

ECC-79-165-REP-26-D

ENVIRONMENTAL IMPACT ASSESSMENT & SCOPING REPORT

Exploration Activities on EPL 7662 for Nuclear Fuel Minerals.

Erongo Region

PREPARED FOR



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EXECUTIVE SUMMARY

Marenica Energy (Pty) Ltd is an Australian Securities Exchange Listed Company that has various exploration projects in Namibia. Marenica Energy is seeking to further explore uranium mining opportunities and propose to undertake exploration activities on EPL 7662 for Nuclear Fuel Minerals in the Erongo Region. The EPL is located in the Namib-Naukluft National Park approximately 86.6km south-east of Walvis Bay off the C14.

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 No.7 of 2007. This environmental scoping report and environmental management plan shall be submitted as part of the application for the environmental clearance.

The proposed project will entail exploration methods on EPL 7662 which may include drilling, aerial or remote sensing, ground penetrating radar, and mineral sampling. Non-invasive ground penetrating radar is planned to be undertaken in the first three months on the site, potentially followed by a drilling program. If mineralisation is identified, further exploration methods shall be applied; if not identified, the EPL shall be rehabilitated and returned to government.

The area where the EPL is located is classified as Zone 2, *Areas of Medium Sensitivity*, which is a zone permitted for prospecting and mining activities. The site is in an area that receives less than 100mm of rainfall annually and has a unique vegetation and wildlife species including reptiles and avifauna, many of which are endemic to the Namib Desert. The EPL falls 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 is sparse. The plant diversity of the areas is low (less than 50 species).

EPL 7662 has very little vegetation with some grass and shrubs including Salsola (tuberculate shrubs), which are sparsely distributed. Lichen species (Caloplaca elegantissima) occupy rocky outcrops, which are of conservation value. On EPL 7662, the presence of animal activity was observed during the site visit. With an abundance of lizards and geckos (Agamas species) around the rocky outcrops as well as adder snake and beetles (Zophosis amabilis battles). The EPL 7662 site is widely covered with plains and in some areas, there are outcrops of rock that support various flora and fauna and surface water features across the site that are likely to have runoff during rainy periods. (Refer to section 4.2).

The environmental and social impact assessment (ESIA) was undertaken using a methodology developed by Environmental Compliance Consultancy, which is based on the International Finance Corporation (IFC) standard for environment and social impact assessments. Through the scoping process, a review of the site and surrounding environment was completed by undertaking a desktop review and site visit. Limited sensitive receptors were identified during this process. Through the implementation of management and mitigation measures detailed in the Environmental Management Plan, potential impacts to sensitive receptors were scoped out and no further investigation was deemed necessary as part of the scoping and assessment stage.

The assessment is considered to be comprehensive and sufficient to identify 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 adhered to.



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DEFINITIONS AND ABBREVIATIONS

DEA	Directorate of Environmental Affairs
ECC	Environmental Compliance Consultancy
EIA	Environmental Impact Assessment
EMP	Environmental Management Plan
EPL	Exclusive Prospecting Licence
GDP	Gross Domestic Product
IFC	International Finance Cooperation
I&AP	Interested and Affected Parties
MET	Ministry of Environment and Tourism
MME	Ministry of Mines and Energy
MPMRC	Minerals (Prospecting and Mining Rights) Committee
NDP5	National Development Plan 5
NTS	Non-Technical Summary
RAB	Rotary air blast



1 INTRODUCTION

1.1 BACKGROUND TO THE PROPOSED PROJECT

Environmental Compliance Consultancy (ECC) has been engaged by the proponent (Marenica Energy (Pty) Ltd) to undertake an Environmental Impact Assessment (EIA) and an Environmental Management Plan (EMP) in terms of the Environmental Management Act No.7 of2007 and its Regulations. An environmental clearance certificate application will be submitted to the relevant competent authorities; the Ministry of Mines and Energy (MME) and the Ministry of Environment and Tourism (MET).

Marenica Energy (Pty) Ltd is an Australian Securities Exchange Listed Company Ltd which is seeking to explore for Nuclear Fuels Minerals in Namibia. Marenica has also developed a uranium concentration process that is unique and ground-breaking, lowering the extraction cost of uranium and significantly reducing potential environmental effects associated with reducing the mass of ore to be leached. This **U-pgrade**TM process technology can be applied to surficial uranium deposits and is capable of concentrating uranium by a factor of up to 50 times, thereby reducing the feed to a leaching circuit dramatically.

Manmar Investments One Eight Two (Pty) Ltd proposes to undertake exploration activities on EPL 7662 for Nuclear Fuel Minerals in the Erongo Region.

The EPL 7662 is located in the Namib-Naukluft National Park approximately 86.6km south-east of Walvis Bay off the C14 as illustrated in Figure 1.



FIGURE 1 – LOCATION OF EPL 7662



1.2 ENVIRONMENTAL REQUIREMENTS

The Environmental Management Act No. 7 of 2007 stipulates that an Environmental Clearance Certificate is required to undertake listed activities in terms of the Act and its regulations. Listed activities triggered by the proposed project in accordance with the Environmental Management Act No. 7 of 2007 and its regulations are as follows.

MINING AND QUARRYING ACTIVITIES

- 3.1 The construction of facilities for any process or activities which requires a licence, right or other form of authorisation, and the renewal of a licence, right or other form of authorisation, in terms of the Minerals (Prospecting and Mining Act), 1992
 - ✓ The proposed project requires a licence for extraction of nuclear fuels minerals
- 3.2 Other forms of mining or extraction of any natural resources whether regulated by law or not
 - Minerals (soil and sand), metals will be sourced out within the project's footprint/ locally as far as possible
- 3.3 Resource extraction, manipulation, conservation and related activities
 - ✓ The proposed project will extract nuclear fuel minerals

In terms of the Environmental Management Act, 2007, an environmental impact assessment (EIA) of the proposed project is required, and subsequent report (this document) submitted as part of the Environmental Clearance Certificate.

1.3 PURPOSE OF THIS REPORT

The purpose of this report is to present the findings of the EIA for the proposed project. The EIA has been undertaken in accordance with the requirements of the Environmental Management Act 7 of 2007 and the Environmental Impact Assessment Regulation, 2007 (No. 30 of 2011) gazetted under the Environmental Management Act No. 7 of 2007 (referred to herein as the EIA Regulations). This scoping report and appendices will be submitted to the Ministry of Mines and Energy (MME) and the Directorate of Environmental Affairs (DEA) at the Ministry of Environment and Tourism (MET) for review as part of the application for an Environmental Clearance Certificate.

This report has been prepared by Environmental Compliance Consultancy (ECC). ECC's terms of reference for the assessment is strictly to address potential effects, whether positive or negative, and their relative significance, and explore alternatives for technical recommendations and identify appropriate mitigation measures for the proposed project.

This report provides information to authorities, the public and stakeholders to aid in the decision-making process for the proposed project. The objectives of this environmental scoping report are to:

- Provide a description of the proposed activity and the site on which the activity is to be undertaken, and the location of the activity on the site
- Provide a description of the environment that may be affected by the activity
- Identify the laws and guidelines that have been considered in the assessment and preparation of this report
- Provide details of the public consultation process
- Describe the need and desirability of the activity
- Provide a high-level environmental and social impact assessment on feasible alternatives that were considered, and
- Report the assessment findings, identifying the significance of effects, including cumulative effects.



In addition to the environmental assessment, an Environmental Management Plan (EMP) (Appendix E) is also required. An EMP has been developed to provide a management framework for the planning and implementation of exploration activities thereby providing operational standards and operating arrangements to ensure that the potential environmental and social impacts of operating the exploration sites are mitigated, prevented and minimised as far as reasonably practicable and that statutory requirements and other legal obligations are fulfilled.

1.4 The Proponent of the Proposed Project

The proponent of the proposed project is Manmar Investments One Eight Two (Pty) Ltd.

Marenica own 95 % of Manmar Investments One Eight Two (Pty) Ltd and 5 % is Namibian owned.

TABLE 1 - PROPONENT DETAILS

CONTACT	POSTAL ADDRESS	EMAIL ADDRESS	TELEPHONE	WEBSITE
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1.5 Environmental Consultancy

Environmental Compliance Consultancy, a Namibian consultancy registration number 2013/11401, has prepared this document on behalf of the proponent. ECC operates exclusively in the environmental, social, health and safety fields for clients across Southern Africa in the public and private sector. The CVs of the authors of this report are contained in Appendix A.

ECC is independent of the proponent and has no vested or financial interest in the proposed project, except for fair remuneration of professional services rendered. All compliance and regulatory requirements regarding this assessment document should be forwarded by email or post to the following address:

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1.6 REPORT STRUCTURE

This environmental scoping study and impact assessment report is structured as per the contents set out in the Table 2 below.

TABLE 2 - ENVIRONMENTAL SCOPING REPORT SECTIONS

SECTION	TITLE	CONTENT		
-	Executive Summary	Executive summary of the EIA		
-	Acronyms	A list of acronyms used during the report		
1	Introduction	This section introduces the EIA and provides background information on		
		the proposed project, proponent and purpose of the report		
2	Regulatory Framework	This chapter describes the Namibian environmental regulatory framework		
		applicable to the project and how it has been considered in the assessment		
		and the scoping report and EMP.		
3	Project Description	Presents the need of the project, the alternatives considered and a		
		description of the proposed project and how the proposed project will be		
		operated.		
4	Receiving Environment	Presents information on the receiving environment that may be affected		
		by the project.		
5	Impact Assessment and	This chapter presents the predicted potential environmental and social		
	Mitigation	effects arising from the proposed project, and the mitigation and		
		management strategies to be applied to avoid or reduce the effects.		
6	Conclusions	Concludes the findings of the EIA		
7	References	A list of reference used for this report		
Appendix	Appendices A-D	 Appendix A: Environmental Management Plan 		
		 Appendix B: Evidence of Public Consultation – Non-Technical 		
		 Appendix C: ECC CV's 		
		 Summary, newspaper adverts 		
		 Appendix D: Assessment Methodology 		



2 REGULATORY FRAMEWORK

This chapter outlines the regulatory and policy framework applicable to the proposed project. Table 3 provides a list of applicable legislation and the relevance to the project.

2.1 NATIONAL REGULATORY REGIME

TABLE 3 - LEGAL COMPLIANCE

NATIONAL REGULATORY REGIME	SUMMARY	APPLICABILITY TO THE PROJECT
Minerals (Prospecting and Mining) Act No 33 of 1992	Provides for the reconnaissance, prospecting and mining for, and disposal of, and the exercise of control, minerals in Namibia. Section 50 (i) requires "an environmental impact assessment indicating the extent of any pollution of the environment before any prospecting operations or mining operations are being carried out and an estimate of any pollution, if any, likely to be caused by such prospecting operations or mining operations"	The proposed activity is prospecting for minerals; hence it requires an EIA to be carried out as it triggers listed activities in terms of the Environmental Management Act and its regulations. This report presents the findings of the EIA. Works shall not commence until all conditions in the Act are met, which includes agreement with the land owners and conditions of compensation have been agreed. The project shall be compliant with section 76 of the Minerals Act. With regards to records, maps, plans and financial statements, and information, reports and returns submitted.
Environmental Management Act No. 7 of 2007 and its regulations, including the Environmental Impact Assessment Regulation, 2007 (No. 30 of 2011)	The Act aims to promote sustainable management of the environment and the use of natural resources by establishing principles for decision-making on matters affecting the environment. It sets the principles of environmental management as well as the functions and powers of the Minister. The Act requires certain activities to obtain an environmental clearance certificate prior to project development. The Act states an EIA may be undertaken and submitted as part of the environmental clearance certificate application. The MET is responsible for the protection and management of Namibia's natural environmental Affairs under the MET is responsible for the administration of the environmental clearance certificate process.	This environmental scoping report and assessment plus the EMP documents the findings of the environmental assessment undertaken for the proposed project, which will form part of the environmental clearance application. The assessment and report have been undertaken in line with the requirements in terms of the Act and its regulations.



NATIONAL REGULATORY SUMMARY		APPLICABILITY TO THE PROJECT		
REGIME				
Water Act, 1956	This Act provides for "the control, conservation and use of water for domestic, agricultural, urban and industrial purposes; to make provision for the control, in certain respects and for the control of certain activities on or in water in certain areas". The Ministry of Agriculture Water and Forestry Department of Water Affairs is responsible for the administration of the Water Act. The Minister may issue a Permit in terms of the regulations 5 and 9 of the government notice R1278 of 23 July 1971 as promulgated under section 30 (2) of the Water Act no. 54 of 1956, as amended. To abstract water from a controlled water source, a WA 002 should be filled and submitted to the MAWF	The Act stipulates obligations to prevent pollution of water. The EMP sets out measures to avoid polluting the water environment. Regulation 5: "Upon receipt of an application in terms of regulation 4(1) the Minister may issue a permit authorising the applicant to sink, enlarge, deepen, alter, open up or clean any borehole, well or spring mentioned in the application or to abstract therefrom and use a specific quantity of water for the purposes and subject to the conditions specified in the permit: Provided that, if the Director is of opinion that artesian water is or will be found in a borehole or well, the Minister shall not consider an application unless it is recommended by the Board. " Regulation 9: The Minister may, when issuing a permit under regulation 5, impose such conditions, whether generally or in respect of different periods in any year, as he		
		may deem necessary for an equitable distribution of water in the public interest or for the conservation of water supplies or for the protection of water sources, including conditions in respect of - Measures to minimise potential groundwater and surface water pollution are contained in the EMP.		
The Nature	One of the major biodiversity related laws in	The following sections are applicable to the		
Conservation	Namibia is the legislation governing the	proposed project and measures to ensure		
Ordinance No. 4 of 1975 National Heritage	conservation of wildlife, and protected areas. The Act provides provision of the protection	 compliance are included in this environmental scoping report plus the EMP. Section 18 of the Nature Conservation Ordinance, restricts of the rights to enter game parks and nature reserves and prohibition of certain acts therein, and Section 72 of the Nature Conservation Ordinance, restricts Picking and transport of protected species. There is potential for heritage objects to be 		
Act, No. 27 of 2004.	and conservation of places and objects with heritage significance.	found on the site, therefore the stipulations in the Act have been taken into consideration and are incorporated into the		



NATIONAL REGULATORY REGIME	SUMMARY	APPLICABILITY TO THE PROJECT
	Section 55 compels exploration companies to report any archaeological findings to the National Heritage Council after which a heritage permit needs to be issued	EMP. Section 55 compels exploration companies to report any archaeological findings to the National Heritage Council after which a permit needs to be issued before the find can be disturbed.
Soil Conservation Act No.76 of 1969	Makes provision for the prevention and control of soil erosion and the protection, improvement and the conservation, improvement and manner of use of the soil and vegetation.	Taken into consideration during the design of the works to be undertaken on the EPL site. Measures in the EMP set out methods to avoid soil erosion.

2.2 NATIONAL POLICIES

2.2.1 MINERALS POLICY

The Minerals Policy was adopted in 2002 and sets guiding principles and direction for the development of the Namibian mining sector while communicating the values of the Namibian people. It sets out to achieve several objectives in line with the sustainable development of Namibia's natural resources. The policy strives to create an enabling environment for local and foreign investments in the mining sector and seeks to maximise the benefits for the Namibian people from the mining sector while encouraging local participation, amongst others.

The objectives of the Minerals Policy are in line with the objectives of the Fifth National Development Plan (NDP5) that include reduction of poverty, employment creation and economic empowerment in Namibia. The proposed project conforms with the policy and has been considered through the EIA process and the production of this report.

2.2.2 NATIONAL POLICY ON THE PROSPECTING AND MINING IN PROTECTED AREAS

National Policy on the Prospecting and Mining in Protected Areas (Ministry of Environment and Tourism, Ministry of Mines and Energy, 2018) was passed in July 2018 and provides direction in terms of where mining and exploration related impacts are legally prohibited and where biodiversity priority areas may present high risks for mining projects.

The policy provides a framework for integrating relevant biodiversity information into decision making about exploration and mining options and how best to avoid, minimise or remedy biodiversity impacts caused by mining, and in so doing support sustainable development.

EPL 7662 (assessed in this report) falls within the Namib-Naukluft National Park. It is therefore imperative that the potential impacts within the national parks be thoroughly assessed and in particular are reviewed and compared with the 'no mining and prospecting zones' in the aforementioned policy. The EPL does not fall within any exclusion zones set by the policy.

2.3 LICENCES

2.3.1 EXCLUSIVE PROSPECTING LICENCE

EPL 7662 was granted on the 7th of November 2019. Upon being granted, the EPL shall be valid for three years. In terms of the Minerals (Prospecting and Mining) Act, 1992, an EPL may be renewed, however may only be extended twice for two-year periods if demonstrable progress is shown. Renewals beyond seven years requires special approvals from the Minister (Ministry of Mines and Energy, 2018).



Such renewals are subject to a reduction in size of the EPL. When a company applies for renewal of an EPL, this application must be lodged 90 days prior to the expiry date of the EPL or, with good reason, no later than the expiry date (Ministry of Environment and Tourism, Ministry of Mines and Energy, 2018).

Renewal application for EPL 7662 may be required if mineralisation is present and exploration activities last longer than three years. If renewal is applied for, the MET shall review the renewal application and make any comments and/or recommendations for consideration by the Minerals (Prospecting and Mining Rights) Committee (MPMRC). Amendments and revisions may be required for the EIA and EMP. Due consideration must be given when renewing the licence to ascertain whether there is justification to renew the licence. Once an EPL expires and a new EPL is issued, even if it is to the previous holder, the full screening process must be followed with a full EIA process before operations may commence (Ministry of Environment and Tourism, Ministry of Mines and Energy, 2018).



3 PROJECT DESCRIPTION

3.1 NEED FOR THE PROPOSED PROJECT

The mining sector in Namibia significantly contributes to the country's Gross Domestic Product (GDP), government tax receipts and export revenues. For this reason, exploration activities are encouraged in Namibia and the vision of the Minerals Policy being to *"further attract investment and enable the private sector to take the lead in exploration, mining, mineral beneficiation and marketing"* supports the development. The proposed project is in line with this vision and has the potential to create employment in the local communities, namely Walvis Bay. In the event that exploration activities are successful, and a resource can be defined in commercially viable concentrations, exploration operations can potentially transcend into mining operations, which can result in socio-economic development.

Uranium is used in the nuclear industry to produce electricity. Nuclear is the world's second largest source of lowcarbon power (>30% of the total in 2015). Approximately, 11% of the world's electricity is generated by approximately 450 nuclear power reactors in 50 countries and around 60 more reactors are under construction. This is equivalent to 16% of existing capacity, while an additional 150-160 are planned, equivalent to nearly half of existing capacity (World Nuclear Association , 2018). Furthermore, uranium is required to supply these reactors and ensure low-carbon power is generated. Namibia is one of the few countries which has uranium deposits and has three significant uranium mines capable of providing 10% of world uranium output. Uranium was discovered in the Namib Desert in 1928 and intensive exploration commenced in the late 1950s.

3.2 ALTERNATIVES CONSIDERED

Several uranium deposits occur in Namibia and are grouped into three basic rock types: a) occurrences in and associated with plutonic rocks, b) pedogenic occurrences and c) sedimentary occurrences. An overlap exists between the pedogenic and the other main deposit types. Uranium occurrences in and associated with plutonic rocks comprise both potentially economic deposits and source rocks for uranium deposits in pedogenic and sedimentary sequences. These deposits are confined mainly to the western portion of the Damara Orogen (Schreuder, 1985). Therefore, there is limited areas to explore in Namibia.

An exploration program in the 1970s undertaken by general mining indicated high prospectively for uranium mineralisation in the EPL. Consequently, alternative sites were considered during this early exploration program, however, the potential for mineralisation was not as high as that of EPL 7662. The environmental assessment has therefore taken a worst-case scenario, which includes a review of all likely exploration activities, thus no other technological alternatives are available for consideration at this stage.

Once the exploration programme is further defined, the best available option for methods shall be identified to ensure the impacts on the environment and society are minimised.

3.2.1 NO-GO ALTERNATIVE

Should exploration activities on EPL 7662 not proceed, the anticipated environmental impacts from exploration activities would not occur, however, the socioeconomic benefits associated with project would also not be realised.

There would not be an opportunity to refine Namibian resources in the project area, a missed opportunity for geological mapping and data collection that benefits the Namibian economy.



3.3 The Project Site and Location

EPL 7662 is approximately 2.6km south of the C14, with the D2186 running through the site. The site is approximately 37862.65ha, 21.5km long (north-south) and 25.5km wide (east-west). Walvis Bay is the closest town, approximately 86.6km to the north-west of the site.

3.3.1 PROPOSED EXPLORATION ACTIVITIES

Exploration activities on EPL 7662 will include soil and rock sampling, geological mapping, electromagnetic and geophysical surveys, drilling and core sampling. Some vegetation may be cleared to allow access tracks and working areas to be created and for the installation and development of exploration drill holes. The duration of exploration activities is anticipated to be conducted over the course of a 3-year period (or for the duration of the mineral licence) and the periods of each exploration programme will vary and will be refined as geological information becomes available.

Existing tracks will be used as far as reasonably practical; in the event that new tracks are required they will be developed by hand or using a bulldozer if the area is heavily bush encroached or hilly. Vegetation clearance shall be required for drill access tracks, drill pads and for a drillers camp if required. This will also be carried out by hand or bulldozer depending on the bush thickness and the required clearance distances.

The exploration methods on the EPL site may involve the following methods: drilling; aerial or remote sensing; ground penetrating radar; and mineral sampling. Further detail of these methods are as follows.

Remote sensing and geophysical surveys

During mineral exploration enables explorers to find and assess deposits without having to undertake massive exploration operations. Remote sensing may be used to map the geology and existing faults and fractures that localize the ore deposits or may be used to recognize rocks which have been hydrothermally altered. Remote sensing includes a number of tools and techniques including geographical information systems, radar, geographical information systems and sonar.

Ground penetrating radar

Ground penetrating radar is likely to be the preferred method for exploration activities on the EPL. This will most likely be undertaken by foot.

Rotary air blast (RAB) drilling and diamond drilling

Drilling to be undertaken in order to obtain drill core samples. The collected samples will be temporarily stored in plastic bags on site and transported to a sample preparation laboratory in Swakopmund.

All exploration activities will be undertaken in programmed segments. The number of drill holes will be determined on results obtained through the data collection during ground penetrating radar. Equipment used during drilling shall include an RC on trailer-mounted rig towed by a light vehicle.

Pitting and trenching are unlikely as this is not the preferred method of exploration and therefore have not been included in this scoping report.

The area to be cleared shall not be more than 15ha, therefore would not trigger the Forest Act, 2001 (section 23). In addition, any established or larges trees shall not be removed, and effects are likely to be low (refer to section 4.4 and the EMP).

3.3.2 EXPLORATION SCHEDULE

Exploration is intended once the environmental clearance has been granted. The presence of mineralisation shall be determined during the first period of tenor. Non-invasive ground penetrating radar is planned to be undertaken in the



first three months on both sites, potentially followed by a drilling program. If mineralisation is identified, further exploration methods shall be applied; if not identified, the EPL shall rehabilitated and returned to government.

3.3.3 WORKERS AND ACCOMMODATION

During the initial exploration stage approximately seven (7) employees will be required, and workers will mainly be from Swakopmund. The roles of the employees include two (2) radar specialists / geologists and five (5) drill crew members. Additional roles may be required which shall be determined by the programme and exploration methods. The workers will be accommodated in Swakopmund during the exploration programme, however, may be required to stay closer to the site during on ground exploration works and therefore will likely stay at designated /suitable campsites.

3.3.4 RESOURCE USE AND WASTE MANAGEMENT

Water will be required for various uses including human consumption and exploration activities. Potable water will be brought to site by light vehicle and shall be used for human consumption and if required for operation of the drill rig.

During drilling operations, water shall be used, recirculated and stored in lined collections ponds. If deemed clean and suitable will be discharged to the environment for evaporation or if not suitable for discharge will be transported to Walvis Bay for disposal at a suitable waste facility.

Waste will be produced on site, including sewerage and solid waste such as packaging. All solid waste, shall be collected, taken off site and disposed of at the nearest waste management Facility. Mobile toilets (of a 'long drop" or pit latrine type) may be brought to site. Any sewerage generated will be managed by the supplier of the toilets.

3.4 REHABILITATION

The National Policy on the Prospecting and Mining in Protected Areas stipulates that companies involved in prospecting and mining in protected areas take responsibility for carrying out appropriate rehabilitation and restoration, during and upon closure of their activities. Therefore, the proponent shall ensure funds are available to restore/ rehabilitate the EPL once exploration activities are completed. A rehabilitation plan is contained in the EMP, found in Appendix A. The proponent has also committed to restoring any historic exploration disturbance on the site if identified.



4 BASELINE ENVIRONMENT

4.1 NAMIB-NAUKLUFT NATIONAL PARK

EPL 7662 is located in the Namib-Naukluft National Park. The national park is approximately 50 955km² and extends from the Hardap to the Erongo regional boundary in the north (and bordering onto the Dorob National Park). The National Park was officially established in 1979 through the various amalgamations of several areas. National parks cover 17% of the country's surface area and provides a sanctuary for large mammals. This includes black rhino (reintroduced to their former range in 2007 to mark the centenary of the park), Hartmann's mountain zebra, leopard, cheetah, spotted and brown hyaena, jackal, caracal, and various species of game. Over 200 bird species have been recorded in the Namib-Naukluft Park and is considered as a globally important bird area (Ministry of Environment and Tourism, 2013).

Natural features of the park include sand dunes, Sesriem Canyon, gravel plains, Naukluft Mountains and inselbergs in the north and ephemeral rivers. The national park is split into zones based upon environmental sensitivity and land uses. The EPL is situated in Zone 2, *Areas of Medium Sensitivity*, which is a zone permitted for prospecting and mining activities. The National Park Management Plan states that "all prospecting and mining activities in other areas should be planned, managed and decommissioned using best available practice, taking into account long-term national benefits vis-à-vis benefits from other current and potential land uses, and applying precautionary and polluter pays principles and due caution so as to minimize negative environmental impacts" (Ministry of Environment and Tourism, 2013).

4.2 CLIMATE

The Namib-Naukluft National Park falls below the 100mm median annual rainfall isohyet and much of it is below the 50mm isohyet. With high evaporation rates and low rainfall, the park experiences an average water deficit of approximately 2m per year. Rain falls mainly from January to March. Temperatures are generally moderate (average minimum and maximum temperatures during the coldest and hottest months respectively reflecting a range of about 7-32°C), fog is frequent (about 125 days per year on the coast dropping to about 40 days per year 80 km inland) and wind is a dominant feature (Ministry of Environment and Tourism, 2013).

4.3 VEGETATION AND WILDLIFE

The area has unique vegetation and wildlife species including reptiles and avifauna, many of which are endemic to the Namib Desert. EPL 7662 lies within the Namib Desert Biome and Central Desert vegetation type, which tends to have grassland occupying the gravel plains. The grass cover is very sparse but nevertheless dominates the little vegetation that grows on the gravel plains. The majority of grasses are annuals and coverage is sparse. The plant diversity of the areas is low (less than 50 species). EPL 7662 has very little vegetation with some grass and shrubs including (*Salsola tuberculata*), which are sparsely distributed. Lichen species (*Caloplaca elegantissima*) occupy rocky outcrops, which are of conservation value.

The area of the EPL has between 141 - 170 bird species, which is of medium diversity in comparison to the rest of Namibia, which has a total of 658 recorded bird species. The diversity of mammals and reptiles in the area is very low and low respectively, compared to the rest of Namibia, with 16 - 30 species of mammals and between 41 and 50 reptiles (Mendelsohn et al., 2003).

The presence of animal activity was observed during the site visit. Various animal burrows were recorded, and an abundance of lizards, geckos (agama species), puff adder snake (*Bitis arietans*) and beetles (*Zophosis amabilis* beetles).around the rocky outcrops as well as



Photos from EPL 7662



FIGURE 2 – ROCK OUTCROP



FIGURE 3 – ROCK OUTCROP WITH VEGETATION



FIGURE 4 – GECKO



FIGURE 5 – LIZARD



FIGURE 6 – PUFF ADDER (Bitis arietans)





FIGURE 7 – EPL 7662 LANDSCAPE

4.4 HERITAGE

The Namib Desert has rich archaeological and heritage value and presents valuable information about the occupation of the area dating back 700,000 years. According to the Namibian National Heritage database there are no known national heritage receptors on the EPL, and none were identified during the site visit.

4.5 SOILS, GEOLOGY, GROUNDWATER AND SURFACE WATER

The EPL stretches over an area that is predominately made up of the Damara Granite rock type and Petric Gypsisols soils. The characteristics of this dominant soil type are soils with a solid layer at a shallow depth that remains hard even when wet. Soils have accumulations of calcium sulphate, which are restricted to the very dry areas of the central Namib. The soil generally has very low levels of fertility, so only the hardiest of plants will grow in them (Mendelsohn et al., 2003).

The soils of the Namib Desert are formed by various processes, both mechanical and chemical. Soil formation is a slow and weak process on the plains of the Namib, and usually forms a crust that provides a stabilising effect that is very sensitive to any form of disturbance (Soft Chem, 2011). The northern section of the Namib-Naukluft is a very sensitive area with gypsum crusts covering 80% of the area. This makes the area very sensitive for vehicular traffic, and tracks made never recover even with rehabilitation afterwards (Ministry of Environment and Tourism, Ministry of Mines and Energy, 2018).

EPL 7662 site is covered with soil and in some areas, there are rocky outcrops that support flora and fauna. the EPL site mainly composed of dry open plains with various surface water features across the sites that are likely to be flowing during periods of high rainfall. The area is part of the Kuiseb River Basin.

4.6 LAND USE AND INFRASTRUCTURE

The EPL is in the Namib-Naukluft National Park which is used primarily for tourism. The site does not have any tourism facilities, neither is it used for tourism activities. Historical land use activities were not observed during the site visits, however various tracks across the EPL were present. The D2186 route runs through the western side of EPL, in a north-south direction routing to Gobabeb Training and Research Centre, approximately 20.5km to the south of the site. The Aussinanis Weather Station (-23.443536 S; 15.0459419 E), is situated approximately 6km south of EPL 7662. The weather station is approximately 10 km from Gobabeb Training and Research Centre.



4.7 PROTECT AREAS EXCLUDED FROM PROSPECTING AND MINING

As stated previously, the EPL is located in the Namib-Naukluft National Park. To support the protection of Namibia's national parks whilst developing the mining sector in line with the Fifth National Development Plan (NDP5), the Namibian Government has developed an integrated, flexible and comprehensive policy to deal with mining and prospecting in protected areas (refer to section 2.2.2). The policy sets out where mining and exploration related impacts are legally prohibited and where biodiversity areas may present high risks for mining projects. Figure 8 illustrates these areas for the Namib-Naukluft National Park.

The EPL is in the 'Zone 2 Management Area' which is managed for conservation and controlled tourism. Mechanised access is permitted in this zone. This means exploration activities can take place in this area of the national park, however certain conditions shall be enforced which are described in the EMP in Appendix A.







5 ENVIRONMENTAL IMPACT ASSESSMENT

5.1 PURPOSE OF THE ENVIRONMENTAL IMPACT ASSESSMENT

The EIA process in Namibia is governed and controlled by the Environmental Management Act No. 7 of 2007 and the EIA Regulations 30 of 2012, which is administered by the Office of the Environmental Commissioner through the DEA of the MET.

An EIA is the process of identifying, predicting, evaluating and mitigating the potential effects of a proposed project on the natural and human environment. The aims of the EIA process and subsequent report are to apply the principles of environmental management to proposed activities; reduce the negative and increase the positive effects arising from a proposed project; provide an opportunity for the public to consider the environmental impacts of a proposed project through meaningful consultation; and to provide a vehicle to present the findings of the assessment process to competent authorities for decision making.

5.2 THE ASSESSMENT PROCESS

The EIA methodology applied to this EIA has been developed using the International Finance Cooperation (IFC) standards and models, in particular Performance Standard 1, 'Assessment and management of environmental and social risks and impacts' (International Finance Corporation, 2017) (International Finance Corporation, 2012); Namibian draft procedures and guidance for EIA and EMP (Republic of Namibia, 2008); international and national best practice; and over 25 years of combined EIA experience. The process followed through the basic assessment is illustrated in Figure 9 and detailed further is the following sections.



FIGURE 9 – EIA PROCESS



5.2.1 SCREENING OF THE PROPOSED PROJECT

The first stages in the EIA process is to register the project with the DEA/MET and undertake a screening exercise to determine whether it is considered as a listed activity under the Environmental Management Act No. 7 of 2007 and its Regulations and if significant impacts may arise from the project. During this process, the location, scale and duration of project activities are considered against the receiving environment to determine the approach to the EIA.

The proposed project is considered as a listed activity; however, significant effects will unlikely arise as a result of project activities. Therefore, it was concluded that a scoping report was required and deemed sufficient, and no further work (detailed assessment) is required, however this would be confirmed during the scoping stage.

5.2.2 SCOPING OF THE ENVIRONMENTAL ASSESSMENT

The purpose of the scoping stage in the EIA process is to identify the scope of assessment; undertake a high-level assessment to identify potential impacts; and confirm if further investigation is required to assign the severity of potential significant effects and appropriate mitigation.

This report presents the findings of the scoping phase and high-level assessment and confirms that no further investigation is required. This conclusion is presented in section 5.4.

BASELINE STUDIES

Baseline studies are undertaken as part of the scoping stage which involves collecting all pertinent information from the current status of the receiving environment. This provides a baseline where changes that occur as a result of the proposed project can be measured.

For the proposed project, baseline information was obtained through a desk-based study as well as a site visit which was undertaken $8^{th} - 90^{th}$ August 2018. The baseline is presented in section 4.

IMPACT PREDICTION AND EVALUATION

Impact prediction and evaluation involves predicting the possible changes to the environment as a result of the development/project. The methodology presented in Appendix D was applied to determine the magnitude of impact and whether or not the impact was considered significant or if further investigation was required. The findings of the high-level assessment are presented in section 5.4.

5.3 CONSULTATION

Public participation and consultation is a requirement stipulated in section 21 of the Environmental Management Act, 2007 and its regulations for a project that requires an environmental clearance certificate. Consultation is a compulsory and critical component in the EIA process in achieving transparent decision-making and can provide many benefits.

A key aim of consultation is to inform stakeholders and interested and affected parties (I&AP) about the proposed project. The methods undertaken for the proposed project are detailed as follows, which are in line with the requirements of the EIA Regulations.

5.3.1 NEWSPAPER ADVERTISEMENTS

Notices regarding the proposed project and its activities were circulated in two newspapers namely the 'Informante' on the 5th of December 2019 and 12th of December2019 and the 'Namibian' on the 9th of December 2019 and the 16th of December 2019, as illustrated in Appendix B. The purpose of this was to commence the consultation process and enable I&APs to register interest with the project.



5.3.2 NON-TECHNICAL SUMMARY

The Non-Technical Summary (NTS) presents a high-level description of the proposed project; sets out the EIA process and when and how consultation is undertaken; and contact details for further enquiries and is made available to all registered I&APs. The NTS can be found in Appendix C.

5.3.3 SITE NOTICES

A site notice ensures neighbouring properties and stakeholders are made aware of the proposed project. The notice was set up at the boundary of the EPL.

5.3.4 CONSULTATION FEEDBACK

No issues or concerns were raised by the I&APs during consultation period. One person registered as an I&AP as indicated in Appendix C.

5.4 ENVIRONMENTAL ASSESSMENT FINDINGS

5.4.1 SCOPING ASSESSMENT FINDINGS

When undertaking the scoping exercise, the design of the proposed project and best practice measures were considered to ensure the likely significant effects and any required additional mitigation were identified. The following topics were considered during the scoping phase:

- Surface water and ground water (including geomorphology)
- Soils and geology
- Landscape (visual impacts, change in landscape, sense of place)
- Socio-economics (employment, local businesses, community, demographics & tourism, land use)
- Noise
- Ecology (aquatic, fauna & flora)
- Human environment (infrastructural services, traffic and transport)
- Air quality (including dust), and
- Cultural heritage and palaeontology resources.

The source-pathway-receptor model was used to evaluate the potential impacts of the proposed project and determine if further assessment is required. Table 4 sets out the findings of the scoping assessment phase. Activities that could be the source of an impact have been listed, followed by receptors that could be affected. The pathway between the source and receptor has be identified where both a source and receptor are present. Where an activity and/or receptor has not been identified, an impact is unlikely, thus no further assessment or justification provided. Where the activity, receptor and pathway have been identified, a justification has been provided documenting if further assessment is required or not required.

Due to the nature and localised scale of the exploration activities, and the environmental context of both sites, the potential environmental and social effects are limited and unlikely to be significant. Where effects occur, they will be managed (avoided or reduced) through implementation of best practice mitigation, as detailed in the EMP (contained in Appendix A). All topics were considered during the scoping assessments, which did not identify areas of uncertainty and thus no further investigation was deemed required.



TABLE 4 – SCOPING ASSESSMENT FINDINGS

TOPICS	ACTIVITY	RECEPTOR	ΡΑΤΗΨΑΥ	EFFECT	FURTHER ASSESSMENT JUSTIFICATION
Surface and groundwater	Exploration drilling and creation of exploration boreholes	Groundwater	 Drill deep and into the water table, and Groundwater extraction. 	 Drilling could penetrate the groundwater table and the drill fluid could enter the groundwater causing pollution Pollution from loss of hydrocarbons, oil spills and drill fluids into the groundwater, and A decrease in groundwater /changes to groundwater table due to ground water extraction. 	 No effects on the recharge or flow of groundwater, and With the mitigation and management measures listed in the EMP, these effects would be minimized and no likely significant affect anticipated. No further assessment required as there is a low probability of significant impacts to the surface and groundwater.
Soils and geology	 Minor earthworks Creation of access tracks Drilling, and Use of equipment (vehicles) 	Soil (e.g. quality)	 Drill fluids entering the environment, and spilling on to the ground, and Use of vehicles leading to soil erosion. 	 Reduction in soil quality, and Gypsum crusts affected 	Gypsum crusts may be affected, however with the mitigation and management measures listed in the EMP, these effects would be minimized, and no likely significant affect anticipated. No further investigation required.
Landscape	Presence of equipment	NA	NA	NA	No receptors identified, no further investigation required.
Land use	Exploration activities	NA	NA	NA	No receptors identified, no further investigation required.
Socio-economics	Exploration activities	NA	NA	NA	 Limited to small scale exploration, and No receptors identified, no further investigation required.
Noise	 Drilling operations Vehicle movements, and Use of remote sensing aerial equipment 	Wildlife	Noise carrying to receptors within 200m	Short term increase in noise levels disrupting wildlife	Low impact exploration. Sensitive animals, birds and insects etc. can move away from the area. No further investigation required.



TOPICS	ACTIVITY	RECEPTOR	PATHWAY	EFFECT	FURTHER ASSESSMENT JUSTIFICATION
Ecology	 Drilling operations Vegetation clearing, and Vehicle movements 	Flora and fauna	Direct and indirect disturbance	Injury or mortality of individual species	 Sensitive animals such as reptiles, birds and insects etc. can move away from the area, and With the mitigation and management measures listed in the EMP, these effects would be minimized, and no likely significant affect anticipated. No further investigation required
Air Quality –	 Drilling, and 	NA	NA	NA	No receptors identified, no further
Dust	 Vehicles and machinery activity 				investigation required.
Cultural Heritage	Drilling	No known artefacts or	NA	NA	With the mitigation and management measures
and		heritage remains.			listed in the EMP, in particular the Chance Finds
Palaeontology					and minimised and no likely significant affect
resources					anticipated.
					No further investigation required
Cumulative	The combined environmental effects as a result of the activities of the proposed project are considered low and would not result in a significant adverse effect on				
Effects	any receptor identified above.				
	The effects of the proposed project in combination with other projects on the EPL sites or projects outside of the EPL boundaries are considered to be low. This is				
	due to the limited number of other projects in the area and likely effects on the same sensitive receptors.				



5.5 Environmental Management Plan

The EMP for the proposed project is presented in Appendix A. It provides management options to ensure the impacts of the proposed project are minimised. An EMP is a tool used 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 management measures should be adhered to during all stages of the exploration activities. All persons involved and partaking in the proposed activities should be made aware of the measures outlined in the EMP to ensure activities are conducted in an environmentally sound manner.

The objectives of the EMP are:

- To include all components of the development and operations of the project
- To prescribe the best practicable control methods to lessen the environmental impacts associated with the project
- Compliance to the Namib-Naukluft National Park Management Plan
- To monitor and audit the performance of operational personnel in applying such controls, and
- To ensure that appropriate environmental training is provided to responsible operational personnel.



6 CONCLUSION

The environmental assessment that was undertaken for the proposed project followed ECC's EIA methodology to identify if there is potential for significant effects to occur as a result of the proposed project. Through the scoping process, all social and environmental receptors were scoped as requiring further assessment as it was unlikely that there would be significant effects. Various best practice and mitigation measures have been identified to avoid and reduce effects as far as reasonably practicable, as well as ensure the environment is protected and unforeseen effects are avoided.

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 adhered to.



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APPENDIX A: ENVIRONMENTAL MANAGEMENT PLAN



APPENDIX B: NON-TECHNICAL SUMMARY





ECC-79-237-NTS-01-D

NON-TECHNICAL SUMMARY

EXPLORATION ACTIVITIES ON EPL 7662 FOR NUCLEAR FUEL

MINERALS

PREPARED FOR

MARENICA ENERGY LTD



DECEMBER 2019

PO BOX 91193 Windhoek Namibia Environmental Compliance Consultancy CC CC/2013/11404





NON-TECHNICAL SUMMARY MARENICA ENERGY LTD

NON-TECHNICAL SUMMARY PROPOSED EXPLORATION ACTIVITIES ON EPL 7662 FOR NUCLEAR FUEL MINERALS

1 PURPOSE OF THIS DOCUMENT

The purpose of this Non-Technical Summary (NTS) is to provide Interested and Affected Parties (I&APs) a background to the proposed project and to invite I&APs to register as part of the Environmental Impact Assessment (EIA) process. The project involves exploration activities on the following EPL 7662 for Nuclear Fuel Minerals in the Erongo Region. Through registering, all I&APs will be kept informed throughout the EIA process, and a platform for participation will be provided to submit comments/recommendations pertaining to the

project.

This NTS includes the following information on:

- The proposed project and location
- The necessity of the project, benefits or adverse impacts anticipated
- The alternatives to the project have been considered and assessed
- How the EIA process works
- The public participation process and how to become involved, and
- Next steps and the way forward.

2 DESCRIPTION OF PROPOSED PROJECT

2.1 BRIEF INTRODUCTION

Environmental Compliance Consultancy (ECC) has been engaged by the proponent (Marenica Ventures (Pty) Ltd) to undertake an Environmental Impact Assessment (EIA) and an Environmental Management Plan (EMP) in terms of the Environmental Management Act of 2007 and its Regulations. An environmental clearance application will be submitted to the relevant competent authorities: The Ministry of Mines and Energy (MME) and Ministry of Environment and Tourism (MET).

2.2 LOCATION

The project is located in the Erongo Region. The EPL 7662 is located in the Namib-Naukluft National Park

approximately 86.6km south-east of Walvis Bay off the C14 as illustrated in Figure 1.

2.3 WHAT IS PROPOSED

Marenica Ventures (Pty) Ltd undertakes mineral exploration in Namibia and propose to undertake low impact exploration activities on EPL 7662 for Nuclear Fuel Minerals in the Erongo Region.

2.4 OPERATION PHASE

The proposed exploration activities are low-impact and non-intrusive. The following are envisaged during the proposed projects:

- Potential creation of access tracks, where existing tracks cannot be utilised
- Limited vegetation clearing for the creation of tracks
- Drilling of exploration boreholes, and
- Exploration methods may include soil and rock sampling, geological mapping, electromagnetic surveys, drilling and drillcore sampling.

2.5 WHY IS THE PROJECT NEEDED

Marenica Ventures (Pty) Ltd intends to pursue exploration opportunities with the aim of identifying new mining prospects. Namibia is rich in natural resources and the mining industry is the largest income earner in Namibia. Exploration could lead to mining activities which would contribute to the national and local earnings of the country.

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ECC ENVIRONMENTAL COMPLIANCE CONSULTANCY

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2.6 POTENTIAL IMPACTS OF THE PROJECT

2.6.1 SOCIO-ECONOMIC

The potential social impacts are anticipated to be of low significance, and those that may transpire shall be confined within the EPL sites, these potential impacts may include the following:

- Potential to unearth, damage or destroy undiscovered heritage remains
- Minor disruption to the residents within the EPLs, including some increase in noise levels and dust arising from drilling and vehicle use
- Some jobs will be created as a result of the project, and
- There will be economic benefits due to increased investment and investor confidence in the Namibian minerals sector.

2.6.2 THE ENVIRONMENT

The potential environmental impacts are anticipated to be of minor significance, and those that may occur shall be contained within the EPL site, these potential impacts may include the following:

- Some potential vegetation loss due to possible tracks creation
- Minor risk of loss of contaminant of hydrocarbon, chemical or drill fluids from exploration activities potentially leading to localised ground contamination.

3 CONSIDERATION OF ALTERNATIVES

Best practice environmental assessment methodology calls for consideration and assessment of alternatives to the proposed project.

In project such as these ones, it is difficult to identify alternatives to satisfy the need of the proposed project; the activities shall be specific to the EPLs which were granted by the MME on the 07/11/2019.

During the assessment, alternatives will take the form of a consideration of optimisation and efficiency to reduce potential effects e.g. different types of technology or operations, route access and exploration methods.

4 THE ENVIRONMENTAL ASSESSMENT PROCESS

This EIA, conducted by ECC, is undertaken in terms of the Environmental Management Act, 2007 and its regulations.

The process followed in this EIA is set out in the flowchart in

FIGURE 22 below.



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4.1 SCREENING

A review of the proposed projects screening findings against the listed activities was conducted; the findings of which are summarised below.

MINING AND QUARRYING ACTIVITIES

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

• The proposed project requires a licence for extraction of Nuclear Fuel Minerals

(3.2) Other forms of mining or extraction of any natural resources whether regulated by law or not

 Minerals (soil and sand), Nuclear Fuel Minerals will be sourced out within the project's footprint/ locally as far as possible

(3.3) Resource extraction, manipulation, conservation and related activities

The proposed project will extract Nuclear Fuel Minerals

The potential environmental and social effects are anticipated to be of minor significance, and those that may occur shall be contained on the EPL sites.

4.2 SCOPING

Due to the nature of the proposed project, and the implementation of industry, best practice mitigation measures during the mineral exploration phase of the project, the effects on the environment and society are expected to be minimal and localised. It is acknowledged that the majority of the EPLs are located in the Namib-Naukluft National Park. It is therefore imperative that the potential impacts within the national park be thoroughly assessed and in particular, shall be reviewed against the 'no mining and prospecting zones' identified in National Policy on the Prospecting and Mining in protected areas recently passed by the Cabinet. During the assessment process and in the event that part or any of the EPL is found to be within any of these zones, further engagement with all relevant stakeholders shall be undertaken.

4.3 **BASELINE STUDIES**

For the proposed project, baseline information was obtained through a desk-based study and site verification processes through focusing on the environmental receptors that could be affected by the

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proposed projects. ECC will also engage with stakeholders, I&APs and the proponents to seek input into the assessment.

4.4 IMPACT ASSESSMENT

Impacts will be assessed using the ECC EIA methodology. The EIA will be conducted in terms of the Environmental Management Act, 2007 and its regulations. ECCs methodology for impact assessments was developed using IFC standards in particular Performance Standard 1 'Assessment and management of environmental and social risks and impacts' (International Finance Corporation, 2017). (International Finance Corporation, 2012) and Namibian Draft Procedures and Guidance for EIA and EMP (Republic of Namibia, 2008) including International and National best practice with over 25 years of combined EIA experience.

4.5 ENVIRONMENTAL MANAGEMENT PLAN

An EMP shall be developed for the proposed project setting out auditable management actions for Marenica Energy Ltd to ensure careful and sustainable management measures are implemented for their activities in respect of the surrounding environment and community.

4.6 PUBLIC PARTICIPATION AND **ADVERTISING**

Public participation is an important part of the EIA process; it allows the public and other stakeholders to raise concerns or provide valuable local environmental knowledge that can benefit the assessment, in addition it can aid the design process. These projects are currently at the scoping phase and public participation phase.

At this phase ECC will perform the following:

- Identify key stakeholders, authorities, municipalities, environmental groups and interested or affected members of the public, hereafter referred to as I&APs
- Distribute the NTS for the proposed project (this document)
- Advertise the environmental application in two national newspapers
- Place notices on-site at or near the boundary

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- If required host a public meeting to encourage stakeholder participation and engagement, and provide details of issues identified by the environmental practitioner, stakeholders and I&APs
- Record all comments of I&APs and present such comments, as well as responses provided by ECC, in the comments and responses report, which will be included in the scoping report that shall submitted with the application, and
- Circulate I&AP comments to the project team for consideration of project design.

Comments must be submitted in writing and can be emailed using the details in the contact us section below.

CONTACT US

We welcome any enquiries regarding this document and its content. Please contact:

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info@eccenvironmental.com

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www.eccenvironmental.com

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APPENDIX C: ECC CVS

Stephan Bezuidenhout ENVIRONMENTAL ASSESSMENT PRACTITIONER



Hello! :)



ABOUT ME

Name Jacobus Stephan Bezuidenhout - But you can call me Stephan -

> Born 11 April 1989

Phone +264 81 262 7872

Email stephan@eccenvironmental.com

> Website www.eccenvironmental.com

> > Contact me!

How to reach me!



	PRACTITION
8	Education &
University of Pretoria South Africa	Qualifications
2012	Postgraduate Degree in Environmental

Postgraduate Degree in Environmental Management & Analysis

Bachelors in Applied Science

- Snake Bite and Snake Handling
- Level 1 & 2 First Aid
- Industrial Environmental Compliance

N.S., et al., Some ecological side-effects of chemical and physical bush clearing in a southern African rangeland ecosystem, Southern African Journal of Botany (2015), http://dx.doi.org/10.1016/j.sajb.2015.07.012

The FSC National Forest Stewardship Standard of Namibia (Draft V 4). Co-authored by S Bezuidenhout, P Cunningham, A Ashby, F Detering, W Enstin & D Honsbein

Experience & Work History

Managing Director

Since 2012, Stephan has been working as an environmental assessment practitioner. Stephan has a strong ecological background and has gained more than seven years experience in the environmental industry. As a lead practitioner, Stephan has successfully driven environmental impact assessments and compliance assessments within Southern Africa. His hands on and practical experience and knowledge of international standards, such as IFC and World Bank standards allows Stephan to advise his clients and teams constructively and effectively.

ENVIRONMENTAL CONSULTANT & PRACTITIONER

Stephan manages a dynamic team of environmental practitioners and graduates at Environmental Compliance Consultancy. The firms' core objective is to improve the national standard of environmental compliance by developing local capacity. To date Stephan and his team have successfully completed over 30 projects for various industries, including mining, energy, infrastructure, conservation and tourism.

DECEMBER 2019



University of Stellenbosch

Additional Qualifications:

South Africa 2008

Publications:

Current









Jessica Mooney

Environment & Safety Specialist +264 81 653 1214

References

Feel free to ask the boss :)

MR CRAIG THOMAS Managing Director Weatherly Mining

MR COLIN BULLEN Managing Director Imerys (client)

Group Manager Lihir Gold MR NICK CURREY Director at Sustainable Mining Strategies

Or ask those who have worked for me?

Ms Asteria Salmon Worked as Control Room Operator WMN

Mr. Hermanus Lamprecht Paramedic Safety Officer

Professional Associations

- Chamber of Mines Namibia
- Women on Boards
- The Chamber of Minerals and Energy of Western Australia Industry Member – Mining, Minerals and Resources

Fun Facts:

- I can deadlift 135kg
- To keep fit | Olympic weight lift
- I run ultra Marathons & the longest run yet the fish river Canyon 65km
- I am one of 6 children do you think that means 4 of us suffer middle child syndrome?

Words I live by.

'The journey will bring you happiest, not the destination'

👛 Experience & Work History

Feb 2013 - Feb 2014 Environmental Consultant Ensolve Pty Ltd - Australia In February 2013 an opportunity came about to launch

my own business, Blue Wren Environmental Services.

During this time I have worked a bigside Ensolve Pty Ltd to deliver several environmental projects including:

- A mine closure project taking an operating mine site into the rehabilitation and closure phase. This project involved the full development of a mine closure plan, facilitation of the government approvals, stakeholder engagement and technical environmental studies to inform the mine closure plan
- Sustainability reporting in accordance with the Global Reporting Initiative
- Rehabilitation of historic exploration sites and obtaining associated government approvals for relinquishment of bonds.

Jan 2010 - Feb 2013 Site Environmental Manager

Panoramic Resources – Australia

- Brought the site into full compliance with the Environmental Licence within 1 year.
- Managed projects relating to the expansions of the current mine tailings dams including obtaining approvals under the Mining Act 1978 and Environmental Protection Act 1986.
- Managed the environmental and community aspects of three operations; Savannah Nickel Mine, Copernicus Nickel Mine (currently in care and maintenance) and the operations at Wyndham Port
- Responsible for the environment, sustainability and social reporting portfolio
- Developed productive working relationships with local government environmental agencies and non-government agencies, which assisted with the approvals process.
- Developed strategies for the recruitment and retention of local Indigenous personnel

Jan 2007 - Jan 2010 Environmental Systems Coordinator

Lihir Gold Limited – Australia Working on site to provide technical environmental and community advice to ensure all regulatory and licence obligations were met or exceeded

- Regulatory Approvals (State and Federal Government)
- Environment and social aspects of the international cyanide management code
- Operational budgeting and bond management for mine closure
- Compliance with the legislative framework
- Community engagement



MONDAY 9 DECEMBER 2019

is Medical Practitioner and Special Applications and inquiries: Tet (061) 224406 Email: Info@color

5

APPENDIX D: ADVERTS & EVIDENCE OF PUBLIC CONSULTATION

Fishcor distances itself from Fishrot scandal

· RUTH KAMWI

<text><text><text><text><text><text><text><text><text><text><text><text>

Photo: Henry van Rooi



Swapo retains Oshikuku

... party candidate elected unopposed

. HILENI NEMBWAYA



everything, and I cannot thank everything, and reamot mank them enough. As a councillor, I am ready to serve my people and develop Oshikuku further together with all the inhabit-ants," he added.

<text><text><text><text><text><text><text><text><text>





10 MONDAY 16 DECEMBER 2019

SMS Of The Day ALFREDO Hengari, press secretarypresidential, tell us how long we must wait for policies to address our daily struggles with the cost of living, before they are implemented?

Food For Thought

WHEN is this government going to impose a total ban on the harvesting of trees and on importing carbon emit-ting second-hand vehicles from Asia? Why do you think Asian countries are getting rid of them so fast?

Bouquets & Brickbats

THE only thing Namibians need to move on are investigations into the mining and construction industries for starters, plus all other areas where corrupt practices have taken root!

nisms in place ARE there any mecha to test the abilities and usefulness of the board members jumping from parastatal to parastatal, year in and vear out?

WHAT are we going to do about the atrocious rate of rape involving children in this country? That is a sign of a very ick society

HOW do so many patently un-

in the newspaper. We are subsidising the costs and are not making profit from this service to the public.

roadworthy trailers find their way Have Your Say onto our roads? These are accidents waiting to happen.

Corruption

MR Jooste, would this not be a good time to investigate all SOEs starting with middle and senior management staff? Procurement officials in particular. How many of these SOEs are a law unto themselves with their outrageous salaries and perks. How many of them are even necessary?

IF the findings of the Frank Commission, in the early nineties, into government corruption had been made public, things may not have been as bad as they are today. Any explanation why these have remained on the shelf somewhere?

Party Politics

OPPOSITION parties, you lost when ballot papers were used – you said the election was rigged. Now you have lost with EVM machines and you complain again. I hope you have enough money because you will lose the court case again, with costs.

DR Panduleni Itula, the national flag is for all Namibians, and not all Namibians need your campaign. We should use the national flag for other celebrations, like when Namibians do well outside the country.

JOB Amupanda, fight for this please. All MPs and government employees

Tell it like it is!

MAKE your views known. It costs N\$1 for 160 characters. You will receive an acknowledge-ment for 'telling it like it is!' Selected views will be published Official responses only may be emailed to: smsfeedback@namibian.com.na

NB: We would also like to call on members of the public to exercise good judgement when sending their comments to the newspaper. The Namibian publishes the SMSes to promote fair and civil discussion.



Applicant:	Marenica Ventures Ltd
Environmental Assessment Practitioner (EAP):	Environmental Compliance Consultancy
Location:	Erongo Region, Namibia.
Project: Exploration activities on EPI 7662 for nucle	ar fuel minerals, in the Franco Berlion, Namibia,

Proposed Activity: The proponent proposes to carry out low impact, non-intrusive exploration nuclear fuel minerals on EPL 7662. The EPL is located in the Namib-Naukluft National Park in the frongo Region. Exploration methods may include aerial or remote sensing, electromagnetic surveys minerals sampline.

Non for Environmental Clearance Certificate: In terms of the Environmental Management Act 7), ECC on behalf of Marencia Ventures Ltd is required to submit an application for an em co to the Competent Authority and the Ministry of Environment and Tourism for the above

Yow you can participate: ECC is undertaking the required environmental assessment and public participations in accordance with the Art. Interested and affected parties (IBAPs) and Stateholders are require genere for the project att. https://eccess/inonmental.com/project/exploration-activities-on-epi-7662 and and affected participation-activities-on-epi-7662 and and affected participation-activities-on-epi-7662 and and affected participation-activities-on-epi-7662 and and affected participation-activities-on-epi-7662 and affected particip

se of the Review and Comment Period: As part of the public participation process, the p and comment period is to present the proposed project and to afford I&APs an opportunit project to ensure that all issues and concerns are captured and considered in the assessment

we you can participate. To ensure that all potential issues and concerns are included in the asse pressed and Affected Parties (18,4Ps) and stakeholders are requested to register for the project u isbite provided and have the comportunit to have all comments considered and captured in the assessme

ew Period: The review and comment period are effective from 5²¹ December 2019 - 23² December 2019



DECEMBER 2019

Invironmental Compliance Consu-Registration Number: CC/2013/ PO Box 91193, Klein Wir http://www.eccenvironmental.com

WHAT YOU'RE SAYING!

SMS your views to

who have another income, must leave

their government jobs, so that those

jobs be given to qualified, unemployed

Namil

99902

An SMS costs N\$1

Norman Tiombe

BERNADUS Swartbooi, if you BERNADUS Swartbook, if you have proof that the Indians rigged the elections, take the proof to the ACC and to the Legal Assistance Centre or even to Norman Tjombe. meone must do something

Fishrot Scandal

ACTING fisheries minister Albert Kawana, I agree that the fishing in-dustry probe will be complex, but we cannot wait for years, so that everything falls flat again. I suggest you employ forensic auditors like PwC, etc, to find the culprits and help us bring them to justice. The ACC is not competent on their own. We all know that, if small fish were the big brains in the Fishrot scandal, it could take only a few days for them to face justice.

THE Fishrot six should enjoy Christmas and New Year's Day in jail and feel how our families are deep in pain as well as our economy that is on its knees. I totally suggest they stay until the last day of their trial – lose or win – and no bail should be granted to them. Judge Liebenberg, we suggest you to deal with them accordingly. No Iceland this festive se on. Seeis Iceland.

To The President

MR PRESIDENT in order to gain public confidence, fairness and transparency must prevail, and all citizens should benefit from the fish resources. It is advisable that all those who applied for fishing quotas be considered. No one from those companies who applied must be left out. Thank you!

MR PRESIDENT, we the drivers of the seven-seaters, are sick and tired of paying fines of N\$4 000. We want permits in order to transport people in our country. The law says we cannot transport people without permits but they don't want to issue us with permits. We are unem-

ployed and uneducated, where are e going to eat?

From The Regions

SOME time ago I read about a Euto his country, he shared his experi-ence and told them he once shared an apple with one of the inhabitants and how this receiver of the apple took a bite and passed the apple on, and how this action was repeated until the apple was finished. Now with this entitlement mentality, what happened with the morals of sharing by the Aawambo.

■ THE Walvis Bay Town Council has re-elected its leadership, even though development has stagnated under them. Not to mention the fact that one of its members, Ms Penelope Martin was never gazetted as a duly elected council member. It was just yesterday when Sacky Shanghala was telling people to run away from ghosts. And who or what is he today? Crying like hell! Its just not him, God is still watching.

MINISTER Albert Kawana, please sit down with the shareholders of Eembwida to reinstate the unlawfully dismissed 20-plus supervisors. The big-gest shareholders is the De Gouveias and they are good people but the inhuman management is tarnishing their good image. Eembwida shareholders, please reconsider that decision taken by your HR manager and her cohorts to send all those breadwinners on the street.

NAMPOST Oshakati, improve your service delivery. We send our parcels through courier which was an urgent delivery. We can't keep an urgent denvery. We can't keep paying for a service and then have our parcels lost or not located. NamPost Oshakati, please train your staff properly, your staff members are even rude on the telephone. Come on, guys. You can do better!

Health

THE NIP Oshakati Intermediate State Hospital staff must stop their pathetic service and inconsiderate attitude towards the patients. Also, you are dealing with your fellow human beings, so please get off your high horses and to your work that you used to do with passion and devotion. You greet them – no responce; go look for your test results. They will look at you as if you do not exist

OTJIWARONGO State Hospital has gone from bad to worse. There is no medicine, shortage of staff, dirty and smelly unhygienic wards, untidy yard, etc. The state of this hospital is a reflection of the poor management at the hospital. Even hospitals at smaller towns are better managed. This is a shame!

BABY decapitated, how can Mr Nangombe say they are going to investigate "if the medical staff was at fault". Who else then? Does he want to blame the mother who was lying on her back?

HATS off to the team of surgeons coming to assist Namibians needing correctional surgery for problems with their feet.

Law & Order

■ INSPECTOR general of the police, thank you so much for promoting our kind-hearted police woman chief inspec-tor Esther Mahinga of Grootfontein

Please note that the opinions expressed do not necessarily reflect the views of The Namibian.

police station. The problem is you ar transferring her, why? Who will you give us to meet our demands like she did? Some of us got to know how good the police are because of that woman. Why can't she just stay like the NDF commanders who get promoted and still stay at Grootfontein? Congratulations Ms Mahinga, may God bless you! - Mberirua

THE NAMIBIAN

Education

WE, the parents of children at Sikanduko Senior Primary School, have a problem with thisso-called free education of this country. The pupils are required to pay N\$300 school fees per year and, failure to do so, they on't receive their school reports. Minister of education, please to our rescue.

■ ISEKE Combined School, why should the pupils not be given their reports just because they could not take reams of copy paper to the school? Comrade minister and Zambezi regional education director, please help the poor community!

Labour

DIRECTORS of Tradeport Lüderitz, how on earth do you give a site manager's position to a driller. He doesn't have any idea how to com-municate with people and with staff members. All he knows is to use the f word and the chief operations officer is just OK with that. If we complain about him, he just laughs our com plaints off.

MARINE Security Service's mar agement, I fail to understand your style management. We, the guards have secured management and their families a very comfortable life through sacrifices of risking our lives to stand guard for the company, sometimes in very harsh conditions. At least, why not be considerate and pay us our rightful salaries on time.

Service Please

LETSHEGO, it was a good attempt to lower interest rates to give your clients something to enjoy Christmas. But your services on this is pathetic. Your staff is not trained to handle the pressure to give clients feedback on their loans that take more than a month to be paid to clients. Please improve your operations!

METROPOLITAN Namibia is disgrace. How on earth can a client wait for two weeks for their claims? At other service providers such as Old Mutual and Sanlam, a client will only wait for three working days. Improve your services, otherwise many people will change.

Lost And Found

I, SHIGWEDHA Nestor, lost my ID card near Swakopmund Post Office. If found, please contact me on 081 581 6790

I, KAMENYE Beatus, lost my personal documents. If found, please con me on 081 723 1968.



ECC DOCUMENT CONTROL - ECC-79-165-REP-26-D



The adverts were published in the Informante (online) on the 5th December – 12th December 2019.



Project: Exploration activities on EPL 7662 for nuclear fuel minerals, in the Erongo Region, Namibia.

Proposed Activity: The proponent proposes to carry out low impact, non-intrusive exploration activities for nuclear fuel minerals on EPL 7662. The EPL is located in the Namib-Naukluft National Park in the south of the Erongo Region. Exploration methods may include aerial or remote sensing, electromagnetic surveys, drilling and minerals sampling.

Application for Environmental Clearance Certuricate: In Lerms of the Environmental Management Act, 2007 (No 7

of 2007), ECC on behalf of Marenica Ventures L'or as caracted to submit an application for an environmental clearance to the Competent Authority and the Marenica vertice or environment and Tourism for the above-mentioned project.

How you can participate: ECC is undertaking the required environmental assessment and public participation process in accordance with the Act. Interested and affected parties (I&APs) and Stakeholders are required to register for the project at: <u>http://eccenvironmental.com/project/marenica-energy-ltd/</u>

Purpose of the Review and Comment Period: As part of the public participation process, the purpose of the review and comment period is to present the proposed project and to afford I&APs an opportunity to comment on the project to ensure that all issues and concerns are captured and considered in the assessment.



APPENDIX E: REGISTERED I&AP

First	Last name	Address	Email	Telephone	Comments	Comments
name				no.		
Bianca	Foelscher				1 st round comments	Response:
					please register me	<u>Registered</u>
					as an interested and	<u>1&AP</u>
					affected party	



APPENDIX D: ASSESSMENT METHODOLOGY

The evaluation and prediction of environmental and social impacts require the assessment of the project characteristics against the baseline of environmental and social characteristics and ensuring all potentially significant impacts are identified and assessed.

The significance of an impact was determined by taking into consideration the combination of the sensitivity and importance/value of environmental and social receptors that may be affected by the proposed project, the nature and characteristics of the impact, and the magnitude of potential change. The magnitude of change (the impact) is the identifiable changes to the existing environment which may be direct or indirect; temporary/short term, long term or permanent; and either beneficial or adverse. These are described as follows and thresholds provided in Tables 1 to 3.

- The **sensitivity and value of a receptor** are determined by identifying how sensitive and vulnerable a receptor is to change, and the importance of the receptor (internationally, nationally, regionally and locally).
- The nature and characteristics of the impact are determined through consideration of the frequency, duration, reversibility and probability and the impact occurring.
- The magnitude of change measures the scale or extent of the change from the baseline condition, irrespective
 of the value. The magnitude of change may alter over time, therefore temporal variation is considered (shortterm, medium-term; long-term, reversible, reversible or permanent)

SENSITIVITY AND VALUE	DESCRIPTION
llich	Of value, importance or rarity on an international and national scale, and with very limited
High	potential for substitution; and/or very sensitive to change or has little capacity to accommodate a change.
Medium	Of value, importance or rarity on a regional scale, and with limited potential for
	substitution; and/or moderate sensitivity to change, or moderate capacity to
	accommodate a change.
Low	Of value, importance or rarity on a local scale; and/or not particularly sensitive to change
	or has considerable capacity to accommodate a change.

TABLE 1 - SENSITIVITY AND VALUE OF RECEPTOR



TABLE 2 - NATURE OF IMPACT

NATURE	DESCRIPTION		
Positive	An impact that is considered to represent an improvement on the baseline or introduces a positive change.		
Negative	An impact that is considered to represent an adverse change from the baseline or introduces a new undesirable factor.		
Direct	Impacts causing an impact through direct interaction between a planned project activity and the receiving environment/receptors.		
Indirect	Impacts that result from other activities that are encouraged to happen as a result / consequence of the Project. Associated with the project and may occur at a later time or wider area		
Extent / Geographic	Scale		
On-site	Impacts that are limited to the boundaries of the proposed project site		
Local	Impacts that occur in the local area of influence, including around the proposed site and within the wider community		
Regional	Impacts that affect a receptor that is regionally important by virtue of scale, designation, quality or rarity.		
National	Impacts that affect a receptor that is nationally important by virtue of scale, designation, quality or rarity.		
International	Impacts that affect a receptor that is internationally important by virtue of scale, designation, quality or rarity.		
Duration			
Short-term	Impacts that are likely to last for the duration of the activity causing the impact and are recoverable		
Medium-term	Impacts that are likely to continue after the activity causing the impact and are recoverable		
Long-term	Impacts that are likely to last far beyond the end of the activity causing the damage but are recoverable over time		
Reversibility			
Permanent /Irreversible	Impacts which are not reversible and are permanent		
Temporary / Reversible	Impacts are reversible and recoverable in the future		
Likelihood			
Certain	The impact is likely to occur		
Likely	The impact is likely to occur under most circumstances		
Unlikely	The impact is unlikely to occur		



TABLE 3 - MAGNITUDE OF CHANGE

MAGNITUDE OF CHANGE	DESCRIPTION
Major	Loss of resource, and quality and integrity of resource; severe damage to key characteristics, features or elements; or Large-scale or major improvement of resources quality; extensive restoration or enhancement; major improvement of attribute quality.
Moderate	Loss of resource, but not adversely affecting its integrity; partial loss of/damage to key characteristics, features or elements; or Benefit to, or addition of, key characteristics, features or elements; improvements of attribute quality.
Minor	Some measurable change in attributes, quality or vulnerability; minor loss of, or alteration to, one (or maybe more) key characteristic, feature or element; or Minor benefit to, or addition of, one (or maybe more) key characteristic, feature or element; some beneficial effect on attribute quality or a reduced risk of a negative effect occurring.
Negligible	Very minor loss or detrimental alteration to one (or maybe more) characteristic, feature or element; or Very minor benefit to, or positive addition of, one (or maybe more) characteristic, feature or element.

The level of certainty has also been applied to the assessment to demonstrate how certain the assessment conclusions are and where there is potential for misinterpretation or a requirement to identify further mitigation measures, thereby adopting a precautionary approach. Where there is a low degree of certainty, monitoring and management measures can be implemented to determine if the impacts are worse than predicted and support the identification of additional mitigation measures through the life time of the proposed project. Table 4 provides the levels of certainty applied to the assessment, as well as a description.



TABLE 4 – LEVEL OF CERTAINTY

LEVEL OF CERTAINTY	DESCRIPTION
High	 Likely changes are well understood Design/information/data used to determine impacts is very comprehensive Interactions are well understood and documented Predictions are modelled, and maps based on interpretations are supported by a large volume of data, and Design/information/data has very comprehensive spatial coverage or resolution.
Medium	 Likely changes are understood Design/information/data used to determine impacts include a moderate level of detail Interactions are understood with some documented evidence Predictions are modelled but not yet validated and/or calibrated, and Mapped outputs are supported by a moderate spatial coverage or resolution.
Low	 Interactions are currently poorly understood and not documented. Predictions are not modelled, and the assessment is based on expert interpretation using little or no quantitative data. Design is not fully developed, or information has poor spatial coverage or resolution.

The significance of impacts has been derived using professional judgment and applying the identified thresholds for receptor sensitivity and magnitude of change (as discussed above) and guided by the matrix presented in Figure 1. The matrix is applicable for impacts that are either positive or negative. The distinction and description of significance and whether the impact is positive or negative is provided in Table 4.



Magnitude of Change

FIGURE 1 – GUIDE TO SIGNIFICANCE RATINGS

Significance is not defined in the Namibian EIA Regulations, however the Draft Procedure and Guidance for EIA and EMP states that the significance of a predicted impact depends upon its context and intensity. Accordingly, definitions for each level of significance has been provided in Table 4. These definitions were used to check the conclusions of the assessment of receptor sensitivity, nature of impact and magnitude of impact was appropriate.



TABLE 4 – SIGNIFICANCE DESCRIPTION

SIGNIFICANCE OF	DESCRIPTION
Major (negative)	Impacts are considered to be key factors in the decision-making process that may have an impact of major significance, or large magnitude impacts occur to highly valued/sensitive resource/receptors. Impacts are expected to be permanent and non- reversible on a national scale and/or have international significance or result in a legislative non- compliance.
Moderate (negative)	Impacts are considered within acceptable limits and standards. Impacts are long-term, but reversible and/or have regional significance. These are generally (but not exclusively) associated with sites and features of national importance and resources/features that are unique and which, if lost, cannot be replaced or relocated.
Minor (negative)	Impacts are considered to be important factors but are unlikely to be key decision-making factors. The impact will be experienced, but the impact magnitude is sufficiently small (with and without mitigation) and well within accepted standards, and/or the receptor is of low sensitivity/value. Impacts are considered to be short-term, reversible and/or localized in extent.
Low (negative)	Impacts are considered to be local factors that are unlikely to be critical to decision- making.
Low – Major (Beneficial)	Impacts are considered to be beneficial to the environment and society:

To ensure the beneficial impacts are brought out in the assessment, green has been applied to ensure the different type of impact is clear. The description for each level of significance presented in Table 4 was also followed when determining the level of significance for a beneficial impact.

The significance of impacts has been derived using professional judgment and applying the identified thresholds for receptor sensitivity and magnitude of change, as well as the definition for significance. It most instances, moderate and major adverse impacts are considered as significant, and however there may be some instances where impacts are lower than this but are considered to be significant. The following thresholds were therefore used to double check the assessment of significance had been applied appropriately; a significant impact would meet at least one of the following criteria:

- It exceeds widely recognized levels of acceptable change
- It threatens or enhances the viability or integrity of a receptor or receptor group of concern, and

It is likely to be material to the ultimate decision about whether or not the environmental clearance certificate is granted.