NON-TECHNICAL SUMMARY

Africa Oil SA Corp, Ricocure (Pty) Ltd and Azinam Limited (a wholly owned subsidiary of Eco Atlantic) (the Joint Venture (JV) Partners – hereafter jointly referred to as the Applicant) are the holders of the Block 3B/4B Exploration Right (ER) in terms of the Mineral and Petroleum Resources Development Act (No. 28 of 2002 – MPRDA), as amended. The licence block covers an area of approximately 17 581 km^2, and is situated between latitudes 31°S and 33°S on the continental shelf in water depths ranging from 300 m to 2 600 m.

The area of primary interest is in the north of this block, but this could also cover the central part of the block. As part of the process of applying for the Exploration Right, the Applicant undertook and completed the reprocessing project covering 2 000 km^2, which is a subset of the 10 000 km^2 BHP/Shell 3D seismic datasets, focussed primarily on the most northern portion of Block 3B/4B. Based on analysis of the reprocessed 3D dataset, the Applicant are now proposing to drill an exploration well in the area of primary interest in order to fully appraise the hydrocarbon potential of the geological structure or "prospect", with the option to drill up to four additional wells.

A full Scoping and Environmental Impact Assessment (S&EIA) process is being undertaken to accompany the existing ER for the EIA Listing Notices listed activities applicable to the project namely: **Listing Notice 2: Activity 18**. The locality of the proposed exploration area is shown in Figure 1.

DESCRIPTION AND SCOPE OF THE PROPOSED ACTIVITY

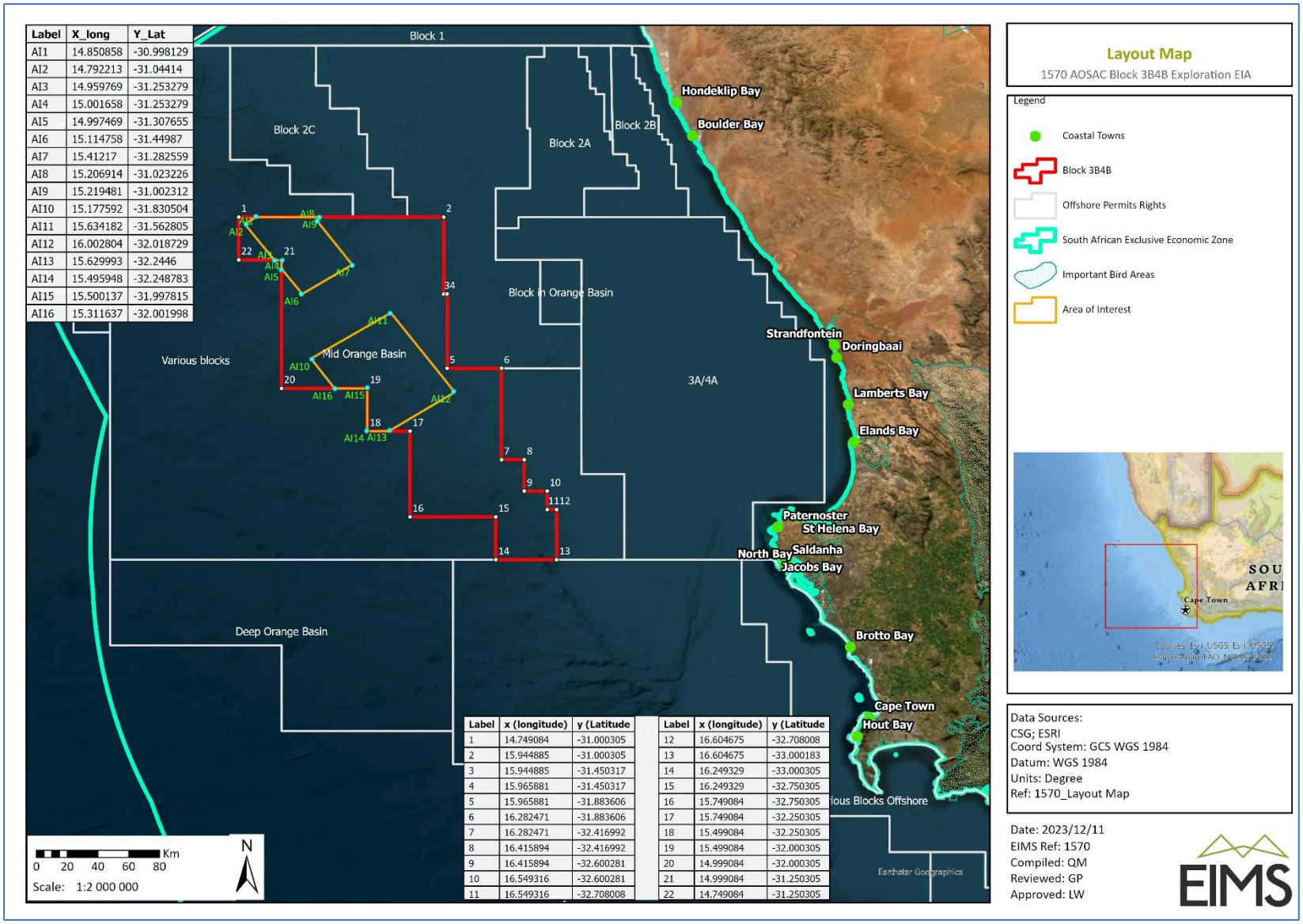
This section provides an overview of the proposed activity. A brief history of the applicant's involvement in Block 3B/4B is provided followed by the proposed activities to be undertaken as part of this application.

PRIOR ADMINISTRATIVE DECISIONS

On 28 November 2018, the Minister granted an environmental authorisation to Ricocure. Ricocure applied for and was granted an environmental authorisation on the basis of its final scoping because the proposed work programme commitments were of a non-invasive nature in that it entailed only desktop studies. Accordingly, the results of the final scoping report were that there were no environmental or social impacts associated with the proposed desktop studies and therefore an environmental impact assessment and an environmental management programme was not required. The Minister granted the environmental authorisation accordingly on 28 November and on 4 December 2018 all registered I&APs were notified of this decision as is required under regulation 4(2) of the Environmental Impact Assessment Regulations and on 27 March 2019 the Minister granted exploration right referenced 12/3/339 to Ricocure.

On 23 September 2022 the Director-General of the DMRE granted a renewal of the exploration right. As part of the renewal application the Applicants requested a deferment of the 20% area relinquishment obligation until such time as the Marine Protected Areas within Block 3B/4B has been finalised at which stage an appropriate relinquishment so as exclude such areas would be made. The application for deferment of the relinquishment obligation was granted by the Director-General of the DMRE on 23 September 2022 as part of granting of the renewal of the exploration right.

It should be noted that the project described in this EIA Report, relates to exploration activities only. No production activities have been assessed as part of this Scoping and EIA Process – any production related activities would be subject to a separate production right application, including a new Scoping and EIA Process.



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AI11	15.634182	-31.562805
AI12	16.002804	-32.018729
AI13	15.629993	-32.2446
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AI15	15.500137	-31.997815
AI16	15.311637	-32.001998

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19	15.499084	-32.000305
20	14.999084	-32.000305
21	14.999084	-31.250305
22	14.749084	-31.250305

Figure 1: Locality map.

PRE-DRILLING SURVEYS

Before drilling, it's important to understand the conditions of the drill site and any potential hazards that could impact the drilling operations. Pre-drilling surveys are conducted to confirm baseline conditions and identify any seabed and sub-seabed geo-hazards. These surveys may involve a combination of sonar surveys, sediment sampling, water sampling and ROV activities. For this project, the following pre-drilling activities are proposed: Sonar Surveys, Echo Sounders, Sub-bottom Profilers, Seabed Sediment Coring, Piston Coring, and Box Coring.

WELL LOCATION AND DRILLING PROGRAMME

The Applicant is proposing to drill up to five exploration wells within an AOI within Block 3B/4B. The expected target drilling depth is not confirmed yet and a notional well depth of 3 750 m below sea floor (Water depth range 500 -1700m) is assumed at this stage. It is expected that it would take approximately three to four months to complete the physical drilling and testing of each well (excluding mobilisation and demobilisation). The applicant's strategy for future drilling is that drilling could be undertaken throughout the year (i.e. not limited to a specific seasonal window period). The schedule for drilling the wells is not confirmed yet; however, the earliest anticipated date for commencement of drilling is third quarter of 2024 (Q3 2024).

MAIN PROJECT COMPONENTS

DRILLING UNIT OPTIONS

Various types of drilling technology can be used to drill an exploration well (e.g. barges, jack-up rigs, semi-submersible drilling units (rigs) and drill-ships) depending on, inter alia, the water depth and marine operating conditions experienced at the well site. Based on the anticipated sea conditions, the Applicant are proposing to utilise a semi-submersible drilling unit or a drill-ship, both with dynamic positioning system suitable for the deep-water harsh marine environment. The final rig selection will be made depending upon availability and final design specifications.

A semi-submersible drilling unit (Figure 2, right) is essentially a drilling rig located on a floating structure of pontoons. When at the well location, the pontoons are partially flooded (or ballasted), with seawater, to submerge the pontoons to a pre-determined depth below the sea level where wave motion is minimised. This gives stability to the drilling vessel thereby facilitating drilling operations.

A drill-ship (Figure 2, left) is a fit for purpose built drilling vessel designed to operate in deep water conditions. The drilling "rig" is normally located towards the centre of the ship with support operations from both sides of the ship using fixed cranes. The advantages of a drill-ship over the majority of semi-submersible units are that a drill-ship has much greater storage capacity and is independently mobile, not requiring any towing and reduced requirement of supply vessels.

Figure 2: Examples of drilling equipment.

SUPPORT VESSELS

The drilling unit would be supported / serviced by up to three support vessels, which would facilitate equipment, material and waste transfer between the drilling unit and onshore logistics base. A supply vessel will always be on standby near the drilling unit to provide support for firefighting, oil containment / recovery, rescue in the unlikely event of an emergency and supply any additional equipment that may be required. Support vessels can also be used for medical evacuations or transfer of crew if needed.

HELICOPTERS

Transportation of personnel to and from the drilling unit would be provided by helicopter from Springbok Airport (fixed wing trip from Cape Town) using local providers. It is estimated that there may be up to four return flights per week between the drilling unit and the helicopter support base at Springbok (i.e. 17 weeks (˜120 days) x 4 = 68 trips per well). The helicopters can also be used for medical evacuations from the drilling unit to shore (at day- or night-time), if required, in which case the flights are likely to be directly to Cape Town.

ONSHORE LOGISTICS BASE

The primary onshore logistics base will most likely be located at the Port of Cape Town (preferred option), but alternatively at the Port of Saldanha. The shore base would provide space for the storage of materials, consumables and equipment that would be shipped to the drilling unit and back to storage for onward international freight forwarding. The shore base would also be used for offices, waste management services, bunkering vessels, and stevedoring / customs clearance services.

MOBILISATION PHASE

The mobilisation phase will entail the required notifications and permitting, the establishment of the onshore base, appointment of local service providers, procurement and transportation of drilling equipment and materials from various ports and airports, accommodation arrangements and transit of the drilling unit and support vessels to the drilling area. The drilling unit and supply vessels could sail directly to the well site from outside South African waters or from a South African port, depending on which drilling unit is selected, and where it was last used.

Core specialist and skilled personnel would arrive in South Africa onboard the drilling unit and the rest of the support personnel will be flown to Cape Town for crew change. Drilling materials, such as casings, mud components and other equipment and materials will be brought into the country on the drilling unit itself or imported via a container vessel directly to the onshore logistics base from where the supply vessels will transfer it to the drilling unit. Cement and drilling chemicals will be sourced locally.

OPERATION PHASE

FINAL SITE SELECTION AND SEABED SURVEY

The selection of the specific well locations will be based on a number of factors, including further detailed analysis of the 3D seismic data and pre-drilling survey interpretation and the geological target. A Remote Operating Vehicle (ROV) will be used to finalise the well position based on inter alia the presence of any seafloor obstacles or the presence of any sensitive features that may become evident.

WELL DRILLING OPERATION

To create a well, a hole is drilled into the seafloor using a drill bit attached to a rotating drill string. The drill bit crushes the rock into small particles called “cuttings”. After the hole is drilled, sections of steel pipe called casings are placed in the hole and permanently cemented in place. The casings provide structural integrity to the newly drilled wellbore and isolate potentially dangerous high-pressure zones from each other and from the surface. With these zones safely isolated, the well will be drilled deeper with a smaller drill bit and also cased with a smaller sized casing. For this project, it is anticipated that there will be five sets of subsequently smaller hole sizes drilled inside one another, each cemented with casing, except the last phase that will remain an open hole.

Drilling is essentially undertaken in two stages, namely the riserless and risered drilling stages (Figure 3). The well design ultimately depends upon factors such as planned depths, expected pore pressures, and the location of the anticipated hydrocarbon-bearing formations. Several types of drilling fluids with different compositions and densities would be used for drilling operations. This may vary slightly depending on the contractor's selection and may be modified to suit operational needs.

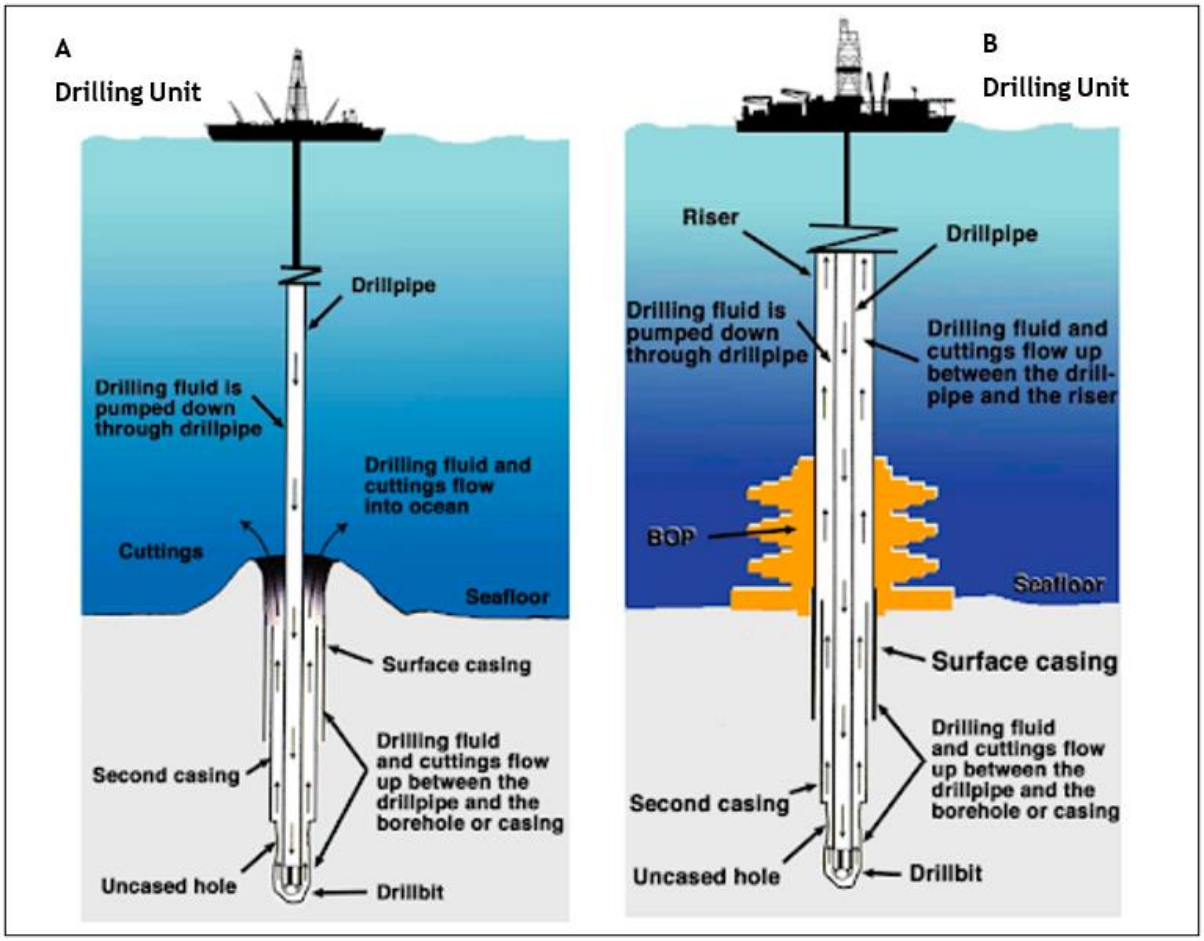


Figure 3: Drilling stages: (a) Riserless Drilling Stage; and (b) Risered Drilling Stage

Cementing is the process of pumping cement slurry through the drill pipe and / or cement stinger at the bottom of the hole and back up into the space between the casing and the borehole wall (annulus). Cement fills the annulus between the casing and the drilled hole to form an extremely strong, nearly impermeable seal, thereby permanently securing the casings in place. To separate the cement from the drilling fluid in order to minimise cement contamination a cementing plug and/or spacer fluids are used. The plug is pushed by the drilling fluid to ensure the cement is placed outside the casing filling the annular space between the casing and the hole wall. Once the cement has set, a short section of new hole is drilled, then a pressure test is performed to ensure that the cement and formation are able to withstand the higher pressures of fluids from deeper formations.

WELL LOGGING AND TESTING

Once the target depth is reached, the well would be logged and could be tested dependent on the drilling results. Well logging involves the evaluation of the physical and chemical properties of the sub-surface rocks, and their component minerals, including water, oil and gas to confirm the presence of hydrocarbons and the petrophysical characteristics of rocks. It is undertaken during the drilling operation using Wireline Logging or Logging While Drilling (LWD) to log core data from the well. Information from engineering and production logs, as well as mud logging, may also be used.

Vertical Seismic Profiling (VSP) is an evaluation tool used to generate a high-resolution seismic image of the geology in the well's immediate vicinity and determine the accurate formation velocity. The VSP images are used

for correlation with surface seismic images and for forward planning of the drill bit during drilling. VSP uses a small airgun array with a gun pressure of 450 per square inch (psi), which is operated from the drilling unit at a depth of between 7 m and 10 m. During VSP operations, four to five receivers are positioned in a section of the borehole and the airgun array is discharged approximately five times at 20 second intervals at each station. The generated sound pulses are reflected through the seabed and are recorded by the receivers to generate a profile along a 60 to 75 m section of the well. This process is repeated for different stations in the well and may take up to six hours to complete approximately 125 shots, depending on the well's depth and number of stations being profiled.

Well or flow testing is undertaken to determine the economic potential of the discovery before the well is either abandoned or suspended. One test would be undertaken per exploration well should a resource be discovered and up to two tests per appraisal well. Each test would take up to 7 days to complete (5 days of build-up and 2 days of flowing and flaring). For well flow-testing, hydrocarbons would be burned at the well site. A high-efficiency flare is used to maximise combustion of the hydrocarbons. Burner heads which have a high burning efficiency under a wide range of conditions will be used.

The volume of hydrocarbons (to be burned) and possible associated produced water from the reservoir which could be generated during well testing cannot be reliably predicted due to variations in gas composition, flow rates and water content. Burners are manufactured to ensure emissions are kept to a minimum. The estimated volume of hydrocarbons to be burned cannot be predicted with much accuracy because the actual test requirements can only be established after the penetration of a hydrocarbon-bearing reservoir. However, an estimated 10 000 bbl oil could be flared per test, i.e. up to 20 000 bbl over the two tests associated with an appraisal well. If produced water is generated during well testing, it will be separated from the hydrocarbons.

WELL SEALING AND PLUGGING

The purpose of well sealing and plugging is to isolate permeable and hydrocarbon bearing formations. Well sealing and plugging aims to restore the integrity of the formation that was penetrated by the wellbore. The principal technique applied to prevent cross flow between permeable formations is plugging of the well with cement, thus creating an impermeable barrier between two zones.

Once drilling and logging have been completed, the exploration wells will be sealed with cement plugs, tested for integrity and abandoned according to international best practices. Cement plugs will be set to isolate hydrocarbon bearing and / or permeable zones and cementing of perforated intervals (e.g. from well logging activities) will be evaluated where there is the possibility of undesirable cross flow. These cement plugs are set in stages from the bottom up. Three cement plugs would be installed: i.e. one each for isolation of the deep reservoir and the main reservoir; and a third as a second barrier for the main reservoir.

The integrity of cement plugs can be tested by a number of methods. The cement plugs will be tag tested (to validate plug position) and weight tested, and if achievable then a positive pressure test (to validate seal) and/or a negative pressure test will be performed. Additionally, a flow check may be performed to ensure sealing by the plug. Once the well is plugged, seawater will be displaced before disconnecting the riser and the BOP.

DEMOBILISATION PHASE

After any exploratory, appraisal, and development wells have been plugged and tested for integrity, they may be abandoned with wellhead equipment left in place on the seabed in line with industry practices worldwide. Where appropriate 'trawlable' protective equipment is applied to abandoned wellheads. The risk assessment criteria will consider factors such as the water depth and use of the area by other sectors (e.g., fishing). It is worth noting that irrespective of whether the wellhead and over trawlable protective equipment is retained the well bore itself will be plugged.

Monitoring gauges installed on wellhead equipment for exploration, appraisal, or production wells may remain on wellheads so that the Applicant has the option to access and monitor wellhead equipment during future appraisal or production activities.

With the exception of the over-trawlable protective equipment over abandoned wellheads and drilling discharges deposited on the seabed, no further physical remnants of the drilling operation will be left on the seafloor. A final clearance survey check will be undertaken using an ROV. The drilling unit and support vessels will demobilise from the offshore licence area and either mobilise to the following drilling location or relocate into port or a regional base for maintenance, repair or resupply.

DISCHARGES, WASTES AND EMISSIONS

The proposed drilling operations (including mobilisation and demobilisation) will result in various discharges to water, the generation of waste and emissions. All vessels will have equipment, systems and protocols in place for prevention of pollution by oil, sewage and garbage in accordance with International Convention for the Prevention of Pollution from Ships, 1973/1978 (MARPOL) requirements. Any oil spill related discharges would be managed by an Oil Spill Contingency Plan (OSCP). Onshore licenced waste disposal sites and waste management facilities will be identified, verified and approved prior to commencement of drilling operations.

The following aspects were also identified and considered in the Environmental Impact Assessment:

- Drilling Cuttings and Mud
- BOP Hydraulic Fluid
- Produced Water
- Vessel Machinery Spaces (Bilge Water)
- Deck Drainage
- Brine Generated from Onboard Desalination Plant
- Sewage and Grey Water
- Food (Galley) Wastes
- Ballast Water
- Detergents
- Noise Emissions
- Light Emissions
- Heat Emissions

UNPLANNED EVENTS – WELL BLOWOUT

The greatest environmental threat from offshore drilling operations is the risk of a major release of crude oil occurring either from a blow-out or loss of well control. A blow-out is the uncontrolled release of crude oil and/or natural gas from a well after pressure control systems have failed.

Oil released in the marine environment would have an immediate detrimental effect on water quality, with the toxic effects potentially resulting in mortality (e.g. suffocation and poisoning) of marine fauna or affecting faunal health (e.g. respiratory damage). If the spill reaches the coast, it can result in the smothering of sensitive coastal habitats (modelling indicates that in the event of an accidental release that the oil plume would dissipate a significant distance from the shore and would not reach the shore).

In the order of 47 wells have been drilled on the West Coast offshore environment to date and no well blow-outs have been recorded. Global data maintained by Lloyds Register indicates that frequency of a blow-out from normal exploration wells is in the order of 1.43×10^{-4} (0.000143) per well drilled. While the probability of a major spill happening is thus extremely small, the impact nonetheless needs to be considered as it could have devastating effects on the marine environment.

In order to address the management of the risks associated with the highly unlikely scenario of a well blowout, the following project control measures will be required for implementation during the exploration activities in order to prevent or respond to an unplanned well blowout event:

- Compliance with COLREGS (the Convention dealing with safety at sea, particularly to reduce the risk of collisions at sea) and SOLAS (the Convention ensuring that vessels comply with minimum safety standards).
- A 500 m safety zones will be enforced around the drilling unit within which fishing and other vessels would be excluded.
- A Shipboard Oil Pollution Emergency Plan (SOPEP) will be developed. The purpose of a SOPEP is to assist personnel in dealing with unexpected discharge of oil, to set in motion the necessary actions to stop or minimise the discharge, and to mitigate its effects on the marine environment.
- As standard practice, an Emergency Response Plan (ERP) and an Oil Spill Contingency Plan (OSCP) will be prepared and available at all times during the drilling operation.
- Project vessels will be equipped with appropriate spill containment and clean-up equipment, e.g. booms, dispersants and absorbent materials. All relevant vessel crews will be trained in spill clean-up equipment use and routine spill clean-up exercises.
- The likelihood of a blow-out is further minimised by installation of a blow-out preventer (BOP) on the wellhead at the start of the risered drilling stage. The BOP is a secondary control system, which contain a stack of independently-operated cut-off mechanisms, to ensure redundancy in case of failure. The BOP is designed to close in the well to prevent the uncontrolled flow of hydrocarbons from the reservoir. A blow-out occurs in the highly unlikely event of these pressure control systems failing.
- If the BOP does not successfully shut off the flow from the well, the drilling rig would disconnect and move away from the well site while crews mobilise a capping system. The capping system would be lowered into place from its support barge and connected to the top of the BOP to stop the flow of oil or gas.
- Information provided by the Applicant for the Oil Spill Modelling Study assumed that the resource would contain condensate only. As such, should a heavier hydrocarbon be encountered during the drilling activities (e.g. crude oil), it would be required that the associated oil spill modelling and associated risk assessment must be updated. This would also require updates to the OSCP and other relevant documentation in this regard.
- Oil Spill Response Limited (OSRL), the global oil spill response co-operative funded by more than 160 oil and energy companies, has a base in Saldanha Bay and another base in Aberdeen, which houses cutting-edge well capping equipment designed to shut-in an uncontrolled subsea well. The Saldanha based capping stack is available to oil and gas companies across the industry and provides for swift subsea incident response around the world. The equipment is maintained ready for immediate mobilisation and onward transportation by sea and/or air in the event of an incident. The operator of the right must be a member of OSRL. This would significantly reduce the spill period. All of the wells must be designed to allow for capping.
- Other project controls include the preparation and implementation of a SOPEP and a Well Control Contingency Plan (WCCP).

POLICY AND LEGISLATIVE LIST

An overview of the governing legislation identified which relates to the proposed project is provided below:

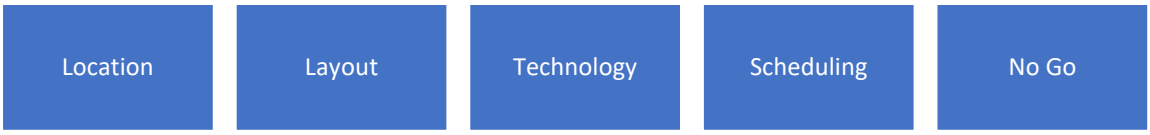
NEED AND DESIRABILITY OF THE PROPOSED ACTIVITY

South Africa's crude oil demand has increased steadily to over 600 000 barrels / day. Most of the crude oil consumed in South Africa is imported, as local oil and gas production is low, contributing towards a current account deficit. Producing more oil and gas within South Africa is expected to contribute towards a lower current account deficit, more stable prices, create new jobs and industries in the upstream and downstream oil and gas industry supply chain and sectors, and counter volatility related to instabilities in major oil producing regions. The services sector in the oil and gas industry is not mature in the upstream side and this could provide opportunities to invest in the sector.

The proposed project aims to identify oil and gas resources and does not include any production activities. The identification and assessment of impacts is therefore limited to the activities associated with the exploration for oil and gas.

PROJECT ALTERNATIVES

It should be noted that the exploration for oil and gas within the Block 3B/4B offshore area will be undertaken by the drilling of exploration wells focused mostly on north and central sections of the licence block (i.e. the Areas of Interest – AOI). The following alternatives were considered:



STAKEHOLDER ENGAGEMENT

The Public Participation Process (PPP) is a requirement of several pieces of South African legislation and aims to ensure that all relevant Interested and Affected Parties (I&APs) are consulted, involved and their comments are considered, and a record included in the reports submitted to the Authorities. The process ensures that all stakeholders are provided this opportunity as part of a transparent process which allows for a robust and comprehensive environmental study.

GENERAL APPROACH TO PUBLIC PARTICIPATION

The details of the approach and processes undertaken for upcoming public participation are outlined in Table 1.

Table 1: Opportunities Provided for Public Participation

Action	Description	Publication/Place	Date
Updated EIAR Availability	Placement of DEIAR for Public Review	DEIAR placed at various libraries and locations along the west coast.	8 **April** 2024
	Public Open Days and Virtual Public Meeting	Several public open days held in key communities along the west coast.	**15-20 April** 2024

ENVIRONMENTAL ATTRIBUTES AND BASELINE ENVIRONMENT

MARINE ECOLOGY

The highest sensitivities to the proposed drilling activities are:

- Childs Bank, which is located ~50 km East of the Area of Interest block, that potentially supports vulnerable, long-lived benthic invertebrate species;
- Numerous vulnerable and endangered pelagic shark species;
- Leatherback turtles that migrate through the area;
- Sperm whales, which occur in the area year-round;
- Humpback and Fin whales, which migrate through the area between May and December; and
- The Orange Shelf Edge MPA, and the Orange Seamount and Canyon Complex EBSA.

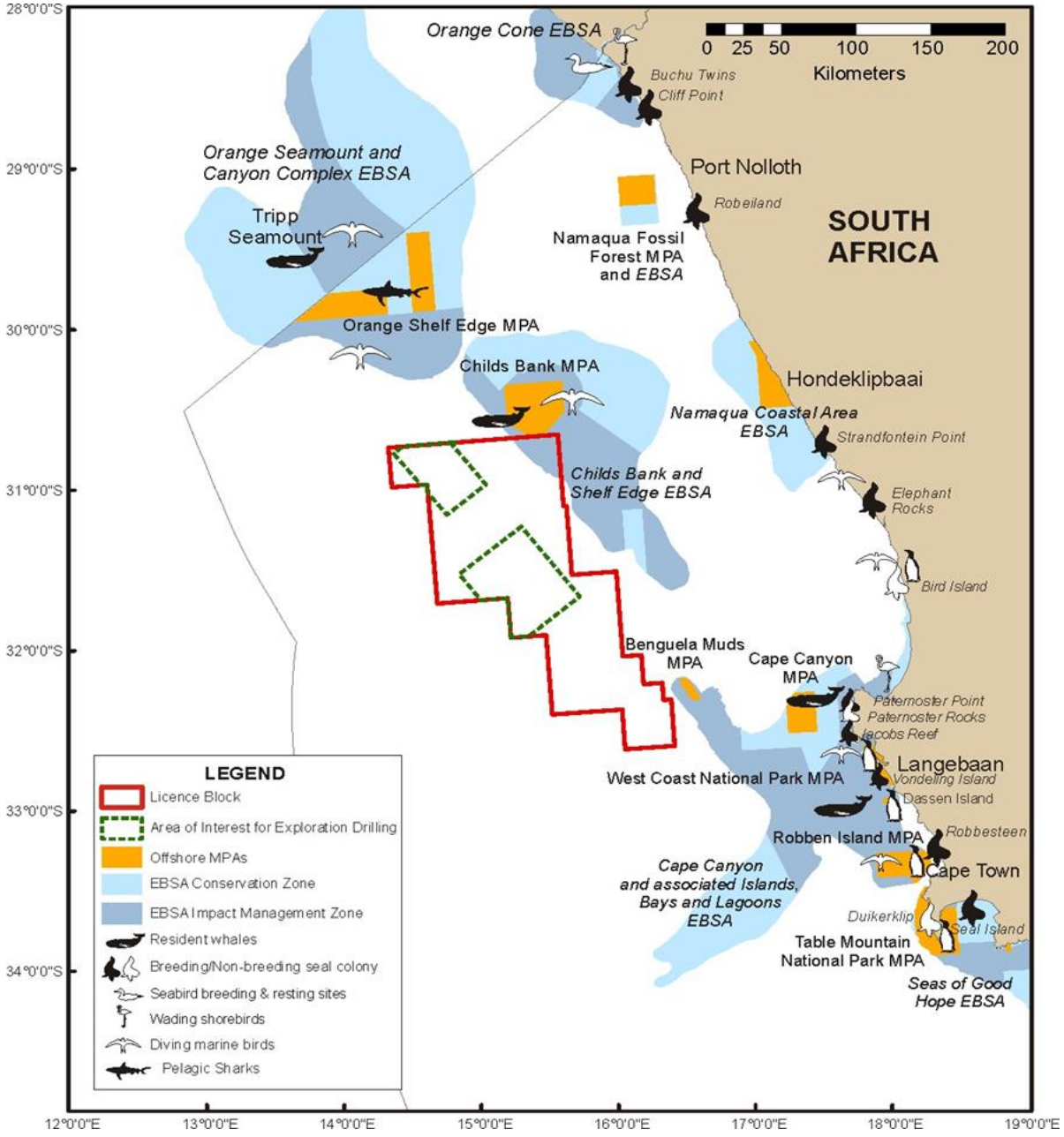


Figure 4: Block 3B/4B (red polygon) in relation to project – environment interaction points on the West Coast, illustrating the location of seabird and seal colonies and resident whale populations, Marine Protected Areas (MPAs) and Ecologically and Biologically Significant Areas (EBSAs) (Adapted from MARISMA Project 2020).

FISHERIES

Licence Block 3B/4B does overlap the spatial extent of the large pelagic longline ground as shown in Figure 5.

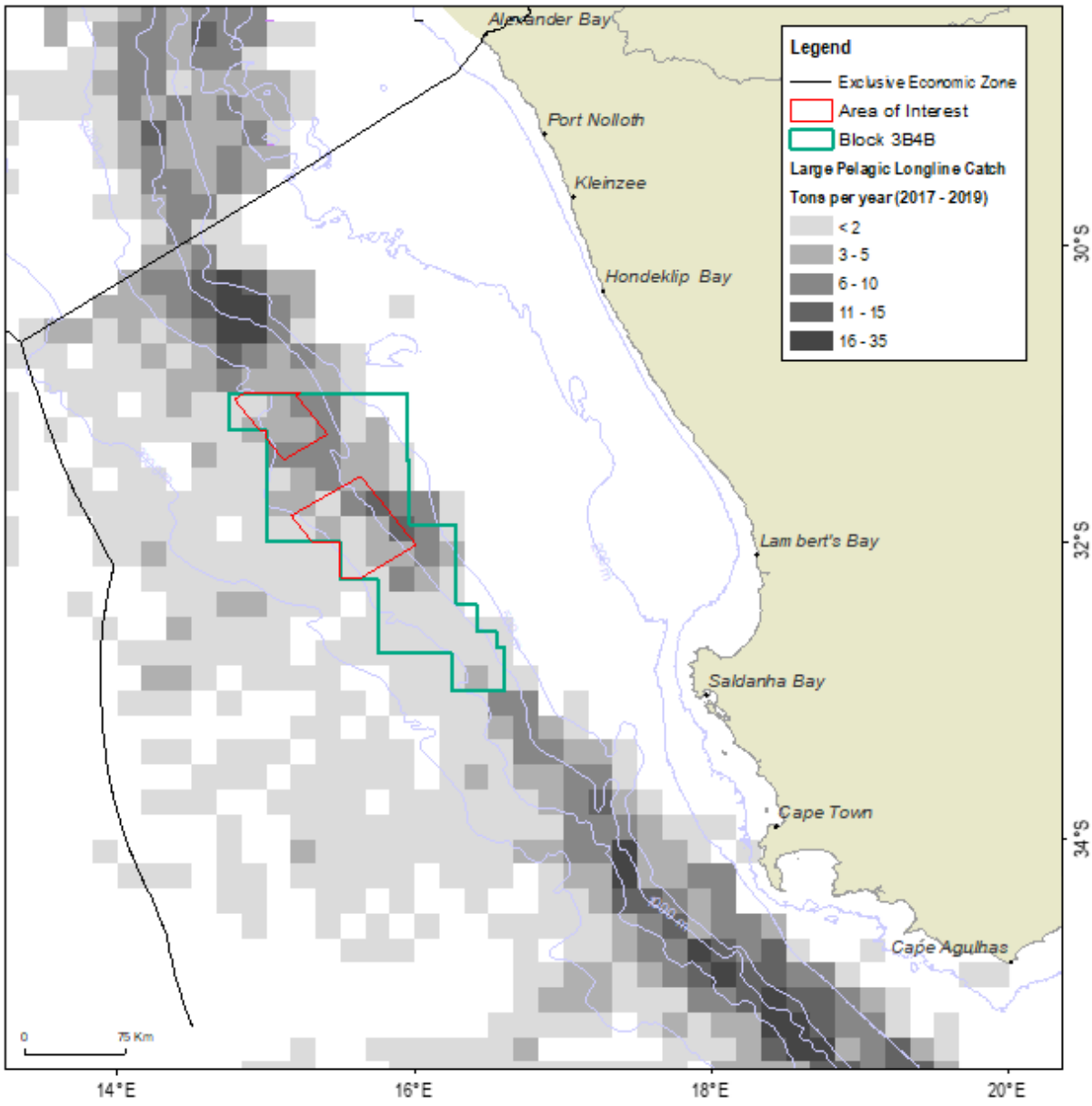


Figure 5: An overview of the spatial distribution of fishing effort expended by the longline sector targeting large pelagic fish species in relation to licence block 3B/4B (Green polygon) and AOI for proposed drilling (Red polygon).

OTHER USES

Other industrial uses of the marine environment include the intake of feed-water for mariculture, or diamond-gravel treatment, submarine telecommunications cables, ammunition dumps and hydrocarbon wellheads (Figure 6). None of these activities should in any way be affected by exploration drilling activities offshore.

There are a number of existing and proposed subsea fibreoptics cables that make landfall between Cape Town and Saldanha Bay (Figure 6), most of which pass to the west of Block 3B/4B. Of the ammunition dump sites off the West Coast, none fall within Block 3B/4B.

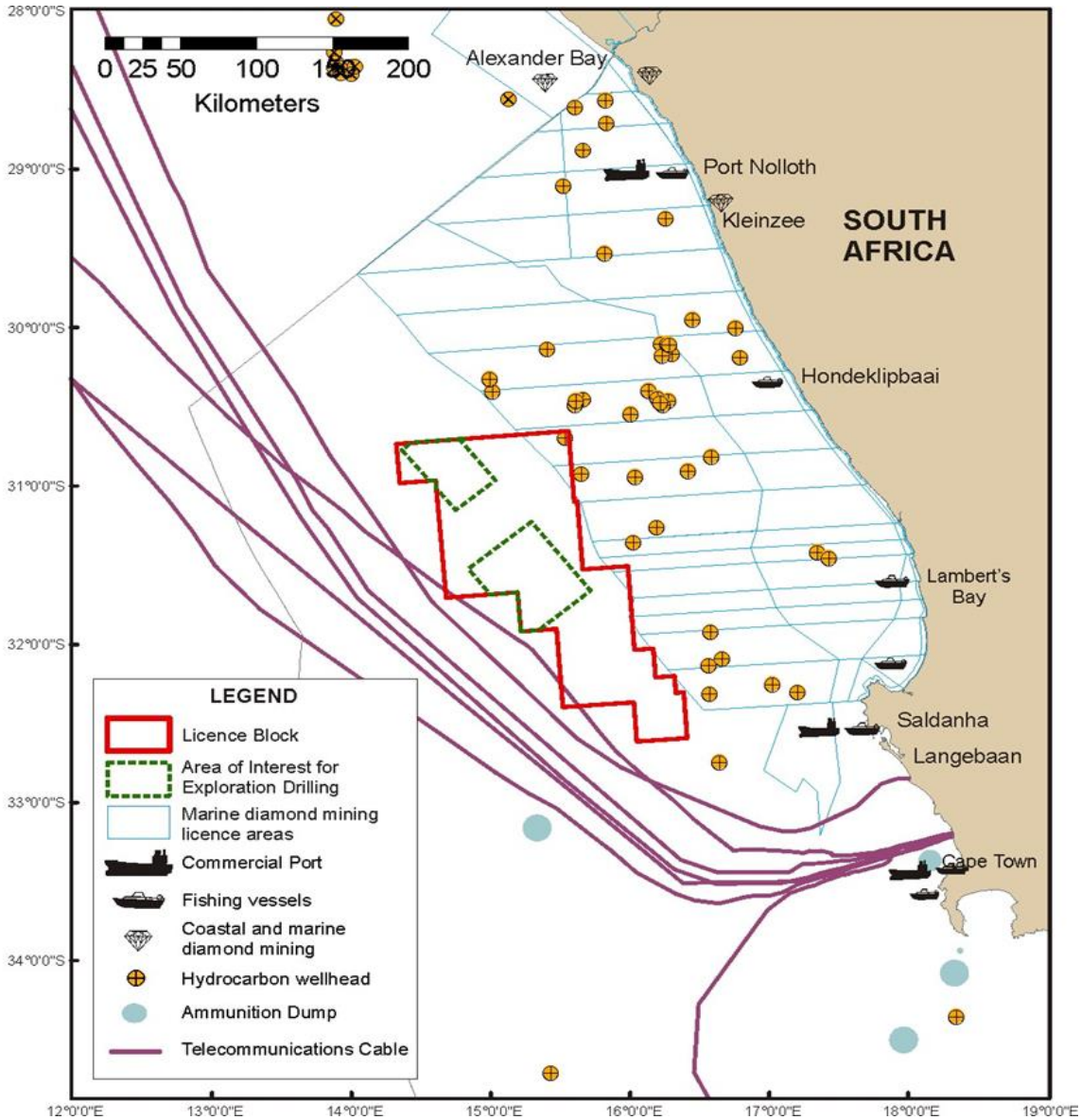


Figure 6: Block 3B/4B (red polygon) in relation to other marine infrastructure on the West Coast, illustrating the location of well heads, diamond mining concessions, submarine telecommunications cables and ammunition dumps.

SOCIAL

Apart from the potential social impacts that will be created, there are also several social risks that must be considered before any activities are considered. The social risks include:

- Opposition to the project through appeals and court cases causing a significant delay in the process
- Damage to corporate reputation
- Lack of social license to operate
- Community protests and potential for civil unrest
- Stakeholder fatigue

In South Africa the environmental authorisation process is triggered by certain activities. As a result, a project may be required to go through several impact assessment processes during the different phases of the project. This Social Impact Assessment Report is only applicable to the drilling of a limited number of exploration wells (between 1 and 5). The activities will take place > 180 km off shore. As a result, direct social impacts of the activity

are limited. Five existing phenomena that causes impacts in the project area has been identified. These impacts relate to mining; the fishing industry; climate change; governance issues; and poverty, inequality, and unemployment. Any impact generated by the proposed exploration activities have to be considered in this context.

Potential impacts directly caused by the exploration activities relate to the impact of unplanned events on the livelihoods of the community, uncertainty and confusion about project phases and activities, and the impact on community cohesion.

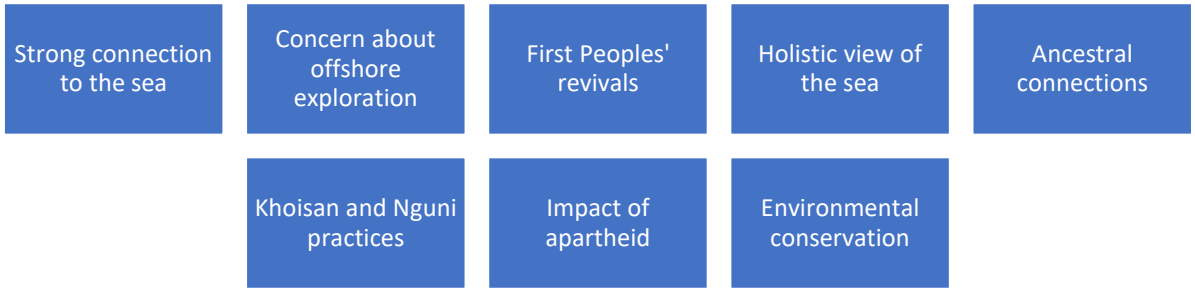
ECONOMIC

The receiving economy consists of ten sub-regional economies that represent the economic output region of the western coast of South Africa (not to be confused with the West Coast District economy). The receiving economy generated R153.0 billion in current prices Gross Value Added (GVA) in 2021 contributing approximately 2.7% to the National economy and 17.4% to the combined output of the Western and Northern Cape economies. The receiving economy's contribution to the National economy remained consistent between 2015 and 2021, fluctuating between a contribution of 2.74% and 2.77% per annum. The receiving economy's contribution to the combined economies of the Western and Northern Cape has continually increased, reaching 17.4% in 2021.

The receiving economy is primarily tertiary economy orientated with the majority of economic output being generated by the business services and wholesale and retail trade sectors. Although almost all sub-regional economies have sizeable business services and wholesale and retail trade sectors, the bulk of these sectors' output is produced in the Table Bay and Blaauwberg sub-regional economies – Table Bay and Blaauwberg sub-regional economies represent nearly 69% of the total output produced by the receiving economy and, therefore, has a significant influence on the structure and functionality of the receiving economy.

CULTURAL HERITAGE

The intangible cultural heritage (ICH) of coastal communities in South Africa, particularly in the Northern Cape and Western Cape, and the potential impact of offshore exploration on these communities, was described. The following key findings were made:



The research emphasized the rich intangible cultural heritage of coastal communities in South Africa and the potential negative impacts of offshore exploration on their cultural and spiritual connection to the sea. It is important to recognise their holistic view of the ocean and consideration of their practices and beliefs in relevant project decisions.

SHIPPING DENSITY

A large number of vessels navigate the major shipping lanes along the South African Coastline. Approximately 96% of the country's exports are conveyed by sea through eight commercial ports. These ports are the conduits for trade between South Africa and its southern African partners as well as hubs for traffic to and from Europe, Asia, the Americas and the east and west coasts of Africa. Figure 7 provides an indication of the shipping density along the South African Coast. It can be observed that the shipping density is generally low to medium over the majority of the proposed exploration area within Block 3B/4B.

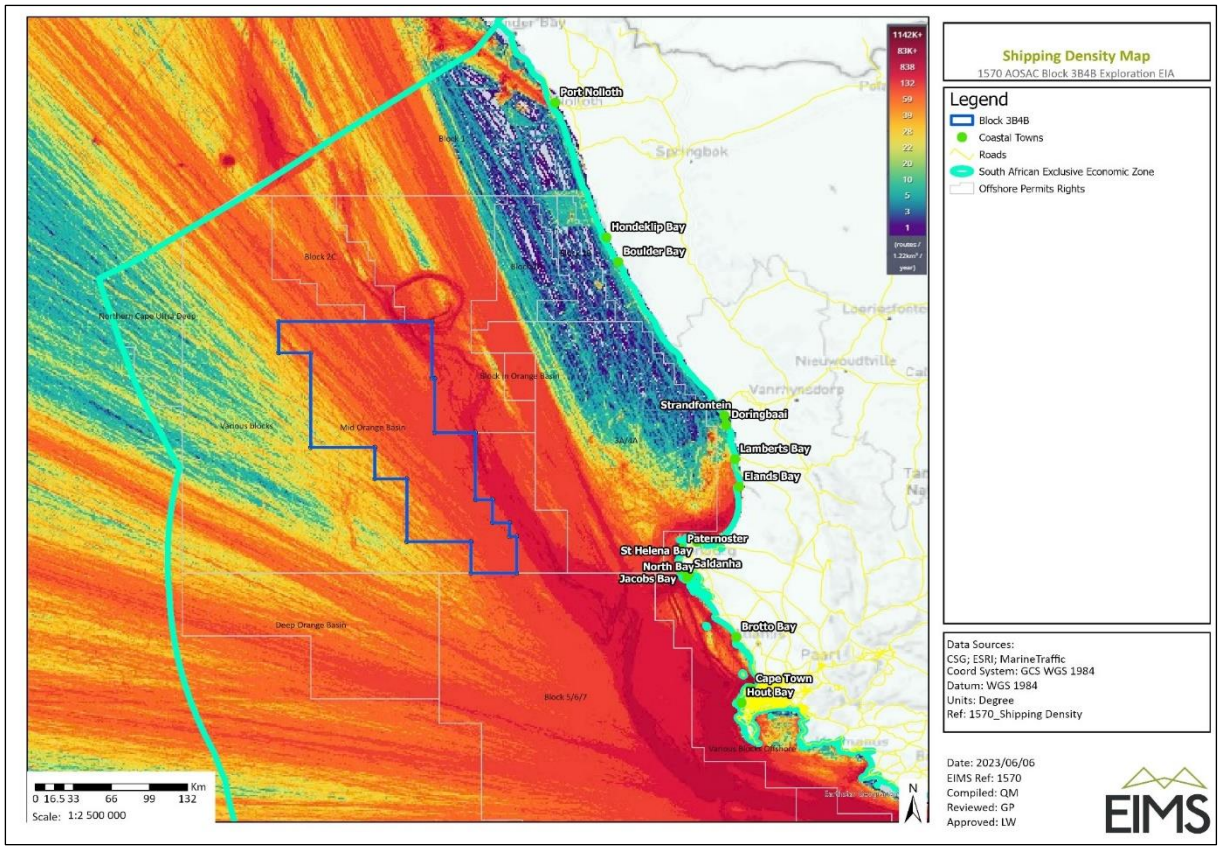


Figure 7: Shipping density along the South African Coast

AIR QUALITY AND CLIMATE CHANGE

Since the calculated maximum predicted ground level concentrations (under worst-case atmospheric conditions) are considerably lower than the NAAQS limit values, it is expected that the exposure to any significant concentration levels would be infrequent and insignificant when compared with the NAAQS. Such emissions are therefore unlikely to have a direct effect on any receptor or other activity, other than the project vessels themselves.

The assessment was based on Scope 1 greenhouse gas (GHG) emissions for the proposed exploration survey in a portion of Block 3B/4B. The calculated carbon dioxide equivalent (CO_2-e) emissions were estimated at a total of 31.87 kilotonne (kt). The GHG emissions were estimated using South African (SA) specific caloric values and densities for fuels (where available) and the Intergovernmental Panel on Climate Change (IPCC) emission factors.

Based on the published 2020 National GHG annual Inventory for South Africa, the maximum total CO_2-e emissions from the Project, assuming a maximum survey duration of 84 days, would contribute approximately 0.008% to the 2020 South African “energy” sector total of 379 505.2 kt CO_2-e and represent a contribution of 0.007% to the 2020 National GHG inventory total of 468 811.7 kt CO_2-e (excluding Forestry and Other Land Use (FOLU)).

The European Bank for Reconstruction and Development (EBRD) classifies projects contributing more than 25 kt CO_2-e per year to have significant GHG emissions (EBRD 2019). Although the GHG emissions are expected to be above this threshold, it is less than the Department of Forestry, Fisheries and the Environment (DFFE) Pollution Prevention Plan (PPP) requirement threshold of 100 kt CO_2-e. Given that, the negative impact is of low intensity, national extent, irreversible but of short duration, the environmental risk is low (due to its limited period of emission and future uptake by vegetation). Since the Project is of a temporary nature and expected to be completed in the near future, changes in meteorological parameters are not expected to have a significant impact on the Project.

ENVIRONMENTAL IMPACT ASSESSMENT

The key potential impacts that have been identified throughout the Environmental Impact Assessment are presented in the Table 2 below. It should be noted that this report will be made available to I&AP's for review and comment and their comments and concerns will be addressed in the final EIA Report submitted to the PASA/DMRE for adjudication. The results of the public consultation will be used to update the identified potential impacts, where required. These impacts were identified by the EAP, the appointed specialists, as well as the input from the public. Without proper mitigation measures and continual environmental management, most of the identified impacts may potentially become cumulative, affecting areas outside of their originally identified zone of impact. The potential cumulative impacts have been identified, evaluated, and mitigation measures suggested where appropriate.

ENVIRONMENTAL IMPACT STATEMENT

The findings of the specialist studies conclude that there are no environmental fatal flaws that should prevent the proposed project from proceeding, provided that the recommended mitigation and management measures are implemented. Based on the nature and extent of the proposed project, the local level of disturbance predicted as a result of the reconnaissance activities, the findings of the specialist studies, and the understanding of the significance level of potential environmental impacts, it is the opinion of the EIA project team and the EAP that the significance levels of the majority of identified negative impacts can generally be reduced to an acceptable level by implementing the recommended mitigation measures and the project should be authorized. A sensitivity map is provided in Figure 9 below and a summary showing the number of impacts and the post-mitigation significance of these identified impacts is provided in Figure 8 below.

Figure 8: Impact Summary showing number and significance of impacts post mitigation.

Table 2: Identified Environmental Impacts

Discipline	Impact	Final Rating
Marine Ecology	Routine Operational Discharges to Sea	Low Negative
	Discharge of Ballast Water from Vessels	Low Negative
	Noise from Helicopters	Low Negative
	Lighting from Drill Unit and Vessels	Low Negative
	Drilling and Placement of Infrastructure on the Seafloor	Low Negative
	Disturbance and/or Smothering of soft-sediment benthic communities due to drilling solids discharge	Medium Negative
	Disturbance and/or Smothering of hardgrounds / deep-water reef communities due to drilling solids discharge	Low Negative
	Biochemical Impacts of residual WBMs, NADFs and cements additives on marine organisms in unconsolidated sediments	Low Negative
	Biochemical Impacts of residual WBMs, NADFs and cements additives on marine organisms on hard grounds	Low Negative
	Biochemical Impacts of residual WBMs, NADFs and cements additives on marine organisms in the water column	Low Negative
	Increased Water Turbidity and reduced Light Penetration on marine ecology	Low Negative
	Reduced physiological functioning of marine organisms due to indirect biochemical effects in the sediments	Low Negative
	Disturbance, behavioural changes and avoidance of feeding and/or breeding areas in seabirds, seals, turtles and cetaceans due to drilling and vessel noise (continuous noise)	Low Negative
	Disturbance and behavioural changes in seabirds, seals, turtles and cetaceans due to Geophysical Surveys and Vertical Seismic Profiling (impulsive noise)	Low Negative
	Impacts of infrastructure and residual cement on marine biodiversity - Wellhead removal	Low Negative
	Impacts of infrastructure and residual cement on marine biodiversity - Wellhead Abandonment	Low Negative

Discipline	Impact	Final Rating
	Impacts of flare lighting on marine fauna	Low Negative
	Impact on marine fauna from the discharge of treated produced water	Low Negative
	Impact on marine fauna from hydrocarbon 'drop-out'	Low Negative
	Unplanned Collision of Vessels with Marine Fauna	Low Negative
	Unplanned Loss of Equipment	Low Negative
	Unplanned Oil release to the sea due to vessel collisions, bunkering accident and line / pipe rupture	Low Negative
	Unplanned Well Blow-out (condensate)	Medium Negative
	Unplanned Well Blow-out (crude oil)	Medium Negative
Fisheries	Impacts on the fishing sector catch rates (tuna pole and large pelagic longline.	Low Negative
	Exclusion from Fishing Ground Due to Temporary Safety Zone around Vessels - Large Pelagic Longline	Low Negative
	Discharge of Drill Cuttings	Low Negative
	Vessel and Drilling Noise	Low Negative
	Vertical Seismic Profiling Noise	Low Negative
	Sonar Survey (MBES) Noise	Low Negative
	Impact on fisheries of large-scale hydrocarbon spill (condensate)	Medium Negative
	Impact on fisheries of large-scale hydrocarbon spill (crude oil)	Medium Negative
	Loss of Equipment	Low Negative
	Damage to or Loss of Palaeontological Materials	Low Positive

Discipline	Impact	Final Rating
Maritime Heritage	Damage to or Loss of Maritime Archaeological Sites or Material	Low Negative
Cultural Heritage	Cultural heritage impact of drilling - Normal Operations	Medium Negative
	Cultural heritage impact of drilling - Unplanned Events	Medium Negative
Social	Impact of oils spills or unplanned events on the livelihoods of the fishers	Low Negative
	Impact of well blow out on the fishing industry (worst case scenario)	Medium Negative
	Uncertainty/Confusion related to different processes	Medium Negative
	Impact on the cohesion in the community	Medium Negative
Economic	Stimulation of economic activity (additional business sales) throughout the exploration industry's value chain for the duration of the survey operations	Low Positive
	Impact on commercial fishing operators targeting large pelagic longline fish species because of reduced fishing grounds and potential lowered catch potential	Low Negative
	Impact on maritime logistics operations because of disrupted shipping routes to major ports along the South African coast. Alternate routes could impact on the economic efficiency of maritime logistics	Low Negative
	The establishment of the onshore logistics base will create temporary employment opportunities for skilled labour	Medium Positive
	Employment opportunities created by the logistics base will provide compensation to employees that will contribute toward household livelihoods and their access to services and amenities	Low Positive
	The economic activity stimulated by the sourcing of inputs for exploration activities will increase the fiscus of government through fiscal benefits in the form of taxation (personal, business, production, product, imports, etc)	Medium Positive
	The sourcing of materials, equipment and associated services will generate additional business sales throughout the exploration industry's value chain – businesses providing inputs to the exploration industry will benefit from an increase in sales and economic output	Medium Positive

Discipline	Impact	Final Rating
	Additional employment opportunities could be created throughout the exploration industry's value chain due to increased demand generated for goods and services	Low Positive
	The demand for bulk services contributes to the fiscus of the local authority or providing agent	Medium Positive
	The increased demand on bulk infrastructure requires additional investment to accommodate additional demand. Additional demand is accompanied by an increased maintenance burden	Low Negative
	The operational phase of the exploration activity will generate demand for goods and services necessary to sustain operational activities. This sustained demand over the operational period of exploration could lead to additional business sales throughout the exploration industry's value chain (increased economic output, production and gross value added)	Medium Positive
	New employment opportunities throughout the exploration industry's value chain could be stimulated as a result of the increased demand generated by the proposed exploration activity	Medium Positive
	The logistics base of the exploration activity sustains skilled employment opportunities for the duration of exploration activities	Medium Positive
	The employment opportunities created directly (i.e. through the projects logistics base) or indirectly (i.e. throughout the exploration industry's value chain) by the proposed exploration activity provides compensation to employees which in turn assists with maintaining household livelihoods (i.e. access to services and amenities)	Medium Positive
	The exploration activity through its expenditure during its operation phase stimulates economic activity throughout its value chain and as a result increases the fiscal value (i.e. taxes) collected by government	Medium Positive
	The exploration activity further contributes toward a basic sector of the economy and therefore assists with maintaining the economic functionality of the receiving economy by providing a basis from which SMME development could occur	Low Positive
	The demand for bulk services contributes to the fiscus of the local authority or providing agent	Medium Positive
	The increased demand on bulk infrastructure requires additional investment to accommodate additional demand. Additional demand is accompanied by an increased maintenance burden	Low Negative
	The proposed exploration activity could lead to reduced fishing grounds and catch potential for the large pelagic longline fishing industry, which, in turn, may result in decreased economic productivity for the receiving economy's fishing industry. As a consequence, the demand for inputs to the fishing industry and the outputs from the industry may be impacted (limiting business sales, economic output and gross value added). The impact is viewed as a temporary impact given that exploration activities will not be a long-term sustained operation	Low Negative

Discipline	Impact	Final Rating
	Due to the temporary decrease of economic productivity in the receiving economy's large pelagic longline fishing industry, the demand for employment throughout the industry's value chain could be lowered, affecting the availability of employment opportunities	Low Negative
	Due to the temporary decreased of economic productivity in the receiving economy's large pelagic longline fishing industry and the subsequent lowering of demand for employment in the industry, the compensation of employees and income of households dependent on the industry could be lowered, impacting on the capability of households to sustain livelihoods	Low Negative
	Due to the temporary decreased of economic productivity in the receiving economy's large pelagic longline fishing industry, the fiscal value that government receives (e.g. taxation of productions, production, businesses and employees) as a result of economic activity throughout the industry's value chain could be diminished	Low Negative
	The temporary decrease of economic productivity in the receiving economy's large pelagic longline fishing industry could temporarily diminish the demand for new business (SMME) development due to limited scope with which business sales can be stimulated	Low Negative
	The proposed exploration activities' area of interest overlaps with established and commonly used shipping routes. This overlap may result in disruptions to shipping operations, as vessels may need to use alternative routes. Such deviations can diminish operational efficiency and subsequently reduce the economic output (limiting business sales, economic output and gross value added) within the receiving economy's transport and storage industry. The impact is viewed as a temporary impact given that exploration activities will not be a long-term sustained operation	Low Negative
	Due to the temporary decrease of economic productivity in the receiving economy's transport and storage industry, the demand for employment throughout the industry's value chain could be lowered, affecting the availability of employment opportunities	Low Negative
	Due to the temporary decreased of economic productivity in the receiving economy's transport and storage industry and the subsequent lowering of demand for employment in the industry, the compensation of employees and income of households dependent on the industry could be lowered, impacting on the capability of households to sustain livelihoods	Low Negative
	Due to the temporary decreased of economic productivity in the receiving economy's transport and storage industry, the fiscal value that government receives (e.g. taxation of productions, production, businesses and employees) as a result of economic activity throughout the industry's value chain could be diminished	Low Negative
	The temporary decrease of economic productivity in the receiving economy's transport and storage industry could temporarily diminish the demand for new business (SMME) development due to limited scope with which business sales can be stimulated	Low Negative

Discipline	Impact	Final Rating
	The oil spill response activity could generate demand for goods and services necessary to sustain operational activities. This sustained demand over the response period of exploration could lead to additional business sales throughout the response industry's value chain (increased economic output, production and gross value added) (condensate)	Low Positive
	The oil spill response activity could generate demand for goods and services necessary to sustain operational activities. This sustained demand over the response period of exploration could lead to additional business sales throughout the response industry's value chain (increased economic output, production and gross value added) (crude oil)	Low Positive
	New employment opportunities throughout the response industry's value chain could be stimulated as a result of the increased demand generated by the response activity (condensate)	Low Positive
	New employment opportunities throughout the response industry's value chain could be stimulated as a result of the increased demand generated by the response activity (crude oil)	Low Positive
	The employment opportunities created directly or indirectly by the response activity provides compensation to employees which in turn assists with maintaining household livelihoods (i.e., access to services and amenities) (condensate)	Low Positive
	The employment opportunities created directly or indirectly by the response activity provides compensation to employees which in turn assists with maintaining household livelihoods (i.e., access to services and amenities) (crude oil)	Low Positive
	A well blow-out event could lead to reduced fishing grounds and catch potential for the large pelagic longline fishing industry, which, in turn, may result in decreased economic productivity for the receiving economy's fishing industry. As a consequence, the demand for inputs to the fishing industry and the outputs from the industry may be impacted (limiting business sales, economic output and gross value added). The impact is viewed as a temporary impact given that the well blow-out event might not be a long-term sustained event (condensate)	Low Negative
	A well blow-out event could lead to reduced fishing grounds and catch potential for the large pelagic longline fishing industry, which, in turn, may result in decreased economic productivity for the receiving economy's fishing industry. As a consequence, the demand for inputs to the fishing industry and the outputs from the industry may be impacted (limiting business sales, economic output and gross value added). The impact is viewed as a temporary impact given that the well blow-out event might not be a long-term sustained event (crude oil)	Low Negative
	The potential area that is affected by a well blow-out event overlaps with established and commonly used shipping routes. This overlap may result in disruptions to shipping operations, as vessels may need to use alternative routes. Such deviations can diminish operational efficiency and subsequently reduce the economic output (limiting business sales, economic output and gross value added) within the receiving economy's transport and storage industry. The impact is viewed as a temporary impact given that exploration activities will not be a long-term sustained operation (condensate)	Low Negative

Discipline	Impact	Final Rating
	The potential area that is affected by a well blow-out event overlaps with established and commonly used shipping routes. This overlap may result in disruptions to shipping operations, as vessels may need to use alternative routes. Such deviations can diminish operational efficiency and subsequently reduce the economic output (limiting business sales, economic output and gross value added) within the receiving economy's transport and storage industry. The impact is viewed as a temporary impact given that exploration activities will not be a long-term sustained operation (crude oil)	Low Negative
	The potential area that is affected by a crude oil well blow-out event overlaps with established and commonly used cruise tourism routes. This overlap may result in disruptions to cruise line operations, as vessels may need to use alternative routes, or temporarily postpone trips along popular routes. Such deviations can diminish operational efficiency and subsequently affect economic activity (limiting business sales, economic output and gross value added) within the receiving economy's tourism and transport and storage industry. The impact is viewed as a temporary impact given that the majority of surface oil has evaporated, biodegraded and dispersed after 60 days thereby reducing the area affected by an oil spill event (crude oil)	Low Negative
Air Quality	Atmospheric Emissions (routine)	Low Negative
	Atmospheric Emissions (upset)	Low Negative
Climate Change	Climate Change (routine)	Low Negative
	Climate Change (upset)	Low Negative
No-Go	No-Go Alternative	Low Negative

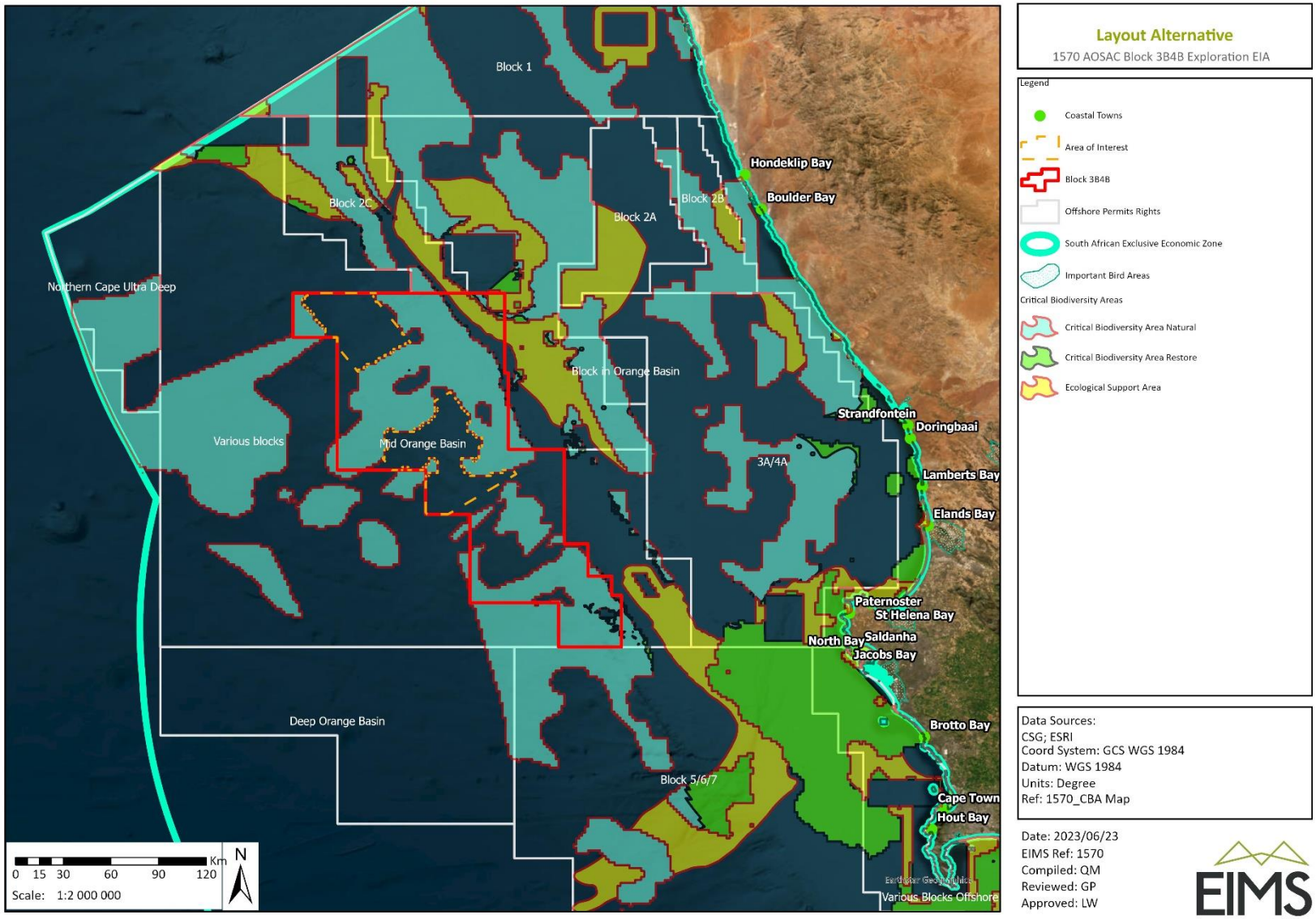


Figure 9: Final Composite Sensitivity Map