environmental impacts of the proposed activities on the environment throughout the project life-cycle. It should also include a system for assessment of the effectiveness of monitoring and management arrangements after implementation.

The Proponent therefore has the responsibility to ensure that all exploration activities, and the EA process conform to the principles of the EMA. It is also required of the Proponent to ensure that employees act in accordance with such principles. **Table 2** below lists the requirements of an EMP as stipulated by Section 8 (j) of the EIA Regulations, primarily on specific approvals and permits that may be required for the exploration, sampling and surveying activities.

Table 2: Applicable legal requirements and permits to the EMP for offshore exploration activity on EPL 6526

Legislation/Policy/	Relevant Provisions	Implications for this project		
Guideline				
Environmental Management	Requires that projects with significant environmental impacts are	The EMA and its regulations should inform		
Act EMA (No 7 of 2007)	subject to an environmental assessment process (Section 27).	and guide this EA process.		
	Details principles which are to guide all EAs.	Should the ECC be issued to the Proponent,		
Environmental Impact	Details requirements for public consultation within a given	it should be renewed every 3 years, counting		
Assessment (EIA)	environmental assessment process (GN 30 S21).	from the date of issue.		
Regulations GN 28-30 (GG	Details the requirements for what should be included in a Scoping	Contact details at the Department of		
4878)	Report (GN 30 S8) and an Assessment Report (GN 30 S15).	Environmental Affairs (DEA), Ministry of		
		Environment, Forestry and Tourism (MEFT)  Contact person(s) at MEFT and their details:		
		Mr. Damian Nchindo or Mr. Josafat		
		Hiwana (Chief and Senior Conservation		
		Scientists and EIA Report		
		Reviewers/evaluators)		
		Tel: +264 61 284 2717 / +264 61 284 2962		
		Email: <u>damian.nchindo@met.gov.na</u> and		
		josafat.hiwana@met.gov.na, respectively		

### 1.6 Draft EMP Limitations

This EMP has been drafted with the acknowledgment of the following limitations:

- This EMP has been drafted based on the EA conducted for exploration activities on the EPL 6526 located near Lüderitz in the Karas region. Detailed Geology and Marine Ecology specialist studies are included as part of the environmental assessment.
- The mitigation measures recommended in this EMP document are based on the risks/impacts in the EA Report which were
  identified based on the project description as provided by the Proponent, geological and marine ecological studies, as well as
  site investigations. Should the scope of the proposed project change, the risks/impacts will have to be reassessed and mitigation
  measures provided accordingly.

#### 2 EMP ROLES AND RESPONSIBILITIES

This section presents the project's roles and responsibilities to be assigned as deemed necessary by the Proponent pertaining to the implementation of this document.

The Proponent is ultimately responsible for the implementation of the EMP. Alternatively, the Proponent may delegate this responsibility at any time, as they deem necessary during the project phases. The roles and responsibilities of all delegates/parties involved in the effective implementation of this EMP are set out below:

Competent and Monitoring authority (Ministry of Environment, Forestry and Tourism: Directorate of Environmental Affairs (DEA)): Responsible for enforcing compliance with the EMA, its regulations and full implementation of this EMP. The competent authority also reviews biannual reports and grant ECC renewal after 3 years following annual environmental Audits as stipulated in the National Policy on Prospecting and Mining in Protected Areas (2018).

Proponent's Representative (PR): If the Proponent does not personally manage all aspects of operation and maintenance phase activities, decommissioning and rehabilitation, referred to in this EMP, they should assign this responsibility to a suitably qualified individual referred to in this plan as the Proponent's Representative (PR). The Proponent may decide to assign the role of a PR to one person for both phases or a PR may be appointed to manage the EMP aspects for each phase of the project. The PR's responsibilities include:

- Managing the implementation of this EMP and updating and maintaining it when necessary.
- Management and monitoring of individuals and/ or equipment on-site in terms of compliance with this EMP.
- Issuing fines for contravening EMP provisions.

Site Project Manager (as appropriate): This individual(s) will be responsible to ensure that the exploration, sampling and waste dumps mining/test mining activities are completed on time as per the expectations of the Proponent. The manager's duties and responsibilities will include:

- Ensure that the relevant commitments contained in the EMP Action Plans are adhered to.
- Ensure relevant staff is trained in procedures.
- Maintain records of all relevant environmental documentation.
- Reviewing the EMP annually and amending the document when necessary.
- Issuing fines to individuals who may be in breach of the EMP provision and if necessary, removing such individuals from the site.
- Cooperate with all relevant interested and affected parties/ stakeholders.
- Development and management of schedules for daily activities.

Alternatively, the Proponent may delegate an external/internal Environmental Control Officer (ECO) or Safety, Health and Environmental (SHE) Officer to ensure EMP compliance throughout the project life cycle.

Environmental Control Officer (ECO) or Safety, Health and Environmental (SHE) Officer: The Proponent should assign the responsibility of overseeing the implementation of the whole EMP to a designated member of staff or external qualified and experienced person, referred to in this EMP as the ECO or SHE Officer. The ECO will have the following responsibilities:

- Management and facilitation of communication between the Proponent, PR and Interested and Affected Parties (I&APs) with regard to this EMP.
- Conducting site inspections (recommended frequency is monthly during the operation phase and bi-annually for the operation and maintenance) of all areas with respect to the implementation of this EMP (monitor and audit the implementation of the EMP).
- Advising the PR on the removal of person(s) and/or equipment not complying with the provisions of this EMP.

- Making recommendations to the PR with respect to the issuing of fines for contraventions of the EMP.
- Undertaking monthly/bi-annual/ annual reviews of the EMP and recommending additions and/or changes to this document.

## 2.1 Management of Key Potential Environmental Impacts

From the assessment conducted, the following key potential negative impacts have been identified per project phase and are summarized in **Table 3** below.

Table 3: Summary of key potential environmental impacts per project phase

	Project Phase	Potential negative impacts identified in the EA
1	Operation and maintenance	Loss of biodiversity, Loss of benthic habitats, noise disturbance, light disturbance, waste, Health and safety, and climatological impacts.  The monitoring of environmental impacts of exploration works in offshore locations can be challenging due to limited access to site and possible telecommunication challenges.
2	Decommissioning and Rehabilitation	Loss of employment by workers at exploration site and lost opportunities for contribution to the national economy.

## 2.2 Aim of the EMP Actions

The aim of the management actions of the EMP is to avoid potential negative impacts where possible. Where impacts cannot be avoided, measures are provided to reduce the significance of these impacts.

Management actions recommended for the potential impacts rated in the EA carried out for the exploration activities were based on the three project phases listed below:

- Operation and Maintenance phase (Table 4)
- Monitoring (Table 5)
- Decommissioning and Rehabilitation

## 2.3 Operation Phase Management Action Plans

The management action plans recommended for this phase are presented in **Table 4** below.

**Table 4: Management action plans for the Operation and Maintenance Phase** 

Environmental Feature	Impact	Management Actions	Responsible person(s) / Implementation responsibility	Timeframe (When?)
EMP training	A lack of EMP	All personnel should be educated about the necessary	Proponent: ECO/SHE	Prior to site/vessel
	awareness and	health, safety and environmental considerations applicable	Officer	setup activities
	the implications	to their respective works.		
				Ongoing

Environmental Feature	Impact	Management Actions	Responsible person(s) / Implementation responsibility	Timeframe (When?)
Monitoring	EMP non-	The implementation of this EMP should be monitored.	Proponent: ECO/SHE	During the course of
	compliance	An EMP non-compliance penalty system should be	Officer	the exploration
		implemented on site		works
Biodiversity	Loss of		ECO/SHE Officer/ Site	During the course of
	biodiversity and	Environmental awareness on the importance of	Manager/ Personnel	the exploration
	Benthic Habitats	biodiversity preservation should be provided to the		works
		workers.		
		The movement of vessels and machinery in operation		
		should be restricted to the EPL area, to prevent		
		unnecessary damage to the marine fauna and flora.		
		Conduct macrofaunal surveys to record benthic marine		
		life and seabed topography studies in order to		
		understand the benthic environment of the EPL.		
		Geophysical surveys should assist in identifying any		
		biodiversity-rich benthic environments within the EPL, in		
		order to avoid, where possible, sampling from habitat and		
		biodiversity rich benthic environments.		
		Ensure that sampling only occurs in the defined target		
		sampling spots with as minimal effect to the surrounding		
		benthic environment as possible.		

Environmental Feature	Impact	Management Actions	Responsible person(s) / Implementation responsibility	Timeframe (When?)
		<ul> <li>Environmental awareness on the importance of biodiversity preservation should be provided to the workers.</li> </ul>		
Noise Disturbance	Noise from exploration vessels affects the health and function of fisheries and marine mammals.	<ul> <li>The Proponent should make efforts for considerations of seasonal availability of marine mammals and adult fisheries within the NIMPA, and carry out surveying activity during seasons of less cetacean activity in shelf waters.</li> <li>Maintain the Marine Life Sightings Programme from vessels, to record the presence, proximity to and behaviour patterns of marine mammals, adult fishes and seabirds near the exploration vessel.</li> </ul>	Proponent Manager / SHE Officer	During the course of the exploration works
Light Disturbance	Light projection from exploration vessels and machinery create disturbance of marine fisheries and mammals.	<ul> <li>Record the presence, proximity to and behaviour patterns of fishes and marine mammals near the exploration vessels during surveying and sampling operations, through Marine Life Sightings Programme.</li> </ul>	Proponent Manager / SHE Officer	During the course of the exploration works

Environmental Feature	Impact	Management Actions	Responsible person(s) / Implementation responsibility	Timeframe (When?)
		Avoid habitat disturbance of large marine mammals such as whales through specialized marine mammal observation, in order to prevent disruption of whale communities and incidents		
Waste Generation	Marine Pollution	<ul> <li>The exploration vessel should be equipped with secured waste containers for waste collection.</li> <li>Metal waste should be sent to shore for recycling.</li> <li>Galley waste will be ground by on board macerator pumps and disposed of overboard, as in accordance with the International Convention for Prevention of Marine Pollution for Ships (MARPOL).</li> <li>Wastewater containing &lt; 15ppm oil may be discharged overboard.</li> <li>Other waste types may be incinerated and the remainder will also be sent to shore via tug.</li> <li>A penalty system for irresponsible disposal of waste on site and anywhere in the area should be implemented.</li> </ul>	ECO/Site Manager, Personnel	Throughout the exploration works

Environmental Feature	Impact	Management Actions	Responsible person(s) / Implementation responsibility	Timeframe (When?)
Potential Health	Health and safety	Workers should be tested before-hand for high fever and/or	Proponent	Prior to site setup
and Safety Risks	of	COVID-19 prior to exploration, if exploration works are		activities
<b>,</b>	the workers	allowed to proceed.		and
		As part of their induction, the workers should be provided		required
		with an awareness training of the risks of mishandling		during
		equipment and materials on site.		exploration,
		When working on site, employees should be properly		sampling
		equipped with personal protective equipment (PPE) such as		and waste
		coveralls, gloves, safety boots, earplugs, safety glasses,		dumps
		etc.		mining/test
		Workers should be provided with masks and hand sanitiser.		mining
		No employee should be allowed to drink alcohol prior to and		phase
		during working hours as this may lead to mishandling of		
		equipment which results into injuries and other health and		
		safety risks.		
		Employees should not be allowed to carry out operational		
		duties on site if under the influence of alcohol.		
		Maintain high safety standards on each vessel and arrange		
		annual audits by the National Occupational Safety		
		Association (NOSA) to ensure ratings are maintained		
		Ensure compliance with the IMO International Safety		
		Management (ISM) Code		

Environmental Feature	Impact	Management Actions	Responsible person(s) / Implementation responsibility	Timeframe (When?)
		<ul> <li>HIV/AIDS health education, counselling, and provision condoms</li> </ul>		
Climatological impacts	Weather impact on operations activity	<ul> <li>Ensure functional access to marine meteorological services on the vessel, to keep track of forecasted weather conditions including waves, winds, currents, and precipitation conditions.</li> <li>Plan weather sensitive geo-survey and sampling activity is advance to ensure that they occur under harmless weather conditions.</li> </ul>		Throughout the course of the exploration works.

## **2.4 Monitoring Phase Management Action Plans**

In order to support and ensure that the proposed mitigation measures are achieving the desired results, a monitoring plan must be implemented. The recommended management action plans for activity involved in exploration works are presented in **Table 5** below.

**Table 5: Management action plans for the Monitoring Phase** 

Environmental Feature	Impact	Management Actions	Responsible person(s) / Implementation responsibility	Frequency	Threshold	Action if threshold is exceeded
EMP Training	A lack of EMP awareness and the implications	All personnel should be educated about the necessary health, safety and environmental considerations applicable to their respective works.	ECO / SHE Officer	Daily/Weekly	Increase in health, safety and environmental damage incidents	Regular safety, health and environment awareness talks; Remedy the consequences
Monitoring	EMP non- compliance	<ul> <li>The ECO or the         Proponent/Contractor         should monitor the         implementation of this         EMP to ensure         compliance.     </li> <li>The ECO(s) should</li> <li>inspect the site</li> <li>throughout the</li> </ul>	ECO / SHE Officer	Daily	Increase in health, safety and environmental damage incidents	Daily safety talks, Remedy the consequences

Environmental Feature	Impact	Management Actions	Responsible person(s) / Implementation responsibility	Frequency	Threshold	Action if threshold is exceeded
		exploration, sampling and				
		surveying periods.				
Biodiversity	Loss of		ECO/SHE Officer/	Daily / Weekly	Loss of marine	Remedy the
	biodiversity	Environmental awareness on	Site Manager/		fisheries and	consequences;
	and Benthic	the importance of biodiversity	Personnel		mammals, and	End or pause
	Habitats	preservation should be			benthic fauna	operations if impact
		provided to the workers.			and flora.	significance is high
		• The movement of				
		vessels and machinery				
		in operation should be				
		restricted to the EPL				
		area, to prevent				
		unnecessary damage				
		to the marine fauna and				
		flora.				
		Conduct macrofaunal				
		surveys to record				
		benthic marine life and				
		seabed topography				
		studies in order to				
		understand the benthic				

Environmental Feature	Impact	Management Actions	Responsible person(s) / Implementation responsibility	Frequency	Threshold	Action if threshold is exceeded
		environment of the				
		EPL.				
		Geophysical surveys				
		should assist in				
		identifying any				
		biodiversity-rich benthic				
		environments within the				
		EPL, in order to avoid,				
		where possible,				
		sampling from habitat				
		and biodiversity rich				
		benthic environments.				
		Ensure that sampling				
		only occurs in the				
		defined target sampling				
		spots with as minimal				
		effect to the				
		surrounding benthic				
		environment as				
		possible.				

Environmental Feature	Impact	Management Actions	Responsible person(s) / Implementation responsibility	Frequency	Threshold	Action if threshold is exceeded
		Environmental     awareness on the importance of biodiversity preservation should be provided to the workers.				
Noise Disturbance	Noise from exploration vessels affects the health and function of fisheries and marine mammals.	<ul> <li>The Proponent should make efforts for considerations of seasonal availability of marine mammals and adult fisheries within the NIMPA, and carry out surveying activity during seasons of less cetacean activity in shelf waters.</li> <li>Maintain the Marine Life Sightings</li> </ul>	Proponent Manager / SHE Officer	Daily/weekly	Loss of marine mammals within the territory of exploration due to excessive noise	Review and regulation of operations noise levels

Environmental Feature	Impact	Management Actions	Responsible person(s) / Implementation responsibility	Frequency	Threshold	Action if threshold is exceeded
		Programme from				
		vessels, to record the				
		presence, proximity to				
		and behaviour patterns				
		of marine mammals,				
		adult fishes and				
		seabirds near the				
		exploration vessel				
Light	Light	Record the presence,	Proponent	Daily/Weekly	Loss of marine	Review and
Disturbance	projection	proximity to and	Manager / SHE		mammals	regulation of
	from	behaviour patterns of	Officer		within the	operations light
	exploration	fishes and marine			territory of	projection levels.
	vessels and	mammals near the			exploration due	
	machinery	exploration vessels during			to intense	
	create	surveying and sampling			exposure to	
	disturbance of	operations, through			light.	
	marine	Marine Life Sightings				
	fisheries and	Programme.				
	mammals.					

Environmental Feature	Impact	Management Actions	Responsible person(s) / Implementation responsibility	Frequency	Threshold	Action if threshold is exceeded
Waste Generation	Marine Pollution	<ul> <li>Avoid habitat disturbance of large marine mammals such as whales through specialized marine mammal observation, in order to prevent disruption of whale communities and incidents</li> <li>The exploration vessel should be equipped with secured waste containers for waste collection.</li> <li>Metal waste should be sent to shore for recycling.</li> <li>Galley waste will be ground by on board macerator pumps and disposed of overboard, as in accordance with the International</li> </ul>	ECO/Site Manager, Personnel	Daily	Visible littering around project site  A logged complaint  Poor water quality within the EPL due to waste from exploration operation	Clean-up of the affected areas; Ensuring workers follow waste disposal procedures; Emphasis on utilisation of waste containers provided.

Environmental Feature	Impact	Management Actions	Responsible person(s) / Implementation responsibility	Frequency	Threshold	Action if threshold is exceeded
		Convention for Prevention of Marine Pollution for Ships (MARPOL).  • Wastewater containing < 15ppm oil may be discharged overboard.  • Other waste types may be incinerated and the remainder will also be sent to shore via tug.  • A penalty system for irresponsible disposal of waste on site and anywhere in the area should be implemented.				
Potential Health and Safety Risks	Health and safety of the workers	<ul> <li>Workers should be tested before-hand for high fever prior to exploration, if exploration works are allowed to proceed.</li> </ul>	Proponent	Daily	Injuries, Fatalities or near fatal incident	Incident investigations, Review of safety and health procedures and regulations,

Environmental Feature	Impact	Management Actions	Responsible person(s) / Implementation responsibility	Frequency	Threshold	Action if threshold is exceeded
		As part of their induction,				
		the workers should be				
		provided with an				
		awareness training of the				
		risks of mishandling				
		equipment and materials				
		on site.				
		When working on site,				
		employees should be				
		properly equipped with				
		personal protective				
		equipment (PPE) such as				
		coveralls, gloves, safety				
		boots, earplugs, safety				
		glasses, etc.				
		No employee should be				
		allowed to drink alcohol				
		prior to and during				
		working hours as this may				
		lead to mishandling of				
		equipment which results				

Environmental Feature	Impact	Management Actions	Responsible person(s) / Implementation responsibility	Frequency	Threshold	Action if threshold is exceeded
		into injuries and other				
		health and safety risks.				
		Employees should not be				
		allowed to carry out				
		operational duties on site				
		if under the influence of				
		alcohol.				
		<ul> <li>Maintain high safety</li> </ul>				
		standards on each vessel				
		and arrange annual audits				
		by the National				
		Occupational Safety				
		Association (NOSA) to				
		ensure ratings are				
		maintained				
		Ensure compliance with				
		the IMO International				
		Safety Management				
		(ISM) Code				
		<ul> <li>Provision of readily</li> </ul>				
		available access to				

Environmental Feature	Impact	Management Actions	Responsible person(s) / Implementation responsibility	Frequency	Threshold	Action if threshold is exceeded
		HIV/AIDS testing and				
		counselling				
		Ensure COVID-19				
		preventative measures				
		are taken into account				
		during the operations,				
		and workers practise				
		social distancing and are				
		provided with masks				

Environmental Feature	Impact	Management Actions	Responsible person(s) / Implementation responsibility	Frequency	Threshold	Action if threshold is exceeded
Climatological impacts	Weather impact on operations activity	<ul> <li>Ensure functional access to marine meteorological services on the vessel, to keep track of forecasted weather conditions including waves, winds, currents, and precipitation conditions.</li> <li>Plan weather sensitive geo-survey and sampling activity in advance to ensure that they occur under harmless weather</li> </ul>	ECO	Weekly	Disruption of operations by weather	Review of weather sources and better forecasting and modeling sources.
		conditions.				

## 2.5 Decommissioning and Rehabilitation Phase

Decommissioning of exploration works and rehabilitation of the EPL must occur in accordance with the conditions of the ECC. The Proponent must have, during the course of exploration, relevant decommissioning and rehabilitation programmes detailing rehabilitation actions required to obtain closure of exploration activity. Decommissioning and rehabilitation includes will include (not limited to) the following:

- Any tailings from sampling activity are to be deposited back at sampled areas.
- Ensure all waste material is disposed of correctly and the area of exploration is able to allow marine fauna and flora to inhabit the area again.
- Refilling of any detonation holes created during from seismic surveying.
- Any temporary set up of material on site meant to facilitate exploration activity should be dismantled or removed, and the area should be rehabilitated to as near as it could possibly get to its original state.

#### 3 ENVIRONMENTAL MONITORING

In order to reduce the impacts identified and assessed in the EIA report from "medium" and uphold the "low" significance ratings. Bi-annual and annual EMP compliance audits should be carried out during the course of the project cycle. The first bi-annual audit exercise should be done counting 6 months from the date of ECC issuance. Monitoring reports are to be compiled and submitted to the DEA for archiving. This practice will make the ECC renewal easy when it is about to expire. Therefore, the Proponent should meritoriously monitor and submit the reports to the DEA. The submission is not only done for record keeping purposes, but also in compliance with the environmental legislation and the National Policy on Prospecting and Mining in Protected Areas.

#### 4 CONCLUSION

The potential positive and negative impacts stemming from the planned exploration, sampling activity on the EPL 6526 were identified, assessed and mitigation measures made thereof. The mitigation measures and recommendations provided in the EA report and the management action plans provided in this draft EMP, can be deemed sufficient to avoid and/or reduce (where impact avoidance is impossible) the risks to acceptable levels. The Consultant is confident that these measures are sufficient and thus recommend that the Proponent be granted an ECC to enable them to carry out exploration activity on the EPL.

However, the ECC should be issued on a condition that the provided management measures and action plans are effectively implemented on site and monitored. Most importantly, monitoring of the environmental components described in the impact assessment chapter should be conducted by the Proponent and applicable Competent Authority. This is to ensure that all potential impacts identified in this study and other impacts that might arise during the exploration phase are properly identified in time and addressed. Lastly, should the ECC be issued, the Proponent will be expected to be compliant with the ECC conditions as well as legal requirements governing the mineral exploration and related activities as stipulated in the National Policy on Prospecting and Mining in Protected Areas, including;

- Furnishing the MEFT and MME with an environmental report every six (6) months
- Carrying out and submission of an annual Environmental Audit to the MEFT and MME