

## EXECUTIVE SUMMARY

### 1. INTRODUCTION

Belton Park Trading 127 (Pty) Ltd (BPT127) lodged separate applications for Prospecting Rights with the Department of Mineral Resources and Energy (DMRE) to undertake offshore prospecting activities in Sea Concessions 13C, 15C, 16C, 17C and 18C, located off the West Coast of South Africa (See Figure 1). The applications were lodged in terms of Section 16 of the Mineral and Petroleum Resources Development Act, 2002 (No. 28 of 2002; MPRDA) (as amended by the Mineral and Petroleum Resources Development Amendment Act 49 of 2008).

In terms of the Environmental Impact Assessment (EIA) Regulations, 2014 (as amended by GN40772 on 7 April 2017), promulgated in terms of the National Environmental Management Act (No. 107 of 1998; NEMA), an application for a prospecting right requires Environmental Authorisation (EA) from the competent authority, which in this case is the Minister of Mineral Resources and Energy, to carry out the proposed prospecting activities. The applications for EA, in terms of NEMA, was submitted to the DMRE at the same time as the prospecting right application. In terms of the EIA Regulations Listing Notices, a Scoping and Environmental Impact Assessment (EIA) process is required for the proposed prospecting activities.

SLR Consulting (South Africa) (Pty) Ltd (SLR) has been appointed by BPT127 as the independent Environmental Assessment Practitioner (EAP) to determine the biophysical, social and economic impacts, by means of the required EIA process, associated with undertaking the proposed prospecting activity. This report presents the process followed and the findings of the EIA.

### 2. OPPORTUNITY FOR COMMENT

This draft Environmental Impact Report (EIR) is available to Interested and Affected Parties (I&APs) for a 30-day review and comment period from **27 August to 27 September 2021**. Copies of the full report have been made available on: the SLR website (at <https://slrconsulting.com/public-documents/eia-belton-park-trading>) and zero-data rated website (<https://slrpublicdocs.datafree.co/public-documents/eia-belton-park-trading>). Any comments should be forwarded to SLR at the address, telephone numbers or e-mail address shown below<sup>1</sup>. For comments to be included in the final EIR, comments should reach SLR by no later than **27 September 2021**.

**SLR Consulting (South Africa) (Pty) Ltd**

PO Box 798, Rondebosch, 7701

Tel: (021) 461 1118 / 9

E-mail: [narnott@slrconsulting.com](mailto:narnott@slrconsulting.com)

<sup>1</sup> It is assumed that in providing your Personal Information to be registered as an Interested and Affected Party for this Project you authorise SLR to retain and use your Personal Information as part of a contact database for this and/or other Social and Environmental Impact Assessment Project(s) and that you confirm your acceptance for SLR to contact you regarding this and/or other Social and Environmental Impact Assessment processes. SLR warrants that we will not process your Personal Information, other than as permitted or required by Social and Environmental Impact Assessment processes or as required by Law or public policy. SLR will use reasonable, appropriate security safeguards in order to protect Personal Information, and to reasonably prevent any damage to, loss of, or unauthorised access or disclosure of Personal Information, other than as required for Social and Environmental Impact Assessment processes or as required by any Law or public policy. You may request for your Personal Information to be deleted from the I&AP database at any time by contacting SLR by e-mail or in writing at the address below.



After the conclusion of the comment period, all comments received will be collated into a Comments and Responses Report. The comments will be duly taken into account in compiling the final EIR, which will be submitted to the DMRE for consideration and decision-making.

After DMRE has reached a decision, all registered I&APs will be notified of the outcome of the application and the reasons for the decision. A statutory appeal period in terms of the National Appeal Regulations, 2014 will follow the issuing of the decision.

### **3. SCOPING AND EIA PROCESS**

#### **3.1. SCOPING PHASE**

##### **3.1.1. Application for Environmental Authorisation**

An “Application Form for Environmental Authorisation” form was submitted to DMRE at the same time as the Prospect Right applications were submitted. While five separate applications for EA have been submitted, DMRE has confirmed that one consolidated Scoping and EIA process could be undertaken for all five Sea Concession area applications. Accordingly, should DMRE decide to grant authorisation, a separate EA for each application would be issued (i.e., five EAs in total).

##### **3.1.2. Compilation and review of the Scoping Report**

The final Scoping Report was prepared in compliance with Appendix 2 of the EIA Regulations 2014 (as amended). Eight (8) submissions were received during the draft Scoping Report review and comment period. The submissions have been responded to in the Comments and Responses Report (see Appendix 3.2). The key issues raised relate to the potential impact of the proposed project on marine fauna (specifically seabirds and cetaceans), cultural heritage, and on the West Coast pelagic fishery. The Final Scoping Report was submitted and accepted by the DMRE.

#### **3.2. EIA PHASE**

##### **3.2.1. Specialist Studies**

The specialist studies commissioned to address the key issues and potential impacts were: (1) an Underwater Heritage Impact Assessment, (2) a Marine Faunal Assessment, and (3) a Fisheries Impact Assessment. The impacts in the studies were assessed according to a defined impact assessment methodology and the mitigation measures were defined to avoid or reduce negative impacts and enhance potential benefits.

##### **3.2.2. Integration and Assessment**

Information from the specialists, desktop analysis, and the generic EMP prepared for marine diamond mining off the West Coast, have been integrated into this EIR and Environmental Management Programme (EMPr). After closure of the comment period, all comments received on the draft report will be incorporated and responded to in an updated Comments and Responses Report. The draft report will then be updated to a final report, to which the updated Comments and Responses Report will be appended and will be submitted to DMRE for consideration and decision-making. The decision taken by DMRE will be distributed to all I&APs on the project database as part of the statutory appeal period.

**4. PROJECT DESCRIPTION**

**4.1 GENERAL INFORMATION**

The proposed prospecting activities would be undertaken within Sea Concessions 13C, 15C, 16C, 17C and 18C off the West Coast of South Africa. The minerals targeted by the proposed operations would be diamonds, gemstones, heavy minerals, industrial minerals, precious metals, ferrous and base metals. The proposed prospecting activities are summarised in the table below:

Prospecting activity	Maximum anticipated area of disturbance	Duration
Geophysical Surveys	600 - 1 200 km per concession area.	<b>Four days per year</b> for each concession area (i.e. 20 days per year for <b>4 years</b> ).
Drill Sampling	4 800 drill samples with a cumulative footprints of 2.4 ha per sea concession area.	<b>Four days per year</b> for each concession area (i.e. 20 days per year for <b>4 years</b> ).
Bulk Sampling	Ten trenches per concession area with a cumulative footprint of 3.6 ha per a concession area.	<b>Six to seven days per year</b> for each concession area (i.e. 35 days per year for <b>2 years</b> ).

**4.2 NEED AND DESIRABILITY**

The over-arching framework for considering the need and desirability of development in general is taken at the policy level and should be aligned with the content of regional and local plans, frameworks, and strategies. With respect to the national policy and planning framework, prospecting and mining is identified as a sector with substantial potential for growth stimulation and/or employment and is supported in numerous national planning instruments, such as the National Development Plan 2030 (2012), as well as Operation Phakisa (2014) and Mining Phakisa.

In the regional planning context, the West Coast District Municipality Spatial Development Framework (2020) notes that the District Municipality has a vast number of mineral resources, of which some are currently not being exploited. It is concluded that mining has the potential to make bigger contribution to the overall economy of the District Municipality, when unexploited resources are utilised in future. Thus, the proposed prospecting operations are considered to be aligned with the above-mentioned planning frameworks.

Marine mining at present contributes about 10% of South Africa's total diamond production. In 2019, about 7.2 million carats of diamonds were produced locally. Diamond revenues, levied through income tax on diamonds, mining leases, mining rights and diamond export duties, are put into the Central Revenue Fund from where they are allocated to various budgets by the South African Government.

Prospecting activities are needed to:

- Confirm and obtain additional information concerning potential targets through non-invasive activities (i.e. desk-top studies and geophysical surveys) and invasive activities (i.e. drilling).
- Assess if the resource can be extracted through future mining in an economically viable manner while being socially and environmentally responsible.

Should prospecting activities prove that there is a feasible mineral resource for mining, a new mining area could be developed, which would generate significant employment opportunities.

### 4.3 PROJECT OVERVIEW

The proposed prospecting programme would entail geophysical surveying, drill sampling and bulk (trench) sampling activities. The principal objective of the proposed prospecting activities is to identify and estimate the potential mineral resources within each Sea Concession area for possible future mining. The proposed activities may be divided into stages subject to data reviews and follow-up sampling. Each of the proposed prospecting activities are described below.

#### 4.3.1 Geophysical Surveys

The geophysical surveying will be undertaken using the group-owned dedicated survey vessel, the *DP Star* which has a length of 45 m. The vessel is equipped with:

- a multibeam echosounder designed to produce high resolution digital terrain models of the seafloor in a wide swath below the vessel; and
- a sub-bottom profiler which can generate profiles up to 60 m beneath the seafloor, thereby giving a cross section view of the sediment layers.

Sound levels from the acoustic equipment would range between 190 to 220 dB re 1  $\mu$ Pa at 1 m. The proposed surveys would be undertaken in specific priority areas in each of the concessions, at water depths between approximately 45 - 200 m. The surveys would have a line spacing of between 100 to 1 000 m apart. The total line kilometres surveyed per concession will be between 600 and 1 200 km. The planned duration for the proposed geophysical surveys would be a total of four days per concession area (20 days in total) per year over a four year period (i.e. the duration of the validity of the prospecting right).

In general terms, sound sources that have high sound pressure and low frequency will travel the greatest distances in the marine environment. Conversely, sources that have high frequency will tend to have greater attenuation over distance due to interference and scattering effects (Anon 2007). It is for this reason that the acoustic footprint of the above-mentioned sonar survey tools is considered to be much lower than that of deeper penetration low frequency seismic surveys and in addition have lower sound pressure levels. It should be noted that a decibel is a logarithmic scale of pressure where each unit of increase represents a tenfold increase in the quantity being measured.

#### 4.2.2 Drill Sampling

The proposed drill sampling activities would be undertaken using the group-owned dedicated sampling vessel, the *MV The Explorer* which has an overall length of 114.4 m. The vessel is equipped with a subsea sampling tool, which can be operated in water depths up to 200 m. The sampling tool comprises a 2.5 m diameter drill bit operated from a drill frame structure, which is launched through the moon pool of the support vessel and positioned on the seabed.

The drill bit can penetrate sediments up to 12 m depth above bedrock. The sediments are fluidised with strong water jets and airlifted to the support vessel where they are treated in the onboard mineral recovery plant. All oversized and undersized tailings are discharged back to the sea on site.

A sample spacing of as little as 20 m can be achieved by the dynamically positioned vessel. Depending on sea and the subseabed geotechnical conditions, up to 60 samples can be successfully taken per day. The samples would be undertaken at intervals of 50 to 500 m. With a planned duration for the proposed drill sampling of four days per year for each concession area, the total number of drill samples that would be obtained during the

prospecting right period would be up to a maximum of 4 800. As the drill has a footprint of 5 m<sup>2</sup>, a total area of 2.4 ha would be sampled.

### 4.3.3 Bulk Sampling

Following analysis of the drill samples and establishment of a potential resource, bulk trench sampling may be conducted to confirm the economic viability of the resource for mining. Trenching would be undertaken by a seabed crawler, deployed off the group-owned dedicated mining vessel, the *MV Ya Toivo* which has a length of 150 m. The vessel is equipped with a track-mounted subsea crawler capable of working to depths up to 200 m below sea level. The crawler, which is fitted with highly accurate acoustic seabed navigation and imaging systems, and equipped with an anterior suction system, is lowered to the seabed and is controlled remotely from the surface support vessel through power and signal umbilical cables. Water jets in the crawler's suction loosen seabed sediments, and sorting bars filter out oversize boulders. The sampled sediments are pumped to the surface for shipboard processing. The area of the seabed to be sampled by crawler can only be determined following analysis of drill samples and development of a resource model.

It is proposed that up to ten trenches, each 180 m long and 20 m wide would be excavated within each concession area. Thus, the area to be disturbed in each concession would be 3.6 ha and for all five concessions 18 ha. The planned duration of the proposed bulk sampling would be a total of six to seven days per a concession area over a two-year period. It is noted that the trenches will not be contiguous, but located in the prospective areas derived from the drill sampling results. The aim of the trench sampling is to determine the geotechnical characteristics of the footwall and overburden which is essential in establishing the optimal approach to mining in these areas.

### 4.4 Consideration of Alternatives

The project alternatives considered in this EIA are described below.

No.	Alternatives	Description
<b>1. Site / location alternatives</b>		
1.1	Exploration site	As the intention of the proposed prospecting operations is to determine the presence of economically viable mineral deposits that occur within Sea Concessions 13C, 15C, 16C, 17C and 18C, no further location alternatives are considered in the Scoping and EIA process.
1.2	Onshore logistics	The proposed prospecting operations are of such short duration (four days per concession per annum) that bunkering or provision of spares, consumables or crew changes would not be required. It is expected that once the required prospecting activity has been completed, the vessel would move off location and dock at the Port of Cape Town.

No.	Alternatives	Description
<b>2. Activity alternatives</b>		
2.1	Prospecting	The principal objective of the proposed prospecting activities is to discover and estimate the potential mineral resources within each Sea Concession area for possible future mining. Feasible and reasonable activity alternatives are limited by the proponent’s motivation and intention to conduct prospecting to enhance the understanding of possible mineral resources occurring within the Sea Concession areas. Thus, no other activity alternatives for the proposed prospecting operations have been considered in this report.
<b>3. Design alternatives</b>		
3.1	Number of Sampling Cores, etc.	The dynamic nature of the proposed prospecting activities are such that they may be divided into stages subject to outcomes of reviews of the results of the previous round of surveying/sampling. Consequently, the proposed works programme may be modified, extended or curtailed as data and results become available over the duration of the validity of the prospecting right period. Thus, the description of the proposed prospecting operations provided below is deemed to be the most realistic at this stage and is the anticipated maximum work scope that would be undertaken.
3.2	Scheduling	
<b>4. Technology / process alternatives</b>		
4.1	Vessel	Offshore mineral exploration is highly specialised with a limited number of possible vessels equipped to carry out this work. BPT127 intends to contract the vessels as indicated in the section below to undertake the work.
4.2	Bulk Sampling	Feasible and reasonable technology alternatives for the proposed activity are constrained by the best available proven technology for conducting the proposed bulk sampling operations. There are two possible basic configurations of vessel available for bulk sampling: (i) the vertical method, utilising a vertically mounted tool on a drill string; and (ii) the horizontal method, using a seabed crawler. As the vessel BPT127 intend on contracting to undertake the bulk sampling activities makes use of the horizontal method, only this approach has been considered in this report.
<b>5. No-Go alternative</b>		
5.1	No-go	<p>The No-Go alternative represents the option not to proceed with exploration, which leaves the project areas of influence in their current state except for variation by natural causes and other human activities. It thus represents the current status quo and the baseline against which all potential project-related impacts are assessed.</p> <p>While prospecting does not automatically lead to mining, it is an essential stage in the process, which might lead to further exploration and, thereafter mining, which results in long-term economic opportunities in mining sector, if commercial reserves can be exploited. The ‘do nothing’ or ‘no-go’ option forgoes these possible advantages. In addition, the implications of not going ahead with the proposed exploration are as follows:</p> <ul style="list-style-type: none"> <li>• South Africa would lose the opportunity to further establish the extent of offshore diamond reserves;</li> <li>• Lost economic opportunities related to sunken costs (i.e., costs already incurred) of exploration in the sea concession areas; and</li> <li>• If economic diamond reserves do exist and are not developed, South Africa would lose the opportunity to maximise the use of its own indigenous diamond reserves.</li> </ul>

## **5. AFFECTED ENVIRONMENT**

### **5.1 PHYSICAL ENVIRONMENT**

The sea concession areas lie within the southern zone of the Benguela Current region and is characterised by the cool Benguela upwelling system. The dominant southerly and south-easterly winds in summer drive the massive offshore movement of surface water, resulting in strong upwelling of nutrient-rich bottom waters. Nutrient-rich upwelled water enhances primary production, and the West Coast region consequently supports economically significant pelagic fisheries.

### **5.2 BIOLOGICAL OCEANOGRAPHY**

The sea concession areas fall is in the cold temperate Namaqua Bioregion. The Namaqua Coastal Area is characterized by high productivity and community biomass along its shores. A large proportion of the area is characterized by habitat that is in relatively good (natural/pristine) condition. The Namaqua Coastal consists of coastal, inner, mid and outer shelf ecosystem types (Sink et al., 2019). The associated pelagic environment is characterized by very high productivity, high chlorophyll and very cold water (mean SST = 15.2°C) caused by upwelling (Lagabriele 2009, Roberson et al., 2017), also serving as an important area for coastal fish (Turpie et al., 2000).

The demersal fish species likely to be encountered in the general project area occupy waters of <100 m depth and include species such as various skate species, St Joseph, Houndshark, Soupfin shark, Tigar catshark and Bramble shark. Small pelagic species occurring beyond the surfzone and generally within the 200 m contour include the sardine/pilchard, anchovy, chub mackerel, horse mackerel and round herring. Large pelagic species such as tunas, billfish and pelagic sharks, migrate throughout the southern oceans, between surface and deep waters (> 300 m). The distribution of these species is dependent on food availability in the mixed boundary layer between the Benguela and warm central Atlantic waters. Concentrations of large pelagic species are also known to occur associated with underwater feature such as canyons and seamounts as well as meteorologically induced oceanic fronts.

Most seabirds in the region reach highest densities offshore of the shelf break (200 to 500 m depth) and are likely to be encountered. Marine mammals likely to be encountered include sperm whales, migrating humpback and southern right whales and various baleen and toothed whales known to frequent offshore waters.

### **5.3 HUMAN UTILISATION**

The commercial fisheries sectors that could be affected by the proposed prospecting operations are the small pelagic purse-seine, tuna pole, traditional line-fish, West Coast Rock Lobster and gillnet fisheries. The majority of shipping traffic is located on the outer edge of the continental shelf with traffic inshore of the continental shelf along the South-West Coast largely comprising fishing vessels. Most of the shipping traffic would be limited to the western edge of the Sea Concessions.

Exploration for oil and gas is currently undertaken in a number of licence blocks off the West Coast. The Sea Concession areas overlap with Block 3A/4A for which PetroSA and Sasol are the licence holders. There is no oil and gas production offshore of the South African West Coast. However, a subsea production pipeline to export gas from the iBhubesi Gas Field to a location on the Saldanha peninsula and Grotto Bay has been approved for



development by Sunbird SA. A few proposed prospecting areas for phosphate are located off the West Coast, these overlap with the western edge of the Sea Concession areas. A few marine diamond mining right and prospecting concession areas are also located in proximity to the Sea Concession areas under this application.

While the sea concessions areas do not overlap any Marine Protected Areas, there is overlap with proposed Cape Canyon and Associated Islands, Bays and Lagoon Ecologically or Biologically Significant Areas (EBSA). The principal objective of EBSAs is the identification of features of higher ecological value that may require enhanced conservation and management measures, however, they currently carry no legal status.

## 6. ENVIRONMENTAL IMPACT ASSESSMENT

Table 1 provides a summary of the significance ratings assigned to each potential impact of the proposed prospecting activities.

**Table 1: Summary of the significance of the potential impacts associated with the proposed prospecting activities and No-Go Alternative.**

Potential impact		Significance	
		Without mitigation	With mitigation
<b>Impact of the Vessel Discharges / Disposal to Sea</b>			
Deck Drainage		VL	VL
Machinery Space Drainage		VL	VL
Sewage		VL	VL
Galley Waste		VL	VL
Solid Waste		VL	VL
<b>Impact on Marine Fauna:</b>			
<b>Acoustic Impacts:</b>			
Geophysical Surveys		VL	VL
Sampling Operations		L	N/A
Disturbance and Loss of Benthic Fauna		VL	VL
Crushing of Benthic Fauna During Sampling Operations		VL	VL
Generation of Sediment Plumes		VL	VL
<b>Smothering of Benthos in Redepositing Sediments:</b>			
Redeposition of discarded sediments on soft-sediment macrofauna		VL	N/A
Redeposition of discarded sediments on rocky outcrop communities		L	VL
<b>Impact on Other Users of the Sea:</b>			
Fishing industry	Exclusion of the demersal long-line, traditional line-fish, pole-and-line, small-scale fishers and fisheries research	INSIG – L	INSIG - L
	Sediment plume impact on fish stock recruitment	INSIG	INSIG

Potential impact	Significance	
	Without mitigation	With mitigation
Marine mining and prospecting	INSIG	<b>INSIG</b>
Petroleum exploration	INSIG	INSIG
Marine transport routes	INSIG	<b>INSIG</b>
<b>Socio-Economic Impact</b>		
Impact on Cultural Heritage Material	M	<b>INSIG</b>
Impact related to Job creation and business opportunities	VL+	<b>VL+</b>
<b>No-Go Alternative:</b>		
Lost project and economic opportunity to establish whether or not a viable offshore diamond resources exists off the West Coast.	M	<b>N/A</b>
<b>Cumulative Impact:</b>		
Cumulative Impacts	L	<b>L</b>

VH=Very High    H=High    M=Medium    L=Low    VL=Very low    INSIG = insignificant    N/A= Not applicable

**7. CONCLUSIONS**

The impacts associated with the prospecting vessel operations would be of short-term duration and limited to the immediate areas where the prospecting activities are being undertaken. As a result, the impacts associated with the vessels are considered to be of **VERY LOW** significance after mitigation. Key mitigation includes ensuring that the vessels used comply with MARPOL 73/78 standards; prior notification is provided to key stakeholders (including fishing industry and adjacent rights holders); and Radio Navigation Warnings and Notices to Mariners are released prior to undertaking the prospecting activities.

Potential impacts on marine fauna as a result of the proposed prospecting activities would be of medium- to short-term duration and limited to the immediate area. As a result, the impacts on marine fauna associated with the sampling activities are considered to be of **VERY LOW** to **LOW** significance after mitigation. Key mitigation includes ensuring that a designated onboard Marine Mammal Observer (MMO) is aboard the survey vessel to ensure compliance with mitigation measures during geophysical surveying; terminating the survey if any marine mammals show affected behaviour within 500 m of the survey vessel or equipment; and avoiding undertaking sampling in rocky outcrop areas or other identified sensitive habitats in the concession areas.

Only two commercial fishing sectors could potentially be affected by the proposed prospecting activities, namely the small pelagic purse-seine and traditional linefish fisheries. It is recognised that elements of the Small Scale Fisheries may also be affected. Given the highly-localised nature of the prospecting operation over the short-term, the potential impact on these fisheries would be of **VERY LOW** significance with or without mitigation.

The likelihood of disturbing a shipwreck is expected to be very low considering the vast size of the South African offshore area. In the event that any cultural heritage material is disturbed during sampling operations, the impact would be at the national level, and of high intensity. Without mitigation this is of **Medium** significance. However,

with the implementation of mitigation, cultural heritage sites can largely be avoided and if sampling is terminated in the unlikely event of encountering a shipwreck, the impact is regarded as **INSIGNIFICANT**.

The No-Go alternative represents the option not to proceed with exploration, which leaves the project areas of influence in their current state except for variation by natural causes and other human activities. While prospecting does not automatically lead to mining/production, it is an essential stage in the process, which might lead to further exploration and, thereafter mining, which results in significant employment opportunities in mining sector, if commercial reserves can be exploited. The 'do nothing' or 'no-go' option forgoes these possible advantages. In addition, the implications of not going ahead with the proposed exploration are that:

- South Africa would lose the opportunity to further establish the extent of offshore diamond reserves;
- Lost economic opportunities related to sunken costs (i.e. costs already incurred) of exploration in the licence area; and
- If economic diamond reserves do exist and are not developed, South Africa would lose the opportunity to maximise the use of its own indigenous diamond reserves.

This potential impact of the No-Go Alternative is considered to be of **LOW** significance.

## 8. KEY MITIGATION MEASURES

This section contains a summary of the key mitigation measures and contained in the EMPr which is attached as Appendix 7 to the main report.

### 8.1 COMPLIANCE WITH ENVIRONMENTAL MANAGEMENT PROGRAMME AND MARPOL 73/78 STANDARDS

- All phases of the proposed project must comply with the Environmental Management Programme presented in Chapter 7; and
- The vessels used during prospecting (including any required support vessels) must ensure compliance with MARPOL 73/78 standards.

### 8.2 NOTIFICATION AND COMMUNICATION WITH KEY STAKEHOLDERS

- As part of the stakeholder notification process, BPT127 should inform the Department of Forestry, Fisheries and the Environment (DFFE) fisheries research survey programme;
- Notify PetroSA and their contractors, as well as any other neighbouring petroleum exploration rights holders, as well as any companies undertaking marine prospecting or mining activities in the study area, prior to the commencement of activities.
- Liaise with PetroSA and any overlapping mineral prospecting rights holders to ensure that there is no overlapping of activities in the same area over the same time period.
- Prior to the commencement of the proposed survey and/or sampling activities the following key stakeholders should be notified and informed of the proposed activities (including navigational co-ordinates of the sampling areas, timing and duration of proposed activities) and the likely implications thereof:
  - > Fishing industry / associations (these include South African Small Pelagic Fishing Industry Association, South African Tuna Association, South African Commercial Linefish Association, South African Hake Longline Association, South African Deepsea Trawling Industry Association, FishSA the West Coast Rock Lobster Association and the National SMME Fishing Forum);
  - > Representatives of small-scale local fishing co-operatives; and

- > Other: DFFE, South African Maritime Safety Authority (SAMSA), South African Navy (SAN) Hydrographic office, overlapping and neighbouring exploration right holders and applicants, and Transnet National Ports Authority (ports of Cape Town and Saldanha Bay).
- The required safety zones around the prospecting vessels should be communicated via the issuing of Daily Navigational Warnings for the duration of the sampling operations through the South African Naval Hydrographic Office.
- The SAN Hydrographic office should be notified when prospecting activities are complete.

### 8.3 DISCHARGES

- Undertake training and awareness of crew in spill management to minimise contamination.
- Low-toxicity biodegradable detergents and reusable absorbent cloths should be used in cleaning of all deck spillage.
- All hydraulic systems should be adequately maintained.
- Minimise the discharge of galley waste material should obvious attraction of marine fauna be observed.

### 8.4 VESSEL SEAWORTHINESS AND SAFETY

- Vessels used during prospecting must be certified for seaworthiness through an appropriate internationally recognised marine certification programme (e.g. Lloyds Register, Det Norske Veritas).
- 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.
- A Notice to Mariners should provide the co-ordinates of the location of the planned areas in which prospecting is to take place.

### 8.5 GEOPHYSICAL ACTIVITIES

- A designated onboard Marine Mammal Observer (MMO) must ensure compliance with mitigation measures during geophysical surveying.
- The MMO should conduct visual scans for the presence of cetaceans around the survey vessel prior to the initiation of any acoustic impulses.
- Pre-survey scans should be of at least a 15-minute duration prior to the start of survey equipment.
- Where equipment permits, "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.
- Pause the survey if any marine mammals show distressed behaviour within 500 m of the survey vessel or equipment until the mammal has vacated the area.
- Avoid planning geophysical surveys during the period for 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 operations.
- Avoid undertaking prospecting activities during peak fishing periods of the small pelagic purse-seine sector. It is recommended that survey and sampling activities be carried out between mid-November and mid-January at a time when the small pelagic sector normally stops operations. This would also avoid possible impacts to the linefish fishery as linefish operations have a seasonal signal mostly driven by the availability of snoek in the winter period.
- For the months of June and November ensure that Passive Acoustic Monitoring (PAM) is incorporated into any survey programme.

## 8.6 SAMPLING ACTIVITIES

- Sampling activities of any kind should avoid rocky outcrop areas or other identified sensitive habitats in the concession area.
- Use should be made of geophysical data to conduct a pre-sampling geohazard analysis of the seabed, and near-surface substratum to map potentially vulnerable habitats and prevent potential conflict with the sampling targets.
- A buffer zone of 150 m will be established around any identified sensitive communities or rocky-outcrop areas.
- Avoid undertaking prospecting activities during peak fishing periods of the small pelagic purse-seine sector. It is recommended that survey and sampling activities be carried out between mid-November and mid-January at a time when the small pelagic sector normally stops operations. This would also avoid possible impacts to the linefish fishery as linefish operations have a seasonal signal mostly driven by the availability of snoek in the winter period.

## 8.7 CULTURAL HERITAGE MATERIAL

- Areas where shipwreck sites are identified during geophysical surveys must be excluded prior to undertaking sampling activities.
- It is recommended that the onboard BPT127 representative must consult the Maritime and Underwater Cultural Heritage (MUCH) Unit of the South African Heritage Resources Agency in developing a procedure for archaeological site and artefact recognition, as well as the procedure to follow should archaeological material be encountered during sampling.
- The contractor must be notified that archaeological sites could be exposed during drill and bulk sampling activities, as well as the procedure to follow should archaeological material be encountered.
- If shipwreck material is encountered during the course of bulk sampling in the concession area, 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/BPT127 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.
- The possibility of realising core log information and samples of the coarser fraction (i.e. gravel and stone between 20 mm and 150 mm) of sorted seabed sediment for assessment by an archaeologist for the presence of prehistoric lithic material should be considered by BPT127.