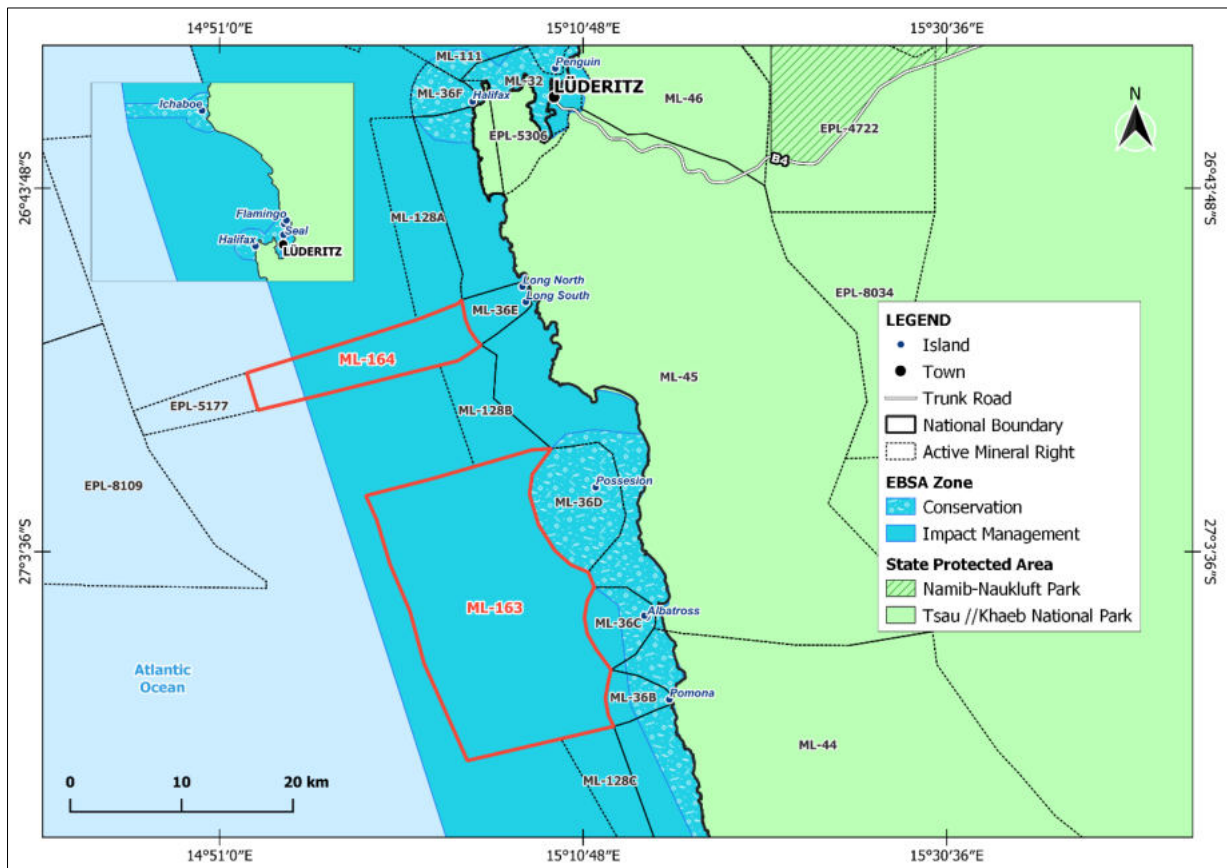


IMPLEMENTATION OF AND COMPLIANCE WITH THE UPDATED (2019) ENVIRONMENTAL MANAGEMENT PLANS FOR MARINE DIAMOND EXPLORATION AND MINING BY SAMICOR DIAMOND MINING (PTY) LTD IN MINING LICENSES 163 AND 164, LÜDERITZ AREA, //KARAS REGION, NAMIBIA



25 October 2023

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Letter from Mr Hückstedt to the Environmental Commissioner *Re: Renewal of Environment Clearance Certificate for marine ML163* (17 July 2023);
 Screening Notice APP-001751 (19 July 2023);
 Letter from Mr Hückstedt to the Environmental Commissioner *Re: Renewal of Environment Clearance Certificate for marine ML164* (17 July 2023); and
 Screening Notice APP-001753 (19 July 2023).

ABBREVIATIONS / ACRONYMS / SYMBOLS / UNITS

The following is a list of the abbreviations, acronyms, symbols, and units used in this Report:

AIDS	Acquired Immunodeficiency Syndrome
AU	African Union
AUV	Autonomous Underwater Vehicle
BCC	Benguela Current Convention
CBD	Convention on Biological Diversity
CEDAW	Convention on the Elimination of All Forms of Discrimination against Women
COLREGs	Convention on the International Regulations for Preventing Collisions at Sea
COSDEC	Community Skills Development Centre
DEA	Directorate of Environmental Affairs
DEAF	Directorate of Environmental Affairs and Forestry
EAF	Ecosystems Approach to Fisheries Management
EAP	Environmental Assessment Practitioner
EAPAN	Environmental Assessment Professionals of Namibia
EBSA	Ecologically or Biologically Significant Marine Area
ECC	Environmental Clearance Certificate
ED	Executive Director
EIA	Environmental Impact Assessment
EHS	Environmental Health and Safety
EMP	Environmental Management Plan
EMS	Environmental Management System
EPL	Exclusive Prospecting License
GRN	Government of the Republic of Namibia
ha	hectare
HIV	Human Immunodeficiency Virus
IBA	Important Bird Area
ICCPR	International Covenant on Civil and Political Rights
ICESCR	International Covenant on Economic, Social and Cultural Rights
IEMA	Institute of Environmental Management and Assessment
IFC	International Finance Corporation
ILO	International Labour Organization
IMO	International Maritime Organization
km	kilometre
LAC	Legal Assistance Centre
MARPOL	International Convention for the Prevention of Pollution from Ships
MAWF	Ministry of Agriculture, Water and Forestry
MAWLR	Ministry of Agriculture, Water and Land Reform
m	metre
m ²	square metre
MET	Ministry of Environment and Tourism
MEFT	Ministry of Environment, Forestry and Tourism
MFMR	Ministry of Fisheries and Marine Resources
ML	Mining License
MME	Ministry of Mines and Energy
MPA	Marine Protected Area
MUCH	Maritime and Underwater Cultural Heritage
MV	Motor Vessel

NAMCOB	Namibian Foundation for the Conservation of Seabirds
NamPort	Namibian Ports Authority
NCE	Namibia Chamber of Environment
NDP5	National Development Plan 5
NHC	National Heritage Council of Namibia
NIMPA	Namibian Islands' Marine Protected Area
NMPCP	National Marine Pollution Contingency Plan
NNF	Namibia Nature Foundation
NUTAM	Namibia Underwater Technologies and Mining (Pty) Ltd
OPRC	Oil Pollution Preparedness, Response and Co-operation
RBS	Risk-Based Solutions CC
RMP	Radiation Management Plan
ROV	Remotely Operated Vehicle
SA	South Africa
SADC	Southern African Development Community
SANCCOB	Southern African Foundation for the Conservation of Coastal Birds
SAR	(International Convention on Maritime) Search and Rescue
SEA	Strategic Environmental Assessment
SOLAS	(International Convention for the) Safety of Life at Sea
UK	United Kingdom
UN	United Nations
UNAM	University of Namibia
UNCLOS	United Nations Convention on the Law of the Sea
UNFCCC	United Nations Framework Convention on Climate Change
WHO	World Health Organization

1 Introduction

1.1 Background

Samicor Diamond Mining (Pty) Ltd (Samicor) started marine diamond exploration and mining in Namibia in 2003, and with a Head Office in Windhoek, and a logistical warehouse with support services based in Lüderitz. The Company currently holds 13 Mining Licenses (MLs) and one (1) Exclusive Prospecting License (EPL).

EPL2027B and EPL2027C belonged to Samicor. In 2010, Samicor applied for a conversion to ML163 and ML164 (the smaller inshore sections of the two EPLs).

During the tenure of the two EPLs, Samicor collected environmental data and the data were used for the Environmental Clearance Certificate (ECC) applications, in aid of the application for the two ML-applications (Mr Hans Hückstedt, Chief Geologist, Samicor Diamond Mining (Pty) Ltd, pers. comm.).

Since the granting of the ECCs (30 March 2011), no exploration or mining activities were undertaken in ML 163 and/or ML164. The latter was mainly due to low resource prices resulting in challenging global diamond trading environments, as well as the pending ML-applications (see Risk-Based Solutions (RBS) CC, 2019a; c).

Risk-Based Solutions (RBS) CC applied for the ECCs in February 2019; the ECCs were awarded in November 2019 (**ECC-00307 for EPL163**; expiry 06 November 2022 and **ECC-00340 for EPL164**; expiry 22 November 2022). The MLs were awarded in April 2019 and will expire April 2039.

Between March 2019 and September 2023, no exploration or mining activities were undertaken in ML 163 and/or ML164. The six-monthly Enviro Performance Appraisal Reports (EPARs) (zero activity) have been kept up to date with the Ministry of Environment, Forestry and Tourism (MEFT) (proof of submission was made available to LM Environmental Consulting; see Section 3.1).

A letter (dated 03 March 2023) re the application for the renewal of the ECC (ML163) (see Annexure A), the expired (06 November 2022) ECC, a site map, and a report prepared by RBS (2019b), was loaded onto MEFT's online portal on 16 February 2023. MEFT responded on 20 February 2023 (Screening Notice APP-001011 (230216001011)) (see Annexure A).

A letter (dated 13 March 2023) re the application for the renewal of the ECC (ML164) (see Annexure A), the expired (22 November 2022) ECC, a site map, and a report prepared by RBS (2019d), was loaded onto MEFT's online portal on 07 March 2023. MEFT responded on 10 March 2023 (Screening Notice APP-001099 (230307001099)) (see Annexure A).

Following communication with Mr Josafat Hiwana (Chief Conservation Scientist, MEFT) on 29 June 2023, Mr Hans Hückstedt, (Chief Geologist, Samicor Diamond Mining (Pty) Ltd) was advised to submit updated (2019) reports (as the regulations changed since 2019). Mr Hiwana also indicated that he will arrange for APP-001011 and APP-001099 to be deleted from the online portal (so that the new files could be loaded) (*note that the applications have not been deleted*).

New applications (in the form of letters dated 17 July 2023) were registered on the online portal on 19 July 2023; noted was Samicor's intention to renew the two ECCs and that no exploration or sampling work was done in the past three years in ML163 and/or ML164. The following Application Numbers were obtained: **APP-001751 for ML163** (230719001751) and **APP-001753 for ML164** (230719001753) (Mr Hans Hückstedt, Chief Geologist, Samicor Diamond Mining (Pty) Ltd, pers. comm.; see Annexure A).

At present, the following exploration (and mining) activities are planned: i) geophysical survey(s) using a dedicated survey vessel (MV Good Wind; length of 38 metres (m)) in order to obtain a high resolution digital terrain model of the sea floor; the following equipment will be used for the surveys: multibeam echosounder of frequency range 40 to 100 kHz; and sub-bottom profilers (seismic) will be used to generate data on the composition of the sea floor sediment layers (*the equipment use two frequency ranges as a sweep to provide good resolution combined with penetration to bedrock; the two frequency ranges are typically 35 to 45 kHz and 1 to 10 kHz; the typical penetration to bedrock is about 20 m*) (note that geophysical surveys, 215.8 line kilometre (km) in ML163 and 108.7 line km in ML164 have already been carried out in September 2023 and

will continue till November 2023); and ii) drill sampling (planned for December 2023 to January 2024, depending on previous progress, the results obtained, and the weather conditions): diamond sampling activities have a relatively small footprint and no toxic substances are used in the beneficiation process. A dedicated sampling vessel will be used (MV Explorer; length of 115 m). This vessel's tool and plant are designed specifically for west coast diamond sampling with a central moonpool to maximise the weather window. The vertical sampling tool has a five (5) square metre (m²) footprint and utilises Wirth Drill-type technology. The vessel uses a Dense Media Separation (DMS) plant to sort the diamonds from the sediments using the high specific gravity (SG) of diamonds as the distinguishing parameter. X-ray fluorescence is used to sort the diamonds from the concentrate while super-concentrate is hand-sorted in glove boxes. Drill penetration into the sea floor is typically 2 to 4 m.

Diamond mining activities have a relatively small footprint compared to the size of the issued Mining License, typically less than 10% of the ML-area is mined. No toxic substances are used in the beneficiation process. The dedicated mining vessel (MV Ya Toivo; length of 150 m) will be equipped with a four (4) point-mooring-system, integrated anchor-assist. The vessel will be further equipped with a Remotely Operated Subsea Crawler; the latter has a launch and recovery system for subsea mining tool handling, and consists of a large, fixed A-frame over the stern of the vessel and a hoist winch and heave compensator. The mined material will be slurry pumped from the seabed through a special riser system into the fully integrated diamond DMS processing plant. X-ray fluorescence is used to sort the diamonds from the concentrate while super-concentrate is hand-sorted in glove boxes. Mining activities are planned for the period January to March 2024, depending on previous progress, the results obtained, and the weather conditions (Mr Hans Hückstedt, Chief Geologist, Samicor Diamond Mining (Pty) Ltd, pers. comm.).

1.2 Project Location

ML163 and ML164 are located within the shallow marine environment to the south of Lüderitz, //Karas Region, Namibia (see Figure 1).

ML163, 42254.6118 hectares (ha) in size, is bordered by the Namibian Islands' Marine Protected Area (NIMPA) and ML128B (*belonging to Sperrgebiet Diamond Mining (Pty) Ltd*) to the north, ML36D to the north-east, ML36C and ML36B to the east and south-east (*all three MLs belonging to Samicor Diamond Mining (Pty) Ltd*), ML128C (*Namdeb Holding (Pty) Ltd*) and the NIMPA to the south, and the NIMPA to the west and north-west.

ML164, covers an area 9436.3671 ha in size. The ML is bordered by the NIMPA and ML128A (*Sperrgebiet Diamond Mining (Pty) Ltd*) to the north, ML36E (*Samicor Diamond Mining (Pty) Ltd*) to the north-east, the NIMPA and ML128B (*Sperrgebiet Diamond Mining (Pty) Ltd*) to the south, and EPL5177 (*Gurishi Enterprises CC*) to the west.

Fourteen (14) islands can be found close to the shore in the area between Walvis Bay and the Orange River mouth. These include: Hollamsbird, Mercury, Ichaboe, Seal, Penguin, Halifax, Long North, Long South, Possession, Albatross, Pomona, Plum pudding, Sinclair, and Little Roastbeef (Atlas of Namibia Team, 2022). **Long North** and **Long South** are located to the north-west of ML164 (in ML36E), and **Possession, Albatross, and Pomona**, islands to the north-east, east, and south-east (in ML36D, ML36C, and ML36B) (see Figure 1).

The NIMPA was declared in 2009 (Government of the Republic of Namibia (GRN), 2009). It stretches for 400 km from Meob Bay in the north (24°38'S) to Chamais Bay in the south (27°57'S). The NIMPA extends roughly 30 km from the high water mark into the sea; Lüderitz is roughly at its centre (Currie *et al.*, 2009; Kemper and Roux, 2023).

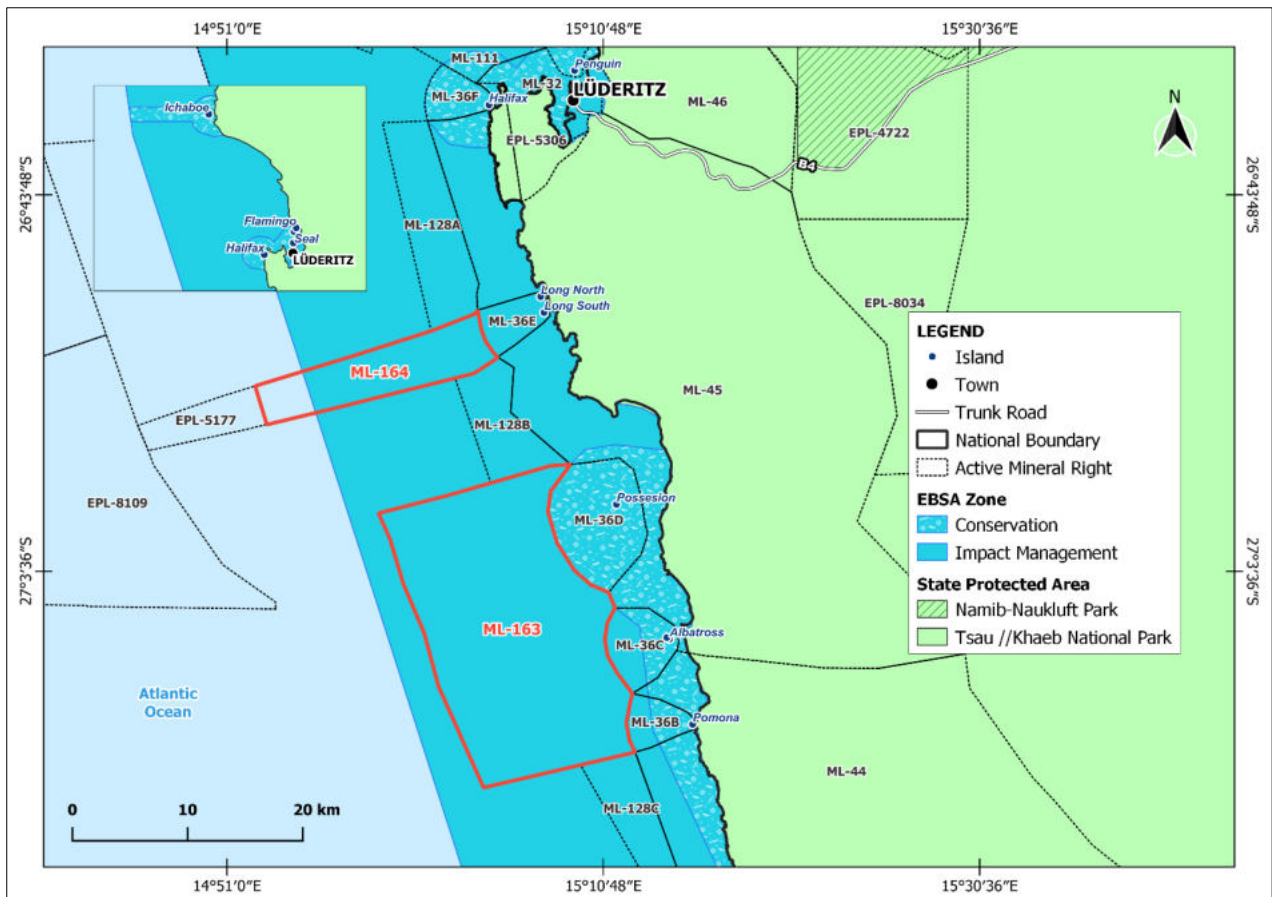


Figure 1: Map showing the location of Mining License (ML) 163 and ML164, Lüderitz area, //Karas Region, Namibia (Source: A. N. Nicodemus, GIS Specialist, 27 September 2023).

Currie *et al.* (2009) indicated that it is intended that the Marine Protected Area (MPA) will contribute to: i) sound management and conservation of marine resources under Namibia’s jurisdiction; ii) the protection of spawning and nursery grounds of the commercially exploited rock lobster (*Jasus lalandii*) and that of certain fish stocks and other marine resources, to promote stock recovery; iii) protection of the foraging requirements of top predators in the Benguela Upwelling Ecosystem, including a number of globally threatened seabirds; iv) MFMR’s (Ministry of Fisheries and Marine Resources) “precautionary principle” management strategy, whereby representative habitats are set aside to mitigate potential future threats, as well as MFMR’s legal obligations to EAF (Ecosystems Approach to Fisheries Management) management; v) improved vigilance with regard to risks posed by shipping-related threats, such as oil spills; vi) continued collection of oceanographic and biological data from offshore island sites, constituting important monitored indicators of the state of Namibia’s marine environment and coastal ecosystem (contributing an integral link to Namibia’s environmental monitoring system); vii) awareness, in a regional context, regarding novel approaches to the declaration and management of offshore MPAs; and viii) enhancement of Namibia’s international relations by illustrating steadfast commitment to international environmental treaties, regional and national needs and requirements, and international law.

Kemper and Roux (2023) noted that the overall extent and shape of the NIMPA is based on known foraging ranges of breeding African Penguins that nest on some of the islands (i.e. Ichaboe, Halifax and Possession Islands) (Currie *et al.*, 2009; Ludynia *et al.*, 2012), but also covers large proportions of the key foraging ranges of other threatened seabirds breeding there (Ludynia *et al.*, 2012). Also, the NIMPA aims to protect key habitats of resident and migratory marine mammals and explicitly prohibits marine operations, the erection of structures, and the fixing of moorings or lines, that obstruct known cetacean pathways within the NIMPA (see Part 5 Regulation 13 of the Regulations relating to Namibian Islands’ Marine Protected Area, 2012).

The NIMPA is divided into four zones of protection (Currie *et al.*, 2009). Zone 4 represents areas of priority conservation and highest protection status (i.e. on the islands, islets, rocks, rock lobster sanctuaries and

line fish sanctuaries). Zone 3 restrictions are enforceable to a perimeter of 120 m (or less in specified cases in the approved management zonations) around each island, islet or rock. Zone 2 enforceable conditions apply to near-shore and on-shore mining areas up to a water depth of 30 m and Zone 1 represents the buffer zone with generalised and the fewest restrictions (GRN, 2012).

According to Kemper and Roux (2023), the MFMR is in the process of revising the Regulations relating to NIMPA (2012), with the aim of updating and aligning the Regulations to other existing legislation and to address some gaps and inconsistencies in the current legislation.

Important Bird Areas (IBAs) are areas that are considered critical for birds at a global or regional scale. The areas do not carry legal weight, but they provide decision-makers with an inventory of areas of high bird conservation importance. In Namibia, there are 19 designated global IBAs; three of these are found in the broader project area (Barnes, 1998; BirdLife International, 2023; see Kemper and Roux, 2023): Ichaboe Island IBA (NA016); the Lüderitz Bay Islands IBA (NA017) (consisting of four islands: Flamingo Island (joined to the mainland); Seal Island; Penguin Island; and Halifax Island); and Possession Island IBA (NA018). Note that the broader project area also falls entirely into a proposed marine IBA, the Sperrgebiet Marine IBA (<http://maps.birdlife.org/marineibas/>; see Kemper and Roux, 2023).

The NIMPA was also proposed as a Type 2 Ecologically or Biologically Significant Marine Area (EBSA) (see <https://cmr.mandela.ac.za/Research-Projects/EBSA-Portal/Namibia/Namibian-EBSA-Status-Assessment-Management>; and MARISMA EBSA Workstream, 2020).

EBSAs are areas that provide crucial services to an ecosystem or components thereof and must meet a number of stringent criteria to qualify. These criteria evaluate a site's uniqueness (which includes the occurrence of endemic species), its significance for species life histories, threatened species and/or habitats, the proportion of sensitive site habitats and their susceptibility to human-induced degradation, its support of biological productivity and biodiversity, as well as a site's state of naturalness/degradation (Appiott *et al.*, 2016; see Kemper and Roux, 2023).

As part of a regional marine spatial planning management and governance programme, headed by the Benguela Current Convention (BCC), seven EBSAs in Namibia have been designated or are being proposed (four are situated in Namibia, one is shared with Angola, and two are shared with South Africa).

The Namibian Islands EBSA currently only includes the four main seabird breeding islands (i.e. Mercury, Ichaboe, Halifax and Possession). A proposal to extend the EBSA to include the entire NIMPA (and thus the key seabird foraging areas) has been submitted to the Convention on Biological Diversity (CBD) for ratification in December 2022 (MARISMA EBSA Workstream 2020; see Kemper and Roux, 2023).

On 11 Oktober 2023, the "Namibian Islands' Marine Protected Area (NIMPA) Plus" Project was launched in Lüderitz. The aim of the project is to protect NIMPA, which is under threat from pollution, climate change, ineffective management, and a society disconnected from marine values. The NIMPA+ project motto is "Strengthening Namibia's marine protected area and improving the livelihood opportunities of the coastal communities". The "overall objective of the project is to strengthen the management of the NIMPA to secure important populations of biodiversity and marine ecosystem services, in turn securing income opportunities for coastal communities and diversifying their livelihood opportunities, while working towards the designation of more MPAs and other effective area-based conservation measures (OECMs) at the national level". The project's four specific objectives are to: i) strengthen the formal management system of NIMPA and the capacities needed to implement it effectively; ii) engender broad support for NIMPA from civil society and engaged coastal communities; iii) strengthen and diversify coastal livelihoods; and iv) support the designation of two new MPAs' based on the successes of NIMPA.

The Namibia Nature Foundation (NNF), together with its consortium partners Blue Marine Foundation, GRID Arendal (a Centre collaborating with UNEP), the Southern African Foundation for the Conservation of Coastal Birds (SANCCOB), the Namibian Foundation for the Conservation of Seabirds (NAMCOB), COSDEC (Community Skills Development Centre), and the South Atlantic Environmental Research Institute, in partnership with the government, will be implementing the project funded by Blue Action Fund, OCEANS5; Albatross Task Force, Shark Conservation Fund, NCE (Namibia Chamber of Environment), and Debmarine Namdeb Foundation (see <https://www.facebook.com>). The project commenced in April 2023 and is set to be implemented over a period of five years (see <https://iono.fm/e/1368971>).

1.3 Terms of Reference

LM Environmental Consulting was appointed by Samicor Diamond Mining (Pty) Ltd to update the Legislative Requirements and Environmental Management Plans (EMPs) (as applicable) in aid of applications for the renewal of the Environmental Clearance Certificates (ECC) for ML163 and ML164 (one report for both ML163 and ML164) on 12 September 2023.

1.4 Environmental Assessment Practitioner

The author of this Report is Dr Lima Maartens who has more than 30 years' experience in natural resource management (*she gained her doctorate (Ph.D.) in Fisheries Science from Rhodes University, South Africa (SA) while working for the Namibian Ministry of Fisheries and Marine Resources (MFMR) in 2000*), lecturing (*University of Namibia (UNAM)*), environmental science and management (*De Beers Marine Namibia and the Canadian Forsys Metals Corp*), and consulting (*LM Environmental Consulting was established by Dr Maartens in October 2009*).

Sectors that she worked in as an Environmental Assessment Practitioner (EAP) include: exploration (including offshore oil and gas); mining and quarrying; renewable energy (solar and wind); tourism; manufacturing; agriculture; aqua- and mariculture; township, property (including medicine storage facilities) and waterfront developments, transport (rail and road), and infrastructure.

Dr Maartens is registered as a Lead Practitioner and Reviewer with the Environmental Assessment Professionals of Namibia (EAPAN) (she served on the Executive Committee during 2016/17), an Associate Member and Environmental Auditor with the Institute of Environmental Management and Assessment (IEMA) in the United Kingdom (UK), a Full Member of the Namibia Chamber of Environment (NCE), and a Member of the Namibia Scientific Society.

She has published five peer-reviewed scientific research articles (and three as co-author), six popular articles (and one as co-author), one book chapter (and one book chapter as co-author), 155 technical reports (LM Environmental Consulting), three technical reports (for De Beers Marine Namibia), and one conference paper.

2 Regulatory Framework - Updated

The most pertinent legislation (Ruppel and Ruppel-Schlichting, 2022; and Legal Assistance Centre (LAC), 2023a, b), with the aim of informing Samcor Diamond Mining (Pty) Ltd of the legal requirements pertaining to exploration and mining activities in ML163 and ML164 is listed in Table 1.

Table 1: Regulatory framework for Samcor Diamond Mining (Pty) Ltd's exploration and mining activities in Mining License (ML) 163 and ML164, south of Lüderitz, //Karas Region, Namibia.

National Law
Acts of Parliament, Regulations, Ordinances, Proclamations
The Constitution of the Republic of Namibia 1990 (and First Amendment Act 34 of 1998, Second Amendment Act 7 of 2010, and Third Amendment Act 8 of 2014)
Employees' Compensation Act 30 of 1941 (as amended in South Africa prior to Namibian independence) (Amendment Act 5 of 1995 amends the Act substantially and changes its name from the Workmen's Compensation Act to the Employees' Compensation Act) (and the General Regulations 1961 (as amended))
Merchant Shipping Act 57 of 1951 (and amendments: Act 7 of 1991, Namibian Ports Authority Act 2 of 1994, and Wreck and Salvage Act 5 of 2004) (and the Record Book Regulations 1977 (amended 1998), Previous Examination Regulations for Certificates of Competence as Marine Motormen and Fishermen (repealed in 2004), Construction and Equipment Regulations for fishing vessels 2002, Manning of Ships Regulations 2003, Certificates of Qualifications Regulations 2004 (amended in 2007), Merchant Shipping Fees Regulations 2009, and Merchant Shipping (Radio Installations) Regulations 2010)
Sea Shore Ordinance 37 of 1958
Soil Conservation Act 76 of 1969 (as amended in South Africa to March 1978)
Hazardous Substance Ordinance 14 of 1974 (and the General Regulations 1979; no post-independence regulations have been promulgated)
International Health Regulations Act 28 of 1974 (as amended to December 1977); the International Health Regulations were replaced in turn by the International Health Regulations, 2005, which entered into force internationally on 15 June 2007 (<i>Source: World Health Organisation (WHO)</i>). Namibia is bound by these 2005 Regulations from that date in accordance with Articles 21(a) and 22 of the WHO Constitution.
Nature Conservation Ordinance 4 of 1975 (and the Regulations Relating to Nature Conservation 1976 and the amended Regulations)
Atmospheric Pollution Prevention Ordinance 11 of 1976 (Regulations are authorised by several sections of the Act; no post-independence regulations have been promulgated)
Marine Traffic Act 2 of 1981 (as amended by the Marine Traffic Amendment Act 5 of 1983, the Marine Traffic Amendment Act 15 of 1991, and the Namibian Ports Authority Act 2 of 1994)
Prevention and Combating of Pollution of the Sea by Oil Act 6 of 1981 (as amended by the Prevention and Combating of Pollution of the Sea by Oil Amendment Act 59 of 1985 (RSA), Prevention and Combating of Pollution of the Sea by Oil Amendment Act 63 of 1987 (RSA), and Act 24 of 1991, the Namibian Ports Authority Act 2 of 1994; and Act 5 of 2019)
Territorial Sea and Exclusive Economic Zone of Namibia Act 3 of 1990 (and Territorial Sea and Exclusive Economic Zone of Namibia Amendment Act 30 of 1991)
Petroleum Products and Energy Act 13 of 1990 (as amended by the Petroleum Products and Energy Amendment Act 29 of 1994, Act 3 of 2000, and Act 16 of 2003) (and the Regulations relating to the purchase, sale, supply, acquisition, possession, disposal, storage, transportation, recovery and re-refinement of used mineral oil 1991, Petroleum Products Regulations 2000 (amended in 2002 and 2016), Regulations for arbitration procedures 2003, Regulations on funding of approved agencies 2004 (withdrawn 2005) (GN 247/2013 purports to amend the regulations in GN 230/2004, leaving the correct text of these regulations uncertain), and the Regulations relating to the reselling price of petrol and petrol products (issued frequently, with each one revoking or replacing the previous one)
Foreign Investment Act 27 of 1990 (and amendment Act 24 of 1993) (and the Regulations 1992)
Regional Councils Act 22 of 1992 (and Amendment Acts 17 of 1997, 30 of 2000, 12 of 2002, 12 of 2010, 16 of 2010, and 7 of 2017) (and the Regulations: Commercialisation Regulations 2001; Joint Business Venture Regulations 2001; and Tender Board Regulations 2001)
Local Authorities Act 23 of 1992 (and amendments) (and the Model Pound Regulations 1994, the Model Electricity Supply Regulations 1996, Model Water Supply Regulations 1996, Model Sewerage and Drainage Regulations 1996, Model Regulations for the Control of Dogs in Local Authority Areas 2008, Commercialisation Regulations 2001 (amended in 2007), Joint Business Venture Regulations 2001 (amended in 2007), and Tender Board Regulations 2001 (replaced in 2011), and Recruitment and Selection Regulations for Local Authority Councils 2019)
Local Authorities Act 23 of 1992 & Town of Lüderitz: Regulations relating to waste management 2004 & Environmental Management Plan for the Operation and Management of the existing Lüderitz Dumpsite in //Karas Region (see Green Gain Environmental Consultants cc, 2021) and Comprehensive Environmental Management Plan for the Operations and Maintenance of the Existing Effluent Treatment Plant in Lüderitz, //Karas Region (see Excel Dynamic Solutions (Pty) Ltd, 2023).
Minerals (Prospecting and Mining) Act 33 of 1992 (and Minerals (Prospecting and Mining) Amendment Act 8 of 2008)

Namibian Ports Authority Act 2 of 1994 (as amended by the National Transport Services Holding Company Act 28 of 1998, the Namibian Ports Authority Amendment Act 12 of 2000, and the State-owned Enterprises Governance Act 2 of 2006) (and the Port Regulations 2001) & Environmental Management Plan for the Operations of the Port of Lüderitz (Faul <i>et al.</i> , 2019).
Social Security Act 34 of 1994 (as amended by the State-owned Enterprises Governance Act 2 of 2006/ Public Enterprises Governance Act 2 of 2006, and the Labour Act 11 of 2007 (and the General Regulations 1995, and amendments))
Arms and Ammunition Act 7 of 1996 (and amendments: Combating of Domestic Violence Act 4 of 2003; and General Law Amendment Act 14 of 2005) (and the General Regulations 1998)
Namibia Water Corporation Act 12 of 1997 (and amendments: Namibia Water Corporation Amendment Act 17 of 2001; Water Resources Management Act 24 of 2004 (it never came into force and has been repealed by the Water Resources Management Act 11 of 2013); State-owned Enterprises Governance Act 2 of 2006 (re-named the Public Enterprises Governance Act 2 of 2006); and the Water Resources Management Act 11 of 2013)
Affirmative Action (Employment) Act 29 of 1998 (as amended by Act 6 of 2007 and the Labour Act 11 of 2007) (and the General Regulations 1999)
Diamond Act 13 of 1999 (and the Regulations relating to the Search of Employees and Visitors in Diamond Areas 1950; the Diamond Regulations 2000; and the Amendment of the Diamond Regulations 2003)
Road Traffic and Transport Act 22 of 1999 (as amended by the Road Traffic and Transport Amendment Act 6 of 2008) (and the Road Traffic and Transport Regulations 2001)
Marine Resources Act 27 of 2000 (and the Regulations relating to the Namibian Islands' Marine Protected Area 2012)
Wreck and Salvage Act 5 of 2004
Research, Science and Technology Act 23 of 2004 (amended by the State-owned Enterprises Governance Act 2 of 2006/Public Enterprises Governance Act 2 of 2006) (and the Regulations 2011 (amended 2016))
National Heritage Act 27 of 2004 (as amended by the State-owned Enterprises Governance Act 2 of 2006/Public Enterprises Governance Act 2 of 2006) (and the National Heritage Regulations 2005)
Atomic Energy and Radiation Protection Act 5 of 2005 (and the Radiation Protection and Waste Disposal Regulations 2011)
Electricity Act 4 of 2007 (and the Electricity Regulations: Technical 2004, the Electricity Regulations: Administrative 2011, and the Namibian Electricity Safety Code 2011 (amended 2012))
Environmental Management Act 7 of 2007 (and the Environmental Impact Assessment Regulations 2012)
Labour Act 11 of 2007 (and the Labour Amendment Act 2 of 2012) (and the Regulations relating to the Health and Safety of Employees at Work 1997, and the Labour General Regulations 2008)
Namibian Islands' Marine Protected Area (NIMPA) 2009
Tobacco Products Control Act 1 of 2010 (and the Regulations 2014)
Water Resources Management Act 11 of 2013 and the Water Resources Management Regulations 2023
Public and Environmental Health Act 1 of 2015 (and section 20(1) of the National Health Act 2 of 2015) (and the Public Health Covid-19 General Regulations 2021) (and amendments)
Civil Aviation Act 6 of 2016 (and the State Airport Regulations 1963 (and amendments); Air Navigation Regulations 1976 (and amendments) (and supplemented by Safety Directive No. DCA 97-1 1997); Regulations Regarding the Investigation of Aircraft Accidents 2000; Namibian Civil Aviation Regulations 2001 (NAM-CARS) (and amendments); and the Civil Aviation Technical Standards (CATS))
Marine Notice No. 02 of 2017: Requirements and Conditions for the Transfer of Oil within Namibian Waters
Marine Notice No.04 of 2018: Garbage Management Requirements in Namibia under MARPOL Annex V
Policies, Guidelines, National Strategies & Action Plans
Policies
Conservation of Biotic Diversity and Habitat Protection 1994
Namibia: National Code on HIV/AIDS in Employment 2000
Minerals Policy of Namibia 2002
Namibia's <i>Draft</i> Wetland Policy 2004
National Policy on HIV/AIDS 2007
National Gender Policy 2010 - 2020
National Health Policy Framework 2010-2020 - "towards quality health and social welfare services"
National Policy on Climate Change for Namibia 2011
National Policy on Coastal Management for Namibia 2012
National Policy on Prospecting and Mining in Protected Areas 2018
National Strategies & Action Plans
Namibia's Green Plan 1992
Vision 2030 2004
Towards a Coastal Policy for Namibia, Green Paper 2009
National Climate Change Strategy & Action Plan (2013 – 2020)
Namibia's Second National Biodiversity Strategy and Action Plan (NBSAP 2) (2013 – 2022)
Namibia's 5th National Development Plan (NDP5) – Working together towards prosperity (2017/18 – 2021/22)
National Marine Pollution Contingency Plan (NMPCP) 2017
National Solid Waste Management Strategy 2018
National Parks Environmental Management Plans (EMPs)

Management Plan for Tsau //Khaeb (Sperrgebiet) National Park 2020/2021-2029/2030
Town Planning Schemes, Structure Plans, & Land Use Plans
Lüderitz Town Planning Amendment Scheme No. 5 2003
Lüderitz Structure Plan: Towards A Model Town. Volume 1, <i>Final Draft</i> 2014
Strategic Environmental Assessments (SEAs)
Strategic Environmental Assessment (SEA) for the coastal areas of the Hardap and //Karas Regions 2012
Good Industry Practice
Radiation Safety Officer's Handbook 2018
Best Practice Guide. Environmental Principles for Mining in Namibia 2019
International Law
African Union (AU)
African Charter on Human and Peoples' Rights (Banjul Charter) 1981, the Protocol to the African Charter on Human and Peoples' Rights on the establishment of the African Court on Human and Peoples' Rights 1998 (non-binding), and the Protocol to the African Charter for Human and Peoples' Rights on the Rights of Women in Africa 2003
Convention for Cooperation in the Protection and Development of the Marine and Coastal Environment of the West and Central African Region and Protocol (Abidjan Convention) 1981 (Additional Protocol to the Abidjan Convention concerning Cooperation in the Protection and Development of Marine and Coastal Environment from Land-based Sources and Activities in the Western, Central and Southern African Region 2012)
African Convention on the Conservation of Nature and Natural Resources (Revised Version) 2003 (non-binding)
Constitution of the African Civil Aviation Commission (AFCAC) 2009 (Revised Version)
Agreement for the Establishment of the Africa Institute for the Environmentally Sound Management of Hazardous and Other Wastes Agreement 2004
Southern African Development Community (SADC)
Treaty of the Southern African Development Community (SADC) 1992 (and Agreement Amending the Treaty 2001; Agreement Amending Article 22 of the Treaty 2007; Agreement Amending the Treaty 2008; Agreement Amending the Treaty 2009 – DES; and Agreement Amending the Treaty 2009 – ORGAN)
SADC Protocol on Mining 1997
SADC Protocol on Health 1999
Charter of Fundamental Social Rights in SADC 2003
SADC Protocol on Gender and Development 2008 (and an Agreement Amending the SADC Protocol on Gender and Development 2016)
SADC Protocol on Environmental Management for Sustainable Development 2014 (not yet binding)
SADC Protocol on Employment and Labour 2014 (not yet binding)
Charter Establishing the SADC Aviation Safety Organisation (SASO) 2015 (not yet binding)
United Nations (UN) / International Conventions
Constitution of the International Labour Organization (ILO) 1919 (as amended), and *Instrument of Amendment of the ILO Constitution, 1986 (not yet binding), and the Instrument of Amendment of the ILO Constitution 1997
Convention on International Civil Aviation (also known as Chicago Convention) 1944 (and Protocol relating to an Amendment to the Convention on International Civil Aviation [Final Paragraph, Russian Text] Montreal 1977; Protocol on the Authentic Quadrilingual Text of the Convention on International Civil Aviation (Chicago, 1944) Montreal 1977; Protocol relating to an Amendment to the Convention on International Civil Aviation [Article 83bis] Montreal 1980; Protocol relating to an Amendment to the Convention on International Civil Aviation [Article 3bis] Montreal 1984; Protocol relating to an Amendment to the Convention on International Civil Aviation [Article 56] Montreal 1989; Protocol relating to an Amendment to the Convention on International Civil Aviation [Article 50(a)] Montreal 1990; *Protocol relating to an Amendment to the Convention on International Civil Aviation [Final Paragraph, Arabic Text] Montreal 1995 (not yet binding); *Protocol on the Authentic Quinquelingual Text of the Convention on International Civil Aviation Montreal 1995 (not yet binding); *Protocol relating to an Amendment to the Convention on International Civil Aviation [Final Paragraph, Chinese Text] Montreal 1998 (not yet binding); *Protocol on the Authentic Six-Language Text of the Convention on International Civil Aviation (Chicago, 1944) Montreal, 1998 (not yet binding))
Constitution of the World Health Organization (WHO) 1946 (and *Amendment to Article 7 of the Constitution of the World Health Organization 1965 (not yet binding); *Amendment to Article 74 of the Constitution of the World Health Organization 1978 (not yet binding); Amendments to Articles 24 and 25 of the Constitution of the World Health Organization 1986; and Amendments to Articles 24 and 25 of the Constitution of the World Health Organization 1998)
Convention on the International Maritime Organization (IMO) 1948 (and Amendments to Articles 17 and 18 of the Convention on the International Maritime Organization, 1964, which entered into force internationally on 6 October 1967; Amendment to article 28 of the Convention on the International Maritime Organization, 1965, which entered into force internationally on 3 November 1968; Amendments to Articles 10, 16, 17, 18, 20, 28, 31 and 32 of the Convention on the International Maritime Organization, 1974, which entered into force internationally on 1 April 1978; Amendments to the title and substantive provisions of the Convention on the International Maritime Organization, 1975/1977, which entered into force internationally on 22 May 1982, except for the amendment to article 51 which entered into force on 28 July 1982 in accordance with article 62 of the Convention as amended; Amendments to the Convention on the International Maritime Organization relating to the institutionalization of the Committee on Technical Co-operation in the Convention, 1977, which entered into force internationally on 10 November 1984; Amendments to Articles 17, 18, 20 and 51 of the Convention on the International Maritime Organization, 1979, which entered into force internationally on 10 November 1984; Amendments to the Convention on the International Maritime Organization

(institutionalization of the Facilitation Committee), 1991; and Amendments to Articles 16, 17 and 19(b) of the Convention on the International Maritime Organization, 1993)
ILO Convention concerning Discrimination in Respect of Employment and Occupation (No. 111) 1958 (and including the Forced Labour Convention 1930 (No. 29); Abolition of Forced Labour Convention 1957 (No. 105); Freedom of Association and Protection of the Right to Organise Convention 1948 (No. 87); Right to Organise and Collective Bargaining Convention, 1949 (No. 98); Equal Remuneration Convention 1951 (No. 100); Discrimination (Employment and Occupation) Convention 1958 (No. 111); Minimum Age Convention 1973 (No. 138); and Worst Forms of Child Labour Convention 1999 (No. 182))
International Convention on Load Lines (LL) 1966 (as amended) and the Protocol of 1988 relating to the International Convention on Load Lines 1966
International Convention on the Elimination of All Forms of Racial Discrimination 1966
International Covenant on Civil and Political Rights (ICCPR) 1966 (and the Optional Protocol to the International Covenant on Civil and Political Rights 1966 and the Second Optional Protocol to the International Covenant on Civil and Political Rights, aiming at the Abolition of the Death Penalty 1989)
International Covenant on Economic, Social and Cultural Rights (ICESCR) 1966
International Convention relating to Intervention on the High Seas in Cases of Oil Pollution Casualties (INTERVENTION) 1969 and the Protocol relating to Intervention on the High Seas in Cases of Marine Pollution by Substances other than Oil (INTERVENTION PROT) 1973
Convention on Wetlands of International Importance, especially as Waterfowl Habitat (Ramsar Convention) 1971 (and Protocol to amend the Convention on Wetlands of International Importance especially Waterfowl Habitat 1982, and Amendments to Article 6 and 7 of the Convention on Wetlands of International Importance especially Waterfowl Habitat 1987)
Convention Concerning the Protection of the World Cultural and Natural Heritage 1972
Convention on the International Regulations for Preventing Collisions at Sea (COLREGs) 1972 (as amended in 1981, 1987, 1989, 1993, 2001, 2007 and 2013)
International Convention for the Prevention of Pollution from Ships (MARPOL) 1973, as modified by the Protocol of 1978 ("MARPOL 73/78") (and Annex I - Regulations for the Prevention of Pollution by Oil; Annex II - Regulations for the Control of Pollution by Noxious Liquid Substances (NLS) in bulk; Annex III - Regulations for the Prevention of Pollution by Harmful Substances in Packaged Form; and Annex V - Regulations for the Prevention of Pollution by Garbage from Ships)
International Convention for the Safety of Life at Sea (SOLAS) 1974 (as amended) (and its Protocol of 1978 relating to the International Convention for the Safety of Life at Sea, 1974)
International Convention on Standards of Training, Certification and Watchkeeping for Seafarers (STCW) 1978 (and 17 sets of amendments)
Convention on the Elimination of All Forms of Discrimination against Women (CEDAW) 1979 and Optional Protocol to the Convention on the Elimination of all Forms of Discrimination against Women 1999
International Convention on Maritime Search and Rescue (SAR) 1979 (as amended)
United Nations Convention on the Law of the Sea (UNCLOS) 1982 (and the Agreement relating to the Implementation of Part XI of the United Nations Convention on the Law of the Sea of 10 December 1982, 1994 and the United Nations Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks (Fish Stocks Agreement) 1995)
Vienna Convention for the Protection of the Ozone Layer 1985 and the Montreal Protocol on Substances that Deplete the Ozone Layer 1987 (and Amendment to the Montreal Protocol on Substances that Deplete the Ozone Layer, adopted by the Second Meeting of the Parties at London on 29 June 1990 (London Amendment); Amendment to the Montreal Protocol on Substances that Deplete the Ozone Layer, adopted by the Fourth Meeting of the Parties at Copenhagen on 25 November 1992 (Copenhagen Amendment); Amendment to the Montreal Protocol on Substances that Deplete the Ozone Layer, adopted by the Ninth Meeting of the Parties at Montreal on 17 September 1997 (Montreal Amendment); Amendment to the Montreal Protocol on Substances that Deplete the Ozone Layer, adopted by the Eleventh Meeting of the Parties at Beijing on 3 December 1999 (Beijing Amendment); and Amendment to the Montreal Protocol on Substances that Deplete the Ozone Layer, adopted by the Twenty-Eighth Meeting of the Parties at Kigali from 10 to 15 October 2016 (Kigali Amendment))
Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal (Basel Convention) 1989 and the Amendment to the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal 1995
International Convention on Oil Pollution Preparedness, Response and Co-operation (OPRC) 1990
Convention on Biological Diversity (Biodiversity Convention) 1992, the Cartagena Protocol on Biosafety to the Convention on Biological Diversity, Montreal 2000, and the Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization to the Convention on Biological Diversity 2010
Protocol of 1992 to Amend the International Convention on Civil Liability for Oil Pollution Damage 1969 (CCL PROT 1992) and Protocol of 1992 to the International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage 1971 (FUND PROT 1992) (1992 Fund Convention)
United Nations Framework Convention on Climate Change (UNFCCC) 1992, the Kyoto Protocol to the UN Framework Convention on Climate Change 1997 (and the not yet binding Doha Amendment to the Kyoto Protocol to the United Nations Framework Convention on Climate Change 2012), and the Paris Agreement 2015
Convention on the Law of the Non-Navigational Uses of International Watercourses 1997

Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade (Rotterdam Convention) 1998 (with Annexes as amended)
Stockholm Convention on Persistent Organic Pollutants (Stockholm Convention) 2001 (and amendments)
Convention on the Protection of the Underwater Cultural Heritage 2001
Convention for the Safeguarding of the Intangible Cultural Heritage 2003
International Convention for the Control and Management of Ships' Ballast Water and Sediments (BMW) 2004 (not yet binding)
Convention on the Protection and Promotion of the Diversity of Cultural Expressions 2005
Revised African Maritime Transport Charter 2010 (not yet binding)
United Nations Guiding Principles on Business and Human Rights 2011
Benguela Current Convention (BCC) 2013
International Best Practice
International Finance Corporation (IFC) Environmental Health and Safety (EHS) Guidelines 2007 and the EHS Guidelines for Mining 2007

3 Environmental Management Plans: Implementation and Compliance

3.1 Introduction

As part of the EMP Performance Review / Update, the following actions were carried out:

- Review of the following documents (**ML163**) made available to LM Environmental Consulting:
 - Rau, G. 2010a. *Environmental Impact Assessment, EPL2027B*. 21 pp.
 - Rau, G. 2010b. *Environmental Management Report, EPL2027B*. 44 pp.
 - Risk-Based Solutions (RBS). 2019a. *Final March 2017 – January 2019 Environmental Compliance / Performance Monitoring Report to Support the Application for Renewal of Environmental Clearance Certificate (ECC) for Marine Diamond Exploration and Mining in the Mining License (ML) No. 163, Lüderitz Area, //Karas Region South Namibia*. 56 pp.
 - Risk-Based Solutions (RBS). 2019b. *Samicor Diamond Mining (Pty) Ltd Final Updated Environmental Impact Assessment (EIA) and Environmental Management Plan (EMP) Report for Marine Diamond Exploration and Mining in the Mining License (ML) No. 163, Lüderitz Area, //Karas Region, Southern Namibia*. 83 pp.
- Review of the following documents (**ML164**) made available to LM Environmental Consulting:
 - Rau, G. 2010c. *Environmental Impact Assessment, EPL2027C*. 21 pp.
 - Rau, G. 2010d. *Environmental Management Report EPL2027C*. 44 pp.
 - Risk-Based Solutions (RBS). 2019c. *Final March 2017 – January 2019 Environmental Compliance / Performance Monitoring Report to Support the Application for Renewal of Environmental Clearance Certificate (ECC) for Marine Diamond Exploration and Mining in the Mining License (ML) No. 164, Lüderitz Area, //Karas Region South Namibia*. 56 pp.
 - Risk-Based Solutions (RBS). 2019d. *Samicor Diamond Mining (Pty) Ltd Final Updated Environmental Impact Assessment (EIA) and Environmental Management Plan (EMP) Report for Marine Diamond Exploration and Mining in the Mining License (ML) No. 164, Lüderitz Area, //Karas Region, Southern Namibia*. 84 pp.
- Meeting (MS Teams) with Mr Hans Hückstedt, Chief Geologist, Samicor Diamond Mining (Pty) Ltd on 10 October 2023.

Mr Hans Hückstedt joined Samicor Diamond Mining (Pty) Ltd in 2003. Samicor currently employs nine persons on a permanent basis (eight Namibians in the Windhoek Office and one Namibian in the Lüderitz Office), and one South African citizen (Mr Hückstedt) on a contract/consultancy basis. Contractors, e.g. Namibia Underwater Technologies and Mining (Pty) Ltd (NUTAM), are/will be appointed to carry out the exploration and/or mining. During 2023, and while doing work for Samicor in their MLs, NUTAM employed a total of 87 persons on a monthly basis (Mr Hans Hückstedt, Chief Geologist, Samicor Diamond Mining (Pty) Ltd, pers. comm.).

- Signed and stamped letters only, indicating that hard copies of Environmental Assessment Reports for **ML163 and ML164** were submitted to the MME and MEFT, was made available to LM Environmental Consulting on 13 October 2023:
 - Period November 2019 to April 2020; submission 12 June 2020;
 - Period May 2020 to October 2020; submission 01 December 2020;
 - Period November 2020 to April 2021; submission 01 June 2021;
 - Period May 2021 to October 2021; submission 23 November 2021;
 - Period November 2021 to April 2022; submission 11 July 2022;
 - Period May 2022 to October 2022; submission 29 November 2022 and 04 January 2023; and
 - Period November 2022 to April 2023; submission 14 and 15 August 2023.

3.2 Compliance: Environmental Management Plans

In order to illustrate compliance with the EMPs for: i) environmental performance monitoring and procedures; ii) environmental and safety management systems; iii) exploration and mining; iv) vessels at sea (including contracted vessels); v) waste management and pollution control; vi) ecosystem services / values, biological diversity conservation and resource use; vii) socio-economic issues; and viii) mine closure (see Tables 2 to 9), the following colour codes were applied:

	Compliance/Completed
	In Progress/Ongoing
	Non-compliance
	Not (Currently) Applicable
	Changes made to existing EMP
	Unknown
	Not audited

Extracts from Rau (2010a; c) are provided (comments provided by LM Environmental Consulting are indicated in a green font):

Rau (2010a; c) noted that a **benthic macrofauna baseline study** was conducted in EPL3776/3777 in June 2008. The area was also on the middle shelf, but far north of EPL2027b (now ML163) and EPL2027c (now ML164). The grab samples (41 kg) were analysed at the University of Cape Town (UCT) and the results showed relatively low benthic biodiversity and low abundances with the exception of Onuphidae. Excluding the “beach- worms”, the biodiversity and abundance were found to be low. Further monitoring was, however, necessary in order to confirm this initial deduction. It was concluded that Samicor Diamond Mining (Pty) Ltd’s activities (at the time) were not anticipated to impact on the Benguela system in any way. No further benthic monitoring has been carried out to date (Mr Hans Hückstedt, Chief Geologist, Samicor Diamond Mining (Pty) Ltd, pers. comm., 10 October 2023).

Additional **potential impacts** identified (by Rau, 2010a; c) included: i) the impact on sea water quality (during geophysical surveys and wirth sampling); ii) the impact(s) on marine fauna (marine mammals - dolphins, whales, seal and sharks, lobster, fish, turtles, jellyfish, and sea birds) (*marine mammals include: cetaceans (e.g. whales and dolphins), pinnipeds (e.g. seals), sirenians (manatees and dugongs), and marine fissipeds (polar bears and sea otters)*) (due to the acoustic pulses of geophysical equipment, vessel noise, seabirds resting on the vessels and/or being attracted to overboard garbage disposed per regulation); iii) the impact on benthic fauna (during wirth sampling); iv) the impact on cetaceans (whales and dolphins) (during sampling/exploration); v) the impact on marine mammals (seals) (during survey/sampling operations); vi) impacts (*none identified?*) related to geophysical exploration (seismic, sidescan sonar, swath bathymetry); vii) sample recovery impact (*unknown impact?*) due to wirth sampling; viii) impact on commercial fishing (lobster and whitefish) (during the geophysical and sampling phases); ix) the impact on shipwrecks (during sampling); x) impacts related to the survey/exploration vessels (interference with shipping in general, waste disposal, sewage and putrescible waste, and bunkering:- fuels, oils and water); xi) positive impact to the general Namibian economy (direct (revenue) and indirect (requiring support services) contribution due to the exploration programme); and xii) positive impact of employment opportunities (employment and skills development).

Rau (2010a; c) indicated that during sampling activities in 2008, **daily records / logs** of the following were kept: i) discharge to sea (sewerage discharge; all discharges were in compliance with MARPOL regulations); ii) consumption (fuel, water and ferrosilicon); iii) discharge to atmosphere; iv) fish life; v) hydrogen sulphide; vi) jellyfish (mags, reds and other); vii) sea life (dolphins, sharks, whales, turtles, birds and seals); viii) ocean climate (sea state); and ix) tailings plume.

Overall, it was **concluded** that “the environmental impact is of “low significance” / environmental disturbance is so little that it can be assumed that there is no environmental impact at all / the holes drilled tend to collapse when the drill table is extracted and fill in and so, with time, are rehabilitated by natural processes - therefore practically no environmental disturbance at all exists in these EPLs”. Noted was that Samicor Diamond Mining (Pty) Ltd was establishing a basic environmental baseline for its middle shelf areas in order to be able to monitor the effects of mining more accurately once the Mining Licences have been awarded (Rau, 2010a; c).

Rau (2010b; d) prepared **Environmental Management Plan Reports** (EMPRs) for EPL2027b (now ML163) and EPL2027c (now ML164). Extracts from these reports are provided (comments provided by LM Environmental Consulting are indicated in a green font):

Reference is made to **previous scientific environmental baseline investigations** (*Environmental Assessment and Management Plan Report for Deep Sea Mining in Namibia by Namco, October 1996; Analysis of Responses to the Environmental Assessment and Management Plan Report, January 1997; Aquarius Environmental Study, ML36a, Environmental Performance Assessment Reports of 2004, 2005, 2006, 2007, 2008 and 2009 and the EIA and EMPR for Phosphate licences 3776/3777*). Mentioned also was that **follow-up baseline studies are being conducted** as new technologies are developed and deployed which to date has not been the case.

Noted was that the EMP (for EPL2027b, as well as EPL2027c) consists of **17 specific environmental monitoring programmes**, which has been approved by the Ministries of Mines and Energy, Environment and Tourism, and Fisheries and Marine Resources: 1.0 Corrective Action; 1.1 Non conformance; 2.0 Environmental Monitoring; 2.1 Intention to Sample; 2.2 Post Sampling; 2.3 Birds, Mammals; 2.4 Benthic Fauna; 3.0 Pollution Management; 3.1 Pollution & Spills; 3.2 Lost Equipment; 3.3 Waste; 3.4 Consumption; 4.0 Vessel; 4.1 Vessel Position; 4.2 Ocean Conditions; 4.3 I A P's; 4.4 Observed Vessels; 4.5 Bunkering; 4.6 Port Usage; 5.0 Review / Report; 5.1 Monthly Summary. The monitoring programmes identified are presented in template form. **The templates are detailed and contain valuable information that should be modified/updated (if applicable) and then used in future.**

RBS (2019a; c) noted (**comments provided by LM Environmental Consulting are indicated in a green font**) that the ECCs (for EPL2027b (now ML163) and EPL2027c (now ML164), granted on 30th March 2011, were never renewed and/or aligned to the current (2012) EIA Regulations. Thus, detailed, updated **Environmental Management Plans (EMPs)** were prepared by Risk-Based Solutions (RBS) on behalf of Samicor Diamond Mining (Pty) Ltd for implementation. RBS (2019a; c) also noted (2016-2019 MONITORING RESULTS **assumed to be 2011-2019?**): "No exploration or mining activities undertaken for the period under review, hence no monitoring activities / results".

RBS (2019a; c) made the following **recommendations (Section 5.2)**: The following is the summary of the key recommendations that may be considered for implementation once full-scale mining operation starts in order to further improve the quality of the baseline and monitoring data sets collected and interpreted with respect to the proposed exploration and mining operations in the ML No. 163 and ML No. 164:

1. Review and undertake a detailed updated baseline mapping of key the coastal and shallow marine environmental resources / receptors and delineate key sensitive areas or targets that must be protected within the Namibian Islands' Marine Protected Area (NIMPA);
2. Undertake Marine Diesel Oil (MDO) or Marine Gas Oil (MGO) spill modelling study in light of current vessels fleet that Samicor Diamond Mining (Pty) Ltd is operating. The fuel oil spill modelling study shall be supported by the updated coastal and shallow marine mapping exercise under (1) above, for emergency preparedness / development of appropriate contingency plans in an event of a major accidental MDG spill with respect to key receptor as mapped under (1) above; **Samicor Diamond Mining (Pty) Ltd to develop, implement and maintain an Oil Spill Contingency Plan (according to protocols outlined in the Namibian National Marine Pollution Contingency Plan (NMPCP), 2017).**
3. Implement a continuous onboard seawater quality sampling and testing programme for each vessel. Monitoring data sets may be collected by either an environmental officer or through an automated system;
4. Implement a benthic monitoring programme within the ML areas in order to contribute to the understanding of the natural, exploration and / or mining induced variabilities;
5. Undertake water column modelling in order to understand the short and long-term effects of fine sediments discharges and resultant plumes on the seawater column;
6. Undertake seabed modelling of sediments discharges (oversize) in order to understand the short and long-term effects of sediments discharges on the seafloor natural and mining variabilities, and;
7. Undertake, underwater marine noise numerical modelling with respect to the ongoing geophysical survey (low energy acoustics) as well as noise from mining and normal vessels operations, including cumulative impacts.

RBS (2019b; d) prepared updated Environmental Impact Assessment (EIA) and Environmental Management Plan (EMP) reports. A summary of the **potential impacts, ranked as having either a "high" or "medium" significance**, and the appropriate management intervention measures to reduce the negative impacts were provided:

Impacts of High Significance	Management Intervention Measures
1. Mining in gullies and disposal of tailings back into the sea	Targeted monitoring/ research needs to be conducted to assess the biological significance and/or ecological sensitivity of benthic habitat and communities across the different types of rocky outcrops, especially in mining.
2. Grounding / sinking of vessel (marine pollution from spills)	Strict enforcement of vessel safety measures and stringent oil spill management systems are essential during all operations.
3. Mine Closure	It is essential that Samicor Diamond Mining (Pty) Ltd embark upon the development of a Mine Closure Plan, which includes social and labour

	<i>issues, to manage the risks associated with the closure of operations.</i>
Impacts of Medium Significance	Management Intervention Measures
1. Sediment removal during seabed sampling	No direct intervention possible other than the no-project alternative. Optional measures to reduce the risk include setting aside an appropriate (i.e. size and seabed composition) portion of the Mining Licence Areas that will not be directly or indirectly impacted by mining operations in the foreseeable future. Such areas could also serve as unmined reference sites in long-term monitoring studies assessing mining impacts.
2. Benthic community impacts of mining	
3. Tailings disposal (smothering of benthic communities)	
4. Benthic community and higher order impacts through tailings disposal	
5. Habitat alteration	The alternative of no mining operations, and the option of not disposing tailings overboard while mining.
6. Release of H ₂ S from muds	For safety reasons it is essential that on-board air quality is monitored during the exploration and mining operations in the ML Areas, if operating in muds. Prior to operations in areas of thick mud overburden it essential that a coring survey to determine the presence of H ₂ S pockets is conducted.
7. Repeat mining	Optional measures include no re-mining of areas.
8. Archaeological, paleontological and historical aspects	It is essential that the relevant managers and specialists be informed on finding of historical material that artefacts are retained and mining ceases within 500 m from the centre of the site until the area has been surveyed and clearance has been received from the relevant authorities.
9. Radioactive sources	Strict implementation of Radiation Management Plan (RMP)

RBS (2019b; d) noted: The proponent, Samicor Diamond Mining (Pty) Ltd **must undertake research and monitoring** of short and long-term impacts and **including cumulative impacts** of both exploration and mining activities on the receiving environment, such as disturbance of seabed habitats and communities. The following is summary of the environmental performance monitoring activities that must be implemented:

Implementation of the EMP monitoring plan: The implementation of the EMP monitoring plan by Samicor Diamond Mining (Pty) Ltd will require allocation of sufficient resources to collect, analyse the required datasets and propose recommendations on what needs to be done for both the long-term and short (day to day) monitoring operations. The implementation could be done as an in-house activity or partly in-house (data collection during exploration and mining processes) and outsource (employ a consultant) to undertake the assessment and recommend measures to be implemented. Key aspects that need to be monitored include water quality, marine fauna and bathetic (**benthic**) compositions and variability. There will be a need for a full range of laboratory and technical facilities to support the monitoring programme of water quality monitoring and benthic communities with respect to the proposed exploration and mining processes;

EMP Auditing: On an annual basis, a written Environmental Performance Report will be submitted to the Mining Commissioner of the Ministry of Mines and Energy and Environmental Commissioner of the Ministry of Environment and Tourism demonstrating compliance with the provisions of the EMP, statutory requirements, as well as ongoing assessment of impacts and gathering of information, and; **The Ministry of Environment, Forestry and Tourism (MEFT) requires the submission of Bi-annual Environmental Monitoring Reports.**

EMS Auditing: Personnel within Samicor Diamond Mining (Pty) Ltd are responsible for the management of these impacts through regular environmental audits to evaluate compliance and effectiveness monitoring programme in line with all the applicable national legal instruments; **Samicor Diamond Mining (Pty) Ltd does not have an Environmental Management System (EMS) (e.g. ISO 14001) in place (Mr Hans Hückstedt, Chief Geologist, Samicor Diamond Mining (Pty) Ltd, pers. comm.). It is advised that monthly, internal EMP audits be carried out by suitably qualified members of staff.**

Table 2: Compliance with the environmental performance monitoring and procedures (after Risk-Based Solutions CC, 2019a; b; c; d).

No.	Aspect	Impact Description	Risk / Gain ranking	Action Plans and Control Measures	Responsible Person(s)	Timing	Compliance / Comments (October 2023)
Management Objectives: <ul style="list-style-type: none"> ❖ The EMP process is employed, so that operations are conducted in an environmentally responsible manner ❖ All action plans outlined in this EMP are achieved, including continued consultation with all stakeholders and compilation of Performance Monitoring ❖ Understanding about potential impacts of mining operations and environmental management is increased ❖ An ethic of environmental responsibility is instilled in all staff and contract workers ❖ Ensure that exploration, mining and processing operations does not impact significantly on existing water quality. Maintain the integrity and ecological functions of the seabed, the bay, islands and coast. ❖ Maintenance of ecosystem integrity – the Bay and Islands within and near the ML areas ❖ Sound environmental integrity for the Bay and Islands maintained. ❖ Maintain the seawater and marine sediment quality standards to its natural state in order to minimize direct loss of abalone and rock lobster by smothering effects due to sediment resuspension. 							
1	Implementation of the environmental management policy and procedure	Improved Environmental Management and Awareness	High	<ul style="list-style-type: none"> – Define the roles and authorities of staff members (and any specialist consultants) responsible for implementation of the various facets of this EMP. – Address training needs of staff required to implement specialised aspects of the EMP. – Maintain records of plans, decisions, data collected, communications made, emergency responses, etc., which document the implementation of the EMP. 	Environmental Manager	Ongoing	No exploration and/or mining activities undertaken in Mining License (ML) 163 and/or ML164 for the period between March 2011 and August 2023 (RBS, 2019a; c; Mr Hans Hückstedt, Chief Geologist, Samicor Diamond Mining (Pty) Ltd, pers. comm.).
2	Internal communication about the EMP	Improved Environmental Management and Awareness	High	<ul style="list-style-type: none"> ❖ All personnel will be made aware of the contents Environmental Policy Statement, EMP and EMS requirements. ❖ All personnel who are in a position to make decisions or take actions that will influence environmental protection and management will be made aware of the contents, and their respective responsibilities for implementation, of the Environmental Policy Statement, EMP and EMS requirements. 	Environmental Manager	Ongoing	Samicor Diamond Mining (Pty) Ltd does not have an Environmental Management System (EMS) (e.g. ISO 14001) in place (Mr Hans Hückstedt, Chief Geologist, Samicor Diamond Mining (Pty) Ltd, pers. comm.).

No.	Aspect	Impact Description	Risk / Gain ranking	Action Plans and Control Measures	Responsible Person(s)	Timing	Compliance / Comments (October 2023)
3	Instructions to all staff, including contractors	Improved Environmental Management and Awareness	High	<ul style="list-style-type: none"> ❖ Provide instructions and appropriate training to all staff about aspects of the EMP that affect their specific work, including hydrocarbon pollution prevention and clean-up, general waste management, protection of natural resources, and rehabilitation. ❖ Conduct an environmental awareness programme for the marine and terrestrial environments. ❖ Prior to working in the ML areas all contractors must undergo an environmental and safety awareness induction and such awareness must form part of the debriefing before workers take-up their respective work stations. ❖ Incorporate environmental aspects and management interventions applicable to particular outsourced tasks into contracts and performance appraisals to improve environmental awareness and performance, and specify penalties for non-compliance. ❖ Report all environmental incidents as specified in the Company Procedures. 	Environmental Manager	Ongoing	No exploration and/or mining activities undertaken in ML163 and/or ML164 for the period between March 2011 and August 2023 (RBS, 2019a; c; Mr Hans Hückstedt, Chief Geologist, Samcor Diamond Mining (Pty) Ltd, pers. comm.).
4	EMP Monitoring and Performance Assessments	Improved Environmental Management and Awareness	High	<ul style="list-style-type: none"> ❖ Undertake a detailed currents circulation modelling followed by a continuous (on the monthly basis) ❖ Analyses of the water quality 	Environmental Manager	First due 12 months after EMP approval	No exploration and/or mining activities undertaken in ML163 and/or ML164 for the period between March 2011 and August 2023 (RBS, 2019a; c; Mr Hans Hückstedt, Chief Geologist, Samcor Diamond Mining (Pty) Ltd, pers. comm.).

No.	Aspect	Impact Description	Risk / Gain ranking	Action Plans and Control Measures	Responsible Person(s)	Timing	Compliance / Comments (October 2023)
				<p>realised at source before discharge to the marine environment and around the mining area using the Benguela Current Large Marine Ecosystem (BCLME) guideline values for concentration of metals in seawater</p> <ul style="list-style-type: none"> ❖ Analyses of the sediment quality realised at source before discharge to the marine environment and around the mining area using the Benguela Current Large Marine Ecosystem (BCLME) guideline values for concentration of metals in marine sediments ❖ The EMP monitoring process will carefully examine all monitoring results and combine them with current circulation models to mitigate any harmful impact to the Mariculture industry around Lüderitz. ❖ Undertake formal EMP performance assessments every 12 months to check progress in meeting the objectives and targets of this EMP ❖ Compile and submit EMP Performance Assessment Reports to the Environmental Commissioner containing as a minimum the following information: <ul style="list-style-type: none"> ▪ Information regarding the period applicable to the assessment ▪ Scope of the assessment ▪ Procedure used for the assessment ▪ Interpreted information gained 		date	<p>It is advised that environmental monitoring be carried out as per the recommendations made by Rau (2010a; b; c; d) and RBS (2019a; b; c; d).</p> <p>It is advised that Samicor Diamond Mining (Namibia) (Pty) Ltd (and their employees and contractors) implement and observe the Environmental Management Plan on an ongoing basis.</p> <p>Bi-Annual Environmental Reports (in the form of letters informing the authorities that no exploration, mining, or related activities took place in the ML-areas) have been submitted to the Office of the Environmental Commissioner (Mr Hans Hückstedt, Chief Geologist, Samicor Diamond (Pty) Ltd, pers. comm.).</p>

No.	Aspect	Impact Description	Risk / Gain ranking	Action Plans and Control Measures	Responsible Person(s)	Timing	Compliance / Comments (October 2023)
				<ul style="list-style-type: none"> from monitoring ▪ Evaluation criteria used ▪ Results of the assessment ▪ Recommendations on how and when non-compliances or deficiencies will be rectified. 			
5	EMP Amendments	Improved Environmental Management and Awareness	High	<ul style="list-style-type: none"> ❖ On an ongoing basis, assess the applicability of actions and activities required by the EMP, identify and address all new environmental issues arising from changed operations and/or communications with interested parties, through amendments to the EMP if/where necessary. ❖ Communicate and consult with I&APs through appropriate fora to inform them of proposed changes and address any concerns. ❖ Amend and revise this EMP, if required and submit to the Environmental Commissioner for approval. 	Environmental Manager	Ongoing	<p>No exploration and/or mining activities undertaken in ML163 and/or ML164 for the period between March 2011 and August 2023 (RBS, 2019a; c; Mr Hans Hückstedt, Chief Geologist, Samicor Diamond Mining (Pty) Ltd, pers. comm.).</p> <p>No stakeholder consultation was done in 2010 (see Rau, 2010a; b; c; d); RBS (2019b; d) noted that there is no legal requirements for undertaking stakeholder consultation when applying for renewal of the ECC. It is advised that an Interested and Affected Party (I&AP) Register be developed, implemented and maintained and that communication/consultation with I&APs takes place on a continuous basis.</p> <p>This report.</p>

6	Communications with stakeholders	Improved stakeholder relationships	High	<ul style="list-style-type: none"> ❖ Maintain an up-to-date I&AP database. ❖ Maintain open communication with the relevant stakeholders listed in Samicor Diamond Mining (Pty) Ltd database by sharing the results of the monitoring and informing them of proposed changes to the EMP, addressing any issues of concerns that may arise, maintain records of communications, and where relevant, address their needs. ❖ Participate actively in appropriate fora to share information and co-operate with other stakeholders and resource managers in the marine environment. 	Environmental Manager	Ongoing	<p>It is advised that an Interested and Affected Party (I&AP) Register be developed, implemented and maintained and that communication/consultation with I&APs takes place on a continuous basis.</p> <p>No exploration and/or mining activities undertaken in ML163 and/or ML164 for the period between March 2011 and August 2023 (RBS, 2019a; c; Mr Hans Hückstedt, Chief Geologist, Samicor Diamond Mining (Pty) Ltd, pers. comm.).</p>
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No.	Aspect	Impact Description	Risk / Gain ranking	Action Plans and Control Measures	Responsible Person(s)	Timing	Compliance / Comments (October 2023)
7	Pecuniary provision/ Allocation of environmental Management Funding	Improved Environmental Management	High	❖ Allocate operational costs to maintain the EMP objectives, including all associated requirements, such as. funding of research and monitoring to understand, and where possible, mitigate impacts.	Environmental Manager	Ongoing	No exploration and/or mining activities undertaken in ML163 and/or ML164 for the period between March 2011 and August 2023 (RBS, 2019a; c; Mr Hans Hückstedt, Chief Geologist, Samicor Diamond Mining (Pty) Ltd, pers. comm.).
				❖ Maintain Protection and Indemnity (P&I) Insurance Cover of US\$ 100 million to allow for clean-ups in the event of oil spills, and unlimited (P&I) Insurance Cover for other eventualities.	Mine Secretary	Ongoing	The amount must be linked to size (vessel size, capacity, etc.) and duration of the operation. Insurers do not provide cover of higher than the vessel hull value (Mr Hans Hückstedt, Chief Geologist, Samicor Diamond Mining (Pty) Ltd, pers. comm., 2022).

Table 3: Compliance with the environmental and safety management systems (after Risk-Based Solutions CC, 2019a; b; c; d).

No.	Aspect	Impact Description	Risk / Gain ranking	Action Plans and Control Measures	Responsible Person(s)	Timing	Compliance / Comments (October 2023)
Management Objectives:							
<ul style="list-style-type: none"> ❖ In order to build-up an accurate database of discharge characteristics / composition, levels and distribution of potential toxic elements that could be associated / mobilised / released through the exploration, mining and processing operations around the ML areas ❖ Maintain compliance with the standards in the Labour Act, Environmental regulations and mining regulations ❖ Maintain compliance with operational and national and international occupational standards ❖ Internally and externally audited Environmental Management System (EMS) for exploration, mining and processing are maintained for all certified areas of activities and all identified vessels and shore-based areas have NOSA grading 							
1	Maintain Environmental Management System (EMS)	Improved Environmental Management	High	<ul style="list-style-type: none"> ❖ Ensure that all requirements of Environmental Management System are met, including compliance with the national legislation, environmental awareness training, environmental monitoring, waste management and pollution control including the following requirements: <ul style="list-style-type: none"> ▪ employ “good housekeeping” onboard; ▪ awareness for waste reduction through re-use and recycling maintained; ▪ only water containing <15 ppm oil discharged overboard 	Environmental Manager	Ongoing	<p>Samicor Diamond Mining (Pty) Ltd does not have an Environmental Management System (EMS) (e.g. ISO 14001) in place (Mr Hans Hückstedt, Chief Geologist, Samicor Diamond Mining (Pty) Ltd, pers. comm.).</p> <p>No exploration and/or mining activities undertaken in ML163 and/or ML164 for the period between March</p>

No.	Aspect	Impact Description	Risk / Gain ranking	Action Plans and Control Measures	Responsible Person(s)	Timing	Compliance / Comments (October 2023)
				<p>(MARPOL standard);</p> <ul style="list-style-type: none"> ▪ no overboard disposal of waste (MARPOL standard); ▪ food waste overboard only after maceration through a 25 mm screen (MARPOL standard); ▪ No discharge allowed in the ML areas. Sewage processed in approved treatment plants before discharge beyond 4 nautical miles offshore (MARPOL standard); ▪ all scrap metal, cans, paper and cardboard, laser and ink cartridges separated and sent for recycling ashore; ▪ all vessels fitted with desalination units to purify seawater for use onboard; ▪ all vessels painted with TBT-free anti-fouling hull paint; ▪ other waste incinerated in IMO-approved shipboard incinerators, and remainder sent by sea to waste sites meeting legal requirements; ▪ use of gas oil containing less than 0.55% sulphur; ▪ regular service and repair of all equipment to reduce consumption of fuels and other petrochemical materials, and to minimise the release of greenhouse gases; ▪ used oil returned to supplier for recycling / disposal; ▪ no CFC-based fire-fighting equipment used; ▪ phasing out of ozone-depleting 			<p>2011 and August 2023 (RBS, 2019a; c; Mr Hans Hückstedt, Chief Geologist, Samicor Diamond Mining (Pty) Ltd, pers. comm.).</p>

No.	Aspect	Impact Description	Risk / Gain ranking	Action Plans and Control Measures	Responsible Person(s)	Timing	Compliance / Comments (October 2023)
				<p>products and equipment (refrigerators, engines etc.) with alternatives (Montreal Protocol on Ozone Depleting Substances as well as United Nations (UN) Framework Convention on Climate Change 1992 and Kyoto Protocol to the UN Framework Convention on Climate Change 1997);</p> <ul style="list-style-type: none"> ▪ monitoring and recording of the following from the vessels: <ul style="list-style-type: none"> – wind speed and direction (4-hourly in vessel's bridge log) – Official Garbage Record Book for all discharges of waste / incinerations – electronic logging and data-basing of separated waste forms with quantities, storage type etc ❖ Ensure that the EMP is annually internally and externally audited and submit copies of audit reports with Environmental Performance Reports 			
2	Integration of Environmental Management	Improved Environmental Management	High	<ul style="list-style-type: none"> ❖ Quantify natural variability in the ecosystem by integrating data-collection requirements with other research and monitoring initiatives (to be addressed through the Samicor Diamond Mining (Pty) Ltd long term monitoring programme). ❖ Incorporate sediment plume modelling with ongoing overall monitoring for exploration and mining ❖ Modelling of potential oil spill scenarios and development of 	Environmental Manager	Ongoing	<p>No exploration and/or mining activities undertaken in ML163 and/or ML164 for the period between March 2011 and August 2023 (RBS, 2019a; c; Mr Hans Hückstedt, Chief Geologist, Samicor Diamond Mining (Pty) Ltd, pers. comm.).</p> <p>Samicor Diamond Mining (Pty) Ltd to develop,</p>

No.	Aspect	Impact Description	Risk / Gain ranking	Action Plans and Control Measures	Responsible Person(s)	Timing	Compliance / Comments (October 2023)
				<p>appropriate contingency plans.</p> <ul style="list-style-type: none"> ❖ Integration of future mine plans with existing mariculture, lobsters operations and sanctuary areas, other user's interests and overall Marine Protected Areas as well as proposed MPA's in the future. 			<p>implement and maintain an Oil Spill Contingency Plan (according to protocols outlined in the Namibian National Marine Pollution Contingency Plan (NMPCP), 2017).</p> <p>Samicor Diamond Mining (Pty) Ltd to support the NIMPA+ Project.</p>
3	Establishment and review of Environmental Risks and Improved Environmental Performance	Improved Environmental Management	High	<ul style="list-style-type: none"> ❖ Update and develop new sets of environmental risks based on the results of the ongoing monitoring. ❖ Adopt a monitoring results-based approach in managing environmental impacts by focusing on the potentially medium and high risk impacts. ❖ Improve on performance reporting by determining key indicator species by which recovery rates of impacted areas can be determined more effectively. 	Environmental Manager Environmental Scientist	Ongoing	No exploration and/or mining activities undertaken in ML163 and/or ML164 for the period between March 2011 and August 2023 (RBS, 2019a; c; Mr Hans Hückstedt, Chief Geologist, Samicor Diamond Mining (Pty) Ltd, pers. comm.).
4	Maintain Safety Management System (SMS)	Improved Health and Safety	High	<ul style="list-style-type: none"> ❖ Maintain high safety standards onboard each vessel and arrange annual audits by the National Occupational Safety Association (NOSA) to ensure ratings are maintained. 	Loss Control Coordinator	Ongoing	No exploration and/or mining activities undertaken in ML163 and/or ML164 for the period between March 2011 and August 2023 (RBS, 2019a; c; Mr Hans Hückstedt, Chief Geologist, Samicor Diamond Mining (Pty) Ltd, pers. comm.).
5	International Safety Management (ISM) Code Prevention	Improved Health and Safety	High	<ul style="list-style-type: none"> ❖ Ensure compliance with the International Maritime Organisation's International Safety Management (ISM) Code developed and implemented. ❖ Ensure that the required external assessments of compliance to the ISM 	Operations Manager	Ongoing	No exploration and/or mining activities undertaken in ML163 and/or ML164 for the period between March 2011 and August 2023 (RBS, 2019a; c; Mr Hans Hückstedt, Chief

No.	Aspect	Impact Description	Risk / Gain ranking	Action Plans and Control Measures	Responsible Person(s)	Timing	Compliance / Comments (October 2023)
				<ul style="list-style-type: none"> ❖ Code are conducted. ❖ Submit certificates of compliance with Environmental Performance Reports to the Environmental Commissioner. 			Geologist, Samicor Diamond Mining (Pty) Ltd, pers. comm.).

Table 4: Compliance with regards to exploration and mining (after Risk-Based Solutions CC, 2019a; b; c; d).

No.	Aspect	Impact Description	Risk / Gain ranking	Action Plans and Control Measures	Responsible Person(s)	Timing	Compliance / Comments (October 2023)
Management Objectives: <ul style="list-style-type: none"> ❖ Improved understanding and develop appropriate mitigation measures with respect to the direct impacts of prospecting/mining on the environment ❖ Exploration and mining-related impacts on the marine environment are managed, to avoid compromising current and future utilisation of renewable marine resources ❖ The information base that will provide improved insight into the cumulative impacts of exploration and mining on marine environment ❖ Recovery rates of marine habitats impacted or destroyed during prospecting/mining are established, recolonisation of areas within a reasonable period of time is allowed ❖ Key habitats of high ecological sensitivity and importance (e.g. mariculture, lobster sanctuary and kelp beds) are protected ❖ Conflict between the fishing industry and diamond mining is minimised by maintaining open and frequent communications ❖ Archaeological and historic sites are protected, thereby preventing the loss of information and research material ❖ Information exchange with all relevant stakeholders is promoted 							
1	Bathymetric and seismic surveying (airgun, towfish)	Vibration or noise disturbance of marine fish and mammals	Medium	<ul style="list-style-type: none"> ❖ Maintain the Marine Life Sightings Programme (including turtles and jellyfish etc.) from vessels, to record the presence, proximity to and behaviour patterns of marine mammals and seabirds near the exploration vessel. ❖ Consider providing specialised marine mammals observer training for the relevant monitors. ❖ Depending on the results of the bridge log, further studies on the impact of sonar on marine mammals 	Environmental Manager and onboard Environmental Monitors	Ongoing	<p>No exploration and/or mining activities undertaken in ML163 and/or ML164 for the period between March 2011 and August 2023 (RBS, 2019a; c; Mr Hans Hückstedt, Chief Geologist, Samicor Diamond Mining (Pty) Ltd, pers. comm.).</p> <p>Note that the risk rating (medium) is unlikely / minor (Mr Hans Hückstedt, Chief Geologist, Samicor Diamond Mining (Pty) Ltd, pers. comm., 2022).</p>

No.	Aspect	Impact Description	Risk / Gain ranking	Action Plans and Control Measures	Responsible Person(s)	Timing	Compliance / Comments (October 2023)
2	Sampling programme	Disturbance of benthic communities and habitat	High	<ul style="list-style-type: none"> ❖ Undertake to develop a programme whereby data-collection requirements to quantify natural variability in the ecosystem and facilitate habitat/sensitivity mapping are integrated with ongoing exploration and mining. ❖ Conduct high resolution geophysical surveys (SSS, bathymetry and seismic profiling) prior to mining, and of the target areas ~2-3 years post-mining to determine the depth, wall steepness and infilling rates of mining excavations. ❖ Conduct benthic macrofaunal surveys to record seabed topography and types of marine life present to gain an understanding of the marine environment, using a suitable sampling device: <ul style="list-style-type: none"> • Grab sampling or box coring surveys. • Video footage collected from a Remotely Operated Vehicle. • Geophysical (e.g. high resolution AUV) surveys. • Submersible video footage (when submersible is available). 	<p>Environment Manager / Environmental Scientist</p> <p>Environmental Manager / Environmental Scientist</p> <p>Environmental Manager / Environmental Scientist</p> <p>Geological Manager / Environmental Manager</p> <p>Environmental Manager</p>	<p>Ongoing</p> <p>Prior to mining (ongoing)</p> <p>Ongoing</p> <p>Ongoing</p> <p>Annually</p>	<p>No exploration and/or mining activities undertaken in ML163 and/or ML164 for the period between March 2011 and August 2023 (RBS, 2019a; c; Mr Hans Hückstedt, Chief Geologist, Samcor Diamond Mining (Pty) Ltd, pers. comm.).</p> <p>No SSS, box coring, ROV, AUV, or surveys using a submersible will be carried out (Mr Hans Hückstedt, Chief Geologist, Samcor Diamond Mining (Pty) Ltd, pers. comm.).</p>
3	Mining excavations	Destruction of geological record, and reorganisation of sediment structures	Medium	<ul style="list-style-type: none"> • Video footage collected from a Remotely Operated Vehicle. • Geophysical (e.g. high resolution AUV) surveys. • Submersible video footage (when submersible is available). 	Geological Manager	Ongoing	No exploration and/or mining activities undertaken in ML163 and/or ML164 for the period between March 2011 and August 2023 (RBS, 2019a; c; Mr Hans Hückstedt, Chief Geologist, Samcor Diamond Mining (Pty) Ltd, pers. comm.).
4	Exploration and Mining in the mudbelt	Hydrogen sulphide eruptions	Medium	<ul style="list-style-type: none"> ❖ Consider conducting a coring survey to determine the presence of H₂S pockets before mining is conducted in thick mud overburden areas. ❖ Monitor on-board air quality 	Onboard Environmental Monitors Geological Manager	Ongoing When targeting of mudbelt planned	No exploration and/or mining activities undertaken in ML163 and/or ML164 for the period between March 2011 and August 2023 (RBS, 2019a; c; Mr Hans Hückstedt, Chief Geologist, Samcor Diamond Mining (Pty) Ltd, pers. comm.).

No.	Aspect	Impact Description	Risk / Gain ranking	Action Plans and Control Measures	Responsible Person(s)	Timing	Compliance / Comments (October 2023)
				<ul style="list-style-type: none"> during exploration and mining operations in the ML163 and ML164 Area. ❖ Consider training of Health and Safety personnel in handling of personal safety issues in the event of H2S occurrences eruptions during exploration and mining 	Environmental Scientist	Prior to mining	No exploration/mining will take place in the mudbelt (Mr Hans Hückstedt, Chief Geologist, Samicor Diamond Mining (Pty) Ltd, pers. comm.).
5	Disposal of all tailings overboard during mining	Suspended sediment plumes	Low	<ul style="list-style-type: none"> ❖ If the levels recorded in the sacrificial mixing zone exceed set water quality criteria, conduct an ecological hazard assessment on the suspended sediment plumes and report the results to the DEAF and MAWLR who should decide on further action. 	Environmental Scientist	Prior to mining During mining	No exploration and/or mining activities undertaken in ML163 and/or ML164 for the period between March 2011 and August 2023 (RBS, 2019a; c; Mr Hans Hückstedt, Chief Geologist, Samicor Diamond Mining (Pty) Ltd, pers. comm.). Directorate of Environmental Affairs and Forestry (DEAF); Ministry of Agriculture, Water and Land Reform (MAWLR)
				<ul style="list-style-type: none"> ❖ Ensure that the water sample analyses are carried out by a laboratory certified to conduct the analyses. ❖ Have the monitoring results scientifically evaluated by an appropriate expert. ❖ Submit the monitoring results together with the evaluation to the Environmental Commissioner 	Environmental Scientist	Ongoing	
				<p>During mining operations:</p> <ul style="list-style-type: none"> ❖ Record wind speed and direction in vessel's bridge log. ❖ Conduct visual observations of the plumes. ❖ Monitor the proportion of clay (<63 µm) in the overspill. 	Onboard Environmental Monitors Environmental Manager	During mining	
6	Disposal of mine tailings overboard	Smothering of benthic invertebrates	High	<ul style="list-style-type: none"> ❖ Through modelling, assess the effects of the tailings plume on the marine and coastal environments. ❖ Based on results of bottom- 	Environmental Manager	Ongoing Ongoing	No exploration and/or mining activities undertaken in ML163 and/or ML164 for the period between March 2011 and August 2023 (RBS, 2019a; c; Mr Hans Hückstedt, Chief

No.	Aspect	Impact Description	Risk / Gain ranking	Action Plans and Control Measures	Responsible Person(s)	Timing	Compliance / Comments (October 2023)
				oxygen levels, consider undertaking further field/laboratory studies regarding the physiological oxygen tolerance for some large benthic species, considered characteristic of mined and unmined areas.	Environmental Scientist		Geologist, Samicor Diamond Mining (Pty) Ltd, pers. comm.). For a study of this nature and detail, a dedicated research project would be required; such a study is not relevant to a commercial mining venture (Mr Hans Hückstedt, Chief Geologist, Samicor Diamond Mining (Pty) Ltd, pers. comm.). Samicor Diamond Mining (Pty) Ltd to support the NIMPA+ Project.
7	Archaeological Sites	Destruction of wrecks	Medium	<ul style="list-style-type: none"> ❖ While no wrecks have been identified from surveys in ML163 and ML164, the following actions will be undertaken if shipwreck material is encountered in the course of sampling/mining: <ul style="list-style-type: none"> ▪ Immediately inform the Marine Superintendent or Environment Manager who will inform the National Monuments Council; ▪ Retain artefacts recovered and, where possible, maintain a photographic record. Note the date, time, location and types of artefacts found in the logbook; ▪ Contract a marine archaeologist in consultation with Government to survey the site; ▪ Avoid mining or prospecting within 500 m from the centre of the site once the area has been surveyed to obtain baseline data (approximately 2-3 years baseline required) 	Vessel Master / Marine Superintendent /	If shipwreck material is found	Rau (2010a) noted: <i>Shipwrecks are known on this coast line however, none are expected in these water depths, albeit the location of such is generally not known.</i> No exploration and/or mining activities undertaken in ML163 and/or ML164 for the period between March 2011 and August 2023 (RBS, 2019a; c; Mr Hans Hückstedt, Chief Geologist, Samicor Diamond Mining (Pty) Ltd, pers. comm.). National Heritage Council of Namibia (NHC)
In a study prepared for Namisun, on behalf of Kelp Blue Namibia (Pty) Ltd, Maitland (2023) found that there are 13 known shipwrecks (dating from the early 1800s through to modern times, and possibly at least one dating back to the late 1700s) in the Lüderitz area (and to the north of ML163 and ML164).							

No.	Aspect	Impact Description	Risk / Gain ranking	Action Plans and Control Measures	Responsible Person(s)	Timing	Compliance / Comments (October 2023)
<p>The following information is provided by Maitland (2023):</p> <p>Initial mitigation against loss of Maritime and Underwater Cultural Heritage (MUCH) sites/resources should consist of the following steps:</p> <ul style="list-style-type: none"> • Multibeam surveys that are undertaken as part of the development should be investigated for reefs and/or rocks, as well as other anomalies that may point to MUCH resources. • The divers must undergo a full induction on recognising MUCH resources underwater and steps to follow if such resources are found. This includes information on recording video in order to maximise assessments. • Each area, where concrete blocks are to be installed must be visually surveyed by the divers, video footage and still photographs must be taken. • An underwater metal detector should be used on any area where there are reefs and rocks, it is difficult to distinguish between reef and MUCH resources. • This information must be shared with the maritime archaeologist for assessment. • If the objects found during visual surveys warrant a deeper investigation, a magnetometer survey may need to be undertaken. <p>Secondary mitigation, if necessary (see Maitland, 2023):</p> <ul style="list-style-type: none"> • A magnetometer survey records changes in the earth's magnetic field caused by ferrous objects on the seabed. Old historical ships were constructed with a lot of iron in the form of fastenings, anchors, cannon, etc. Once a map of anomalies has been recorded, the anomalies need to be dived on to ascertain if they are shipwrecks or debris. • If the anomaly is covered in sand, and is of sufficient size, the edges of the site can be mapped using a combination of a GPS buoy and metal detector. • If the site is uncovered, it can be surveyed as before with the addition of photography and photogrammetry. These site maps can be used to create no-go zones during development. • In-situ preservation of a site is the best practice. <p>Those resources that cannot be avoided and that are directly impacted by the proposed development can be excavated/recorded (with a permit from the National Heritage Council Of Namibia (NHC)) and a management plan can be developed for future action. Those sites that are not impacted at this time on can be written into the management plan, whence they can be avoided or cared for in the case of future expansion.</p> <p>Objectives</p> <ul style="list-style-type: none"> • Protection of heritage sites within the project boundary against vandalism, destruction, and theft. • The preservation and appropriate management of new discoveries in accordance with the NHA, should these be discovered during development activities. <p>The following shall apply:</p> <ul style="list-style-type: none"> • The Environmental Control Officer should be given a short induction, by the heritage practitioners, on archaeological site and artefact recognition. • The contractors and workers should be notified that archaeological sites might be exposed during the development activities. • Should any heritage artefacts be exposed during development, work on the area where the artefacts were discovered, shall cease immediately and the Environmental Control Officer and NHC shall be notified as soon as possible; • All discoveries shall be reported immediately to a heritage practitioner so that an investigation and evaluation of the finds can be made. Acting upon advice from these specialists, the Environmental Control Officer will advise the necessary actions to be taken; • Where possible, if any heritage resources are accidentally recovered photographs of them must be taken, noting the date, time, location and types of artefacts found. Under no circumstances may any artefacts be removed, destroyed or interfered on the site, unless under permit from the NHC. • Under no circumstances shall any artefacts be removed, destroyed or interfered with by anyone on the site. 							

No.	Aspect	Impact Description	Risk / Gain ranking	Action Plans and Control Measures	Responsible Person(s)	Timing	Compliance / Comments (October 2023)
8	Use of ferrosilicon in onboard treatment process	Increased primary productivity	Low	<ul style="list-style-type: none"> ❖ Monitor use of ferrosilicon on an ongoing basis. ❖ Continue initiatives to use shell crushing equipment to maximise retrieval of ferrosilicon where operating in shelly substrates as this compound accumulates in shells. 	Plant Superintendent	Ongoing	No exploration and/or mining activities undertaken in ML163 and/or ML164 for the period between March 2011 and August 2023 (RBS, 2019a; c; Mr Hans Hückstedt, Chief Geologist, Samicor Diamond Mining (Pty) Ltd, pers. comm.).

Table 5: Compliance with regards to vessels at sea (including contracted vessels) (after Risk-Based Solutions CC, 2019a; b; c; d).

No.	Aspect	Impact Description	Risk / Gain ranking	Action Plans and Control Measures	Responsible Person(s)	Timing	Compliance / Comments (October 2023)
Management Objectives: <ul style="list-style-type: none"> ❖ Disruption to other legitimate users of the sea is minimised by respecting their rights ❖ Conflict between the fishing industry and diamond mining is minimised by maintaining open and frequent communications ❖ Pollution of marine and coastal habitats and resources is prevented ❖ Manage waste streams to reduce wastage and promote reuse/recycling of resources are in an effective manner ❖ Natural resources are used conservatively 							
1	Presence of vessels	Potential exclusion of alternative resource use (e.g. aquaculture, fishing, tourism / recreational, shipping and township development along the coast bordering the ML areas)	High	<p>At least 14 days in advance of commencement of mining activities:</p> <ul style="list-style-type: none"> ❖ Notify the Permanent Secretary Executive Director: MME in writing providing particulars regarding the location, nature and extent of such operations. ❖ Notify other potential user groups (maritime authorities, fishing / aquaculture industry, NamPort and Lüderitz Town Council) in the area in writing, providing particulars regarding the location, nature and extent of such operations. ❖ Notify Walvis Bay Radio of intended vessel activities, light buoys and exclusion zones. 	Vessel Manager	Prior to commencement of activities	No exploration and/or mining activities undertaken in ML163 and/or ML164 for the period between March 2011 and August 2023 (RBS, 2019a; c; Mr Hans Hückstedt, Chief Geologist, Samicor Diamond Mining (Pty) Ltd, pers. comm.).

No.	Aspect	Impact Description	Risk / Gain ranking	Action Plans and Control Measures	Responsible Person(s)	Timing	Compliance / Comments (October 2023)
				<ul style="list-style-type: none"> ❖ On cessation of activities inform Walvis Bay radio on completion of operations. ❖ In the vessel logbook, record sightings of and interactions with other vessels to note potential conflicts over rights of passage and access to resources. 	Vessel Masters	On cessation of activities	
2	Presence of vessels	Vibration or noise disturbance of marine mammals and seabirds	Low	<ul style="list-style-type: none"> ❖ Maintain the Marine Life Sightings Programme (including turtles, jellyfish, rock lobsters and anything else of interest) from vessels, to record the presence, proximity to and behaviour patterns of marine mammals and seabirds near the mining vessels, particularly during mining operations. ❖ Consider providing specialised marine mammals observer training for the relevant monitors. ❖ To avoid disturbance of whales, vessels should not approach within 300 m of a whale whilst underway ❖ If a whale surfaces within this distance of the vessel when at anchor, or during discharging of tailings sediments, the vessel should remain stationary until the whale has moved to a distance 300 m away. 	Environmental Manager and onboard Environmental Monitors	Ongoing	No exploration and/or mining activities undertaken in ML163 and/or ML164 for the period between March 2011 and August 2023 (RBS, 2019a; c; Mr Hans Hückstedt, Chief Geologist, Samcor Diamond Mining (Pty) Ltd, pers. comm.).
3	Oil-spill Contingency Plans	Pollution of the sea by diesel and heavy fuel	Medium	<ul style="list-style-type: none"> ❖ Obtain specific exemption from the Namibian Directorate of Maritime Affairs before refuelling within 200 nautical miles of the coast. ❖ In the event of an oil spill: <ul style="list-style-type: none"> ▪ Follow the Shipboard Oil Spill Emergency Response Manual procedure. This Manual must be approved by 	Marine Manager	Prior to refuelling at sea	No exploration and/or mining activities undertaken in ML163 and/or ML164 for the period between March 2011 and August 2023 (RBS, 2019a; c; Mr Hans Hückstedt, Chief Geologist, Samcor Diamond Mining (Pty) Ltd, pers. comm.). Samcor Diamond Mining (Pty) Ltd to develop, implement and maintain an

No.	Aspect	Impact Description	Risk / Gain ranking	Action Plans and Control Measures	Responsible Person(s)	Timing	Compliance / Comments (October 2023)
				<p>the Namibian Directorate of Maritime Affairs.</p> <ul style="list-style-type: none"> In terms of the Emergency Plan the Superintendent will inform the following Namibian authorities (as deemed applicable): Marine Division of the Ministry of Works and Transport; MFMR; MME, ME MEFT and the Lüderitz and Walvis Bay Harbour Masters 			Oil Spill Contingency Plan (according to protocols outlined in the Namibian National Marine Pollution Contingency Plan (NMPCP), 2017).
4	Release of ballast water	Marine pollution and introduction of alien species	Low	❖ Ballast water may only be released when the vessel is more than 12 miles from land and in water depths greater than 25 m.	Vessel Master	Ongoing	No exploration and/or mining activities undertaken in ML163 and/or ML164 for the period between March 2011 and August 2023 (RBS, 2019a; c; Mr Hans Hückstedt, Chief Geologist, Samicor Diamond Mining (Pty) Ltd, pers. comm.).
5	Acoustic positioning for seabed crawlers	Seabed hazards	Medium	<ul style="list-style-type: none"> ❖ Maintain the Hazards Database of the locations of concrete blocks used in the acoustic positioning systems for the crawlers. ❖ If requested, report these data to the relevant authority 	Marine Manager	Ongoing	<p>Note that acoustic positioning is by remote sonar communication between the mine support vessel and the crawler. There is no placement of positioning equipment onto seafloor (Mr Hans Hückstedt, Chief Geologist, Samicor Diamond Mining (Pty) Ltd, pers. comm.).</p> <p>No exploration and/or mining activities undertaken in ML163 and/or ML164 for the period between March 2011 and August 2023 (RBS, 2019a; c; Mr Hans Hückstedt, Chief Geologist, Samicor Diamond Mining (Pty) Ltd, pers. comm.).</p>
6	Incidental loss of equipment	Seabed hazards	Low	❖ Maintain hazards database listing the type of gear left on the seabed and/or in the mine/prospecting area with the dates of loss and locations and where applicable, the dates of retrieval.	Vessel Masters / Surveyor	Ongoing	No exploration and/or mining activities undertaken in ML163 and/or ML164 for the period between March 2011 and August 2023 (RBS, 2019a; c; Mr Hans Hückstedt, Chief Geologist, Samicor Diamond Mining (Pty) Ltd, pers. comm.).

No.	Aspect	Impact Description	Risk / Gain ranking	Action Plans and Control Measures	Responsible Person(s)	Timing	Compliance / Comments (October 2023)
7	Waste Management	Marine Pollution	Low	❖ Ensure that waste management practices in place and enforced	Vessel Manager	Ongoing	No exploration and/or mining activities undertaken in ML163 and/or ML164 for the period between March 2011 and August 2023 (RBS, 2019a; c; Mr Hans Hückstedt, Chief Geologist, Samcor Diamond Mining (Pty) Ltd, pers. comm.). Identify all the waste streams and prepare an Integrated Waste Management Plan . The generation of waste should be avoided as far as practicable; where it cannot be avoided, waste should be reduced , re-used and recovered (including recycling and composting); where waste cannot be reduced, re-used and/or recovered, it should be disposed of in an environmentally sound manner.
8	Final Recovery (X-Ray generator units)	Occupational Health and Safety		Implement and observe the Radiation Management Plan .			

Table 6: Compliance with regards to waste management and pollution control (after Risk-Based Solutions CC, 2019a; b; c; d).

No.	Aspect	Impact Description	Risk / Gain ranking	Action Plans and Control Measures	Responsible Person(s)	Timing	Compliance / Comments (October 2023)
Management Objectives:							
❖ Pollution of terrestrial, marine and fresh water habitats and resources is prevented							
❖ Waste streams are effectively managed to minimise pollution using a cradle-to-grave philosophy							
❖ Reuse / recycling and being conservative in use of natural resources is promoted							
1	Waste generation – general	Pollution of terrestrial, aquatic and marine habitats	Low	❖ Comply with all legal requirements for waste management and pollution control, and employ “good housekeeping” and monitoring practices. ❖ Follow stringent ‘cradle to grave’ waste management practices. ❖ Conduct environmental	Environmental Manager	Ongoing	No exploration and/or mining activities undertaken in ML163 and/or ML164 for the period between March 2011 and August 2023 (RBS, 2019a; c; Mr Hans Hückstedt, Chief Geologist, Samcor Diamond Mining (Pty) Ltd, pers. comm.).

No.	Aspect	Impact Description	Risk / Gain ranking	Action Plans and Control Measures	Responsible Person(s)	Timing	Compliance / Comments (October 2023)
				<ul style="list-style-type: none"> ❖ awareness programmes for waste management. ❖ Ensure safe inshore onshore waste disposal practices ❖ Maintain records on the types and amounts of waste disposed. 			Identify all the waste streams and prepare an Integrated Waste Management Plan . The generation of waste should be avoided as far as practicable; where it cannot be avoided, waste should be reduced, re-used and recovered (including recycling and composting); where waste cannot be reduced, re-used and/or recovered, it should be disposed of in an environmentally sound manner.
2	Waste management – radioactive sources	Occupational and community health and safety		Dispose of inoperative X-Ray generator unit(s) as per the Radiation Management Plan (at a specialised electronic equipment disposal facility, or return the X-Ray generator unit(s) to the manufacturer in South Africa).			

Table 7: Compliance with regards to ecosystem services / values, biological diversity conservation and resource use (after *Risk-Based Solutions CC, 2019a; b; c; d*).

No.	Aspect	Impact Description	Risk / Gain ranking	Action Plans and Control Measures	Responsible Person(s)	Timing	Compliance / Comments (October 2023)
Management Objectives: <ul style="list-style-type: none"> ❖ Promote the integration of coastal and marine ecosystem function, services, value and non-use in the EMP and EMS ❖ Disturbance of wildlife is minimised ❖ Key habitats important for wildlife are protected, thereby conserving biological diversity ❖ Wastage is reduced and fuel use is minimised 							
1	Ecosystem services / values	Impact on the coastal and marine ecosystem function, services, value and non-use	Medium	<ul style="list-style-type: none"> ❖ Maintain the coastal and marine ecosystem function (What the Ecosystem Does): Wildlife habitat, carbon cycling or the trapping of nutrients and characterized by the physical, chemical, and biological processes or attributes that contribute to the self- maintenance of an ecosystem in this zone; ❖ Maintain the coastal and marine ecosystem services: Food chain, harvesting of animals or plants, 	Environmental Manager	At all times	No exploration and/or mining activities undertaken in ML163 and/or ML164 for the period between March 2011 and August 2023 (RBS, 2019a; c; Mr Hans Hückstedt, Chief Geologist, Samicor Diamond Mining (Pty) Ltd, pers. comm.).

No.	Aspect	Impact Description	Risk / Gain ranking	Action Plans and Control Measures	Responsible Person(s)	Timing	Compliance / Comments (October 2023)
				<ul style="list-style-type: none"> and the provision of clean water or scenic views; ❖ Maintain the coastal and marine ecosystem services use values: Direct use for fishing and indirect include watching a television show about the area and its wildlife, food chain linkages that sustains the complex life within this zone and bequest value for future generations to enjoy; ❖ Maintain the coastal and marine ecosystem non-use, or passive use: Preserve what exists (Existence Value) with no consideration for direct use / benefits. 		Ongoing	
2	Illegal hunting, fishing and plant collection	Destruction and loss of flora and fauna (note that mining is only limited to the marine and coastal environment)	Low	<ul style="list-style-type: none"> ❖ Samicor Diamond Mining (Pty) Ltd personnel and contractors will not: <ul style="list-style-type: none"> ▪ Disturb, catch, remove, injure, kill or feed, any wild animal or bird which occurs in the area without a permit. ▪ Intentionally remove, injure or kill any sea-life. ▪ Pick, uproot, fell or damage any plant growing in the coastal area without a permit - other than according to the approved EMP which will provide necessary mitigation measures. ❖ Conduct environmental awareness program for wildlife ethics. ❖ Disciplinary action will be undertaken, and strict penalties imposed in case of transgressions. 			No exploration and/or mining activities undertaken in ML163 and/or ML164 for the period between March 2011 and August 2023 (RBS, 2019a; c; Mr Hans Hückstedt, Chief Geologist, Samicor Diamond Mining (Pty) Ltd, pers. comm.).
3	Freshwater Consumption	Sustainability of water supply and depletion of	Low	<ul style="list-style-type: none"> ❖ Ensure relevant water permits are in place. ❖ Minimise the use and wastage of clean purified water. 	Environmental Manager	Ongoing Monthly	No exploration and/or mining activities undertaken in ML163 and/or ML164 for the period between March 2011 and August 2023 (RBS,

No.	Aspect	Impact Description	Risk / Gain ranking	Action Plans and Control Measures	Responsible Person(s)	Timing	Compliance / Comments (October 2023)
		natural resources		<ul style="list-style-type: none"> ❖ Keep records of quantities of fresh water used. ❖ Conduct water conservation awareness programmes and water saving campaigns. 		Ongoing	2019a; c; Mr Hans Hückstedt, Chief Geologist, Samicor Diamond Mining (Pty) Ltd, pers. comm.).
4	Recourses usage during Samicor Diamond Mining (Pty) Ltd staff and contractors during periods of crew change	Use of natural resources	Low	<ul style="list-style-type: none"> ❖ Keep records of fuel consumption, set targets and put action plans in place when targets are exceeded. 	Environmental Manager	Monthly	No exploration and/or mining activities undertaken in ML163 and/or ML164 for the period between March 2011 and August 2023 (RBS, 2019a; c; Mr Hans Hückstedt, Chief Geologist, Samicor Diamond Mining (Pty) Ltd, pers. comm.).

Table 8: Compliance with regards to socio-economic issues (after Risk-Based Solutions CC, 2019a; b; c; d).

No.	Aspect	Impact Description	Risk / Gain ranking	Action Plans and Control Measures	Responsible Person(s)	Timing	Compliance / Comments (October 2023)
Management Objectives:							
<ul style="list-style-type: none"> ❖ Economic benefits to people of Namibia optimised, where feasible ❖ A balance between economic, social and environmental responsibilities is struck ❖ Opportunities provided for local business, industrial relations promoted, and contribution to socio-economic stability ❖ Training and development opportunities provided for all staff ❖ Relevant stakeholders consulted on a regular basis ❖ Good working and living conditions all employees promoted and maintained 							
1	Environmental Communication	Improved Environmental Awareness	High	<ul style="list-style-type: none"> ❖ During compilation of the EIA and EMP consult with the following to identify their rights and/or other legitimate interests: i) Government departments with jurisdiction over resources or activities in the Mining Licence Area and/or in adjoining areas (ME MEFT, MFMR and Lüderitz Town Council); ii) Representatives of any other interest group (e.g. fishing / Aquaculture industry). 	Environmental Manager(s) and Contracted Consultants	Done as part of Public Scoping	Not audited.
				<ul style="list-style-type: none"> ❖ Improve stakeholder relationships by maintaining open communication with relevant I&APs on issues that 	Environmental Manager(s)	Ongoing	Not audited.

No.	Aspect	Impact Description	Risk / Gain ranking	Action Plans and Control Measures	Responsible Person(s)	Timing	Compliance / Comments (October 2023)
				<ul style="list-style-type: none"> ❖ may arise, and where relevant, address their needs. ❖ Keep a record of all communications with I&APs, the points raised, and how these points have been addressed. 			
				<ul style="list-style-type: none"> ❖ Report to the relevant stakeholder on new activities with potential environmental impacts. 	Environmental Manager(s)	Ongoing	Not audited.
				<ul style="list-style-type: none"> ❖ Publicise and make available information on environmental monitoring programmes and environmental performance. 	Environmental Manager(s)	Ongoing	Not audited.
2	Employment	Boosts Namibian economy and development of skills	High	<ul style="list-style-type: none"> ❖ Continue to increase number of Namibians employed and to provide them with training to develop skills. ❖ Outsource services to Namibian where possible. ❖ Include local Small and Micro enterprise service providers in the tendering process for supplies and services 	Human Resources Manager	Ongoing	Not audited.
3	Local, regional and national and support / social responsible	Contribution to Lüderitz communities and //Karas region and overall Namibian citizen support	Medium to High	<ul style="list-style-type: none"> ❖ Minimise net loss of employment opportunities ❖ Give hiring priority to suitably qualified or experienced local Namibian citizens 	Human Resources Manager	Ongoing	Not audited.
			<ul style="list-style-type: none"> ❖ Within the resources available, support appropriate initiatives to improve community welfare, particularly in Lüderitz and //Karas Region. ❖ Ensure that wellness programme covers all workers ❖ Consider expanding some wellness programme interventions 	Financial Manager Human Resources Manager	Ongoing		

No.	Aspect	Impact Description	Risk / Gain ranking	Action Plans and Control Measures	Responsible Person(s)	Timing	Compliance / Comments (October 2023)
				to sub-contractors.			
4	Taxes / royalties	Contribution to national economy	High	<ul style="list-style-type: none"> ❖ Pay all applicable taxes and royalties to the government as required. ❖ Pursue operational targets as set out in the Business Plan by maintaining and continual increasing of the current level of production. ❖ Internally track the efficiency to ensure maintenance of profits. 	Financial Manager	Ongoing	Not audited.
5	Use of harbours	Financial contribution to harbours	Medium	<ul style="list-style-type: none"> ❖ Pay all applicable fees at harbours. ❖ Use Lüderitz/Walvis Bay harbour infrastructure and services where possible. 	Materials Manager	Ongoing	No exploration and/or mining activities undertaken in ML163 and/or ML164 for the period between March 2011 and August 2023 (RBS, 2019a; c; Mr Hans Hückstedt, Chief Geologist, Samicor Diamond Mining (Pty) Ltd, pers. comm.).
6	Training and Skills Transfer	Contribution to Namibian training, education and research	High	<ul style="list-style-type: none"> ❖ Continue to provide employees with training to develop skills by: <ul style="list-style-type: none"> ▪ Addressing training needs of the work force. ▪ Continuously, conduct environmental awareness and health and safety awareness programmes. ❖ Incorporate environmental aspects and management interventions applicable to particular outsourced tasks into contracts and performance appraisals to improve environmental awareness and performance. ❖ Emergency preparedness and response teams/contractors are to train employees and contractors on appropriate skills. 	Human Resources Manager Environmental Manager	Ongoing	No exploration and/or mining activities undertaken in ML163 and/or ML164 for the period between March 2011 and August 2023 (RBS, 2019a; c; Mr Hans Hückstedt, Chief Geologist, Samicor Diamond Mining (Pty) Ltd, pers. comm.). Samicor Diamond Mining (Pty) Ltd to support the NIMPA+ Project.

No.	Aspect	Impact Description	Risk / Gain ranking	Action Plans and Control Measures	Responsible Person(s)	Timing	Compliance / Comments (October 2023)
7	Research and development	Technological advancements in mining systems	High	<ul style="list-style-type: none"> ❖ Continue conducting research and development in prospecting, mining and metallurgical technologies for marine diamond mining as well as management associated likely environmental impacts and monitoring 	Technical Manager	Ongoing	No exploration and/or mining activities undertaken in ML163 and/or ML164 for the period between March 2011 and August 2023 (RBS, 2019a; c; Mr Hans Hückstedt, Chief Geologist, Samicor Diamond Mining (Pty) Ltd, pers. comm.).
8	Sponsorships of research, education and community projects	Contribute to Namibia's knowledge-base in building a knowledge based economy	High	<ul style="list-style-type: none"> ❖ Where possible supply research/exploration data to the marine science and fisheries communities ❖ Where possible, sponsor Namibian research and education to contribute to public understanding of relevant environmental issues and environmental management practices e.g. invite scientists to participate in environmental surveys and share knowledge on findings including contributions to biodiversity conservation and ecosystem value and functions. ❖ Continue with identification of important social corporate responsibility initiatives / programme at local (Lüderitz), regional (//Karas Region) and national (Namibia) levels ❖ Provide social contributions at local (Lüderitz), regional (//Karas Region) and national (Namibia) levels 	<p>Environmental Scientists</p> <p>Environmental Manager</p>	Ongoing	<p>No exploration and/or mining activities undertaken in ML163 and/or ML164 for the period between March 2011 and August 2023 (RBS, 2019a; c; Mr Hans Hückstedt, Chief Geologist, Samicor Diamond Mining (Pty) Ltd, pers. comm.).</p> <p>Samicor Diamond Mining (Pty) Ltd to support the NIMPA+ Project.</p>

Table 9: Compliance with regards to mine closure (after Risk-Based Solutions CC, 2019a; b; c; d).

No.	Aspect	Impact Description	Risk / Gain ranking	Action Plans and Control Measures	Responsible Person(s)	Timing	Compliance / Comments (October 2023)
Management Objectives: ❖ Address a range of issues from the very first stages of mine development. ❖ Prioritise key financial, social, health, safety, as well as traditional environmental and economic considerations in the development and implementation of mine closure and reclamation plans. ❖ Ensure that regulatory requirements in terms of financial provision for mine Closure, Rehabilitation and Aftercare are met							
1	Closure Plan	Termination of all contributions to the economy including taxes, employment, support to secondary industries	High	❖ As an interdisciplinary initiative for all involved undertake to develop Closure Plan, which gives attention to: <ul style="list-style-type: none"> ▪ approximate dates of progressive or partial closure applications, ▪ objectives of closure planning, ▪ relevant decommissioning and rehabilitation monitoring programmes, ▪ financial provisioning for mine closure, ▪ provisioning for the development of a social and labour plan for closure, ▪ rehabilitation actions required to obtain closure, ▪ human resources and community plan of action, ▪ communication strategy, and ▪ actions required for sustainability. 	Environmental Manager	Ongoing	Samicor Diamond Mining (Pty) Ltd does not have a Mine Closure Plan in place (Mr Hans Hückstedt, Chief Geologist, Samicor Diamond Mining (Pty) Ltd, pers. comm.). A Mine Closure Plan to be drawn up, submitted to the MME and MEFT, implemented, and maintained.
2	Closure Planning	Improved management of closure and rehabilitation	High	❖ Ensure that closure planning continues throughout the life of the operation. ❖ Gather relevant information throughout the life of mine to ensure that environmental risks are quantified and managed proactively. ❖ Make provision as part of ongoing environmental management for post-mining surveys of selected areas to demonstrate recovery (3-5 year intervals).	Environmental Manager	Ongoing	Samicor Diamond Mining (Pty) Ltd does not have a Mine Closure Plan in place (Mr Hans Hückstedt, Chief Geologist, Samicor Diamond Mining (Pty) Ltd, pers. comm.). A Mine Closure Plan to be drawn up, submitted to the MME and MEFT, implemented, and maintained.

No.	Aspect	Impact Description	Risk / Gain ranking	Action Plans and Control Measures	Responsible Person(s)	Timing	Compliance / Comments (October 2023)
				❖ Ensure that Safety and Health requirements are complied with.			
3	Closure Certificate	Improved management of closure and rehabilitation	High	<ul style="list-style-type: none"> ❖ A final EMP performance assessment should be conducted to ensure that: <ul style="list-style-type: none"> ▪ the requirements of the relevant legislation have been complied with; ▪ the research and monitoring that has been conducted (including the total area disturbed) is summarised; ▪ the closure objectives as described in the Closure Plan have been met; and ▪ all residual and latent environmental impacts and the risks thereof occurring have been identified, quantified and arrangements for the management thereof have been finalised. ❖ When applying for closure, submit the following documentation to both the Mining and Environmental Commissioners: <ul style="list-style-type: none"> ▪ The Closure Plan ▪ The Final Performance Assessment Report ❖ An application form to transfer environmental responsibilities and liabilities beyond mine closure into the aftercare stage and for the as the Environmental Commissioner may prescribe 	Environmental Manager	On Closure	Not currently applicable (N/A)
4	Financial Provisioning for Mine Closure, Rehabilitation and Aftercare	Improved management of Closure, Rehabilitation and Aftercare stages	High	<ul style="list-style-type: none"> ❖ Allocate operational costs to maintain to meet the EMP objectives, ensuring that potential environmental impacts are integrally managed or monitored in such a way as to prevent or minimise them. 	Financial Manager	Ongoing	Samicor Diamond Mining (Pty) Ltd does not have a Mine Closure Plan in place (Mr Hans Hückstedt, Chief Geologist, Samicor Diamond Mining (Pty) Ltd, pers. comm.).

No.	Aspect	Impact Description	Risk / Gain ranking	Action Plans and Control Measures	Responsible Person(s)	Timing	Compliance / Comments (October 2023)
				<ul style="list-style-type: none"> ❖ Maintain adequate Protection and Indemnity (P&I) Insurance Cover to allow for Closure, Rehabilitation and Aftercare liabilities. ❖ Allocate operational costs to monitor and demonstrate natural recovery of the seabed through pre- and post-mining benthic faunal and seabed surveys. ❖ Provide sufficient funds for a post-closure environmental survey (seabed and/or benthic faunal survey) in the event that on closure or premature closure, the benthic monitoring programme has not been completed or has not been able to demonstrate sufficiently that natural recovery processes are occurring. 			<p>A Mine Closure Plan to be drawn up, submitted to the MME and MEFT, implemented, and maintained.</p>

3.3 Compliance: Environmental Monitoring

Mr Hans Hückstedt, Chief Geologist, Samicor Diamond Mining (Pty) Ltd noted that monitoring is done during periods of exploration and mining at sea. The enviro monitoring data collected are subsequently analysed and reported on in the (Bi-Annual) Environmental Monitoring Reports to MEFT.

It is advised that environmental monitoring be carried out as per the recommendations made by Rau (2010a; b; c; d) and Risk-Based Solutions (RBS) CC (2019a; b; c; d);

4 Conclusions and Recommendations

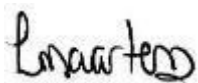
Samicor Diamond Mining (Pty) Ltd (Samicor) started marine diamond exploration and mining in Namibia in 2003. Samicor's primary purpose is the exploration for and recovery of diamonds, and the Company has focused their resources on re-examining the challenges of marine diamond mining and developing new solutions that can better realise its economic potential through embarking on a course of comprehensive technological and commercial development. The Company currently holds 13 Mining Licenses and one Exclusive Prospecting License.

Mr Hans Hückstedt, Chief Geologist, Samicor Diamond Mining (Pty) Ltd, noted that "As we strive to improve the commercial aspects of marine diamond mining, Samicor will continue to partner with the government of Namibia, sharing its wealth and knowledge with the Namibian people and working to preserve the delicate ecology of southern Africa."

It is advised that Samicor Diamond Mining (Namibia) (Pty) Ltd (and their employees and contractors) should implement and observe the Environmental Management Plan on an ongoing basis. Environmental performance should be regularly monitored (so that the lessons learnt can be incorporated into the improvement of the Environmental Management (and Monitoring) Plans over time) and corrective measures taken as or when required.

Specific recommendations include (that Samicor Diamond Mining (Namibia) (Pty) Ltd):

- Carry out **environmental monitoring** as per the recommendations made by Rau (2010a; b; c; d) and Risk-Based Solutions (RBS) CC (2019a; b; c; d);
- Update the **socio-economic** baseline/data/requirements once the results from the 2023 Population Census are available;
- Develop, implement and maintain an **Interested and Affected Party (I&AP) Register**;
- Support the **Namibian Islands' Marine Protected Area (NIMPA)+ Project**:
 - Maintain **open and frequent communication** with existing and other users in the area;
 - **Cooperate / integrate future mine plans** with existing and other users in the area;
 - **Share** research/exploration data with the marine science and fisheries communities (where feasible; see RBS, 2019a; b; c; d);
 - **Be mindful of the cumulative effects** negatively impacting the environment (within the NIMPA);
- Implement the mitigation measures (see Maitland, 2023) against loss of **Maritime and Underwater Cultural Heritage**;
- Identify all the waste streams and prepare an **Integrated Waste Management Plan**;
- Develop, implement and maintain an **Oil Spill Contingency Plan** (according to protocols outlined in the Namibian National Marine Pollution Contingency Plan (NMPCP)) (Government of the Republic of Namibia, 2017);
- Develop, implement and maintain a **Mine Closure Plan**;
- Ensure that contractors have a **Radiation Management Plan** in place (the content of the Radiation Management Plan to be based on the requirements and stipulations of the Atomic Energy and Radiation Protection Act 5 of 2005, as well as the relevant stipulations in the Radiation Protection and Waste Disposal Regulations of 2011; the structure of the Radiation Management Plan to follow the guidelines for Radiation Management Plans as issued by the National Radiation Protection Authority); ensure that contractors have the necessary authorisations and permits in place; and
- Conduct a critical review of the **aspects and potential impacts** that their exploration/mining operations have/may have on the environment and update that **Environmental Management Plan(s)** accordingly.



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LM Environmental Consulting

5 References

- Atlas of Namibia Team. 2022. *Atlas of Namibia: its land, water and life*. Namibia Nature Foundation, Windhoek.
- Currie B., K. Grobler and J. Kemper (eds). 2009. *Namibian Islands' Marine Protected Area*. Ministry of Fisheries and Marine Resources, Windhoek, Namibia. 148 pp.
- Excel Dynamic Solutions (Pty) Ltd. 2023. *Comprehensive Environmental Management Plan (EMP) for the Operations and Maintenance of the Existing Effluent Treatment Plant in Lüderitz, //Karas Region*. 56 pp.
- Faul, A., Botha, P. and A. van Tonder. 2019. *Environmental Management Plan for the Operations of the Port of Lüderitz*. Prepared for the Namibian Ports Authority. 91 pp.
- Government of the Republic of Namibia (GRN). 2009. Ministry of Fisheries and Marine Resources. Government Notice No. 17. *Declaration of Namibian Islands as Marine Reserve: Marine Resources Act, 2000*. Government Gazette of the Republic of Namibia. No. 4210. 16 February 2009.
- Government of the Republic of Namibia (GRN). 2012. Ministry of Fisheries and Marine Resources. Government Notice No. 316. *Regulations relating to Namibian Islands' Marine Protected Area: Marine Resources Act, 2000*. Government Gazette of the Republic of Namibia. No. 5111. 31 December 2012.
- Government of the Republic of Namibia (GRN). 2017. *National Marine Pollution Contingency Plan*. Republic of Namibia. 116 pp.
- Green Gain Environmental Consultants cc. 2021. *Environmental Management Plan for the Operation and Management of the existing Lüderitz Dumpsite in //Kharas Region*. 53 pp.
- International Finance Corporation (IFC). World Bank Group. 2007a. *Environmental, Health, and Safety General Guidelines*. 99 pp.
- International Finance Corporation (IFC). World Bank Group. 2007b. *Environmental, Health, and Safety General Guidelines for Mining*. 33pp.
- Kemper, J. and J.-P. Roux. 2023. *Proposed offshore Atlantic salmon pen farming project near Lüderitz, //Karas Region, Namibia. SPECIALIST REPORT: SEABIRDS AND MARINE MAMMALS*. 51 pp.
- Legal Assistance Centre (LAC). 2023a. *NAMLEX Index to the Laws of Namibia, Legal Assistance Centre, 1 February 2023 Update. Information current to 1 February 2023*. 791 pp.
- Legal Assistance Centre (LAC). 2023b. *NAMLEX Appendix on International Law, Legal Assistance Centre, 1 January 2023 Update. Information current to 1 January 2023*. 424 pp.
- Maitland, V. 2023. *UNDERWATER HERITAGE IMPACT ASSESSMENT FOR KELP BLUE NAMIBIA (PTY) LTD.'S COMMERCIAL SCALE KELP PROJECT, LUDERITZ, NAMIBIA*. Prepared for: Namisun for Kelp Blue Namibia (Pty) Ltd. 41 pp.
- MARISMA EBSA Workstream. 2020. *Ecologically or Biologically Significant Marine Areas in the Benguela Current Large Marine Ecosystem: Namibia, Technical Report*. MARISMA Project. Namibia. 73 pp.
- Ministry of Environment, Forestry and Tourism (MEFT). 2020. *Management Plan for Tsau //Khaeb (Sperrgebiet) National Park 2020/2021-2029/2030*. 184 pp.
- Rau, G. 2010a. *Environmental Impact Assessment, EPL2027B*. 21 pp.
- Rau, G. 2010b. *Environmental Management Report, EPL2027B*. 44 pp.
- Rau, G. 2010c. *Environmental Impact Assessment, EPL2027C*. 21 pp.
- Rau, G. 2010d. *Environmental Management Report EPL2027C*. 44 pp.
- Risk-Based Solutions (RBS). 2019a. *Final March 2017 – January 2019 Environmental Compliance / Performance Monitoring Report to Support the Application for Renewal of Environmental Clearance Certificate (ECC) for Marine Diamond Exploration and Mining in the Mining License (ML) No. 163, Lüderitz Area, //Karas Region South Namibia*. 56 pp.
- Risk-Based Solutions (RBS). 2019b. *Samicor Diamond Mining (Pty) Ltd Final Updated Environmental Impact Assessment (EIA) and Environmental Management Plan (EMP) Report for Marine Diamond Exploration and Mining in the Mining License (ML) No. 163, Lüderitz Area, //Karas Region, Southern Namibia*. 83 pp.
- Risk-Based Solutions (RBS). 2019c. *Final March 2017 – January 2019 Environmental Compliance / Performance Monitoring Report to Support the Application for Renewal of Environmental Clearance Certificate (ECC) for Marine Diamond Exploration and Mining in the Mining License (ML) No. 164, Lüderitz Area, //Karas Region South Namibia*. 56 pp.
- Risk-Based Solutions (RBS). 2019d. *Samicor Diamond Mining (Pty) Ltd Final Updated Environmental Impact Assessment (EIA) and Environmental Management Plan (EMP) Report for Marine Diamond Exploration and Mining in the Mining License (ML) No. 164, Lüderitz Area, //Karas Region, Southern Namibia*. 84 pp.
- Ruppel, O.C. and K. Ruppel-Schlichting (Eds). 2022. *Environmental Law and Policy in Namibia Towards Making Africa the Tree of Life*. Fourth Fully Revised Edition. John Meinert Printing (Pty) Ltd. 616 pp.
- Von Oertzen, G. and D. von Oertzen. 2018. *Radiation Safety Officer's Handbook*. 376 pp.

Annexure A

SAMICOR DIAMOND MINING (Pty) Ltd



The Environmental Commissioner
Ministry of Environmental, Forestry and Tourism
Private Bag 13306
Windhoek

3 March 2023

Dear Mr Timoteus Mufeti

Re: Renewal of Environment Clearance Certificate for marine ML163 and EAP

Marine ML163 was awarded to Samicor Diamond Mining on 4 April 2019 for a period of 20 years. The licence is for precious stones and located offshore Lüderitz, //Karas Region,

In Feb 2019 Samicor applied for an ECC and MEFT issued the ECC on 6 Nov 2019 which expired 6 Nov 2022. All documentation provided to MEFT for the Feb 2019 application has been loaded onto the MEFT online Portal for your reference.

Samicor now wishes to apply for a renewal of the ECC. Since awarding of the Nov 2019 ECC, Samicor has not conducted any exploration (geophysical survey, sampling) or mining operations and thus the sea floor conditions at ML163 is unchanged to date.

In light of this information Samicor wishes to seek guidance from MEFT on the documentation required for submission of an ECC renewal application for ML163. Once above requirements are received from MEFT, will we approach our EAP to provide said service to conduct the renewal application. The CV of our EAP will then be submitted with the renewal application.

I will appreciate your time, insight and guidance to my request.

Yours sincerely,

Hans Hückstedt
Chief Geologist

E-mail: hans@sakawe.com

Samicor Diamond Mining (Pty) Ltd
Reg No: 92/152
P O Box 3498, Windhoek, Namibia
Tel : +264 81 1446000

Directors: E. Nefussy, K. Kapwanga

From: Ministry of Environment and Tourism [mailto:noreply@meft.gov.na]

Sent: 20 February 2023 16:40

To: Hans Hckstedt

Subject: Your application is verified



REPUBLIC OF NAMIBIA

Ministry of Environment, Forestry & Tourism

2023-02-20

Dear Hans Hckstedt,

This email serves to inform you that your application **APP-001011** has been verified

Taking the following into considerations:

- Location of the project
- Pollution potential
- Scale of operation of the project

Please upload the following documents:

- Updated EMP to effect amendment
- Confirmation of screening notice received (through email) in terms of assessment procedures (Section 35 (1)(a)(b) of the Environmental Management Act, No 7 of 2007)
- Preliminary Site Map with coordinates (decimal degrees) and a Legend
- Copy of the previous Environmental Clearance Certificate issued in terms of Section 37(1)(a) of EMA
- CV of Environmental Assessment Practitioner (EAP)

Please login onto our portal to upload required documents, if any

<https://eia.met.gov.na>

NB- for the purpose of Section 38 of the Environmental Management Act, 2007 read with Regulation 4(d), kindly forward copies of all relevant documents i.e (application forms, EIA, Scoping reports, EMP etc) to the office of the Environmental Commissioner

Thank you

Phillip Troskie Bulding

P/Bag 13306, Windhoek | Tel: +264 61 284 2111 | DEA: +264 61 284 2701

SAMICOR DIAMOND MINING (Pty) Ltd



The Environmental Commissioner
Ministry of Environmental, Forestry and Tourism
Private Bag 13306
Windhoek

13 March 2023

Dear Mr Timoteus Mufeti

**Re: Renewal of Environment Clearance Certificate for marine ML164
Seeking advice from MEFT re requirements for application**

ML164 was awarded to Samicor Diamond Mining on 4 April 2019 for a period of 20 years. The licence is for precious stones and located offshore Lüderitz, //Karas Region.

In Feb 2019 Samicor applied for an ECC with it being issued 19 Nov 2019 with expiry date 19 Nov 2022. All documentation provided to MEFT for the Feb 2019 application has been loaded recently onto the MEFT online Portal and reference number APP-001099 allocated by your office. Samicor wishes to apply for a renewal of the ECC.

Since awarding of the Nov 2019 ECC, Samicor has not conducted any exploration (geophysical survey, sampling) or mining operations and thus the sea floor conditions at ML164 is unchanged to date.

In light of this information Samicor wishes to seek guidance from MEFT on the documentation required for submission of an ECC renewal application for ML164.

Once above requirements are received from MEFT, will we approach our EAP to provide said service to conduct the renewal application. The CV of our EAP will then be submitted with the renewal application.

I will appreciate your time, insight and guidance to my request.

Yours sincerely,

Hans Hückstedt
Chief Geologist

E-mail: hans@sakawe.com

Samicor Diamond Mining (Pty) Ltd
Reg No: 92/152
P O Box 3498, Windhoek, Namibia
Tel : +264 81 1446000

Directors: E. Nefussy, K. Kapwanga

From: Ministry of Environment and Tourism [mailto:noreply@meft.gov.na]
Sent: 10 March 2023 17:59
To: Hans Hckstedt
Subject: Your application is verified



REPUBLIC OF NAMIBIA
Ministry of Environment, Forestry & Tourism

2023-03-10

Dear Hans Hckstedt,

This email serves to inform you that your application **APP-001099** has been verified

Taking the following into considerations:

- Location of the project
- Pollution potential
- Scale of operation of the project

Please upload the following documents:

- Updated EMP to effect amendment
- Confirmation of screening notice received (through email) in terms of assessment procedures (Section 35 (1)(a)(b) of the Environmental Management Act, No 7 of 2007)
- Preliminary Site Map with coordinates (decimal degrees) and a Legend
- Copy of the previous Environmental Clearance Certificate issued in terms of Section 37(1)(a) of EMA

- CV of Environmental Assessment Practitioner (EAP)

Please login onto our portal to upload required documents, if any
<https://eia.met.gov.na>

NB- for the purpose of Section 38 of the Environmental Management Act, 2007 read with Regulation 4(d), kindly forward copies of all relevant documents i.e (application forms, EIA, Scoping reports, EMP etc) to the office of the Environmental Commissioner

Thank you

Phillip Troskie Bulding

P/Bag 13306, Windhoek | Tel: +264 61 284 2111 | DEA: +264 61 284 2701

SAMICOR DIAMOND MINING (Pty) Ltd



The Environmental Commissioner
Ministry of Environmental, Forestry and Tourism
Private Bag 13306
Windhoek

17 July 2023

Dear Mr Timoteus Mufeti

Re: Renewal of Environment Clearance Certificate for marine ML163

ML163 was awarded to Samicor Diamond Mining on 4 April 2019 for a period of 20 years. The licence is for precious stones and located offshore Lüderitz, //Karas Region.

In Feb 2019 Samicor applied for an ECC with it being issued 6 Nov 2019 with expiry date 6 Nov 2022. Samicor wishes to apply for a renewal of the ECC.

Since awarding of the Nov 2019 ECC, Samicor has not conducted any exploration (geophysical survey, sampling) or mining operations and thus the sea floor conditions at ML163 is unchanged to date.

Yours sincerely,

Hans Hückstedt
Chief Geologist
E-mail: hans@sakawe.com

Samicor Diamond Mining (Pty) Ltd
Reg No: 92/152
P O Box 3498, Windhoek, Namibia
Tel : +264 81 1446000

Directors: E. Nefussy, K. Kapwanga

From: Ministry of Environment and Tourism [mailto:noreply@meft.gov.na]
Sent: Wednesday, 19 July, 2023 4:10 PM
To: Hans Hckstedt
Subject: Your application is verified



REPUBLIC OF NAMIBIA
Ministry of Environment, Forestry & Tourism

2023-07-19

Dear Hans Hckstedt,

This email serves to inform you that your application **APP-001751** has been verified

Taking the following into considerations:

- Location of the project
- Polution potential
- Scale of operation of the project

Please upload the following documments:

- Updated EMP to effect amendment
- Confirmation of screening notice received (through email) in terms of assessment procedures (Section 35 (1)(a)(b) of the Environmental Management Act, No 7 of 2007)
- Preliminary Site Map with coordinates (decimal degrees) and a Legend
- Copy of the previous Environmental Clearance Certificate issued in terms of Section 37(1)(a) of EMA
- CV of Environmental Assessment Practitioner (EAP)

Please login onto our portal to upload required documents, if any
<https://eia.met.gov.na>

NB- for the purpose of Section 38 of the Environmental Management Act, 2007 read with Regulation 4(d), kindly forward copies of all relevant documents i.e (application forms, EIA, Scoping reports, EMP etc) to the office of the Environmental Commissioner

Thank you

Phillip Troskie Bulding
P/Bag 13306, Windhoek | Tel: +264 61 284 2111 | DEA: +264 61 284 2701

SAMICOR DIAMOND MINING (Pty) Ltd



The Environmental Commissioner
Ministry of Environmental, Forestry and Tourism
Private Bag 13306
Windhoek

17 July 2023

Dear Mr Timoteus Mufeti

Re: Renewal of Environment Clearance Certificate for marine ML164

ML164 was awarded to Samicor Diamond Mining on 4 April 2019 for a period of 20 years. The licence is for precious stones and located offshore Lüderitz, //Karas Region.

In Feb 2019 Samicor applied for an ECC with it being issued 19 Nov 2019 with expiry date 19 Nov 2022.

Samicor wishes to apply for a renewal of the ECC.

Since awarding of the Nov 2019 ECC, Samicor has not conducted any exploration (geophysical survey, sampling) or mining operations and thus the sea floor conditions at ML164 is unchanged to date.

Yours sincerely,

Hans Hückstedt
Chief Geologist
E-mail: hans@sakawe.com

Samicor Diamond Mining (Pty) Ltd
Reg No: 92/152
P O Box 3498, Windhoek, Namibia
Tel : +264 81 1446000

Directors: E. Nefussy, K. Kapwanga

From: Ministry of Environment and Tourism [mailto:noreply@meft.gov.na]
Sent: Wednesday, 19 July, 2023 4:07 PM
To: Hans Hckstedt
Subject: Your application is verified



REPUBLIC OF NAMIBIA
Ministry of Environment, Forestry & Tourism

2023-07-19

Dear Hans Hckstedt,

This email serves to inform you that your application **APP-001753** has been verified

Taking the following into considerations:

- Location of the project
- Pollution potential
- Scale of operation of the project

Please upload the following documents:

- Updated EMP to effect amendment
- Confirmation of screening notice received (through email) in terms of assessment procedures (Section 35 (1)(a)(b) of the Environmental Management Act, No 7 of 2007)
- Preliminary Site Map with coordinates (decimal degrees) and a Legend
- Copy of the previous Environmental Clearance Certificate issued in terms of Section 37(1)(a) of EMA
- CV of Environmental Assessment Practitioner (EAP)

Please login onto our portal to upload required documents, if any
<https://eia.met.gov.na>

NB- for the purpose of Section 38 of the Environmental Management Act, 2007 read with Regulation 4(d), kindly forward copies of all relevant documents i.e (application forms, EIA, Scoping reports, EMP etc) to the office of the Environmental Commissioner

Thank you

Phillip Troskie Bulding
P/Bag 13306, Windhoek | Tel: +264 61 284 2111 | DEA: +264 61 284 2701