

**APPLICANT: Trans Atlantic Diamonds (Pty) Ltd**

**PREPARED BY: Anchor Environmental Consultants (Pty) Ltd**

**APPLICATION: PROSPECTING RIGHTS AND ENVIRONMENTAL AUTHORISATION  
TO PROSPECT IN THE OFFSHORE SEA CONCESSION AREA 10B**

**June 2022**

**The purpose of this document is to provide a summary of the proposed project. It is written in easier terms to make it easier for the reader to understand and to make meaningful comments.**

## PROJECT BACKGROUND

Prospecting is the search for commodities such as gemstones, minerals and metals in an area by means of drilling and excavation to determine if mining in that area would be economically feasible. It is also an opportunity to collect baseline environmental information on species present in an area, to monitor the impacts of potential future mining. Prospecting does not guarantee that mining will take place. Mining-related activities contribute to our national and provincial economies and in meeting societal needs.

With the global population increasing by approximately 83 million people per year, there has been an increased need for goods and services such as houses, transport, healthcare, schools, and the materials to manufacture these products. Minerals and metals are used, not only in jewellery, but in the manufacturing of these products. They are used in x-ray machines, pacemakers, dental implants, prosthesis, cell phones, laptops, computers, to make glass, fuel, paints, concrete and high-strength metal alloys (used to make tools, ships, vehicles, aircrafts, bridges, buildings and electric motors). South Africa possesses some of the world's richest resources, minerals and other commodities which has the potential to supply the international markets.

**Trans Atlantic Diamonds Pty Ltd (The Applicant)** has applied for the right to prospect for diamonds and other gemstones and precious metals and ferrous and base metals such as rare earths in Sea Concession Area 10B. This area covers 10 040 ha and extends from 8km south of the border between the Western and Northern Cape (southern boundary) to 13km south of the Groenrivier Lighthouse (northern boundary) (Figure 1). The boundary closest to the shore starts approximately 1km west of the high-water mark and extends 5km westwards from this point to a water depth of 70 m (Figure 2).

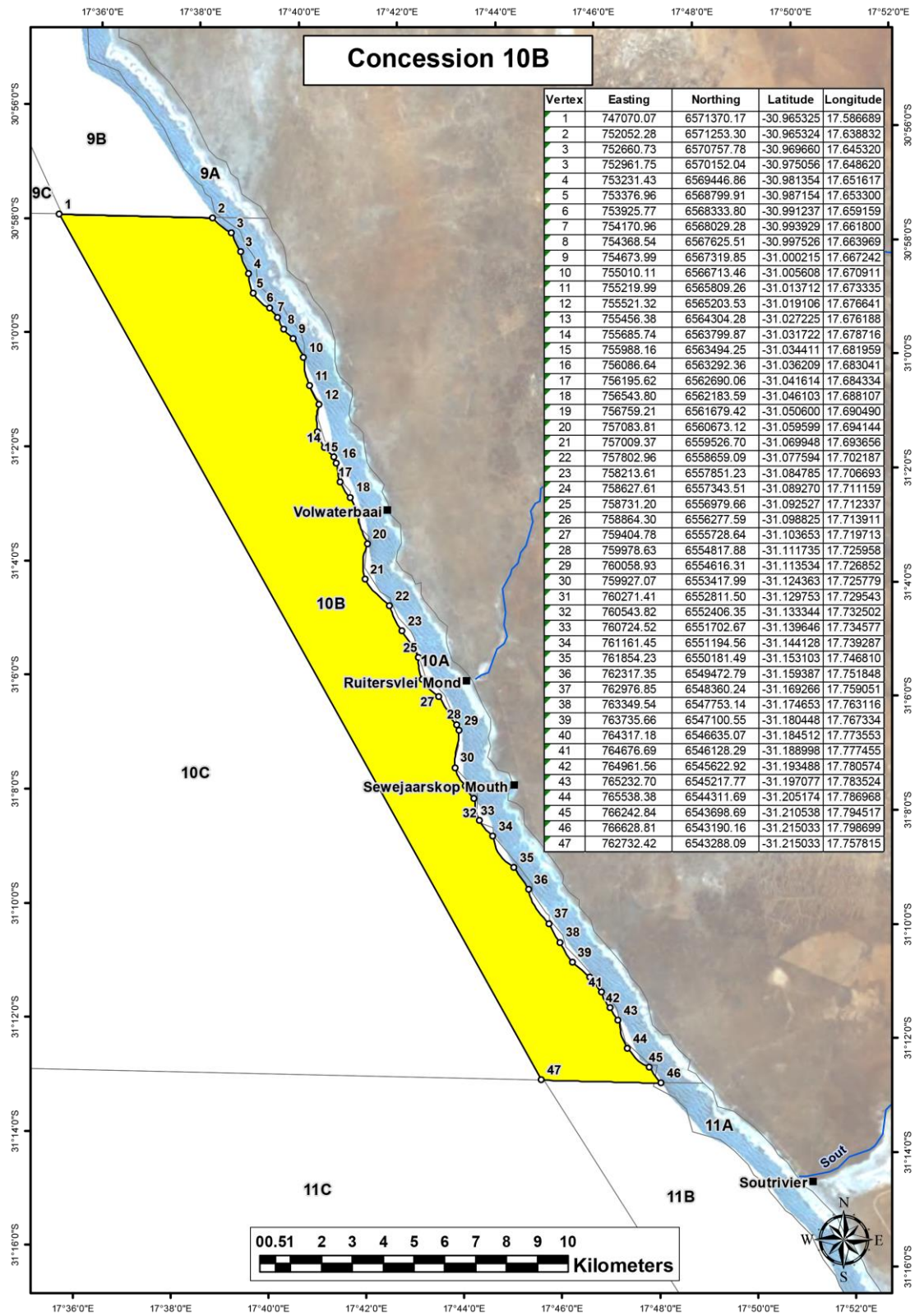
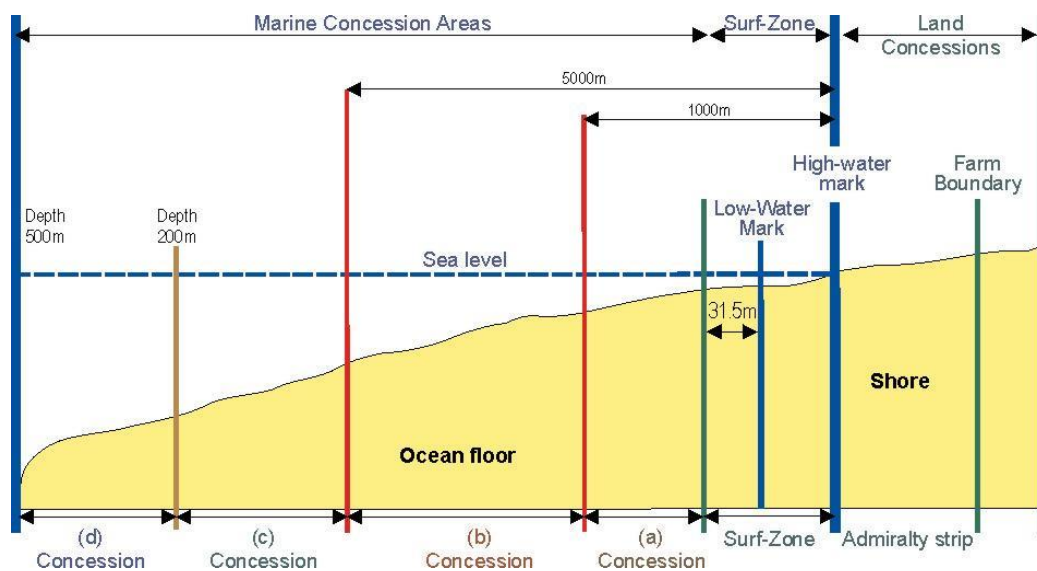


Figure 1. The location of Concession Area 10B along the coast.



**Figure 2. Diagram of the onshore and offshore boundaries of the South African marine diamond mining concession areas.**

This application was submitted in terms of the Mineral and Petroleum Resources Development Act (28 of 2002), the National Environmental Management Act (107 of 1998) and the Environmental Impact Assessment Regulations, 2014 (as amended).

In addition to prospecting rights, the Applicant must also apply for Environmental Authorisation (EA) from the competent authority, which in this case is the Department of Mineral Resources and Energy (DMRE), prior to the commencement of prospecting activities. The application process requires that a Basic Assessment (BA) of the potential impacts of the proposed activity be conducted (this report). All findings are incorporated into the Draft Basic Assessment Report (BAR) and circulated, along with the Environmental Management Programme (EMPr), to the DMRE and the public for a 30-day commenting period (the 30-Day Public Participation Process). A Public Participation Meeting should also be held as part of the Public Participation Period to present the public with the findings and to record their recommendations, concerns and questions.

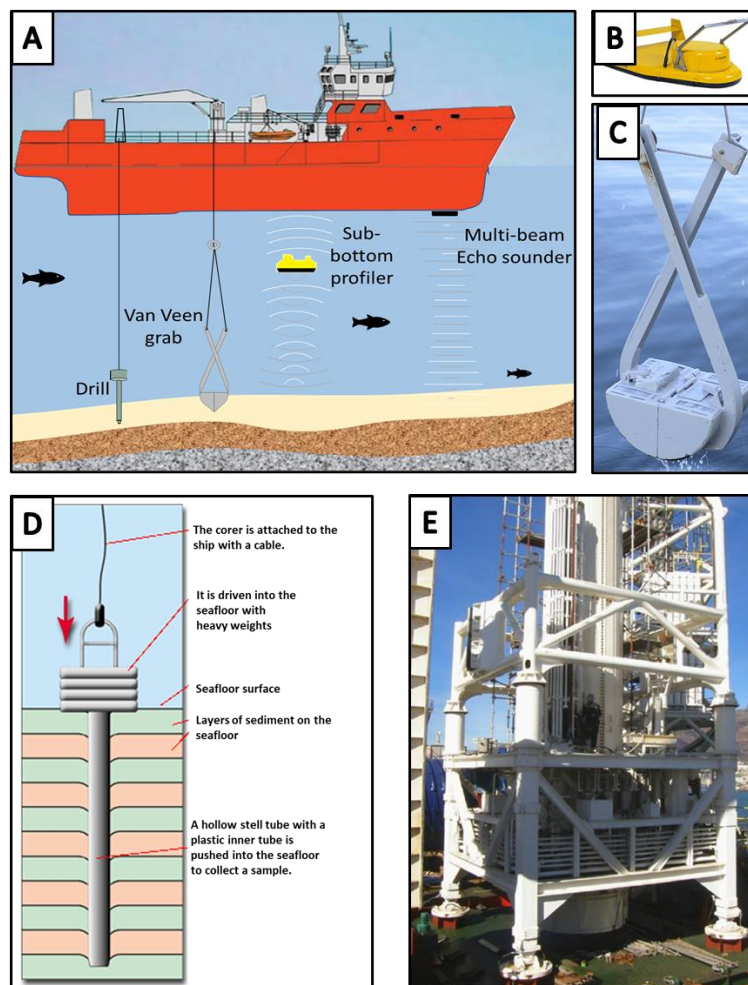
Hereafter, all specialist findings and public comment are incorporated into the Final BAR which is then made available to the DMRE and the public along with the EMPr. The DMRE will then have 107 days to review the Final BAR and make the final decision in terms of granting or rejecting the prospecting rights. If the prospecting right is approved, it will allow Trans Atlantic Diamonds (Pty) Ltd to determine if mining within Concession Area 10B is economically viable. Any future intention to undertake mining within the application area would require a further application, investigation and public consultation process.

**Anchor Environmental Consultants (Pty) Ltd** has been appointed by the Applicant as the Independent Environmental Assessment Practitioner (EAP) to submit the applications and to carry out a Basic Assessment and Public Participation process for prospecting rights application for Concession Area 10B.

## DESCRIPTION OF THE PROPOSED ACTIVITY

The proposed prospecting programme is anticipated to be completed within five years. Sampling will be conducted in four phases and includes a combination of non-invasive (acoustic survey, data acquisition and analysis) and invasive activities (Van Veen grab, core and drill samples) (Figure 3). No infrastructure will be placed on shore or in the sea. The vessel will be operating out of the Port of Cape Town or possibly Saldanha Bay and will not dock near any nearby towns. No access from land is

required, neither will vessel crew be able to come on land. The four phases of the sampling program are as follows:



**Figure 3** The various sampling methods that will be used (a), including (B) acoustic equipment, (C) a Van Veen grab, (D) corers and (E) a drill.

1. **Geophysical/ Acoustic Survey:** Acoustic equipment is used to send out sound towards the seabed. The sound energy is reflected from the seabed and travels back to the receiver. The received signals are used to create an image or map of the seafloor. This allows the identification of important rock types and areas where prospecting should occur and sensitive areas such as reefs which need to be avoided.
2. **Van Veen Grab sampling:** A Van Veen grab (clamshell bucket) collects sediment samples that are analysed to identify benthic macrofauna (small animals such as worms, mussels, and crustaceans) and sediment types. Sampling will be done at 20–50 sites, disturb a total surface area of 5 square meters (m<sup>2</sup>) and a total volume of 1.5 cubic meters (m<sup>3</sup>). Results from this survey will be used to describe and monitor the baseline macrofaunal communities in the area during and after prospecting and mining.
3. **Core sampling:** Core samples will be collected at 100–200 sites. A corer penetrates the seafloor to collect sediment samples used to determine the structure of the seafloor, sediment layers and types of sediment (i.e., sand, gravel and/ or rock and the hardness of the rock). This information is then

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used to engineer the drilling tool. Geotechnical sampling is also used to determine whether there are materials that can be mined in the area and whether it will be economically viable. The core samples will disturb a total surface area of 1.57 m<sup>2</sup> and collect a total volume of 4.71 m<sup>3</sup>.

4. **Drilling:** Target areas will be sampled using a drill with a surface area of 5m<sup>2</sup>. Drilling will be done in three steps: (1) An initial 150 samples will be collected and analysed. (2) An additional 150 samples will be collected during follow-up sampling. Should these follow-up samples indicate that there could be a potential resource, only then will step 3 (resource development phase) commence. (3) An additional 60 samples will be collected in a resource area of 500 m x 300 m. Approximately 20 resource development areas will be required. This equates to 1 200 samples. In total, 1 500 samples will be collected and will cover a surface area of 7 500 m<sup>2</sup>.

A total surface area of 7 507 m<sup>2</sup> (0.75 ha) will be disturbed during all phases. The information acquired will be used for understanding the seafloor topography, resource evaluation, to determine if mining within Concession Area 10B is economically viable, to inform the construction of the mining vessel and to identify areas for mining.

## SUMMARY OF POTENTIAL IMPACTS

Impacts are assessed according to a specific scientific method (as prescribed by law) and are recognized by the DMHE. This method takes into account the size of the area that will be affected, the duration, the intensity of the impact and the sensitivity of the environment. It also includes how much damage will be caused to non-renewable resources. Potential negative impacts may include the following:

**Disturbance to marine ecology (invertebrates, fish, mammals, seabirds and turtles) and fisheries:** Impacts include seismic disturbance to marine fauna; survey vessel collision with marine megafauna; direct impact of seabed excavation and tailings disposal on benthic habitats (soft sediment and reef associated communities); impact of fine sediment plumes on surrounding benthos and water column; waste discharges during vessel operations; and impacts on fisheries and the livelihoods of fishing communities due to exclusion from fishing grounds and disturbance of target fish species.

**Heritage:** Prospecting activities in Concession Area 10B are likely to have an impact on submerged Prehistoric Heritage, Marine Archaeological and Palaeontological Resources present within the concession area.

**Socio-economic:** Negative socio-economic impacts that will be assessed include impacts on certain fisheries, local households, tourism, small businesses and the culture or sense of place of the area. Potential positive impacts of prospecting include local and regional employment opportunities, although these will be low.

**Noise impacts:** The proposed sampling is not expected to create significant noise as the sound is largely restricted to the seabed material (sand/rock) and environmentally significant sound propagation in the water column is not anticipated. It is also unlikely that any noise would be heard from the shoreline.

**Safety of materials (radioactivity):** The natural maximum values of raw mineral radiation from any materials extracted during prospecting are not expected to exceed safety guidelines. All regulations and standards as set out by the South African Maritime Safety Authority (SAMSA), International Maritime Organization (IMO), the International Maritime Dangerous Goods (IMDG) Code and International Atomic

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Energy Agency Safety Standards (IMDG) should be complied with when prospecting, extracting, working with, storing and transporting any minerals.

**Interference with commercial shipping traffic:** The majority of shipping traffic is located on the outer edge of the continental shelf, which is well offshore of the outer edge of Concession Area 10B.

**Visual integrity of the area:** The town closest to Concession Area 10B is located approximately 10km east of this concession area. The vessel will also not be more conspicuous than any other vessel (such as fishing vessels) already.

**Contribution to science and research:** Soil and biological samples will be collected during the prospecting activities using a clamshell bucket instrument called a Van Veen Grab. These samples will then be sent to an independent environmental consultancy for analysis to establish a baseline of environmental data. This comprises analysing sediment composition and determining the composition and abundance of benthic species in the sediment. Data collected during the acoustic survey can be used to map important features such as reefs that may be present in the area. Should artefacts, fossils or any other heritage resources be discovered during the prospecting, these will be donated to scientific institutions and can make an invaluable contribution to the palaeontological knowledge and potential of the continental shelf.

**Cumulative impacts:** There has been a recent increase in applications for prospecting and exploration rights along the west coast and increased prospecting/survey activity in the short term and marine mining in the long-term is anticipated. Cumulative impacts of marine prospecting and mining must be considered at a broader spatial scale in a strategic manner for each potential impact identified. Obtaining detailed information on the scale, extent, methodology (and intensity) of various current and pending applications is, however, not possible within the prescribed timeframes of a Basic Assessment Process for a single application (such as this one). Instead, it is recommended that a revised strategic level EIA process based on marine spatial planning principles be undertaken to assess and manage potential cumulative impacts in a holistic manner with a medium to high level of confidence and to identify and implement regional level mitigation measures. The decision-making authority (DMRE) must take cognisance of this recommendation to do a strategic level Environmental Impact Assessment (EIA) in order for Specialists and Environmental Assessment Practitioners to accurately assess cumulative impacts. It is, however, logical and reasonable, to anticipate that many of the potential impacts assessed for this project would continue together with other projects that are ongoing or scheduled to come on-line. The result is that the spatial extent of many impacts would change from “local” to “regional”, whilst the duration would change from short-term (<2 years) to at least medium term (2-15 years) or even long-term (>15 years, mostly reversible in the case of prospecting, but not always for mining). The intensity of impacts is anticipated to remain as they are assessed here for operations of this nature but may be higher for other sea-based mineral and energy projects in different areas with different objectives.

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## POTENTIAL MITIGATION MEASURES TO FORM PART OF EMPR

### Marine ecology

#### Essential mitigation measures for impacts to marine megafauna

- Vessel operator must keep watch for marine megafauna in the path of the vessel during vessel operation.
- At least two on-board independent Marine Mammal and Seabird observers (MMSOs) with experience in marine megafauna (including, but not limited to, all marine mammals (cetaceans and seals), sea turtles and seabirds) identification and observation techniques must be employed to carry out daylight observations and ensure compliance with mitigation measures during geophysical surveying. It must be ensured that there are sufficient MMOs on board the vessel to prevent fatigue and meet health and safety requirements, during the survey periods.
- Activity must be restricted to specific areas or a time of year. This includes:
  - Avoid planning any surveys during the movement of migratory cetaceans (particularly baleen whales) from their southern feeding grounds into low latitude waters (beginning of June to end of November) and ensure that migration paths are not blocked by sonar operations;
  - Avoid planning any surveys during mating season (confirm these times with MMSOs); and
  - Confine surveys to seasons when cetaceans are scarce to ensure minimal disturbance (confirm these times with MMSOs).
- MMSOs to conduct pre-survey visual scans of at least 30 minutes for the presence of megafauna around the survey vessel prior to any vessel movement.
- Protocol must be followed to avoid mortalities and/or injuries to marine animals when they are encountered. If no protocol exists, this must be developed by the Scientific Officer in consultation with the applicant and specialists, prior to commencement.
- “Soft starts” should be carried out for equipment with source levels greater than 210 dB re 1  $\mu$ Pa at 1 m over a period of 20 minutes to give adequate time for marine mammals to leave the vicinity. Where this is not possible, the equipment should be turned on and off over a 20-minute period to act as a warning signal and allow cetaceans to move away from the sound source.
- Passive Acoustic Monitoring (PAM) technology must be incorporated into the survey programme. A designated onboard PAM Observer uses the PAM technology to detect the vocalisations of marine species, particularly during periods of low visibility, such as at night or during adverse weather conditions and thick fog, to prevent collision and impact due to acoustic survey. It must be ensured that there are sufficient PAM operators on board the vessel to prevent fatigue and meet health and safety requirements, during the survey periods.
- Operations must be suspended if any obvious mortalities or injuries to marine life are observed.
- Marine mammal incidence data and sound source output data from surveys must be made available on request to the Marine Mammal Institute (MMI), the Department of Forestry, Fisheries and the Environment (DFFE) and the DMRE.
- Ensure that MMSOs compile a survey close-out report incorporating all recorded data to the relevant DFFE authorities
- Record encounters with marine life (seabirds, turtles, seals, fish), their behaviour and response to vessel, including any attraction of predatory seabirds and incidents of feeding behaviour around the survey vessel; data on position, distance from the vessel, swimming speed and direction and obvious changes in behaviour (e.g., startle responses or changes in surfacing/diving frequencies, breathing patterns).
- Record marine life (cetaceans, seabirds, turtles, seals, fish) incidences and responses to acoustic survey activity, including data on position, distance from the vessel, swimming speed and direction

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and obvious changes in behaviour (e.g., startle responses or changes in surfacing/diving frequencies, breathing patterns, feeding behaviour) along with noise levels.

- Wait until all marine megafauna have cleared an area of 500 m radius of the survey vessel (centre of the sound source) before resuming with acoustic survey. If, after a period of 30 minutes, megafauna are still within 500 m of the vessel, the normal “soft start” procedure should be allowed to commence for at least 20-minutes duration. Behaviour during “soft starts” must be monitored.
- Vessel transit speed must not exceed 12 knots (22 km/hr), except within 25 km of the coast where it should be kept to less than 10 knots (18 km/hr) as well as when sensitive marine fauna are present in the vicinity.
- Sound containment and improvement of current equipment used must be implemented.
- The potential marine impacts must be reassessed after completion of the geophysical surveys and biological analysis as these might elucidate areas that would need to be avoided and species of conservation concern.
- Should any ecologically sensitive features such as reefs be identified within the concession area during the initial acoustic survey, these areas must be avoided and suitably buffered. Appropriate buffers must be determined by a suitably qualified specialist. Once suitable buffers have been mapped it should be illustrated on a map and form part of the EMPr.
- Baseline grab samples should be collected before core samples to determine the nature of benthic communities before disturbance.
- Grab samples collected should be analysed as soon as possible to determine the benthic macrofaunal communities in the area. Results from this survey could be used to inform additional mitigation measures if required. Results will represent baseline data against which any change in macrofaunal communities in the area can be benchmarked after prospecting and mining.

**Best Practice Mitigation (Recommended) for impacts related to spills and waste generated by vessels:**

- Planning and management of potential discharges to ensure that tailings are not discarded onto potentially sensitive habitats.
- Inform & empower all staff about sensitive marine species & suitable disposal of waste.
- Ensure compliance with relevant MARPOL standards.
- Develop a waste management plan using waste hierarchy.
- A Shipboard Oil Pollution Emergency Plan (SOPEP) must be prepared for all vessels and should be in place at all times during operations.
- Deck drainage should be routed to a separate drainage system (oily water catchment system) for treatment to ensure compliance with MARPOL (15 ppm).
- All process areas should be bunded to ensure drainage water flows into the closed drainage system.
- Drip trays should be used to collect run-off from equipment that is not contained within bunded areas and the contents routed to the closed drainage system.
- Low-toxicity biodegradable detergents should be used in the cleaning of all deck spillages.
- All hydraulic systems should be adequately maintained, and hydraulic hoses should be frequently inspected.
- Spill management training and awareness should be provided to crew members of the need for thorough cleaning-up of any spillages immediately after they occur in order to minimise the volume of contaminants washing off decks.



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## Fisheries, socio-economic and other shipping

### Essential mitigation measures

- Prior to survey commencement, the following key stakeholders should be consulted and informed of the proposed survey activity (including navigational co-ordinates of the survey area, timing and duration of proposed activities) and the likely implications thereof:
  - Fishing industry / associations (contactable via [liason@fishsa.org](mailto:liason@fishsa.org)):
    - SA Marine Linefish Management Association (SAMLMA);
    - South African Pelagic Fishing Industry Association (SAPFIA);
    - South African Tuna Association (SATA);
    - South African Tuna Longline Association (SATLA)
    - Large Pelagic Small Medium & Micro Enterprises Association (LPSMME)
    - Local fishing communities;
  - Other associations and organs of state
    - DFFE;
    - SAMSA;
    - South African Navy Hydrographic office; and
    - Overlapping and neighbouring right holders.
- These stakeholders should again be notified at the completion of surveying when the survey vessel(s) is/are off location. The operator must request, in writing, that the South African Navy Hydrographic office release Radio Navigation Warnings and Notices to Mariners throughout the survey periods. The Notice to Mariners should give notice of (1) the co-ordinates of the proposed survey area, (2) an indication of the proposed timeframes of surveys and day-to-day location of the survey vessel(s), and (3) an indication of the required safety zone(s) and the proposed safe operational limits of the survey vessel. These Notices to Mariners should be distributed timeously to fishing companies and directly onto vessels where possible.
- Undertake surveys when fishing effort is lowest i.e., August to December (avoiding the small pelagic fishing during January-July and snoek line fishing peak during April-May).
- The survey and sampling vessels must be certified for seaworthiness through an appropriate internationally recognised marine certification programme (e.g. Lloyds Register, Det Norske Veritas). The certification, as well as existing safety standards, requires that safety precautions should be taken to minimise the possibility of an offshore accident. Collision prevention equipment should include radar, multi-frequency radio, foghorns, etc. Safety equipment and training of personnel to ensure the safety and survival of the crew in the event of an accident is a further legal requirement.

### Best Practice Mitigation (Recommended):

- Appoint a fisheries liaison officer (FLO) to facilitate communication with affected fishing sectors. The FLO should report daily on vessel activity and respond and advise on action to be taken in the event of encountering fishing gear in the survey area.
- Additional compensation and resource support measurements should be introduced to reduce the severity of the impacts on the socio-economic performance. These should include:
- Assistance should be given to support local communities in navigating new Small Scale Fisheries Policy structures.
- Assistance should be given to support the development of a streamlined communication platform between local community, community representatives, stakeholders, and government officials.

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## **Heritage resources**

### **Essential mitigation measures**

- Areas where shipwreck sites are identified during the geophysical surveys must be excluded prior to undertaking sampling activities.
- The contractor must be notified that archaeological sites could be exposed during sampling activities, as well as the procedure to follow should archaeological material be encountered during sampling.
- Any core sample sections which contain alluvial material, particularly where organic remains are present, are retained and are subject to paleo-environmental assessment.
- Any fossils found during the processing of cores must have the details of context recorded, must be kept for identification by an appropriate specialist and, if significant, be deposited in an appropriate institution.
- If shipwreck material is encountered during the course of sampling in any of the concession areas, the following mitigation measure should be applied:
  - Cease work in the directly affected area to avoid damage to the wreck until the South African Heritage Resources Agency (SAHRA) has been notified and the contractor has complied with any additional mitigation as specified by SAHRA; and
  - Where possible, take photographs of them, 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 SAHRA.

### **Best Practice Mitigation (Recommended)**

- It is recommended that the onboard Trans Atlantic representative must undergo a short induction on archaeological site and artefact recognition, as well as the procedure to follow should archaeological material be encountered during sampling.

### **Cumulative impacts on the environment and community**

Mitigation measures as recommended for each individual impact should be implemented. Furthermore, a strategic level Environmental Impact Assessment (EIA) process based on marine spatial planning principles should be conducted to assess and manage potential cumulative impacts in a holistic manner and to identify and implement further mitigation measures.

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## OPPORTUNITY TO COMMENT ON THE APPLICATION AND PROJECT

An application for prospecting rights and environmental authorization has been submitted to the DMRE. These applications were accepted by the DMRE on 2 June 2022. Before conducting any impact studies or public participation, communities are consulted in advance to provide details on the project, to obtain community input and to answer questions. The pre-consultation is also used as an opportunity to obtain contact details of key community representatives and organizations and to inform them about the public participation process.

Interested and Affected Parties (I&APs) are hereby invited to register, review the Background Information Documents (this document) and submit any initial comments or concerns regarding the proposed project by email, post or telephone to the contact person below **before 23:59 on 24 June 2022**. All comments / concerns and questions will be sent to the DMRE for their attention.

**We will also be visiting Kotzesrus on 7 June. If you have any queries or comments that you would like to discuss with us personally, we will be available on 7 June 2022 at the Kotzesrus Church Hall in Kotzesrus, Northern Cape, between 16:30 and 18:00. We will also be visiting Lepelsfontein on 7 June to speak to community members there.**

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# 1 ROLES AND RESPONSIBILITIES FOR ENVIRONMENTAL MANAGEMENT PROGRAMME IMPLEMENTATION

## **FUNCTION**

### **Project Manager/ Applicant**

#### **Role**

The Project Manager is accountable for ensuring compliance with the EMPr and any conditions of approval from the competent authority (CA). Responsible for providing and giving mandate to enable the ECO to perform responsibilities and must ensure that the ECO is integrated as part of the project team while remaining independent.

#### **Responsibilities**

- Be fully aware of the conditions of the EA;
- Overall management of the project and EMPr implementation;
- Ensure that all stipulations within the EMPr are communicated and adhered to by the Applicant, Sampling Contractor(s) and any crew on board the vessel;
- Monitor the implementation of the EMPr throughout the project;
- Ensure that periodic environmental performance audits are undertaken on the project implementation; and
- Provide updated information to the public.

### **Scientific Officer (Internal monitoring)**

#### **Role**

The Scientific Officer reports directly to the Project Manager, oversees site works, liaises with the contractor(s) and the ECO. Responsible for the day-to-day implementation of the EMPr, environmental monitoring and reporting, providing environmental input to the Project Manager and for ensuring the compliance of all contractors with the conditions and requirements stipulated.

#### **Responsibilities**

- Oversees site works, liaison with Contractor, Project Manager and ECO;
- Will issue all non-compliances to contractors; and - Ratify the Monthly Environmental Reporting the EMPr.
- Be familiar with the recommendations and mitigation measures of this EMPr, and implement these measures;
- Conduct environmental awareness training on site together with ECO and contractors;
- Ensure that the necessary legal permits and / or licenses are in place and up to date
- Ensure that all stipulations within the EMPr are communicated and adhered to by the Employees, Contractor(s) and its sub-contractor(s);
- Conduct environmental internal audits with regards to EMPr.
- Assist the contractors in addressing environmental challenges
- Reporting environmental incidents to developer and ensuring that corrective action is taken, and lessons learnt shared;
- Assist the contractor in investigating environmental incidents and compile investigation reports;
- Monitor the implementation of the EMPr throughout the project by means of weekly checklists and regular meetings.

### **Environmental Control Officer (ECO) (External or Independent monitoring)**

#### **Role**

Employed by the applicant/project manager for the duration of the project. Should have appropriate training and experience in the implementation of environmental management specifications. Primary role is to act as an independent quality controller that monitors all environmental concerns and associated environmental impacts. Conducts site inspections, manages problems and suggest mitigation and be available to advise on incidental issues that arise. Required to conduct compliance audits, verifying the monitoring reports submitted by the Scientific Officer. Provides feedback to the Scientific Officer and Project Manager regarding all environmental matters. All role players answer to the ECO for non-compliance. Must also report to the relevant CA as and when required.

#### **Responsibilities**

- Be conversant with relevant environmental legislation, policies and procedures, and ensure compliance with them;
- Undertake regular site inspections / audits of the activities according to the EMPr, including any non-compliance issues as well as satisfactory or exceptional compliance with the EMPr;

- Monitoring the performance of the Contractors and ensuring compliance with the EMPr and associated Method Statements;
- Liaison between the Project manager, Scientific Officer, Contractors, authorities and other stakeholders;
- Issuing of site instructions to the Contractor for corrective actions required;
- Reviewing all documents submitted by the Scientific Officer (method statements, incident reports, complaints register, etc.)
- Facilitate environmental awareness training;
- In case of non-compliances, the ECO must first communicate this to the Scientific Officer, who must address this matter. Should no action or insufficient action be taken, the ECO may report this matter to the authorities as non-compliance;
- Maintenance, update and review of the EMPr;
- Communication of all modifications to the EMPr to the relevant stakeholders.

#### **Sampling Contractor/ Employees on vessel**

##### **Role**

The contractors are required to provide Method Statements detailing the equipment, materials, labour and method(s) that will be used by them to conduct the sampling/work and also setting out in detail how the management actions contained in the EMPr will be implemented during activities. Overall responsibility to ensure that all work, activities, are in line with the EMPr and that Method Statements are implemented as described. All instructions relating to the EMPr will be given to contractors via the Scientific Officer. Contractors will report issues of concern to the scientific officer, who in turn will report on progress to the TAD. Contractors include the captain on the vessel, the crew handling the equipment and doing sampling, geologist, etc.

##### **Responsibilities**

- Preparing method statements of work that will be done;
- Conducting the sampling activities as per the method statements and EMPr;
- Ensure that safe, environmentally acceptable working methods and practices are implemented and that equipment is properly; operated and maintained, to facilitate proper access and enable any operation to be carried out safely; and
- Attend on site meeting(s) prior to the commencement of activities to confirm the procedure and designated activity zones.

#### **Fisheries Liaison Officer (FLO)**

##### **Role**

Appointed to facilitate communication with affected fishing sectors. Should report daily on vessel activity and respond and advise on action to be taken in the event of encountering fishing gear in the survey area.

##### **Responsibilities**

- Liaison between fishing sectors and Project Manager and Scientific Officer

#### **Marine Mammal and Seabird Observer (MMSO)**

##### **Role**

A designated onboard MMSO keeps watch for marine megafauna in the path of the vessel during all vessel activity, including the geophysical surveying. Marine megafauna will include, but are not limited to, all marine mammals (whales, cetaceans, seals, etc.), sea turtles, fish and seabirds. Also in charge of managing the passive acoustic monitoring (PAM) system during the survey activity to detect marine mammals that could be at risk.

##### **Responsibilities**

- Keeps watch for marine megafauna to prevent collision and impact due to acoustic survey.
- Records all sightings and incidents with marine megafauna and fish, including behaviour.

#### **Passive Acoustic Monitoring (PAM) Observer**

A designated onboard Passive Acoustic Monitoring (PAM) Observer uses passive acoustic hydrophones to detect the vocalisations of marine species. This person can also be a MMSO, but must not be the designated MMSO.

##### **Responsibilities**

- Managing the PAM system; listens out for underwater marine megafauna to prevent collision and impact due to acoustic survey.