MINERAL EXPLORATION ACTIVITIES ON EXCLUSIVE PROSPECTING LICENCE (EPL) 5046, OTJOZONDJUPA REGION, NAMIBIA

UPDATED ENVIRONMENTAL MANAGEMENT PLAN

Originally Assessed by:

SLR Environmental Consulting (Namibia) (Pty) Ltd

Assessed for:

Okorusu Fluorspar (Pty) Ltd

Updated: May 2024

Prepared by: Rose Mtuleni & Oliver Krappmann

Title	**Updated Environmental Management Plan (EMP) for the Mineral Exploration Activities on Exclusive Prospecting License (EPL) 5046 – Otjozondjupa Region**
Author	**SLR Namibia, (2015) Environmental Scoping Assessment for EPL5046**
Amended by	**Rose Mtuleni – May 2024**
Reviewer	**Oliver Krappmann**
Client	**Okorusu Fluorspar (Pty) Ltd**
Version	**01 – Draft for Internal Review**
Authoriser	**Ministry of Environment, Forestry and Tourism**
Date	**May 2024**

TABLE OF CONTENTS

1 INTRODUCTION 1

2 EMP OVERVIEW 4

2.1 POTENTIAL IMPACTS IDENTIFIED 4

3 ADMINISTRATIVE & LEGAL FRAMEWORK 5

4 IMPLEMENTATION OF THE EMP 7

4.1 ROLES AND RESPONSIBILITIES FOR ENVIRONMENTAL MANAGEMENT 7

4.1.1 Communication Between Parties 7

4.1.2 The Exploration Company 7

4.1.3 Site Managers 8

4.1.4 Environmental Control Officer 8

4.1.5 Drilling / Exploration Contractors 8

5 MANAGEMENT PROGRAMME 9

6 CONCLUSIONS 25

7 REFERENCES 26

LIST OF FIGURES

FIGURE 1: EPL 5046 LOCALITY MAP 2

FIGURE 2: EPL 5046 SITE MAP 2

LIST OF TABLES

TABLE 1. MANAGEMENT PLAN FOR EXPLORATION ACTIVITIES ON EPL 5046 10

ACRONYMS

DEA	Department of Environmental Affairs
ECC	Environmental Clearance Certificate
ECO	Environmental Control Officer
EMP	Environmental Management Plan
EMS	Environmental Management System
EPL	Excusive Prospecting License
ERP	Emergency Response Plan
MEFT	Ministry of Environment, Forestry & Tourism
MME	Ministry of Mines & Energy
MSDS	Material Safety Data Sheet
PPE	Personal Protective Equipment
WHO	World Health Organisation

1 INTRODUCTION

Okorusu Fluorspar (Pty) Ltd (hereafter referred to as Okorusu Fluorspar) are conducting exploration activities for Base and Rare Metals, Industrial Minerals, and Precious Metals, on their Exclusive Prospecting Licence (EPL) 5046. The licence is located northwest of Otjiwarongo in the Otjozondjupa Region. Okorusu Fluorspar was granted EPL 5046 in September 2014 by the Ministry of Mines and Energy (MME). The company required an Environmental Clearance Certificate (ECC) in order for the exploration activities to commence and be conducted on the EPL. In support to an application for such an ECC, an Environmental Scoping Assessment was compiled by SLR Environmental Consulting (Namibia) (Pty) Ltd (SLR Namibia) in the year 2015. The scoping report included mitigation measures which have been detailed in the related Environmental Management Plan (EMP) which was submitted to the Department of Environmental Affairs (DEA) of the Ministry of Environmental Forestry and Tourism (MEFT). An ECC was granted on the 12th of February 2018 and renewed on the 22nd of June 2021. This EMP is updated (May 2024) to affect the second renewal of the ECC for the project.

The EPL overlies a portion of Mining License (ML) 90 to the south, which also belongs to Okorusu Fluorspar. Currently, since November 2018, the mine is under Care and Maintenance. Neither mining nor any detailed exploration activity is occurring on site. However, from February 2024, some drone survey activities have taken place over the area.

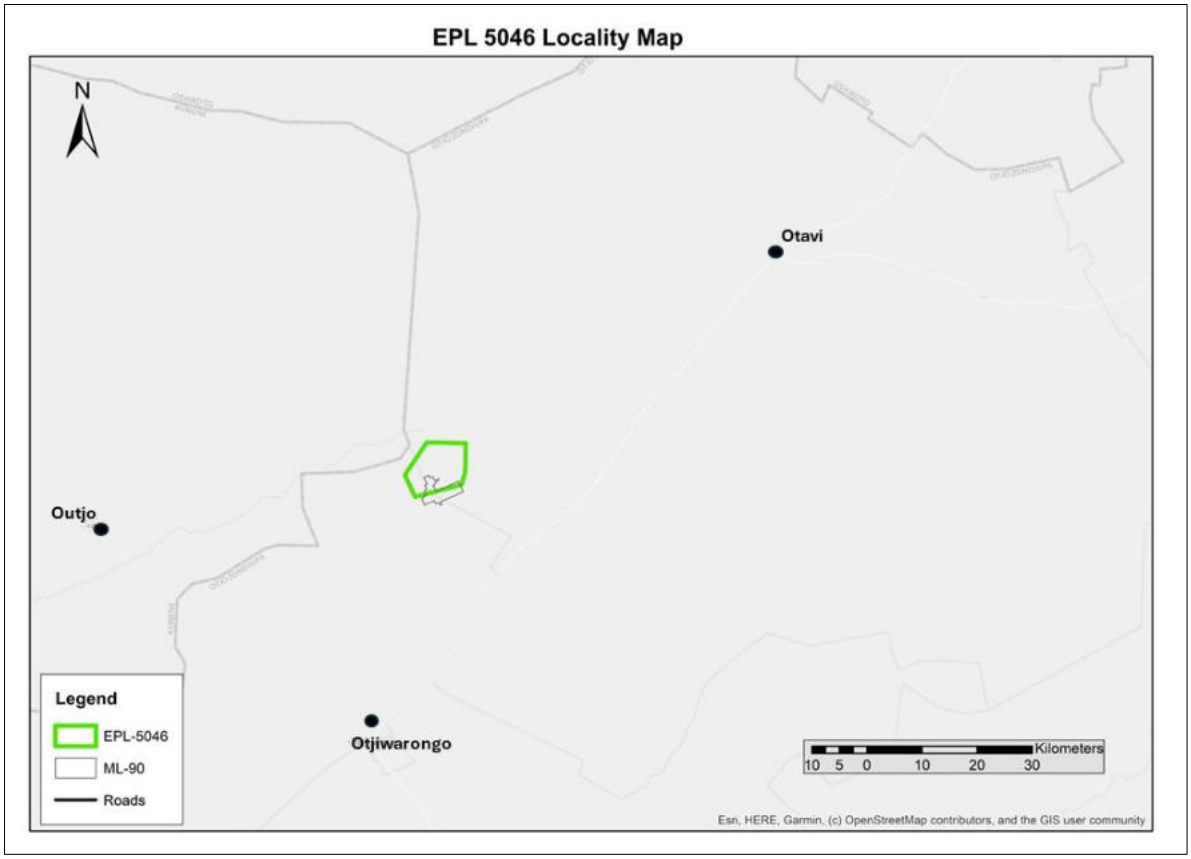

Figure 1: EPL 5046 Locality Map

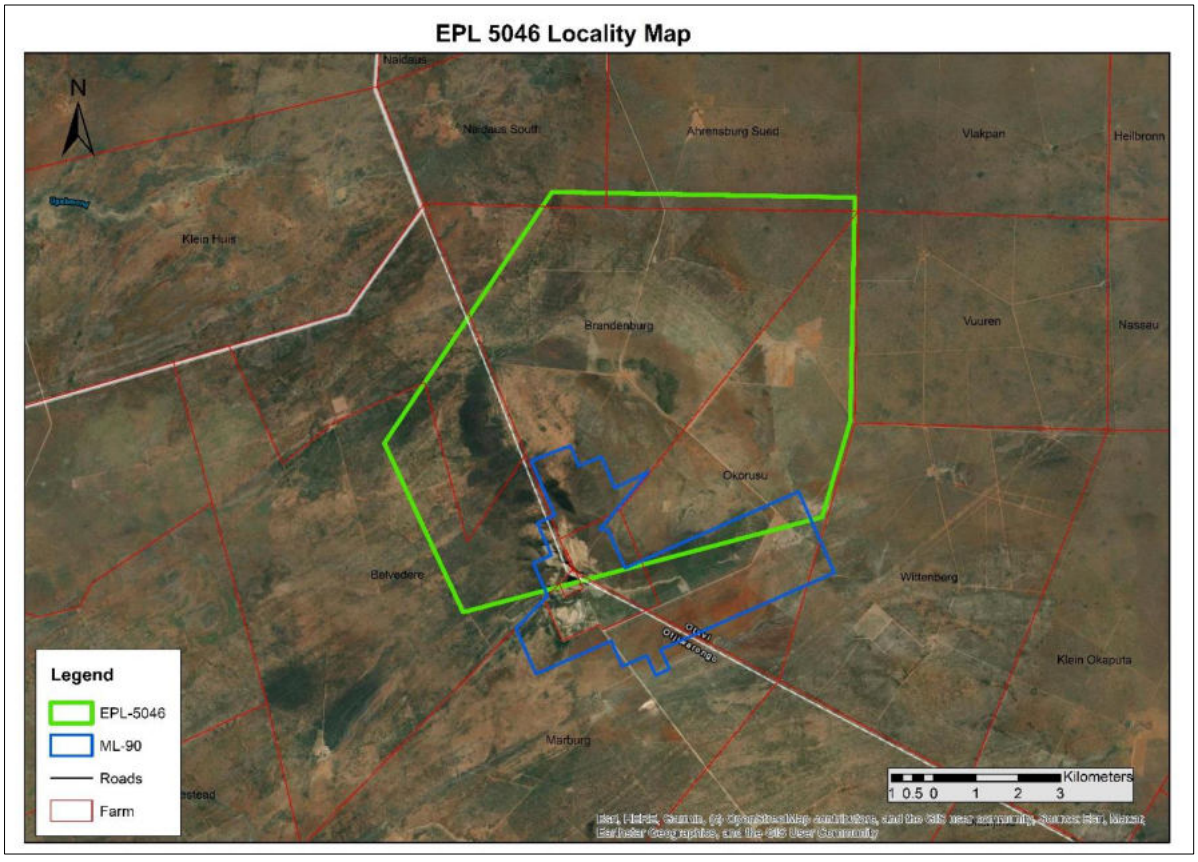

Figure 2: EPL 5046 Site Map

The (EMP) provides management guidelines to ensure that impacts of the planned exploration activities are minimised. An EMP is a tool to take pro-active action by addressing potential problems before they occur. This should limit the corrective measures needed, although additional mitigation measures might be included if necessary. The EMP acts as a stand-alone document, which can be used during the various phases (planning, operational and rehabilitation) of any proposed exploration activity.

Okorusu Fluorspar, as well as all contractors and sub-contractors taking part in the exploration activities should be made aware of the contents of the EMP, in order to plan the relevant activities accordingly in an environmentally sound manner.

The objectives of the EMP are:

- to include all components of the various activities of the exploration program;
- to prescribe the best practicable control methods to lessen the environmental impacts associated with the proposed exploration activities;
- to monitor and audit the performance of exploration personnel in applying such controls; and
- to ensure that appropriate environmental training is provided to the relevant personnel.

Okorusu Fluorspar may choose to implement an Environmental Management System (EMS). At the heart of an EMS is the concept of continual improvement of environmental performance with resulting increases in operational efficiency, financial savings and reduction in environmental, health and safety risks. An effective EMS would need to include the following elements:

- A stated environmental policy which sets the desired level of environmental performance;
- An environmental legal register;
- An institutional structure which sets out the responsibility, authority, lines of communication and resources needed to implement the EMS;
- Identification of environmental, safety and health training needs;
- An environmental program(s) stipulating environmental objectives and targets to be met, and work instructions and controls to be applied in order to achieve compliance with the environmental policy; and Periodic (internal and external) audits and reviews of environmental performance and the effectiveness of the EMS.

2 EMP OVERVIEW

The general guidance for the EMP is based on the findings of the EA and risk assessment carried out in 2015. The content thereof has been designed in line with the Regulations of the Environmental Management Act, 2007 (Act No 7 of 2007). The aim is to provide management measures to address the effects on the environment that have been identified in the assessment and to give effect to the recommendations from the environmental impact practitioner. In achieving this goal, it is essential for personnel involved on the ground to be fully aware of the possible environmental issues and the means to avoid or minimize the potential impacts of activities on site.

Furthermore, the company fully understands the legal and policy requirements as holder and operator of the EPL. Its employees and contractors and will be governed by its ECO (Environmental Control Officer). A general description of the environment is contained in the EIA Report. Issues and concerns identified in the EIA form the basis of a set of environmental specifications that are implemented and will be maintained and expanded on site. These environmental specifications form the basis for an agreement between the company and Ministry of Environment, Forestry and Tourism (MEFT) and these specifications become binding on the exploration company.

The proposed exploration programme includes the phases: Planning, access paths and drill site establishment, operational, i.e. sampling, drilling, trenching and bulk sampling, and Rehabilitation.

2.1 Potential Impacts Identified

The main potential adverse impacts identified for the activities of the proposed exploration programme are outlined below:

- **Noise:** Noise generated by vehicles and machinery, especially during the drilling (operational) phase.
- **Visual:** Clearing of land for drilling purposes will have visual impacts by changing the landscape of the site,
- **Biodiversity loss:** Loss in floral and faunal species and habitat on the site due to earthworks for exploration on the site.
- **Soil loss and contamination:** Earthworks may contribute to loss of topsoil on site; Hydrocarbon spills from vehicles and machinery during operations may contaminate soils.

- **Surface water and groundwater pollution:** Hydrocarbon spills from vehicles and machinery during operations may contaminate surface water, or seep through soils and contaminate groundwater, or via surface water infiltration.
- **Dust:** Air quality deterioration; Increase in dust levels (nuisance & health impacts).
- **Waste:** The dumping of general waste within the exploration area and drilling sites could prove hazardous to wildlife and livestock, as well as impede agricultural production. This could also lead to general environmental degradation.

3 ADMINISTRATIVE & LEGAL FRAMEWORK

There are several laws in accordance with the national legal framework, which are applicable to the proposed site:

LAW/ORDINANCE	APPLICABILITY
The constitution of Namibia (1990) *Article 95 (1)*	*Preservation of Namibia's Ecosystems, essential ecological process and biological diversity* *Sustainable use of Natural Resources*
Environmental Assessment Policy of 1995	*Prescribes Environmental Impact Assessments for any developments with potential negative impacts on the Environment*
Water Resource Management Act 24 of 2004	*Effluent discharge permit required under section 56* *Seawater abstraction permit required under Section 32* *Water related pollution and abstraction*
Environmental Management Act 7 of 2007 with Regulations of 2012	*Establishes Principles for EA* *Ensures that significant effects of activities are considered timeously and carefully* *Allows for opportunities for participation by I & APs throughout the assessment process*
Nature Conservation Ordinance 4 of 1975 with amendments and special regulations	*Protection of various species*
Convention of Biological Diversity	*Protection of various species*
Atmospheric Pollution Prevention Ordinance No.11 of 1976 with amendments as well as the associated proclamations of controlled areas	*Pollution prevention*

Hazardous Substance Ordinance 14 of 1974, and amendments	*Pollution prevention*
Petroleum Products and Energy amendment Act of 2000	*Disposal of used oil*
Draft Pollution and Waste Management Bill (1999)	*Protection for particular species, resources or components of the environment*
National Heritage Act (Act No. 27 of 2004)	*Disturbance of archaeological and cultural sites*
Convention on Desertification of 1994	*Combating desertification and mitigation of the effects of drought*
Minerals (Prospecting and Mining) Act 33 of 1992 and special regulations	*Exploration and exploitation of mineral resources*

4 IMPLEMENTATION OF THE EMP

4.1 Roles and responsibilities for Environmental Management

4.1.1 Communication Between Parties

Emphasis will be put towards open communication between all parties, in order to reach a proactive approach towards potential environmental issues deriving from the project. This approach should guarantee that environmental impacts are anticipated and prevented, or minimised, rather than adopting a negative "policing" approach after negative impacts have already occurred.

The importance of a proactive approach cannot be overemphasised, particularly in relation to preventing unnecessary tracks, and damage to vegetation (i.e. protected and endemic species) as these impacts cannot easily be remedied.

4.1.2 The Exploration Company

The company is ultimately responsibility for all stages of the project and the impacts resulting from those activities. The responsible persons will be the company's Environmental Control Officer and Managing Director to ensure that:

- The EMP and its environmental specifications are included in contractual documents, and it is required that contractors, and subcontractors, consultants etc. do meet the EMP requirements;
- The company and all its subcontractors, consultants etc. comply with all Namibian legislation and policies and any relevant international conventions;
- Compliance with the environmental specifications are enforced on a day-to-day basis;
- Environmental audits are conducted periodically by a suitably qualified ECO to confirm that the environmental requirements are properly understood and effectively implemented;
- Sufficient budget is provided to implement those measures that have cost implications, and
- Open and effective communication is maintained between all parties concerning environmental management on the project.

4.1.3 **Site Managers**

Day-to-day responsibility for environmental management will be assigned to the ECO and Manager Field Operations (MFO) for the duration of all exploration activities to:

- Be familiar with the contents of the EMP and applicable sections of the EIA and the measures recommended therein;
- Monitor compliance with the environmental specifications on a daily basis and enforce the environmental compliance on site by communicating the ECO's directions to all personnel involved;
- In the event of any infringements leading to environmental damage, personnel needs to consult with the ECO and seek advice on any remedial measures to limit or rectify the damage;
- Maintain a record (photographic and written) of "before-and-after" conditions on site;
- Facilitate communication between all role players in the interests of effective environmental management; and,
- Plan and mark out new access routes in advance and arrange for plant surveys by a suitably qualified person so that forest permits can be applied for.

4.1.4 **Environmental Control Officer (ECO)**

Okorusu Fluorspar must appoint a suitably qualified ECO who is responsible to:

- Undertake environmental audits of overall compliance with the environmental specifications. This should be done at least bi-annually for the exploration area,
- Submit a site inspection report to the Managing Director and MFO;
- Advise the MFO on interpretation and implementation of the environmental specifications as required; and,
- Make recommendations for remedial action in cases of non-compliance with the environmental specifications.
- Compile bi-annual audit reports and submit to the MEFT periodically at the time interval stipulated by law and/or ECC Conditions.

4.1.5 **Drilling / Exploration Contractors**

The drilling / earthmoving / exploration contractors will have the responsibility to:

- Familiarize themselves with the requirements of the EMP and comply with the environmental specifications within;
- Notify the ECO through the MFO timeously in advance of any actions that might have significant negative impacts. Mitigatory measures should be discussed and implemented before negative impacts arise;

- Conduct or arrange for environmental training for employees and sub-contractors;
- Undertake rehabilitation measures where required by the EMP. As far as possible, rehabilitation measures should be carried out progressively and not left till the end of the project.

5 MANAGEMENT PROGRAMME

Table 1 below outlines the management of the environmental aspects that may be affected by the different activities, grouped in each phase of the development. These phases are:

- **Non-invasive Phase:** Entails remote sensing with target generation and limited field work like geological mapping and sampling in preparation for ground exploration; Any lithology/geochemical surveys and/or geophysical work.
- **Invasive Phase**: Entails establishment with mobilization of suitable equipment and personnel; Involves detailed exploration including drilling, trenching or bulk sampling.
- **Rehabilitation Phase**: Demobilisation of equipment, machinery and personnel on site, and rehabilitation.

The commitments contained in this EMP will, once an environmental clearance has been obtained, be Okorusu Fluorspar's contractual agreement with the Namibian authorities for sound environmental management. All employees, contractors and sub-contractors and any visitors to site will be expected to comply with the commitments contained herein.

Furthermore, all **reporting** as referred to in the tables of this report, is suggested to be combined in a **single report bi-annually** which should be submitted to the **Department of Environmental Affairs (DEA)** of the MEFT. The purpose of the report will not only serve as an indication on the compliance of this EMP but will also serve to report on all monitoring requirements and grievances received.

Table 1. Management plan for exploration activities on EPL 5046

Activity	Objective	Action	Proof of Compliance	Responsible Body
Non-Invasive Phase				
Compliance	To comply with all legal requirements for the various aspects of mineral exploration work.	Apply for the necessary permits from the various ministries, local authorities and any other bodies that governs the site establishment and operations of the proposed development. These include any necessary Species Removal permits, Hazardous Waste storage and transportation permits.	All contracts, permits, certificates and other legal documents on file.	Proponent
Employment and Appointments	To appoint reputable contractors and operational personnel and establish the EMP, a legal requirement that forms part of the contract with the contractor and employees. Local development and transfer of skills is important to upskill of local residents for economic development.	Appoint a contractor and employees and enter into an agreement which includes the provisions of the EMP. Ensure that the contents of the EMP are understood by the contractor, sub-contractors, employees and all personnel who will be present on site. Where skills exist, local Namibian contractors and workers must be employed. Deviations must be justified.	Proof of appointment of local contractors and employees on file.	Proponent; Directors & Public Relations Personnel.
Increased spread of HIV/ AIDS and COVID-19; Increased influx to Okorusu.	New and existing developments attract jobseekers. This in turn can increase the extent of settlements in the surroundings and increased human interaction, which may	Health awareness for all staff, and/or include awareness training in induction.	Appointing reputable contractors who implement educational program on health awareness for all staff, and/or include awareness training in induction. Deviations from this practice should be justified appropriately.	Proponent; ECO; Public Relations Personnel.

Activity	Objective	Action	Proof of Compliance	Responsible Body
Non-Invasive Phase				
	increase the risk of health issues in the area.		Bi-Annual environmental report including information about health awareness training onsite.	
Management	Establish a management system to implement and monitor HSE guidelines.	Make provisions to have a Health, Safety and Environmental Coordinator to implement the EMP and oversee occupational health and safety as well as general environmental related compliance at the site. Have the following emergency plans, equipment and personnel in place to deal with all emergencies: Risk Management / Mitigation / Environmental Management Plan/ Emergency Response Plan and HSE Manuals Adequate protection and indemnity insurance cover for incidents; Comply with the provisions of all relevant safety standards; Procedures, equipment and materials required for emergencies.	Documentation on file Personal Protection Equipment (PPE) for site workers Signage related to restricted areas, dangerous areas, and PPE requirements on site Emergency response material on site	Proponent; Contractor
Fauna & Flora	To mitigate adverse impacts on any identified sensitive species and features on site.	If and as necessary, appoint a reputable specialist to compile a specific Fauna and Flora Management Plan.	Report to be kept on file and on-site during drill site establishment	Proponent

Activity	Objective	Action	Proof of Compliance	Responsible Body
Non-Invasive Phase				
Reporting	To establish a reporting system for monitoring aspects of exploration activities and decommissioning as outlined in the EMP.	Establish a reporting system to report on aspects of drill site establishment, operation and decommissioning as outlined in the EMP. Keep monitoring reports on file for submission with Environmental Clearance Certificate renewal applications where needed.	Monitoring Reports	Proponent; Contractor
Grievance Mechanism	To establish a grievance mechanism through which community members can voice their complaints as managed by a community liaison officer.	Identify a community liaison officer. Establish a grievance mechanism	Complaints register	Proponent
Environmental Clearance Renewal	To renew the Environmental Clearance Certificate every Three years.	Appoint an environmental consultant to update the EIA and EMP and apply for renewal of the Environmental Clearance Certificate.	Renewed Environmental Clearance Certificate	Proponent; ECO; Independent Specialist Consultant
Invasive Phase				

Criteria	Nature	Mitigation	Monitoring	Responsible Body
Invasive Phase				
Traffic	Mobilization for drilling and earthmoving activities are expected to have some impact on the movement of traffic when material and equipment are transported to the site. Dust may be	Regulation of traffic during deliveries for drill site establishment. Appropriate signage and warnings. Proper planning prior to setting up of exploration activities.	Any complaints received regarding traffic issues should be recorded together with steps taken to mitigate the impacts.	Contractor; Proponent Roads Authority

Criteria	Nature	Mitigation	Monitoring	Responsible Body
Invasive Phase				
	generated, which can impair vision of road users. Increased traffic leading to traffic congestion, higher collision risk and increased deterioration of roads.	Dust abatement measures to be implemented if and where needed. Maintenance of all signage, haul roads and continued dust abatement measures.		
Biodiversity	Loss of (indigenous) vegetation Visual impact	**Flora:** Locate drill sites and pits at sites suitable for sampling purposes where the least floral disturbance is encountered. No onsite vegetation should be cut or used for firewood for the project's operations. Shrubs, trees, or grasses found along exploration sites should not be unnecessarily removed. Design access roads appropriately in a manner that disturbs minimal land and vegetation. Make use of the existing road network as much as possible to limit creation of many unnecessary access tracks. Vegetation clearing to be kept to a minimum and should only be applied where necessary and within the development footprint. Avoid objects with foreign soils that may carry seed of alien species to be brought on sites	No disturbance to areas not marked for exploration activity. No complaints from locals regarding unauthorised vegetation removal or cutting down of trees	Proponent; ECO

Criteria	Nature	Mitigation	Monitoring	Responsible Body
Invasive Phase				
		Fauna Workers should refrain from disturbing, killing or stealing domestic and wild animals and killing small soil and rock outcrops' species found on site. Poaching of wildlife from the area is strictly prohibited. Environmental awareness on the importance of biodiversity preservation should be provided to the workers.		
Fire and Explosion Hazard	Outbreak of uncontrolled fire. Activities or material near flammable materials may result in fires.	All equipment and tools must comply with standards for handling and maintaining tools and equipment near flammable sources. Safety distances and safe work procedures must be adhered to. Safety talks and job hazard analysis to be done before works commence. All personnel have to be sensitised about responsible fire protection measures and good housekeeping such as the removal of hydrocarbons and other flammable materials including rubbish and dry vegetation to prevent veld fires. Regular inspections should be carried out to check for these materials at the site.	Supervision of work is required and reports of safe and unsafe practice to be brought to the attention of the HSE department. Any incidents reported must be recorded together with steps taken to mitigate the impacts. Bi-Annual environmental report to provide a summary of all fire-related incidents reported.	Contractor; Proponent

Criteria	Nature	Mitigation	Monitoring	Responsible Body
Invasive Phase				
		Sufficient firefighting resources must be available. Regular surveys of the fire-fighting equipment and water supply should be carried out. No open fires to be created by project personnel. Potential flammable areas and structures should be marked as such with clearly visible signage. Regular site inspection, including mechanical and electrical inspections Reporting of any major leaks/spills In addition to this, all personnel must be sensitised about responsible fire protection measures and good maintenance and housekeeping such as the removal of flammable materials including rubbish. Regular inspections should be carried out to check for these materials at the site. An emergency response plan must include fire protection and prevention plan		
Health & Safety	During site establishment, different excavation, earthmoving and transport equipment on site increase the possibility of injuries.	All Health and Safety standards specified in the Labour Act should be complied with. The responsible contractor must ensure that all staff members are briefed about the potential risks of injuries on site. The Proponent and Contractors should be obliged to adhere to the following:	A register of all incidents must be maintained. This should include measures taken to ensure that such incidents do not reoccur. All health and safety incidents during a phase must be	Contractor; Proponent

Criteria	Nature	Mitigation	Monitoring	Responsible Body
Invasive Phase				
		- Health and Safety Regulations pertaining to personal protective clothing, first aid kits, warning signs, etc. - Ensure that adequate emergency facilities, including first aid kits, are available on site; - Equipment that must be locked away on site to prevent loss by theft - Induction training for all who enter the site is required. As part of their induction, the project workers should be provided with an awareness training of the risks of mishandling equipment and material on site, as well as health and safety risks associated with their respective jobs. - Health and Safety Training as part of induction - Exploration sites, i.e. drill or earthmoving, need to be clearly demarcated to prevent unauthorised entry to the drill sites. - Establish an Emergency Response Plan (ERP) for operations on site. - The sites must be equipped with cautionary signage for any potential dangers or risk areas identified on site. - When working on site, workers should be properly equipped with adequate PPE.	included in the biannual environmental reporting. Inventory of necessary information and administrative documentation to be kept on site Bi-Annual environmental report to provide a summary of all incidents reported, dates when training was conducted and when safety equipment and structures were inspected and maintained.	

Criteria	Nature	Mitigation	Monitoring	Responsible Body
Invasive Phase				
		- Drilled exploration boreholes that will no longer be in use should be properly marked for visibility and capped/closed off. - Heavy vehicles, equipment and any fuel storage sites should be properly secured, and appropriate warning signage placed where visible. - Housekeeping rules must be established and followed. - Colour coding operational areas, pipes, equipment and substances for safety purposes. - Safe work procedures and permits to work - Maintain up-to-date first aid treatment and training, medical procedures and emergency services. - Carry out daily safety moments and/or regular drills		
Security	Unauthorized entry to site leading to theft of equipment and/or product, and/or fire hazards. A risk to site security and personnel health and safety exists during this period.	Security procedures and proper security measures must be in place. Fitness for work certificates to be issued or confirmed for security personnel. Regular random intoxication tests may be conducted by an authorised person at the start and/or at the end of a shift.	Bi-annual environmental/safety report to provide a summary of all incidents reported.	Proponent; Security Supervisor.

Criteria	Nature	Mitigation	Monitoring	Responsible Body
Invasive Phase				
Dust	Dust may be generated through travelling on unpaved roads and earthworks. This might be aggravated during periods of strong winds which occur regularly during the winter months.	It is recommended that regular dust suppression is conducted during periods of excessive dust. Personnel are to be issued with dust masks for health reasons, as necessary. Excavations during strong wind conditions should be avoided to prevent dust from being a nuisance if dust suppression is not adequate.	Regular visual inspection. A complaints register must be maintained, in which any complaints from the community must be logged. Complaints must be investigated and acted upon as necessary.	Contractor; Proponent
Noise	Nuisance by noise may occur due to heavy vehicles accessing the site, as well as the audible warning noises from trucks and heavy equipment. Drilling and excavating will be noise producing activities.	The World Health Organization (WHO) guideline on maximum noise levels (Guidelines for Community Noise, 1999) to prevent hearing impairment can be followed during drill site establishment. This limits noise levels to an average of 70 dB over a 24-hour period with maximum noise levels not exceeding 110 dB during the period. It is recommended that a survey of the noise levels be carried out if complaints are received. Noise from project vehicles and equipment on the working sites of the EPL should be at acceptable levels. When operating the drilling machinery onsite, workers should be equipped with personal protective equipment (PPE) such as earplugs to reduce exposure to excessive noise.	A complaints register must be maintained in which any noise-related complaints from the community or workers on site must be logged. Complaints must be investigated and acted upon as necessary. Any complaints received regarding excessive noise should be recorded.	Contractor; Proponent Independent Specialist Consultant
Waste Generation	Domestic/general waste be produced.	Liaise with the nearest Municipality regarding waste and appropriate handling of any hazardous waste.	Regular visual inspection.	Contractor; Proponent

Criteria	Nature	Mitigation	Monitoring	Responsible Body
Invasive Phase				
	Waste from drilling activities. Soils can become contaminated with oil and/or other diesel products. Domestic waste from waste containers and ablution facilities.	Temporary waste disposal facilities should be present on site. This should include separate containers for products that can be re-used or recycled. Removal of waste at regular intervals to maintain visual orderliness, and to ensure no liquid waste enters the soil substrate. Dry waste is at risk of increasing the dust / litter impact, therefore should be removed regularly. Securely fasten or place all chemical toilets. All domestic and general operational waste produced should be contained until such that time it will be transported to designated waste sites. No waste may be buried or burned at exploration sites, and no waste may be left at the sites. Hazardous waste should be safely stored where it cannot be accessed by uniformed locals for personal use. Contaminated oil products that can no longer be used in the market must be disposed of in the hazardous waste section of the nearest certified dumpsite, or where possible, converted for beneficial use. Domestic waste should be disposed of timeously to maintain visual orderliness, and to prevent soil and water pollution.	Adequate housekeeping and maintenance at established drill sites. A register of hazardous waste disposal should be kept. This should include type of waste, volume as well as disposal method/facility. Water quality monitoring of wastewater treatment plant to be taken as necessary and when functional. Any complaints received regarding waste should be recorded with notes on action taken	

Criteria	Nature	Mitigation	Monitoring	Responsible Body
Invasive Phase				
		Contaminated soils can be (bio)remediated in accordance with accepted procedures at a site dedicated for this purpose. Industrial effluent (from the mine's plant, laboratory, wash bay and storm water drains) may be recycled at the processing plant if suitable for reuse in the process. It is recommended for the existing sewage plant to be upgraded to accommodate further operations in the future.		
Groundwater, Surface Water and Soil Contamination	Groundwater is not utilized in the area for human consumption but should still be protected at all costs. Proper containment mechanisms installed should contain any release that might take place from spillages (at fuel storage facilities) during operation of the development. Porous surface substrate can allow unwanted hazardous and ecologically detrimental substances to seep down to the water table either at the site of spill	All precautions are to be taken to prevent contamination of soil. Polluted soil must be collected and transported away from the site to an approved and appropriately classified hazardous waste treatment facility Washing of equipment contaminated hydrocarbons, as well as the washing and servicing of vehicles should take place at a dedicated area, where contaminants are prevented from contaminating soil or water resources. The following measures must be employed to prevent Hydrocarbon spillage into surface water drainage channels and groundwater sources: - All handling of oil and diesel should be conducted on surfaces provided for this purpose. E.g. Line the refuelling areas to	Report form for all spills or leaks during works on site is to be completed by Contractor and submitted to the HSE department. Water monitoring to ensure water quality is not compromised, and for records of the operations.. Bi-annual environmental report should include information on any spill or leakage occurrences reported on site. (date and duration of product spilled, volume of spill, remedial action taken, comparison of pre-exposure	Contractor; Proponent; Independent Specialist Consultant

Criteria	Nature	Mitigation	Monitoring	Responsible Body
		Invasive Phase		
	or after being washed away by surface flow. Leakages from vehicles, accidental spills of fuel might occur.	prevent any fuel spillages from entering the groundwater system. - drip trays must be readily available and monitored to ensure that accidental fuel spills around the exploration sites are cleaned up immediately. - Proper training of operators to handle spills/leakages must be conducted on a regular basis. - Any spillage of more than 200 litres must be reported to the relevant authorities and remediation instituted. - The use of all materials, fuels and chemicals which could potentially leach into groundwater must be controlled, - All materials, fuels and chemicals must be stored in a bunded/secured area to prevent pollution from spillages and leakages.	baseline data with post remediation data (e.g. soil hydrocarbon concentrations), Copy of documentation of the incident report, for major incidents.) Record water abstraction from boreholes for dust suppression.	
Heritage Impact	Sites with archaeologically or culturally important significance might be uncovered during excavations. These can include graves or cultural artefacts.	• The likelihood that a new site will be found during the exploration work is minimal. However, the following measures are to be implemented in case of any new finds: - Documented consultation with an archaeologist, and/or local expertise when in doubt - All individuals are aware of which areas are sensitive.	Record of any discoveries and proof of notifications to authorities on file	Contractor; Proponent

Criteria	Nature	Mitigation	Monitoring	Responsible Body
Invasive Phase				
		- Every pile (besides waste or ore material dumps) of stones/rock is treated as a possible archaeological site. Must not be used as the rocks could be a burial cairn or hunting blind. - If such a site is found, the process must be halted, and the relevant authorities informed. The works may only continue at that location once permission to resume has been granted. - No heritage objects are moved without a permit from the National Heritage Council and any permitted removal of heritage objects is done under the supervision of a qualified archaeologist, palaeontologist or historian - Any archaeological sites that are found are not to be disturbed, but must be carefully photographed, the exact location recorded, and the finding reported to the National Heritage Council • Chance-finds procedures should be adopted		
Criteria	**Nature**	**Mitigation**	**Monitoring**	**Responsible Body**
Rehabilitation				
Employment	Discontinuing exploration activities may lead to retrenchments or re-location of staff no longer required.	Plan for meeting the Labour Acts requirements for retrenching of staff if required.	The closure plan should include the appropriate measures for handling of employees should the facility be decommissioned. This	Proponent; Directors & Public Relations personnel or Human Resource Department.

Criteria	Nature	Mitigation	Monitoring	Responsible Body
		Where possible staff can be relocated to another facility or town where business continues in the same way.	report should include budgeting for retrenchments and possible alternative positions elsewhere.	
Rehabilitation	Abandoned and stockpiled topsoil as well as very disturbed land surface at drill sites, pits or trenches after exploration activities are completed	All drilled exploration boreholes related to the project activities and no longer needed should be backfilled and/or capped. Utilize stockpiled subsoil and topsoil to fill the excavated pits/trenches back progressively. In addition to soils, backfilling of excavated pits and trenches may also be supplemented with loose materials such as rocks or rubble to prevent scouring by strong winds, which might reestablish the holes. Revegetation of disturbed sites to facilitate rehabilitation of the landscape and local ecosystems. Provision of both financial and technical resources for progressive rehabilitation and post-exploration activities.	Regular visual inspection Capped boreholes and backfilled pits/trenches. No stockpiled topsoil (topsoil is levelled after completion of works at each site) Photo records of backfilled sites Record of boreholes drilled, and pits excavated (if any). Overall progressive efforts of rehabilitation action on site as exploration activities occur.	Proponent; Contractor
	Structures and infrastructure on site	All accumulated waste (hazardous, solid, and general) up until the cessation of exploration activities will be removed from site and transported to designated off site waste management facilities. Removal of project vehicles and equipment from the site and taken to designated parking facility off site.	No sign of waste or littering seen on site and surroundings Project structures and infrastructure Campsite dismantled, and materials taken away from site.	Proponent; Contractor

Criteria	Nature	Mitigation	Monitoring	Responsible Body
		All project support structures such as ablution facilities, campsites, temporary field offices and storage containers/tanks shall be removed from site or demolished, and waste taken to designated waste facilities. The site areas on which these structures were set up will be rehabilitated to pre-operational state		

6 CONCLUSIONS

The above Environmental Management Plan, if properly implemented will help minimise adverse impacts on the environment. Where impacts occur, immediate action must be taken to reduce the escalation of effects associated with these impacts. To ensure the relevance of this document to the specific stage of project, it needs to be reviewed throughout all phases.

The Environmental Management Plan should be used as an on-site reference document during all phases of the proposed project, and auditing should take place in order to determine compliance with the EMP for the proposed site, and Parties responsible for transgression of the EMP should be held responsible for any rehabilitation that may need to be undertaken.

Monitoring reports must be kept available for possible submission with future renewal applications for environmental clearance certificates.

7 REFERENCES

SLR Namibia, (2015) Scoping Report and EMP for Okorusu Fluorspar's Exploration Program on Exclusive Prospecting Licence (EPL) 5046