TRANS ATLANTIC DIAMONDS

APPENDIX 3: Site Sensitivity Verification Report

FINAL BASIC ASSESSMENT REPORT

APPLICATION FOR ENVIRONMENTAL AUTHORISATION AND PROSPECTING RIGHTS FOR PROSPECTING IN OFFSHORE SEA CONCESSION AREA 6C, NORTHERN CAPE, BY TRANS ATLANTIC DIAMONDS (PTY) LTD

EA Application Ref. No.: NC30/5/1/1/2/14851 PR

September 2026

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BASIC ASSESSMENT FOR THE PROPOSED PROSPECTING IN SEA CONCESSION AREA 6C, NORTHERN CAPE, BY TRANS ATLANTIC DIAMONDS (PTY) LTD

SITE SENSITIVITY VERIFICATION REPORT

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Anchor Environmental Consultants Report No. 2368/5

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SITE SENSITIVITY VERIFICATION REPORT

July 2026

Report prepared for:

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1 INTRODUCTION

1.1 BRIEF PROJECT OVERVIEW

Trans Atlantic Diamonds (Pty) Ltd is proposing to prospect for various minerals within Sea Concession area 6C (Concession 6C from hereon) using both non-invasive and invasive sampling activities, none of which require infrastructure. As the activity is located offshore and comprises prospecting only, no land-based infrastructure will be required. Refer to Figure 1.1 for the locations of all prospecting areas, and Figure 1.2 for the specific location of Concession 6C—wherein which all proposed works will take place.

Sea Concession Area 6C is located approximately 4 to 5 km offshore of the Northern Cape Coast, about 11km west of the nearest inland town, Koingnaas and 25 km south of Kleinsee (Figure 1.1, Figure 1.2 and Table 1.1). The total area contained within the concession is approximately 350 000 hectares (Ha).

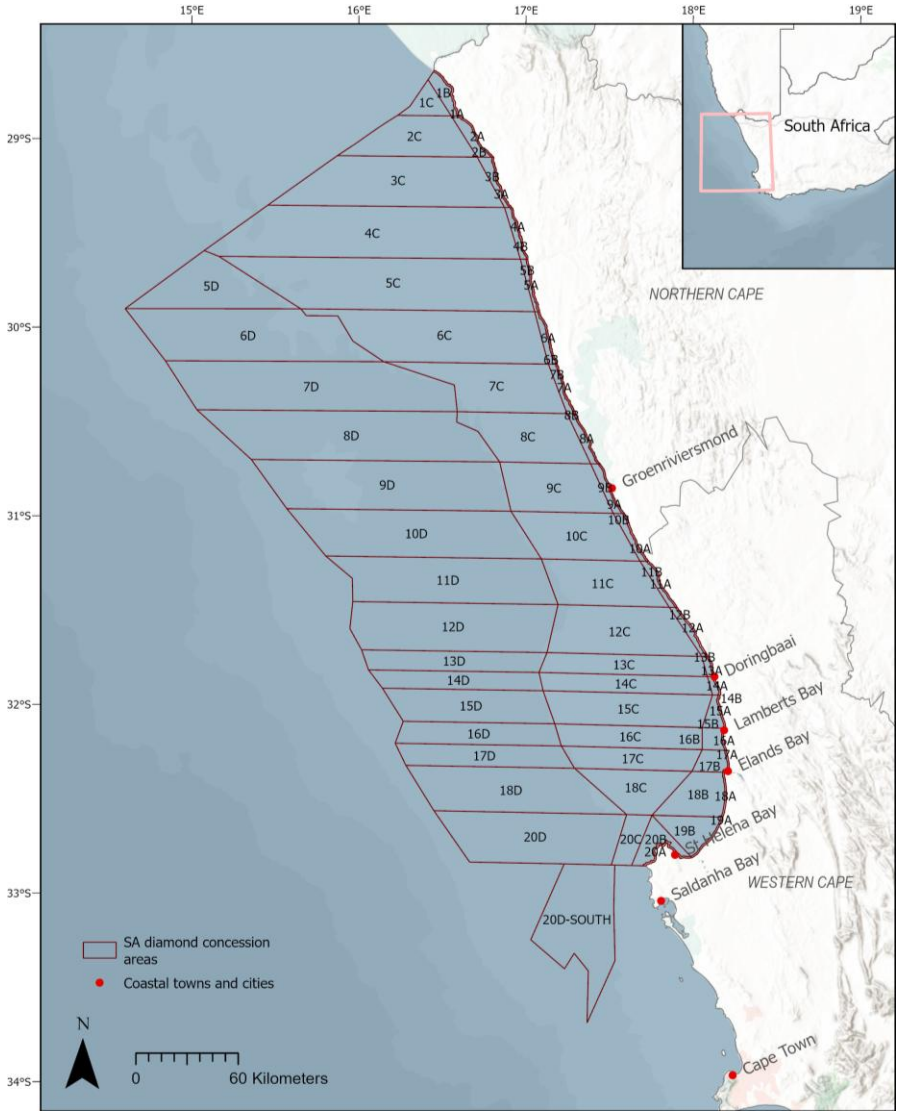

Figure 1.1 The offshore diamond mining lease areas in South African waters. The coastal shelf waters have been divided into 20 contiguous, parallel strips which have been further subdivided into the onshore and offshore concession areas (A, B, C, D).

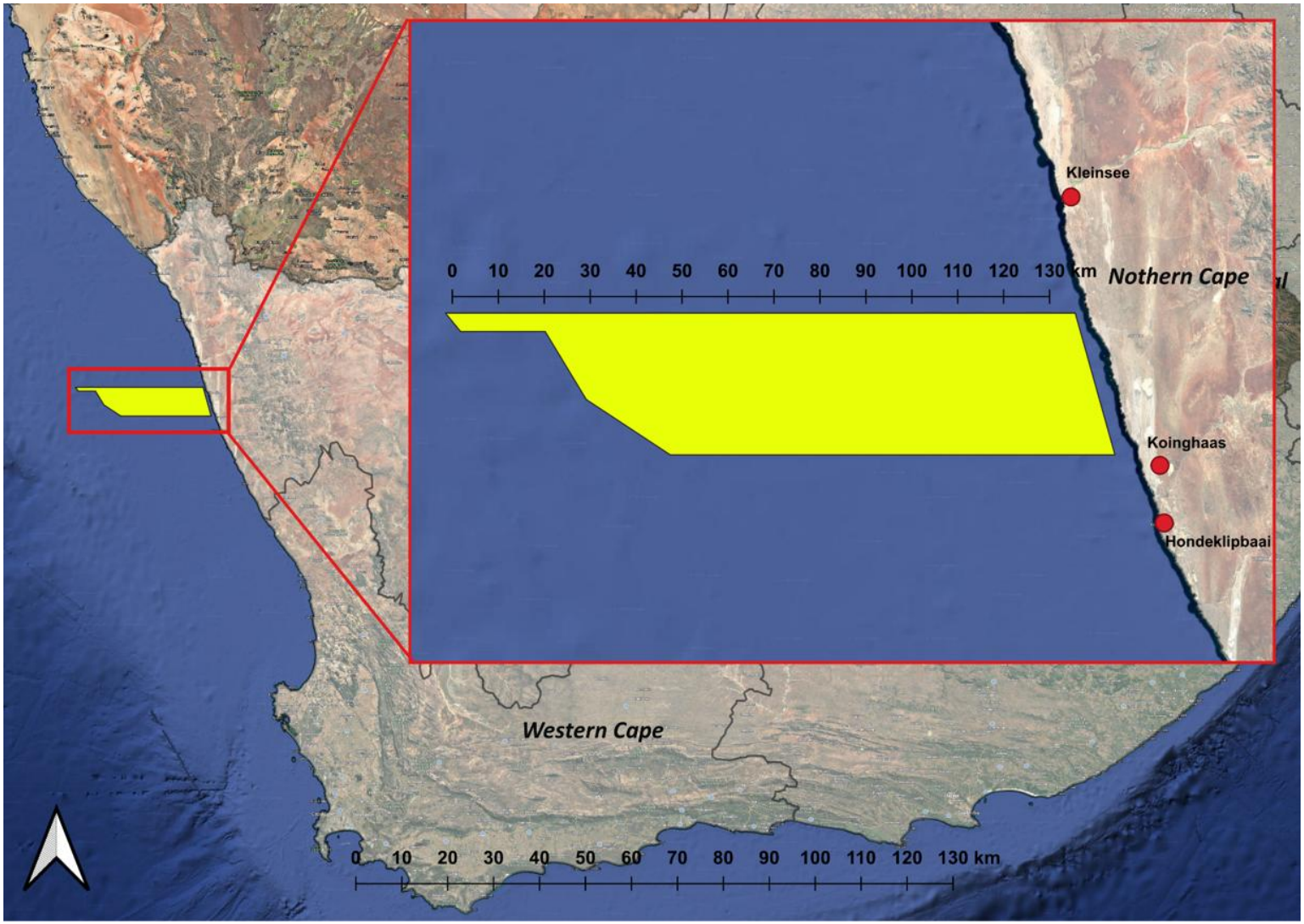

Figure 1.2. Location of offshore Sea Concession area 6C off the Northern Cape Coast. The concession starts approximately 5 km offshore of the High-Water Mark and extends to the 200 m isobath which is approximately 100 – 140 km offshore.

Table 1.1 Coordinates of the concession area for the proposed prospecting.

Vertex	Latitude	Longitude
a	30.182314	16.168534
b	30.074266	15.978797
c	29.941495	15.886008
d	29.941499	15.695164
e	29.905389	15.660994
f	29.905369	17.081360
g	30.182299	17.171094
h	30.182314	16.168534

Prospecting will be conducted using a dedicated survey vessel, with an example shown in Figure 1.3. As the activity is located offshore and comprises prospecting only, no land-based infrastructure will be required. Sampling will be conducted in four phases, combining both non-invasive and invasive sampling activities, none of which require infrastructure. Activities will be followed by a feasibility study and resource estimation. The total surface area expected to be disturbed during Phases 1–3 is approximately 7 507 m² (0.75 ha).

Figure 1.3 An example of a vessel that could potentially be used for prospecting and exploration (Image source: Ship-Technology.com).

1.1.1 Core Prospecting Elements

Desktop Study: A comprehensive desktop study will be undertaken, including a review of available literature, geological data, and previous exploration information to understand depositional environments, sediment stratigraphy, and mineral potential within the concession area. This will inform the identification of target sites and support the design of an efficient prospecting programme that minimises environmental impacts and costs.

Geophysical Survey: Conducted to collect high-resolution bathymetry data using a high-frequency multibeam echo sounder and mid-frequency sub-bottom profiler. Sound pulses are sent to the seabed and reflected back, creating images of seafloor features and sediment layers. Results are used to identify target sampling areas, sensitive zones to avoid, and to inform drilling methods and mining vessel design (Figure 1.4). This phase will be followed by data acquisition and synthesis and geological modelling.

Van Veen Grab sampling: The grab collects surficial sediment samples that are analysed to identify benthic macrofauna (small animals such as worms, mussels, and crustaceans) to determine geological units of the seafloor (Figure 1.5). Results from this survey will be used to describe and monitor the baseline macrofaunal communities in the area during and after prospecting and mining. About 20–50 samples will be collected and disturb a total surface area of 5 m^2 and a total volume of 1.5 m^3.

Coring: Seabed samples will be collected using Vibracore, Gravity, or Sonic cores, which penetrate the seafloor to extract sediment layers and provide information on its structure and geological units (Figure 1.6). Results will be used to inform the engineering of the drilling tool and mining vessel. Around 100–200 sites will be sampled, disturbing a total of 1.57 m^2 and collecting 4.71 m^3 of material.

Drilling: Prospective target areas will be analysed using a specially designed drill tool that samples gravel from the seabed (Figure 1.8). Material will be processed onboard by a processing plant and tailings discarded overboard. Results will be used to inform the engineering of the mining vessel. Approximately 300 samples covering 1 500 m^2 will be collected (based on a 5 m^2 drill). If these indicate a potential resource, resource development will commence. Each resource area (500 m × 300 m) will require 60 additional samples on a 50 m grid, and with around 20 such areas, this totals 1 200 samples covering 6 000 m^2. The combined surface area disturbed by all drill sampling will be approximately 7 500 m^2.

Feasibility study and resource estimation: If earlier phases yield positive results, a desktop feasibility study will be undertaken to evaluate the extent of mineral resources and the economic viability of mining, based on collected prospecting data. The resulting report will include resource estimates, geological and seafloor information, sample evaluations, and recommendations for future mining operations and vessel design.

1.2 PROPOSED METHODOLOGY

The proposed prospecting programme will take place during spring and/or summer and when weather conditions are suitable and seas are calm. It is anticipated to be completed within five (5) years. Sampling will be conducted in four phases and include a combination of non-invasive and invasive activities to detect the presence of paleo-beach deposits, which are known from other concessions to contain diamondiferous gravels. Prospecting operations are expected to occur sporadically over the entire extent of the concession area. The non-invasive activities will include geophysical exploration (acoustic survey), data acquisition and analysis, while the invasive activities will include physical sampling (collection of core, drill and grab samples).

Phase 1:

a) Desktop Study (Non-invasive)
b) Geophysical survey and seafloor mapping (Non-invasive)
c) Data acquisition and synthesis and Geological modelling (Non-invasive)

Phase 2:

a) Van Veen grab sampling (part of ecological baseline survey) (Invasive)
b) Core sampling using either a Vibracore, Gravity core or Sonic core (Invasive)

Phase 3:

a) Drill sampling using a specialised drilling tool (Invasive)

Phase 4:

a) Feasibility study and resource estimation (Non-invasive)

1.2.1 PHASE 1

a) Desktop Study:

A comprehensive literature review will be undertaken to investigate the depositional environments, sediment stratigraphy and geological units of the area. Data will be obtained from a variety of sources including previous explorations in neighbouring concession areas, published papers, data from field surveys, databases, etc. This review will allow the applicant to identify target sites that are likely to contain diamonds or other valuable minerals within the concession area. It will also enable the applicant to identify potential challenges and the best means to address these challenges with a view to minimising environmental impacts and costs. This will allow for a more efficient and effective prospecting sampling programme.

b) Geophysical Exploration

The proposed prospecting programme will take place during spring and/or summer and when weather conditions are suitable and seas are calm. It is anticipated to be completed within five (5) years. Sampling will be conducted in four phases and include a combination of non-invasive and invasive activities to detect the presence of paleo-beach deposits, which are known from other concessions to contain diamondiferous gravels. Prospecting operations are expected to occur sporadically over the entire extent of the concession area. The non-invasive activities will include geophysical exploration (acoustic survey), data acquisition and analysis, while the invasive activities will include physical sampling (collection of core, drill and grab samples).

Geophysical surveying will be undertaken to collect high-resolution acoustic and multibeam echosounder data along survey lines spaced 100 m to 1000 m apart throughout the concession area. This will be conducted over a period of suitable, calm sea and weather conditions (the survey speed of a survey vessel is typically 120 km/day in an offshore).

Surveys will be conducted using a dedicated survey vessel which will have a hull-mounted multibeam echo sounder (MBES) and a sub-bottom profiler system that are designed to collect high-resolution acoustic data (Figure 1.4). As these devices are hull mounted, no physical or environmentally destructive impacts are anticipated for this sampling method. Potential noise or sound impacts on biota will, however, be considered. The acoustic equipment will be similar to that typically used in diamond prospecting i.e. hull-based transducers that generate sounds waves at frequencies of 70-455 kHz. The information collected during the acoustic survey will be reviewed by both the geologist and the Environmental Control Officer/Scientific Officer to identify target areas for sampling, any areas that need to be avoided and to inform the appropriate core sampling, and drilling method that must be implemented. The preferred alternative within the site is thus subject to change pending results from the geophysical survey.

Figure 1.4 An example of a sub-bottom profiler. Source: Seatronics.

This survey vessel will not be required to tow any cables. Geophysical surveying will be undertaken along survey lines spaced 100 m to 1000 m apart across select sections throughout the concession area. A suitable vessel can typically survey approximately 120 km/day in an offshore area such as the 6C-concession area. The geophysical survey is anticipated to be undertaken within a broader operational window of up to two months to accommodate mobilisation, weather delays, sea-state constraints, and other logistical requirements, although the active survey period itself is expected to be shorter. The bathymetry of 6C will be modelled using processed seismic (acoustic) survey data before sampling can take place – it is estimated that this would take approximately one month.

The use of this geophysical survey equipment allows the operator to produce a digital terrain model of the seafloor. The MBES provides depth sounding information on either side of the vessel's track across a swath width of approximately two times the water depth, while the sub-bottom profiler generates profiles up to 60 m beneath the seafloor, thereby giving a cross section view of the sediment layers. The source sound level of the MBES is variable but will be a maximum of 221 dB re 1µPa @ 1m, with a frequency range of between 200 and 400 kHz. The sub-bottom profiler uses shallow (35 to 45 kHz) and medium penetration (1 to 10 kHz) "Chirp" acoustic pulses. This equipment has a variable power output and can therefore have the power ramped up in accordance with survey requirements and be contained within acceptable environmental noise levels. As such, it is also capable of "soft starts". The use of a magnetometer to detect magnetic signatures will also be required.

1.2.2 PHASE 2

a) Van Veen grab sampling

This is a popular method used to collect sediment samples for biological, environmental and geotechnical studies. It usually comprises a clamshell bucket made of stainless steel that collects sediment from the seafloor. A Van Veen grab with a sampling capacity of approximately 50 kg will be used to collect baseline environmental data on sediment and benthic macrofauna. These samples will be collected at 20–50 sites at a sampling rate of approximately 30 samples per day (maximum) and equate to two working days (Figure 1.5). The grab can penetrate to depths of 20 to 50 cm and collects surficial sediment samples that will be subjected to subsampling. Those for biological analyses will be stored in formalin or ethanol whereafter they will be sent for biological analysis, while the geotechnical subsamples will be frozen and sent to a laboratory to test for shear strength, grain size composition, etc. Biological samples will be analysed to identify and characterise benthic macrofauna communities (small animals such as worms, mussels, and crustaceans), whilst geotechnical

samples will be used to determine the geological units of the seafloor. The grab samples will disturb a total surface area of 5 square meters (m^2) while the total volume of samples that will be collected will be 1.5 cubic meters (m^3). Results from this survey will represent baseline data against which any change in macrofaunal communities in the area can be benchmarked after prospecting and mining (should the project proceed to production).

Figure 1.5 A Van Veen grab works like a claw to grab sediment containing macrofauna from the seafloor.

b) Coring

Geotechnical samples will be collected at 100-200 sites using either vibracoring, gravity coring or sonic coring (Figure 1.6, and Figure 1.7). A core is used to penetrate the seafloor to collect sediment samples. These samples are analysed to determine the sea floor geology (types of material present, i.e. sand, gravel and/ or rock and the hardness of the rock), topography (trenches or elevations) and sediment stratigraphy (how sand and rock are layered). This information is then used to engineer the drilling tool (for phase three of the prospecting activities – see below) and the future mining vessel. Geotechnical sampling is also used for resource evaluation, i.e. determining whether there are materials that can be mined in the area and whether it will be economically viable. The type of coring will depend on the geological formations of the seafloor. The sonic core is an advanced form of drilling that employs high-frequency, resonant energy generated inside the Sonic head to advance a core barrel or casing into subsurface formations, i.e. can penetrate some subsurface rock, whilst gravity and vibracoring can only sample unconsolidated material. The diameter of core samples will be approximately 10 cm, the corers will penetrate to depths of 3–8 m. Material collected by the cores will be brought to the surface for analysis. The volume per core is estimated at 0.024 m^3. Core samples do not require onboard processing (i.e. no sediment spill in the ocean) as all material collected will remain intact within core tubes which will be

analysed on land. The core samples will be collected from a purpose-built survey vessel. The sampling of 200 cores will take approximately ten workdays. Sampling work will be restricted between the western boundary of the concession and not shallower than 20 m water depth. The exact sampling sites will be informed by the information acquired during the geophysical surveying and the recommendations from the environmental impact assessment (marine ecology specialist study). The core samples will disturb a total surface area of 1.57 m^2, while the total volume of samples that will be collected by the cores will be 4.71 m^3.

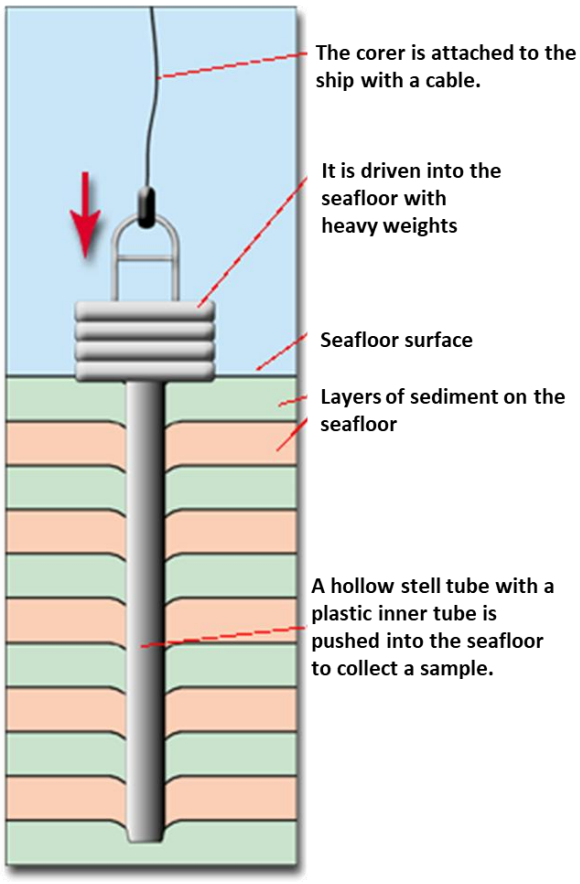

Figure 1.6 Example of a corer. Source: British Ocean Sediment Core Research Facility.

Figure 1.7. Left: An example of vibracorer instrument used to sample sediment samples from the seabed; Right: A vibracorer being deployed from a sampling vessel (image sources: GEO Marine Survey Systems, 2011).

1.2.3 PHASE 3

a) Drilling

In addition to the above, prospective targets will be analysed by a uniquely designed drill tool that can dredge gravel from the seabed (Figure 1.8). Material will be processed onboard by a processing plant and tailings will be discarded overboard, thereby causing sediment plumes. Sediment plume formation and persistence in the water column is largely dependent of the sediment particle size and prevailing oceanographic conditions. Discard material that consists mostly of sand has a minimal suspension time, whilst muddy sediments form longer lasting plumes. Pending the final tool design, the drill bit footprint is estimated to be between 3 and 5 m^2 diameter. The expected average hole depth will be 3 m, although the drill is designed to drill up to 12 m into the seabed if required. Sample volumes are anticipated to be in the range of 9 to 15 m^3 per sample. This does not constitute bulk sampling in terms of the Mineral and Petroleum Resources Development Act, Act 28 of 2002 (pers comms DMPR), however, as the material is for prospecting purposes only, not commercial gain, nor are large sections of the seafloor being dredged out.

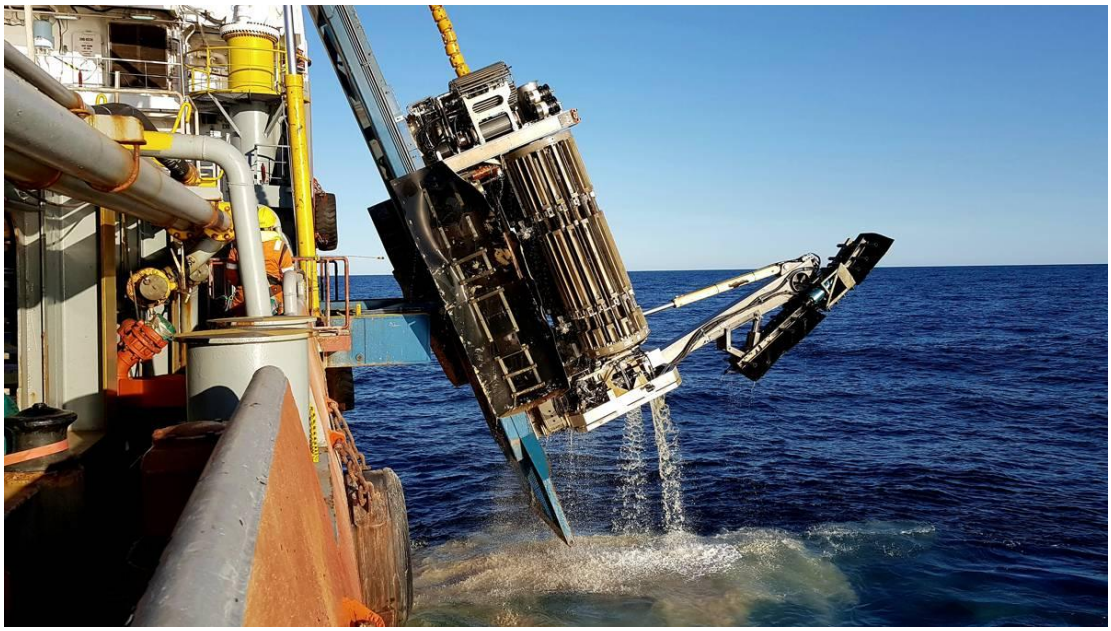

Figure 1.8. An example of the drill to be utilised during drilling operations (image source: Offshore Engineering Magazine).

At an initial sample density of 0.06 samples/ha, 150 samples will be collected. Follow-up sampling will require an additional 150 samples. The total number of samples that will be required for drilling is therefore 300 samples which will cover a surface area of 1500 m^2 (based on a drill size of 5 m^2). These samples will be spaced at roughly 300 m apart from north to south. A sampling rate of 30 samples per day would equate to a period of approximately ten days (this does not consider weather delays).

Should these follow-up samples indicate that there could be a potential resource, only then will resource development commence. A potential resource area of not larger than 500 m x 300 m will then require an additional 60 samples spaced on a 50 m grid. Approximately 20 resource development areas will be required. This equates to 1 200 samples covering a surface

area of 6 000 m^2 (based on a drill size of 5 m^2). A sampling rate of 30 samples per day would equate to a period of approximately 40 days.

The total surface area that will be disturbed during Phases 1, 2, and 3 is estimated at 7 507 m^2 or 0.75 ha. The information acquired will be used for understanding the seafloor topography, resource evaluation and to determine if diamond or other mineral mining within concession area 6C is economically viable. Information will also be used to inform the construction of the mining vessel and to identify areas for mining.

1.2.4 PHASE 4

a) Feasibility study and resource estimation

Should Phases 1, 2 and 3 yield positive results and the targeted features be identified, a feasibility study will be conducted to assess the likely magnitude of the resource and the economic viability of mining in the proposed prospecting area. This will be a desktop study and will consider the data collected as part of the prospecting activities. The outcome of this will be a Feasibility Study Report. The report will include data on the seafloor topography, sediment stratigraphy and geological units; distribution of potentially mineralised deposits; an evaluation of the drill samples; resource evaluation of areas that are mineralised; an estimate of the extent and size of the resource present; results and recommendations for future mining operations, and recommendations on mining vessel design and construction.

1.2.5 ALTERNATIVES

No alternatives are being considered, however due to the dynamic nature of prospecting and evaluation, the Prospecting Work Programme and activities may need to be modified, revised, extended or curtailed as data and results become available.

1.3 PERMITTING REQUIREMENTS

According to the Environmental Impact Assessment (EIA) regulations of 2014, as amended, (EIA Regs, 2014) promulgated in terms of the National Environmental Management Act (NEMA; Act 107 of 1998), certain activities that may result in environmental, socio-economic or cultural heritage impacts must be identified and assessed before commencement. These activities, known as "Listed Activities", are outlined in Listing Notice (LN) 1, LN 2 and as LN 3, as published under the EIA Regs (GN R982, R983, R984, and R985 of 2014), and require Environmental Authorisation (EA) from the Competent Authority (CA), in this case, the Department of Environmental Affairs and Development Planning (DEA&DP), before proceeding.

Activities listed under LN 1 and LN 3 typically involve smaller-scale projects, which are expected to have easily manageable impacts—whereas LN2 activities generally pertain to larger-scale developments, which may have more significant/less manageable impacts. Projects triggering LN 1 and LN 3 activities require assessment and application for EA, through the less intensive Basic Assessment (BA) process, whereas those triggering LN 2 activities require a more intensive Scoping and Environmental Impact Assessment (S&EIA) process. It was determined that the proposed development will trigger the following listed activities under LN 1—while no LN 2 or LN 3 activities will be triggered. The relevant LN 1 activities are as follows:

- **Activity 19A:** This broadly involves the removal, deposition, moving, etc. of more than 5 cubic meters of material within the coastal and marine environment. Of relevance to this project is Subsection (iii) of Activity 19A, which explicitly includes the marine environment—written as "the sea" in the activity. Consequently, the proposed works will trigger this activity.
- **Activity 20:** This involves the operation of that activity which requires a prospecting right in terms of section 16 of the Mineral and Petroleum Resources Development Act (MPRDA). Consequently, the proposed works will trigger this activity.

Consequently, it was determined that EA must be obtained through a BA process. Anchor Environmental Consultants (Pty) Ltd. (Anchor) was appointed by the Trans Atlantic Diamonds (Pty) Ltd (the Applicant) to conduct the BA process and to coordinate the necessary specialist studies, in support of the environmental permitting process for the proposed development.

1.4 PURPOSE OF THIS REPORT

This Site Sensitivity Verification Report (SSVR) document has been prepared as part of the BA process for the proposed prospecting activities in the concession area 6C, off the Northern Cape Coast of South Africa. This document presents the findings of the Department of Forestry, Fisheries and the Environment (DFFE) Screening Tool (as gazetted in Government Notice (GN) 960 of 2019) and outcomes of the SSV process.

It complies with the requirements of the protocols applicable to each environmental theme, as published in the relevant GNs and in accordance with the NEMA. All relevant protocols for SSVRs indicate that the document must accomplish the following three general goals (with only minor, immaterial, differences between each protocol):

"(a) confirms or dispute the current use of the land and environmental sensitivity as identified by the screening tool, such as new developments or infrastructure, the change in vegetation cover or status etc.;

(b) contains a motivation and evidence (e.g. photographs) of either the verified or different use of the land and environmental sensitivity; and

(b) is submitted together with the relevant assessment report prepared in accordance with the requirements of the Environmental Impact Assessment Regulations."

2 BACKGROUND AND QUALIFICATIONS OF THE ENVIRONMENTAL ASSESSMENT PRACTITIONER

This SSV Report was Completed by Ms Cheruscha Swart, Mr Michael Armitage and Mr Steve September.

Cheruscha Swart holds a Master of Science (MSc) in Zoology and a Bachelor of Science (BSc) Honours degree in Biodiversity and Ecology from Stellenbosch University. She is a Registered Environmental Assessment Practitioner (EAP) with 14 years of research and consulting experience. Cheruscha is the Team Lead and Head EAP of the Environmental Management Department at Anchor Environmental Consultants, where she leads and manages a wide range of environmental projects. Her expertise includes Environmental Impact Assessments (EIAs), applications for prospecting rights, management plan development, auditing, environmental compliance monitoring, baseline and monitoring surveys, and specialist impact assessments, all undertaken across marine, coastal, and terrestrial environments. In addition, she has specialist expertise in marine invertebrate taxonomy and rocky shore surveys. Her project portfolio spans a wide range of sectors, including land-based and offshore prospecting, offshore mining, agriculture, land- and sea-based aquaculture, solar desalination, residential and commercial developments, conservation surveys for protected areas, and long-term monitoring of bays and ports along the South African coast. Cheruscha is the author of three peer-reviewed scientific publications and numerous scientific reports, with additional projects and publications currently in preparation.

Professional Registrations: Environmental Assessment Practitioners Association of South Africa (EAPASA) Registered EAP, Reg no. 2021/3298; South African Council for Natural Scientific Professions (SACNASP), PR.SCI.NAT, Reg no. 155305.

Michael Armitage holds MSc and BSc (Hons) degrees in Environmental and Geographical Science (EGS), as well as a BSc in EGS and Archaeology, all from the University of Cape Town. His expertise lies in integrated environmental and water resources management—with a focus on coastal, estuarine, and freshwater systems, as well as nature-based management solutions. He thrives on unpacking the complexities of dynamic systems to develop integrated, practical, and effective management solutions. Michael works as an Environmental Assessment Practitioner (EAP) and Environmental Management Specialist, undertaking Environmental Impact Assessments (EIAs) and preparing a range of environmental management plans. He also has experience in estuarine studies, sediment quality assessment, and GIS mapping.

Professional Registrations: EAPASA Registered Candidate EAP, Reg no. 2024/7978.

Steve September holds a MCom and BCom. Hons. degrees in Public and Development Management (PDM) and a BA Development and Environmental Studies degree from the University of Stellenbosch. His MCom research was based on local government's Integrated Development Planning (IDP) Public Participation Process and the involvement of rural communities in the process, using Stellenbosch Municipality and Elsenburg as case studies. He is currently appointed at Anchor Environmental Consultants as an Environmental Management Consultant, responsible for conducting Environmental Impact Assessments (EIA). He is a registered Candidate Environmental Assessment Practitioner (EAP) at the Environmental Assessment Practitioner Association of South Africa (EAPASA), with 4 years of working experience in environmental management, spatial planning, geographic information systems

(GIS), public administration, and public participation in both the public and private sectors of the Western Cape province of South Africa. As an Environmental Management Consultant, his responsibilities include the conducting of EIAs and associated applications, heritage applications (NID), and specialist reports. His EIA project portfolio spans from a range of developments such as residential, commercial, tourism, mixed-use, institutional, civil infrastructure, offshore prospecting, and solar PV Plants developments.

***Professional Registrations*:** EAPASA Registration Candidate EAP, Reg no. 2023/7868.

3 SITE SENSITIVITY VERIFICATION PROCESS

3.1 SITE SENSITIVITY VERIFICATION PROTOCOL

Prior to initiating the BA Process, the legislated National Web-Based Environmental Screening Tool provided by the DFFE must be used to screen the proposed development/works area for environmental sensitivities.

The Screening Tool generates a Screening Tool Report (STR), which outlines key environmental themes (e.g., agriculture, terrestrial biodiversity, aquatic biodiversity, etc.) and assigns a sensitivity rating to each theme based on the development/works footprint and type. These ratings are categorised as "Very High", "High", "Medium", or "Low". The STR also highlights additional sensitivities, such as the potential presence of Species of Conservation Concern (SCC) and recommends a list of specialist studies required for the EIA process. In many cases, the tool will indicate that a Compliance Statement, rather than a detailed Specialist Impact Assessment, will be required for certain themes. A Compliance Statement is usually required where a Low environmental sensitivity has been identified for the environmental theme. In some instances, specific themes may be screened out entirely, meaning neither a detailed Specialist Impact Assessment nor a Compliance Statement would be required. The Screening Tool draws on numerous national spatial datasets to assign these ratings, and forms the starting point of the environmental assessment process. Its use became mandatory on 5 July 2019, as per GN 960 of 2019, issued by the Minister of DFFE.

However, due to the coarse spatial resolution and generalised nature of the Screening Tool outputs, the assigned sensitivities may not always accurately reflect actual on-site conditions. Therefore, the listed themes, sensitivity ratings, and associated study requirements, must be verified through a SSV process.

The SSV is required under the "Procedures for the Assessment and Minimum Criteria for Reporting on Identified Environmental Themes", as set out in GN 320 of Government Gazette (GG) 43110 (2020) and GN 1150 of GG 43855 (2020, as amended), and promulgated under Sections 24(5)(a) and (h) and 44 of the NEMA. The SSV must be undertaken by a registered EAP, or jointly with a suitably qualified specialist, depending on the theme being verified, if the EAP does not have the requisite expertise to confirm or dispute the sensitivities.

The SSV and any subsequent specialist studies must comply with the relevant theme-specific protocols, where available. For themes where no protocols have been prescribed**—applicable to all specialist studies identified in terms of this SSVR—**assessments must be conducted in accordance with Appendix 6 of the 2014 EIA Regulations (e.g., for Marine Environment, Cultural Heritage and Archaeology, Palaeontology, Hydrology, Socio-economic, Geotechnical—note this list is not exhaustive). Additionally, assessments for animal, plant, aquatic, and terrestrial themes must consider the "Species Environmental Assessment Guidelines" (South African National Biodiversity Institute (SANBI), 2020).

A SSV typically involves analysis of recent satellite imagery and spatial datasets, a review of existing environmental data, an in-person site inspection and consultation with relevant specialists. The purpose of the SSV is to confirm or dispute the environmental themes and associated sensitivity ratings identified by the Screening Tool, as well as to verify the presence, condition, and status of SCC and other important environmental attributes. Based on the findings, the EAP and/or relevant specialist(s) may confirm or revise the sensitivity ratings

assigned by the Screening Tool. These verified or revised sensitivity ratings form the basis for determining the level of specialist assessment required for each theme—whether a detailed Specialist Impact Assessment, a Compliance Statement, or, where appropriate, a Statement of Exclusion. In addition, the EAP or specialist may motivate for the inclusion of additional specialist studies not originally recommended in the Screening Tool, should these be considered necessary based on site conditions. The findings of the SSV, including photographic evidence and a clear record of the EAP/ specialist's sensitivity verification and assessment recommendations, are compiled in the SSV Report. Both the SSV Report and the STR must be submitted with the Basic Assessment Report (BAR) to the Competent Authority.

3.2 SITE SENSITIVITY VERIFICATION METHODOLOGY

The SSV process followed a multi-step approach to verify the environmental sensitivities. The SSV was led by Ms Cheruscha Swart, a registered EAP. Where applicable, suitably qualified specialists contributed to the verification of theme-specific sensitivities identified by the ST. The steps undertaken were as follows:

- **Screening Tool:** Results from the STR were reviewed, along with relevant spatial datasets, to identify potential environmental sensitivities within the proposed development/works footprint. Note that multiple STRs were generated as the proposed prospecting site exceeds the maximum area that can be screened in a single submission using the DFFE Screening Tool. Accordingly, the prospecting site was divided into smaller sections, and separate STRs were generated for each section. The initial STRs were generated on 4 February 2026 under the application category: *"Mining, Prospecting Rights."*

- **Desktop Review:** Recent satellite imagery and relevant spatial datasets were analysed to identify additional potential environmental sensitivities within the proposed development/works footprint and to assess current land cover, existing infrastructure, and landscape features.

- **Consultation with Specialists:** Where sensitivities flagged by the Screening Tool required specialist input, appropriately qualified and registered specialists were consulted. For this SSV, input was specifically obtained from marine, socio-economic, heritage, archaeological, and palaeontological specialists.

4 SITE SENSITIVITY VERIFICATION FINDINGS

4.1 SCREENING TOOL RESULTS

The SSV process described in the remainder of this report is based on seven separate STRs, generated on 4 February 2026—each covering a portion of the concession. STR results were identical between all reports. **Note:** Sensitivities applicable to all STRs were assessed and addressed in a single SSVR (this report). The assessed area is shown in Figure 4.1 (below), while the results of both the STR (and this entire SSVR) are summarised Table 4.1 (next page).

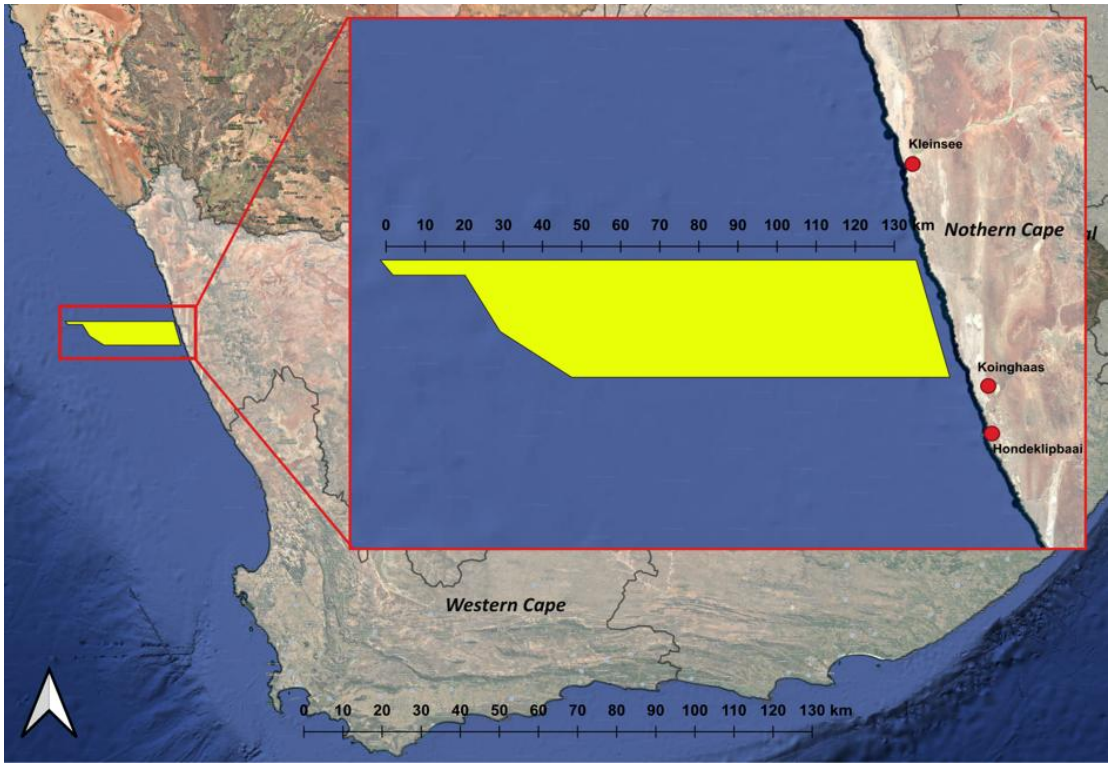

Figure 4.1 General location of Concession Area 6C offshore of the Northern Cape Coastline.

Table 4.1. Summary of environmental themes and prescribed sensitivity ratings from the STRs; the EAPs explanation for the ST results, and their recommendation as to the requirement for a specialist study (and the required level of assessment).

Theme/ Identified Assessment (Per STRs)	Screening Tool Sensitivity Rating	Explanation of STR Rating and EAP/Specialist Recommendation
Aquatic Biodiversity Impact Assessment	**No rating** only indicates that an assessment is required.	**Reason for STR Inclusion:** Likely due to the selected Application Category, which often triggers this assessment by default, or due to limitations in the spatial datasets used by the ST, **EAP/Specialist Recommendation:** Since Aquatic Assessments pertain to freshwater and estuarine environments, the far-offshore location of the proposed works means that no aquatic impacts are expected. **Consequently, this study was screened-out.**
Marine Impact Assessment	**Not identified by STR** Theme identified for inclusion by EAP.	**Reason for STR Exclusion:** Despite being located marine environment, this sensitivity was likely not identified due to limitations in the datasets used by the ST. **EAP/Specialist Recommendation:** Given the project location and proposed works, **a comprehensive Marine Impact Assessment was prescribed by the EAP and Specialists—and has since been completed.**
Animal Species Assessment	**No rating** only indicates that an assessment is required.	**Reason for STR Inclusion:** Likely due to the selected Application Category, which often triggers this assessment by default/ due to the offshore nature of the study area. **EAP/Specialist Recommendation: While a discrete Animal Species Assessment is not required,** any sensitivities/impacts on marine animal species (birds, fish, mammals, invertebrates, etc.) were included in the Marine Impact Assessment.
Plant Species Assessment	**No rating** only indicates that an assessment is required.	**Reason for STR Inclusion:** Likely due to broad-scale spatial layers used that may flag areas based on regional vegetation types. **EAP/Specialist Recommendation:** As the concession area is located far offshore, the prospecting works will have no effect on terrestrial vegetation. **Consequently, no discrete study is required.** However, any potential impacts/sensitivities related to marine plant species have been included within the prescribed Marine Impact Assessment.
Noise Impact Assessment	**No rating** only indicates that an assessment is required.	**Reason for STR Inclusion:** Likely due to the selected Application Category, which often triggers this assessment by default. **EAP/Specialist Recommendation: While a discrete Noise Impact Assessment is not required**, all noise sensitivities/impacts on marine animals were identified for inclusion in the Marine Impact Assessment—which has since been completed.
Archaeological and Cultural Heritage Impact Assessment	**No rating** only indicates that an assessment is required.	**Reason for STR Inclusion:** Likely due to the potential occurrence of submerged prehistoric archaeological sites or material within the seabed sediments in portions of the concession area that are shallower than 120 m. **Specialist Recommendation:** The appointed specialist was in agreement with the STR, and agreed that Archaeological/Cultural Heritage Resources may be present in prospecting areas. **Consequently, an Archaeological and Cultural Heritage Impact Assessment was prescribed—which has since been completed.**
Palaeontological Impact Assessment	**No rating** only indicates that an assessment is required.	**Reason for STR Inclusion:** Likely due to the potential occurrence of Cretaceous fossil wood, Paleogene, Miocene shelly macrofauna, Phosphatized/ petrified bones and skulls of extinct marine mammal species, shark teeth and other fish, and/ or exotic or extralimital seashells with palaeontological significance within the offshore concession area. **Specialist Recommendation:** The appointed specialist was in agreement with the STR, and agreed that Palaeontological Resources may be present in prospecting areas. **Consequently, a Palaeontological Impact Assessment was prescribed—which has since been completed.**
Socio-Economic Assessment	**Not identified by STR** Theme identified for inclusion by EAP.	**Reason for STR Exclusion:** Potentially not included due to lack of overlap with Socio-Economic Spatial data upon which the STR relies. **Specialist Recommendation:** Both the EAP and appointed specialist were in agreement that the proposed works may have impacts on Socio-Economic receptors. **Consequently, a Socio-Economic Assessment was prescribed—which has since been completed.**
Agriculture Impact Assessment	**No rating** only indicates that an assessment is required.	**Reason for STR Inclusion:** Likely due to the selected Application Category, which often triggers this assessment by default. **EAP/Specialist Recommendation:** The proposed works will have no bearing on agricultural receptors, due to them occurring far offshore. **This assessment was thus screened-out.**
Terrestrial Biodiversity Impact Assessment	**No rating** only indicates that an assessment is required.	**Reason for STR Inclusion:** Likely the result of national-scale spatial datasets used in the tool/errors in these datasets. **EAP/Specialist Recommendation:** Given the far-offshore location of the proposed works, no Terrestrial Biodiversity Impacts are expected. **Consequently, this study was screened-out.**
Radioactivity Impact Assessment	**No rating** only indicates that an assessment is required.	**Reason for STR Inclusion:** Likely due to the selected Application Category, which often triggers this assessment by default. **EAP/Specialist Recommendation:** None of the proposed prospecting works are expected to produce significant radiological impacts. **Consequently, this study was screened-out.**

4.2 DESKTOP REVIEW

4.2.1 ECOSYSTEM THREAT STATUS

The 2025 National Biodiversity Assessment (NBA) for marine benthic and coastal habitat threat status layer is shown in Figure 4.2 for Concession Area 6C. This Ecosystem Threat Status developed by SANBI is an indicator of how threatened ecosystems are, specifically the degree to which ecosystems are still intact or alternatively losing vital aspects of their structure, function or composition (Sink et al. 2025). Ecosystem types are categorised as "Critically Endangered", "Endangered", "Vulnerable", "Near Threatened" or "Least Concern", based on the proportion of the original extent of each ecosystem type that remains in good ecological condition relative to a series of biodiversity thresholds. According to the latest available data from the 2025 NBA, the entire area covered by Concession Area 6C is classified as "Least Concern" (Figure 4.2).

4.2.2 CONSERVATION DESIGNATIONS

The 6C Concession Area does not overlap with any National Marine Protected Areas (MPAs), with the Namaqua Fossil Forest MPA found ~30 km north of the concession area and the Namaqua MPA ~50 km southeast. The area also does not overlap with any designated Ecological and Biologically Significant Areas (EBSA) (Figure 4.3).

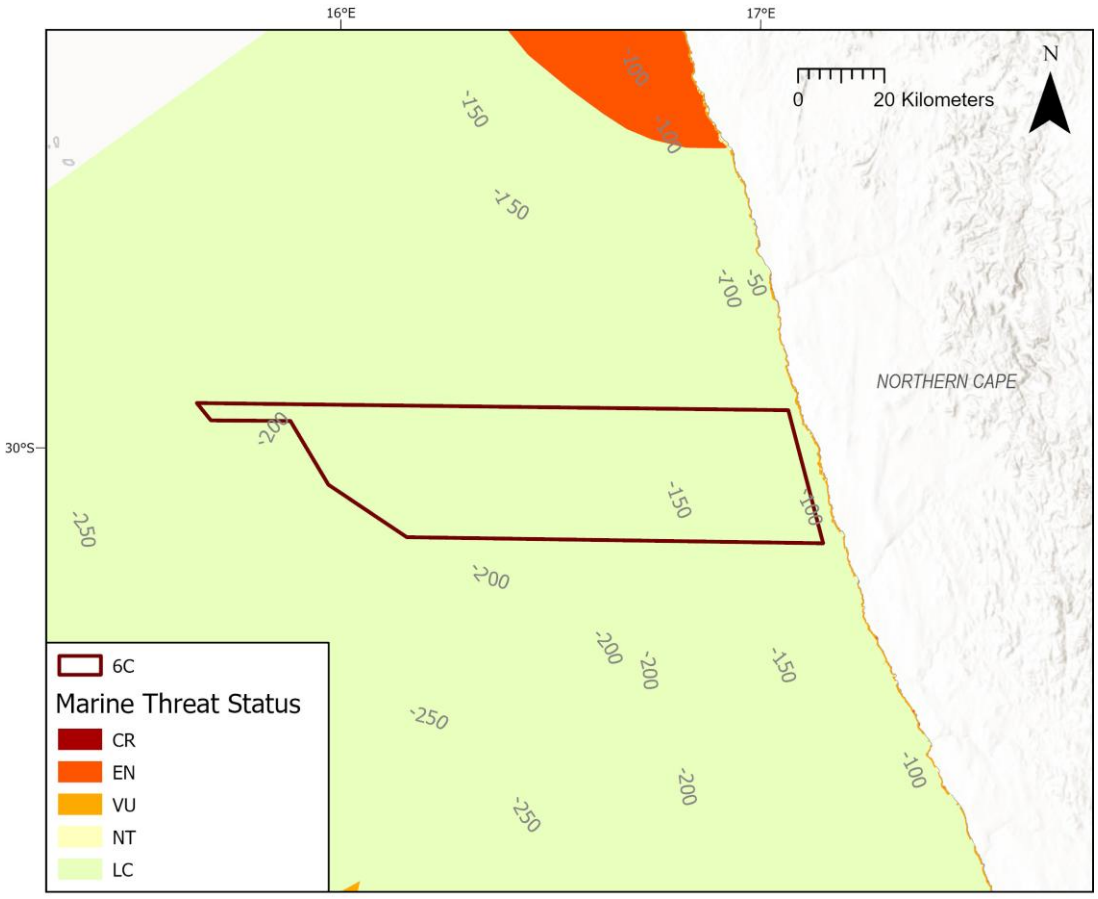

Figure 4.2 Marine Ecosystem Threat Status of the broader marine region surrounding and including Concession Area 6C.

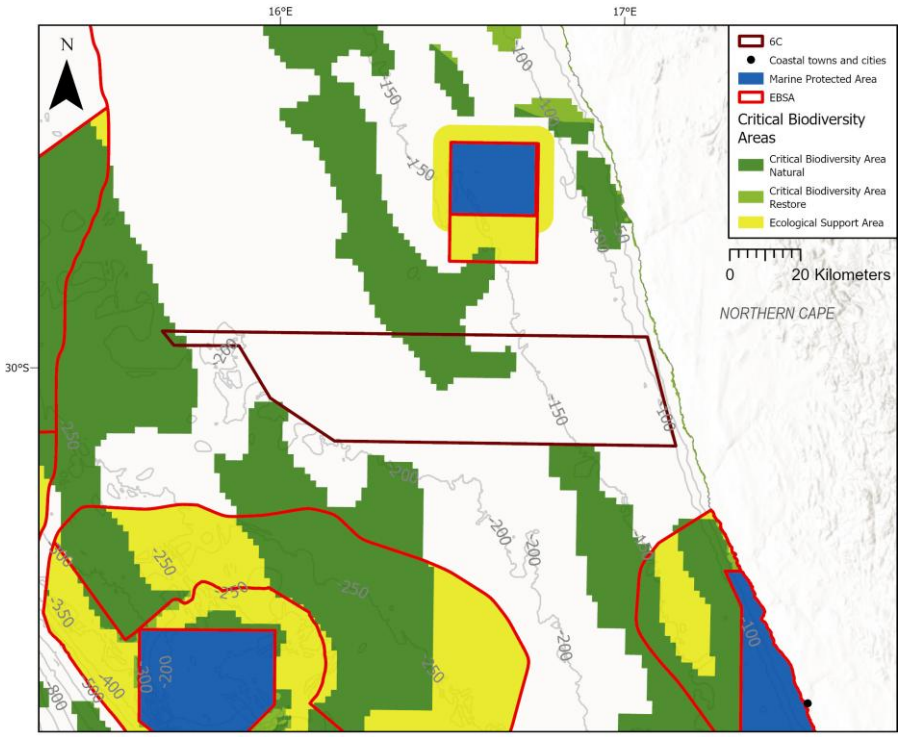

Figure 4.3. CBA, MPA and EBSA designations within the marine areas surrounding Concession Area 6C.

Critical Biodiversity Areas (CBAs) are spatially identified areas required to meet biodiversity targets and safeguard ecological processes, as determined through systematic biodiversity planning and spatial prioritisation. In the marine environment, these typically include areas important for key habitats, species distributions, ecological connectivity, and ecosystem functioning. CBAs are used in South Africa as decision-support tools to guide sustainable development and biodiversity conservation. They have been developed through national-scale biodiversity planning processes, however their incorporation into regulatory and decision-making frameworks alignment with marine spatial planning instruments, and consistent application within ESIA processes are still developing in practice. A range of sea-use activities and recommendations as to their permissibility, subject to compatibility with different Critical Biodiversity Areas, is presented in Harris et al. (2022), the Draft Marine Biodiversity Sector Plan (DFFE 2023) and the Proposed Approach to Spatial Development and Management for South Africa's Marine Planning Areas 2019.

There are two categories of CBA, namely 'CBA Natural' areas and 'CBA Restore' areas. CBA Natural sites have natural/near-natural ecological condition, with the management objective of maintaining the sites in that natural/near-natural state. CBA Restore sites have moderately modified or poorer ecological condition, with the management objective to improve ecological condition and, in the long term, restore these sites to a natural/near-natural state, or as close to that state as possible. As a minimum in CBA Restore sites, further deterioration in ecological condition must be avoided, and options for future restoration must be maintained. The Ecological Support Areas (ESAs) include all portions of EBSAs that are not already within MPAs or CBAs, and a 5 km buffer area around all MPAs (where these areas are not already CBAs or ESAs). Within ESAs, negative impacts of human activities on key biodiversity features are managed and minimised to maintain the features in at least a functional, semi-natural state and/or to allow the area to improve in ecological condition. Around 9% (320 km^2 approximately) of 6C is classified as a CBA Natural area (Figure 4.3).

The CBAs of highest priority are CBA Natural areas. Mining prospecting (non-destructive) activities (including acoustic surveys, geotechnical sampling), are restricted within all CBA delineations, and so, as far as possible, prospecting activities in these areas should be avoided. Activities with restricted compatibility require a detailed assessment to determine whether the recommendation is that they should be permitted (general), permitted subject to additional regulations (consent), or prohibited, depending on a variety of factors. Management recommendations and regulations for these activities need to consider the context in which the activities take place or are proposed to take place. It is also critical to take cumulative impacts into account, which may have implications for the intensity, extent or even the presence of activities, especially new or expanding activities in a biodiversity priority area (Harris et al. 2022).

There is a degree of misalignment between permitting prospecting activities and prohibiting mining within CBA Natural areas. As such, the suitability of allowing prospecting in these areas should be re-evaluated in the context of its potential to enable or support future mining activities and the associated cumulative impacts on biodiversity priorities.

4.3 Site Assessment

4.3.1 Socio-Economic Context of surrounding Coastal Towns

No site visit was conducted, as the proposed EIA application relates to offshore prospecting and mining activities. However, a desktop socio-economic assessment was undertaken to evaluate the local context of the surrounding coastal towns that may be affected by the proposed activities.

Sea Concession Area 6C is located approximately 4 to 5 km offshore of the Northern Cape Coast, about 11km west of the nearest inland town, Koingnaas and 25 km south of Kleinsee The total area contained within the concession is approximately 350 000 hectares (Ha). The proposed prospecting activity falls offshore of the Namaqua District Municipality and local Kamiesberg Municipality.

NAMAKWA DISTRICT MUNICIPALITY

The Namakwa District Municipality is located in the north-western part of the Northern Cape Province (Figure 4.4) and encompasses a vast, sparsely populated region characterised by arid landscapes, small settlements, and dispersed rural communities. It is comprised of six local municipalities namely, Kamiesberg, Nama Khoi, Hantam, Khai-Ma, Karoo Hoogland and Richtersveld. The Namakwa District Municipality is the largest district municipality in the province, making up over a third of its geographical area. It covers around 126,836 km2 and has a total population of just 148,935 inhabitants and around 33,947 households (Table 4.2, Namakwa District Municipality 2025). . The district's economy is traditionally based on mining, agriculture, fishing and nature-based tourism, with mining historically playing a significant role in regional economic development and employment generation.

Figure 4.4 indicates relatively slow population growth between 1996 and 2016, followed by a marked increase between 2016 and 2022. The population declined slightly from approximately 110,000 in 1996 to 108,000 in 2001, before increasing to around 116,000 in 2011 and remaining largely stable through 2016. Between 2016 and 2022, however, the population grew substantially to approximately 149,000, representing the most significant period of growth

over the observed timeframe. Overall, the trend reflects moderate long-term population growth, driven primarily by the sharp increase recorded between 2016 and 2022.

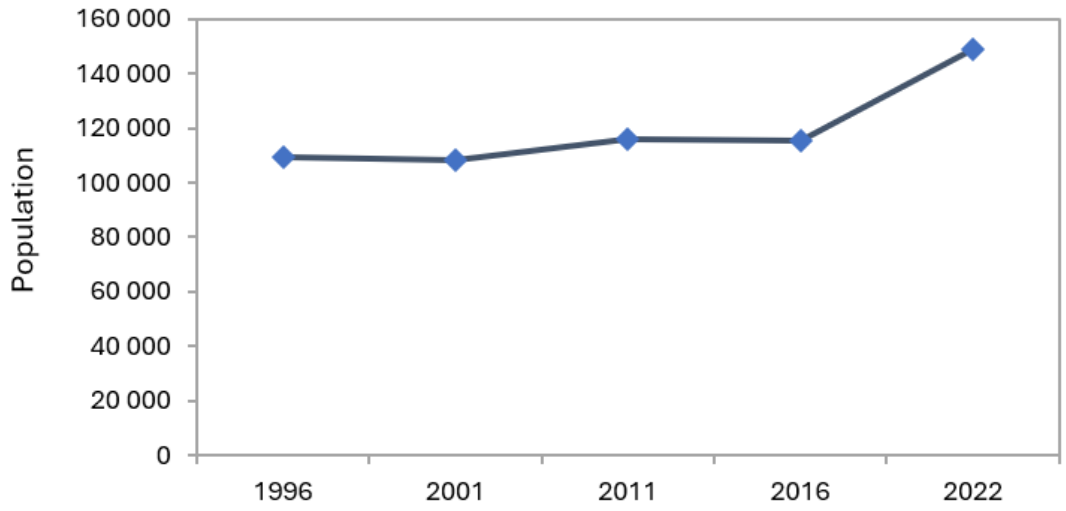

Figure 4.4. Population Growth in the Namakwa District Municipality between 1996 and 2022. Source: Namakwa District Municipality (2025).

Most of the population in the Namakwa District Municipality identifies as Coloured (85.5%), followed by White (7.5%) and Black African (5.9%). There is a balanced gender distribution in the Namakwa District with 49.1% of the population being Male (Table 1). The population of the district exhibits a youthful age structure, with the largest proportion of the population concentrated in the younger age cohorts (0–34 years) and a gradual decline in population size with increasing age, indicating relatively high historical birth rates and a comparatively small elderly population. The distribution between males and females is broadly balanced across most age groups, although females slightly outnumber males in the older age cohorts, reflecting higher female life expectancy (Namakwa District Municipality 2025). Most of the population are Afrikaans speaking (93.9%), with a small proportion speaking Setswana (1.7%), isiXhosa (1.6%) and English (1.2%; Table 4.2).

Table 4.2. Demographic profile summary of the Namakwa District Municipality, Kamiesberg Local Municipality and the town of Koingnaas (Stats SA 2011, Northern Cape Provincial Government 2021, Namakwa District Municipality 2025).

Indicator	Namakwa District Municipality	Kamiesberg Local Municipality	Koingnaas
Population	148 935	15 130	107
Households	33 947	3 576	62
Area (km²)	126 836	11 742	0.66
Population group			
Coloured (%)	85.5	85.6	63.8
Black African (%)	5.9	5.3	0.0
White (%)	7.5	8.1	31.4
Indian or Asian (%)	0.6	0.5	1.0
Other (%)	0.4	0.5	3.8

Indicator	Namakwa District Municipality	Kamiesberg Local Municipality	Koingnaas
Gender distribution			
Male (%)	49.1	50.4	53.8
Female (%)	50.9	49.6	46.2
First language			
Afrikaans (%)	93.9	96.4	99.0
Setswana (%)	1.7	0.0	0.0
IsiXhosa (%)	1.6	1.4	0.0
English (%)	1.2	0.2	1.0
Dependency ratio (%)	47.1	57.9	19.3

The educational profile of the Namakwa District population indicates relatively low levels of educational attainment, with the largest proportion of residents (44.9%) having attended some secondary school but not completed Grade 12 (Namakwa District Municipality 2025). A further 26.2% have completed Grade 12 (Matric), while only 6.2% have attained higher education qualifications. Smaller proportions of the population have completed primary school (8.5%), attended some primary school (10.3%), or received no formal schooling (3.1%). Overall, the data suggest that while access to basic and secondary education is widespread, a relatively small share of the population has progressed to tertiary-level education. The overall functional literacy rate in Namakwa District stands at 62.27% (Namakwa District Municipality 2025).

The number of people in poverty in the Namakwa District increased from 48,500 in 2010 to 60,800 in 2020, which is a 25.4% increase (Northern Cape Provincial Government 2021). The region also saw an increase in its Gini coefficient from 0.548 in 2010 to 0.582 in 2020, which shows an increased level of income inequality, with most of this change occurring within the Coloured population. Despite this increase in the number of impoverished people and income inequality, the Human Development Index (HDI) for the district, which is an indicator of average quality of life, determined by combining statistics such as schooling, average life expectancy, and standard of living, increased from 0.61 in 2010, to 0.73 in 2020 (Northern Cape Provincial Government 2021).

The Namakwa District Municipality contributes approximately 10.1% to the Northern Cape Province's Gross Domestic Product (GDP; Namakwa District Municipality 2025). While it is the largest district geographically, its economic share is smaller than other districts in the province due to its low population density and reliance on specialized sectors. The economy of the Namakwa District is strongly influenced by the mining sector, which is the largest contributor to employment and economic activity, accounting for approximately 39.8% of the economically active population (Figure 4.5). Community services represent the second-largest sector (18.0%), reflecting the importance of government and public service employment in the district. Agriculture and fishing contribute 11.7% of employment, highlighting the continued significance of fisheries, livestock farming and other agricultural activities in the region. Trade (10.1%) and finance (9.3%) also make notable contributions to the local economy, while transport accounts for 5.9% of employment. Smaller proportions of the workforce are employed in manufacturing (2.1%), construction (1.5%) and electricity-related activities (1.5%). Overall, the district's economy is characterised by a strong dependence on mining, supported by public sector employment, agriculture and service-based industries.

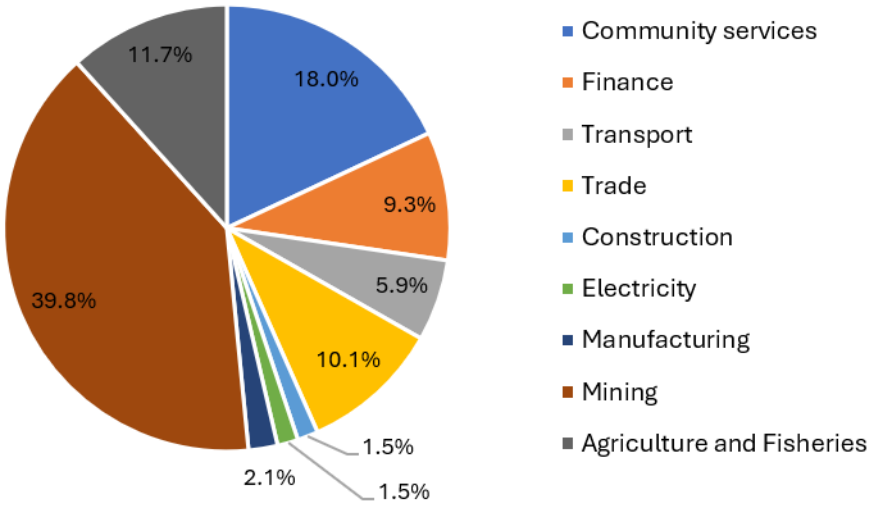

Figure 4.5. The main economic sectors in the Namakwa District Municipality. Source: Namakwa District Municipality (2025).

Along the coast, communities such as Port Nolloth, Hondeklipbaai, Kleinzee and Koingnaas have historically been closely associated with the diamond mining industry. While mining remains an important economic sector, declining mineral production in some areas has contributed to economic challenges, including high unemployment levels and limited opportunities for economic diversification. The total number of equivalent full-time jobs in Namakwa District in 2022 was 16,049 and the unemployment rate was 28% (Namakwa District Municipality 2025). Small-scale commercial fishing and marine-related activities continue to support livelihoods in several coastal communities, while nature-based tourism associated with the Namaqualand coastline and seasonal wildflower displays within the Namaqua National Park contributes to local economic activity.

The district has a relatively small population distributed across a large geographic area, resulting in limited access to services and infrastructure in some communities. Socio-economic challenges include unemployment, poverty, skills shortages and out-migration of younger residents seeking employment opportunities elsewhere. Despite these challenges, the region's coastal and marine resources remain important contributors to local livelihoods, cultural identity and future economic development opportunities.

KAMIESBERG MUNICIPALITY

The Kamiesberg Local Municipality is situated on the south-west coast of the Northern Cape and borders the Western Cape Province to the south, the Nama Khoi Municipality in the north, the Khâi-Ma Municipality to the north-east, the Hantam Municipality to the south-east, and the Atlantic Ocean to the west. The Kamiesberg Local Municipality consists of three main geographical regions, the sandy coastal lowlands, the mountainous central Kamiesberg escarpment, and the eastern plateau known as Bushmanland (Kamiesberg Local Municipality 2025a). The Kamiesberg Local Municipality consists of several small, sparsely populated rural towns and settlements, including Garies, Kamieskroon, Leliefontein, Hondeklipbaai and Koingnaas, that serve as local service centres for the surrounding agricultural and mining communities.

The Kamiesberg Local Municipality has a population of 15,130 people residing in 3,576 households across an area of approximately 11,742 km² (Table 4.2). This reflects a low population density of just over one person per square kilometre, characteristic of the municipality's predominantly rural and sparsely populated nature. The population is distributed across several small towns and settlements, with Garies serving as the administrative centre. The demographic profile is dominated by the Coloured population group, which comprises 85.6% of the total population (Table 4.2)

The gender distribution within the municipality is relatively balanced, with males comprising 50.4% of the population and females 49.6% (Table 4.2). This near-equal distribution suggests the absence of significant gender-based migration patterns that are often associated with major urban centres. Afrikaans is overwhelmingly the dominant first language, spoken by 96.4% of residents (Table 4.2), highlighting the municipality's strong linguistic and cultural homogeneity. IsiXhosa is the second most common home language, spoken by 1.4% of the population, while English accounts for only 0.2%. The municipality has a dependency ratio of 57.9%, higher than the district ratio, indicating that there are approximately 58 dependants (children and elderly persons) for every 100 working-age individuals. This relatively high dependency ratio places additional pressure on economically active residents and underscores the importance of employment opportunities, social support systems and public services within the municipality. The functional literacy rate in Kamiesberg Local Municipality is below the district average and sits at 60% (Namakwa District Municipality 2025).

The Kamiesberg Local Municipality contributes roughly R764 million (or around 8%) to the total Namakwa District Municipality GDP (Namakwa District Municipality 2025). This makes it the smallest municipal contributor to the district's economy. According to census data, the largest employment sectors within the municipality were mining and quarrying (21.5%), government services (19.4%), community, social and personal services (18.1%), wholesale and retail trade, catering and accommodation (14.3%), and agriculture, forestry and fisheries (10.0%). Economic activities vary considerably across the municipality, with agriculture dominating the rural areas, fishing and tourism playing a significant role in Hondeklipbaai, and government, commercial and service-sector employment concentrated in the larger towns and settlements (Kamiesberg Local Municipality 2025a).

Tourism is an important contributor to the local economy of the Kamiesberg Local Municipality, although the sector is highly seasonal and largely driven by the annual wildflower season, which attracts visitors between August and October (Figure 4.6). The municipality is internationally recognised for its exceptional floral diversity, containing approximately one-third of the world's succulent flora species, nearly 40% of which are endemic to the region (Kamiesberg Local Municipality 2025b). The coastal settlement of Hondeklipbaai contributes a smaller but important marine tourism component to the local economy through its fishing heritage, recreational activities and holiday accommodation offerings.

Agriculture in the region is dominated by livestock farming, particularly the rearing of sheep and goats, which account for 56.9% of agricultural households, while poultry farming represents a further 25.4% (Stats SA 2011). The municipality has no perennial rivers and is therefore entirely dependent on groundwater resources, which are accessed through boreholes, windmills and natural springs (Kamiesberg Local Municipality 2025b a). These arid environmental conditions and limited water availability constrain opportunities for crop production and make extensive livestock farming the most viable agricultural activity. However, the sector faces several challenges, including livestock losses due to predation, as well as stock theft, both of which negatively affect farm productivity and profitability.

Figure 4.6. Spring wildflower display within the Kamiesberg Local Municipality, illustrating the region's internationally renowned floral diversity and the seasonal landscape that supports nature-based tourism during the annual Namaqualand flower season. Source: Gaynor, https://tulipsandphoenixes.co.za/

KOINGNAAS

Koingnaas is a small settlement located within the Kamiesberg Local Municipality of the Namakwa District in the Northern Cape Province. The town lies approximately 11 km east of Concession Area 6C, 5 km inland from the coast, 65 km south of the coastal town of Kleinzee and 20 km north of the coastal town of Hondeklipbaai. Established in 1970 as a company town supporting offshore and coastal diamond mining operations along the Namaqualand coast, the settlement experienced significant population and economic decline following the contraction of illuvial diamond mining and the withdrawal of De Beers from the area. Like several former mining settlements along the Northern Cape coast, Koingnaas has experienced significant depopulation and now functions largely as a remnant mining settlement with limited economic activity (Kamiesberg Local Municipality 2025a).

Over the past two decades the population of Koingnaas has fluctuated in response to mining operations along the Namaqualand coast, with numbers peaking at around 1000 individuals at the height of the De Beers operations. In 2008, De Beers withdrew from the area and the population decreased significantly with people moving to other settlements in search of economic opportunities. Following the purchase of the Koingnaas Mine by West Coast Resources (owned by Trans Hex) in 2011, there was a resurgence of the town. However, the termination of mining activities in 2019 due to low profitability, resulted in another depopulation from the small mining town. According to the 2011 Census[1], Koingnaas had a population of just 107 residents from 62 households (Table 4.2; Stats SA 2011). The population is predominantly Afrikaans speaking, with the majority identifying as Coloured (63.8%) and White (31.4%). There were slightly more males (53.8%) than females and most of the

[1] While Statistics South Africa's Census 2022 provides the most recent population data available, concerns regarding undercounting and data quality have been widely acknowledged. Consequently, Census 2011 remains the most comprehensive and statistically robust national census dataset for South Africa and is therefore used as an important reference point in this assessment.

population was of working age between 15 and 64 years (83.8%). The elderly (>65 years) made up 4.8% of the population and children aged 0-14 years made up 11.4%. The entire adult population had received some formal education, with close to 26% having a matric pass.

In 2011, most of the population in Koingnaas earned between R19 601 and R307 600 per year, with around one third earning an income in the category R76 401 and R153 800 (Figure 4.7). There were just three households that did not earn an income. Koingnaas recorded a very low dependency ratio of 19.3 in 2011, which indicates that there were very few people in the town for the working population to support. The population data supports the town's identity primarily as a mining town, through the relatively high level of formal education and annual income, when compared to other coastal towns in the region, such as Hondeklipbaai.

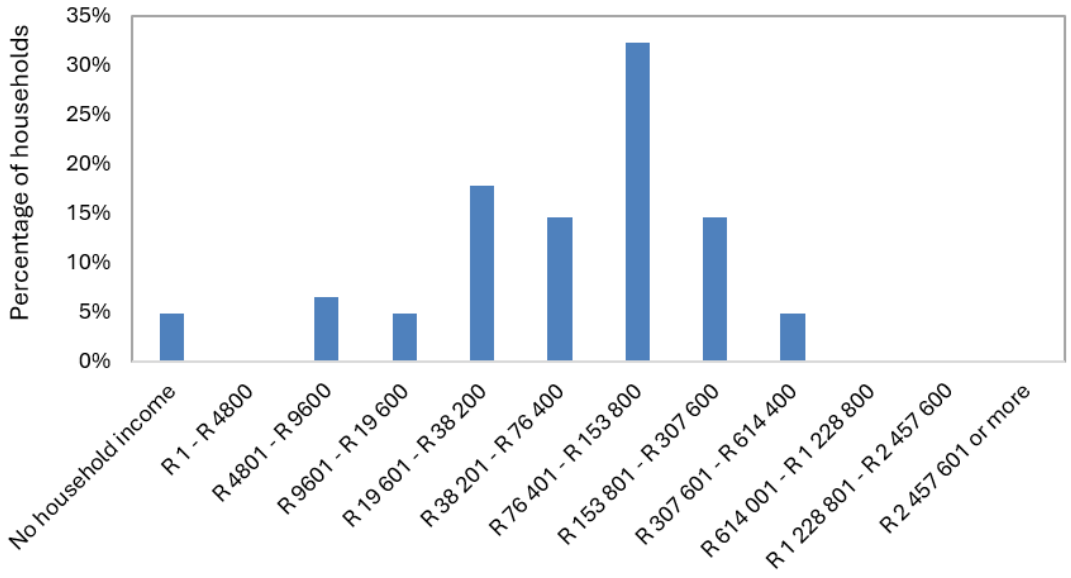

Figure 4.7. Percentage of households within each income category in 2011. This represents total gross annual household income from all sources combined for all household members. Source: Stats SA 2011.

The small town of Koingnaas is located within a restricted access area, where visitors are required to register and present identification at the entrance gate. The town is accessed via a gravel road and has limited services, including two general stores and a library. The local clinic is currently not operational, with residents relying on healthcare services in Hondeklipbaai. There are no schools in Koingnaas, and learners either attend schools in Hondeklipbaai or Kleinzee, or receive home-based education. Situated within the ecologically significant Namaqualand coastal region, the town forms part of a broader landscape characterised by low population densities, a strong mining heritage, and emerging opportunities associated with nature-based tourism, conservation and coastal resource management.

Employment opportunities in Koingnaas vary from residual mining opportunities, environmental rehabilitation work related to mining activities, and the services industry (e.g., shops and supplies) for the local community. The old coastal diamond diving village of Noup, located approximately 10.4 km north-west of Koingnaas, has been converted to accommodation for tourists to the area, and there is also a campsite located approximately 5.7 km north of Noup. However, since Koingnaas is not located adjacent to the coast,

opportunities to diversity into tourism, fishing or mariculture-based activities are relatively limited.

SUMMARY

In summary, the socio-economic environment of the Namakwa District and Kamiesberg Local Municipality is characterised by a small, dispersed population, a strong reliance on primary industries, and a limited but important tourism sector. Mining, agriculture, fishing and government services remain the key drivers of economic activity and employment, while the region continues to face challenges associated with unemployment, poverty, skills shortages and limited economic diversification. The coastal settlements of the region, including Koingnaas, have historically been closely linked to the mining sector and continue to exhibit the socio-economic legacy of fluctuating mining activity. Koingnaas itself is a small, remote settlement with a declining population, limited services and relatively few economic opportunities outside of mining-related activities.

Given the offshore location of the proposed prospecting activities, approximately 11 km from the nearest settlement, direct interactions with local communities and existing land-based economic activities are expected to be limited. The socio-economic baseline nevertheless highlights the importance of considering the potential effects of the project on existing marine-based industries, employment opportunities and broader regional development objectives, particularly within a region where economic opportunities remain constrained and natural resources continue to play an important role in supporting local livelihoods.

4.3.2 MARITIME ARCHAEOLOGY

An Archaeological Scoping Assessment was conducted to evaluate the viability of future mining operations in offshore Concession Area 6C.

ARCHAEOLOGICAL SENSITIVITIES

South Africa has a rich and diverse underwater cultural heritage. Strategically located on the historical trade route between Europe and the East, South Africa's rugged and dangerous coastline has witnessed more than its fair share of shipwrecks and maritime dramas in the last 500 years.

According to SAHRA's records, at least 2,900 vessels are known to have sunk, or been wrecked, abandoned or scuttled in South African waters since the early 1500s. This does not include the as yet unproven potential for shipwrecks and other sites that relate to pre-European, Indian Ocean maritime exploration, trade and interactions along the South African east coast, or the potential for wrecks of vessels which simply disappeared between Europe and the East to be present in our waters.

Our coastal maritime heritage also includes a largely unexplored, but increasingly acknowledged submerged pre-colonial element, consisting of prehistoric terrestrial archaeological sites, materials and palaeolandscapes which are now inundated by the sea, as well as palaeontological, fossil material in the bedrock which underlies the seabed, and within seabed sediments themselves.

This report considers the potential for submerged pre-colonial archaeological resources and historical shipwrecks in Concession Area 6C.

Since the start of the Quaternary, approximately 2.6 million years ago, the world has been subject to a series of cooling and warming climatic cycles and sea level was mainly lower than it is today.

During the last 900,000 years, during which our tool-making ancestors were colonising much of the world, global sea levels have fluctuated substantially on at least three occasions, the result of increased and decreased polar glaciation. The dropping of sea levels was caused by the locking up in the polar ice caps of huge quantities of seawater as global temperatures cooled.

The most extreme recent sea level drop occurred between circa 20,000 and 17,000 years ago when, during Marine Isotope Stage 2 (MIS) at the height of the last glaciation, the sea was more than 120 m lower than it is today (Waelbroeck *et al*, 2002; Rohling *et al*, 2009). Similar sea level low stands occurred during MIS 4 (~70,000 years ago), MIS 6 (~190,000 years ago), MIS 8 (~301,000 years ago) and MIS 12 (~478,000 years ago).

Each of these low stands would have "added a large coastal plain to the South African land mass" (Van Andel, 1989:133) where parts of the continental shelf were exposed as dry land (see Cawthra *et al*, 2016). The exposure of the continental shelf would have been most pronounced on the wide Agulhas Bank off the southern Cape coast, and it is estimated that a new area of land, as much as 80,000 km^2 in extent, was exposed during the successive glacial maxima (Fisher *et al*, 2010).

The exposed continental shelf was repeatedly populated by terrestrial flora and fauna, and also by our human ancestors who were dependant on these resources (Compton, 2011). and for periods numbering in the tens of thousands of years, on at least three occasions during. During the last 500,000 years, covering the latter part of the Earlier Stone Age (ESA), the MSA, and the early Later Stone Age (LSA), our ancestors inhabited areas of what is now seabed around the South African coast. This means that a large part of the archaeological record of the later Earlier, Middle and early Late Stone Age is located on the continental shelf and is now "inundated and for all practical purposes absent from [that] record" (Van Andel, 1989:133-134). Until relatively recently there was little or no global understanding of the potential for, or access to, submerged prehistoric landscapes and sites on the continental shelf. Increasingly frequent discoveries in various parts of the world of drowned, formerly terrestrial landscapes, often as a result of development-led seabed surveys and sampling, is, however, providing increasing evidence for the survival of prehistoric archaeological sites on and within the current seabed.

Closer to home, there is archaeological evidence for a prehistoric human presence in what is now Table Bay. In 1995 and 1996 during the excavation of two Dutch East India Company shipwrecks, divers recovered three ESA handaxes from the seabed under the wrecks. The stone tools, which are between 300,000 and 1.4 million years old, were found at a depth of 7-8 m below mean sea level and were associated with Pleistocene sediments from an ancient submerged and infilled river channel. Their unrolled and unworn condition indicate that they had not been carried to their current position by the ancient river and suggests that they were found more or less where they were dropped ESA hominins more than 300,000 years ago (possibly during MIS 8 (~301,000 years ago) or MIS 12 (~478,000 years ago)), when the sea level was at least 10 m lower than it is today (Werz and Flemming, 2001; Werz *et al*, 2014).

There have, to date, been no studies of the submerged prehistory of the West Coast but the terrestrial archaeological evidence for a hominin presence along the coast in the vicinity of the concession area during the EAS, MSA and LSA is plentiful.

Diepkloof Rock Shelter, inland of Elands Bay and south of the concession area, for example, contains evidence of a nearly continuous human occupation for nearly 85,000 years (see Parkington and Poggenpoel, 1987; Texier et al, 2010), while Elands Bay Cave, on the coast at the mouth of the Verloren Vlei, preserves archaeological evidence of the Pleistocene / Holocene transition during the LSA (Parkington, 1988). Further south at Hoedjiespunt in Saldanha Bay, four hominid teeth, four or five small fragments of cranium, and two postcranial bones from up to two individuals have been found in an ancient hyena lair and are associated with uranium series dates on ostrich eggshell fragments which imply an ESA / MSA age of 130,000 to 180,000 years for these hominids (Berger and Parkington, 1996). Nearby, at Churchaven on the Langebaan Lagoon a set of fossilized human footprints were discovered in an aeolianite slab in 1995. They are thought to be those of a female hominin (hence their nickname "Eve's footprints") and have been dated to approximately 117,000 years ago, during the MSA and very close to the start of the last glaciation when sea levels were starting to fall (http://www.sawestcoast.com/fossileve.html). LSA coastal shell middens are ubiquitous along the West Coast, as are numerous MSA shell middens; the latter being some of the earliest evidence in the world for the exploitation by our ancestors of marine resources. Older, ESA lithics are also commonly found along on the West Coast. For example, extensive evidence of an ESA presence in this landscape has been uncovered because of mining operations at Tronox Namaqua Sands (David Halkett, ACO Associates, pers. comm.; Orton, 2017a). ESA material has been also been reported from the Tormin Mineral Sands Operation adjacent to Concession Area 12B (Halkett, D. 2023a, 2023b; Halkett, D., & Webley, L. 2016b) and archaeological surveys for both mining operations have identified numerous MSA and LSA sites within and behind the coastal dune cordon (see Hart & Halkett, 1994; Halkett, D. 2023a, 2023b; Halkett, D., & Webley, L. 2016b).

As discussed in the previous section, the maximum sea level low stand during the Quaternary, when hominins would have been present in and on the South African landscape, was c. -120 m. Any area Concession Area 6C where the seabed is shallower than -120 m would have been exposed as subaerial land for much of the last 200 000 years - for ~65 000 years during the MIS 6 ice age, and again between the start of the MIS 5a marine incursion at 80 000 years ago and about 9 000 years ago – and would thus have the potential to have been used by our ancestors and to preserve the archaeological evidence of that use. However, the survival of such terrestrial deposits on or on the seabed is low, as they would have mostly been eroded away and reworked as sea-level rose during the Last Transgression around 9 000 years ago.

Despite this, the evidence exists worldwide and in South Africa for the survival of submerged prehistoric sediments and archaeological material and it is possible that such material may be present in seabed sediments in Concession Area 6C, both as undisturbed, in situ archaeological deposit, but more likely in disturbed, secondary contexts. Buried and submerged river palaeo-channels occur along the entire Namaqualand coast, although they are not shown on the geological maps, being covered by younger deposits. Examples of such channels are known north of the concession area at Kleinzee, Langklip Bay and between Hondeklip Bay and the Swartlintjies River (O'Shea, 1971; Hattingh, 2015). Such channels and their associated sediment bodies have the potential to contain, archaeological material and palaeo-

environmental evidence. At the same time these channels and the sediment they contain are one of the potential targets of prospecting.

MARITIME HISTORY OF THE WEST COAST AND CONCESSION AREA 6C

The maritime history of the West Coast dates to almost the early days of the Dutch settlement in Table Bay. The Dutch settlers were quick to recognise and exploit the rich marine resources of the West Coast and fishing and sealing flourished, with the catches transported down the coast to supply the VOC settlement in Table Bay.

This industry led to the development of fishing villages at Saldanha Bay and Lamberts Bay: the former, together with places like Elands Bay, also later becoming ports for the export of grain and other produce from the Swartland and Cederberg (Ingpen 1979).

During the early nineteenth century the West Coast islands became the focus of an international 'white gold' rush to exploit their rich guano resources (Watson, 1930; Snyders, 2011). The guano was soon depleted but the discovery of copper deposits in Namaqualand and the Richtersveld led to the use of Alexander Bay, Robbe Bay (now Port Nolloth) and Hondeklip Bay as established anchorages by the early 1850s and the development of local, coasting shipping services to support this new industry (The Nautical Magazine and Naval Chronicle 1855: 297-303; Ingpen 1979).

According to the available sources, there are at least 89 shipping casualties recorded between the Berg and Orange Rivers, many of which were vessels involved in coastal trade and fishing. None of these maritime casualties are recorded within Concession Area 6C, and it appears unlikely that there will be historical shipwrecks present on the seabed within the concession area. It must be noted, however, that although unlikely, the possibility does exist for the remains of currently unknown and unrecorded wrecks to be present in the concession area. The historical records contain many references to vessels that were lost without trace between their points of departure and arrival. Where survivors of such events were subsequently rescued, the loss was recorded, but in many cases, vessels simply never arrived at their destination and could thus lie anywhere along their intended route. The potential for the occurrence of such unrecorded wrecks was illustrated in 2008 when a 16th century Portuguese wreck, since identified as the *Bom Jesus*, was unexpectedly found during the diamond mining south of Oranjemund in Namibia (see Alves 2011).

4.3.3 COASTAL AND MARINE ENVIRONMENT

Concession Area 6C lies within the Southern Benguela Shelf, a highly productive cool-temperate region along South Africa's west coast influenced by nutrient-rich upwelling. This supports diverse marine life, including pelagic and demersal fish, marine mammals, and seabirds.

HABITATS

The dominant benthic habitats within the area comprise muddy sands interspersed with coarser sandy substrates and scattered rocky outcrops. Unconsolidated subtidal habitats support diverse benthic communities that play important roles in nutrient cycling and ecosystem functioning, while also serving as indicators of environmental health. Rocky outcrops provide habitat for slow-growing epifaunal species, including sponges, anemones, and cold-water corals, many of which are sensitive to physical disturbance. The pelagic environment is influenced by the highly productive Benguela Current system and prevailing

south-easterly winds, supporting abundant plankton communities and a wide range of fish, seabirds, marine mammals, and turtles. Two notable offshore geological features occur within approximately 150 km of the 6C Concession area: Childs Bank to the south and Tripp Seamount to the west.

BIODIVERSITY

The benthic invertebrates community is separated in those that live on (epifauna), and those that live in the sediment (infauna). Benthic communities on the west coast are dominated by molluscs, polychaetes, and crustaceans, with differences driven largely by particle size. The muddier areas of the region are typically characterised by mud prawns *Calocaris barnardi* while coarser sediments are dominated by deposit feeding polychaetes like *Spiophanes duplex* and *Nephtys* sp. Rocky outcrops are host to sponges are cold water corals that form complex habitats for many other species.

Seasonal nutrient-rich upwelling associated with the Namaqua Upwelling Cell drives high phytoplankton productivity, forming the foundation of a productive pelagic ecosystem. These phytoplankton blooms support abundant zooplankton populations, which in turn sustain key small pelagic fish species such as sardine *Sardinops sagax* and anchovy *Engraulis encrasicolus*, as well as juvenile hake *Merluccius paradoxus* and *M. capensis*. These species constitute an important prey base for larger fish, seabirds, and marine mammals. The region also serves as a migratory and foraging corridor for several commercially important fish species, including snoek *Thyrsites atun*, which track anchovy distributions. In addition, the area supports a range of larger pelagic species, including tunas, billfishes, and pelagic sharks, many of which are classified as threatened or near threatened by the IUCN.

Several seabird species occur in the region, including threatened species such as the African Penguin and Cape Gannet, which breed on the west coast and rely on small pelagic fish for food. Many species forage within tens of kilometres of the coast, meaning they may occur within the concession area. A diverse range of whales, dolphins, and seals may occur in the region, in the tens of species. These including threatened species such as the Blue Whale *Balaenoptera bonaerensis*, Sei Whale *B. borealis*, and Humpback Whale *Megaptera novageangliae* as well as many species categorised as Least Concern by the IUCN.

SENSITIVITY AND SIGNIFICANCE

According to the 2025 National Biodiversity Assessment (NBA), the marine threat status[2] within Concession Area 6C are classified as Least Concern, indicating that the ecosystem remains largely intact with relatively low levels of degradation or that hosts species considered at low risk of extinction. There is no overlap with any Marine Protected Area (MPA), with the Namaqua Fossil Forest MPA found ~30 km north of the concession area and the Namaqua MPA ~50 km southeast. There is some of overlap with the Critical Biodiversity Areas (CBAs),

[2] Indicator of how threatened ecosystems are, in other words the degree to which ecosystems are still intact or alternatively losing vital aspects of their structure, function or composition. Ecosystem types are categorised as Critically Endangered, Endangered, Vulnerable, Near Threatened or Least Concern, based on the proportion of the original extent of each ecosystem type that remains in good ecological condition relative to a series of biodiversity thresholds. Critically Endangered, Endangered and Vulnerable ecosystems are collectively referred to threatened ecosystems, and may be listed as such in terms of the Biodiversity Act.

with around 9% (320 km^2 approximately) of 6C being classified as a CBA Natural Area. CBAs are spatially identified areas required to meet biodiversity targets and safeguard ecological processes, as determined through systematic biodiversity planning and spatial prioritisation. In the marine environment, these typically include areas important for key habitats, species distributions, ecological connectivity, and ecosystem functioning. CBAs are used in South Africa as decision-support tools to guide sustainable development and biodiversity conservation. They have been developed through national-scale biodiversity planning processes, however their incorporation into regulatory and decision-making frameworks alignment with marine spatial planning instruments, and consistent application within ESIA processes are still developing in practice. A range of sea-use activities and recommendations as to their permissibility, subject to compatibility with different CBAs, is presented in Harris et al. (2022), the Draft Marine Biodiversity Sector Plan (DFFE 2023a) and the Proposed Approach to Spatial Development and Management for South Africa's Marine Planning Areas (2019). Activities assessed not compatible are recommended to be prohibited. The CBAs of highest priority are CBA Natural areas, so as far as possible, mining in these areas should be avoided as prospecting activities are not permitted within CBA natural areas.

MARINE RESOURCE USE

The primary users of the marine space around Concession Area 6C are commercial fishing, shipping industries, and offshore diamond mining. While most shipping routes occur further offshore, some fisheries, including tuna pole-and-line, and traditional linefish sectors, may operate in the broader region but there is no direct overlap with the Concession Area. The tuna pole-and-line fishery targets species such as albacore and yellowfin tuna and operates mainly offshore between Cape Agulhas and the Orange River, however, almost all activity take place south of the concession area, and impacts from the proposed activities are expected to be insignificant. The traditional linefish sector targets a wide variety of fish species using hook-and-line methods and is an important livelihood fishery in South Africa. However, as this fishery typically operates in shallower waters closer to shore, and from inhabited areas, the nearest major hub being Hondeklipbaai, interaction with linefishing activities in the offshore concession area is expected to be negligible. Small-scale commercial fishing and marine-related activities continue to support livelihoods in several coastal communities but again these are unlikely to be impacted by the proposed 6C prospecting. Abalone ranching areas do exist inshore of 6C but these, again, are unlikely to be impact by prospecting in 6C on account of the very nearshore nature of abalone ranching.

5 SITE SENSITIVITY VERIFICATION RESULTS

Sections 5.1 to 5.8 provides a detailed description of the assessment outcomes for each theme, based on the SSV process.

5.1 AQUATIC BIODIVERSITY THEME

This theme was likely only identified due to Reason for STR Inclusion: Likely the result of the selected Application Category within the Screening Tool, which often triggers this assessment by default, or due to the limited nature of the layers upon which the Screening Tool is based.

EAP/Specialist Recommendation: Since Aquatic Assessments pertain to freshwater and estuarine environments, the far-offshore location of the proposed works means that no aquatic impacts are expected. Consequently, this study was screened-out.

5.2 MARINE ECOLOGY THEME

Despite being located marine environment, the STR did not identify the need for a Marine Impact Assessment. However, this omission is likely due to the limited nature of the layers upon which the Screening Tool is based, as the proposed works will take place in an important marine environment.

The proposed prospecting works has the potential to have impacts associated with underwater noise from geophysical surveys and drilling, direct disturbance of benthic habitats, sediment plumes generated during drill sampling, vessel interactions with marine megafauna, operational waste discharges, impacts on commercial fisheries and cumulative impacts with other marine activities.

The EAP and Specialists therefore determined that a Marine Impact Assessment was required for this BA process. This assessment has since been completed.

5.3 ANIMAL SPECIES THEME

The Screening Tool identified the need for an Animal Species Impact Assessment. This is likely due to the selected Application Category, which often triggers this assessment by default.

As the proposed concession area is located offshore, it is highly unlikely that terrestrial animal species of conservation concern (SCC) will occur within the project area. Furthermore, while marine animal species of conservation concern have the potential to occur within Concession 6C (and thus be impacted by the proposed works), these potential impacts have been covered comprehensively within the Marine Impact Assessment.

Consequently, the EAP and Marine specialists have screened-out the need for a discrete Animal Species Assessment.

5.4 PLANT SPECIES THEME

The Screening Tool identified the need for a Plant Species Impact Assessment. This was likely due to limitations of the broad-scale spatial layers used to identify this sensitivity (which aren't suitable to correctly screen offshore environments).

The presence of plant SCCs is essentially impossible, given Concession 6C's distance from the shore, and the water depth.

Consequently, no discrete Plant Species Assessment is required, and this theme has been screened out. However, any potential impacts on marine plant species have been considered within the Marine Impact Assessment.

5.5 NOISE THEME

The Screening Tool identified the need for a Noise Impact Assessment. This is likely due to the selected Application Category within the Screening Tool, which often triggers this assessment by default.

However, while it's possible that the prospecting works could potentially result in localised noise impacts, these were all sufficiently considered within the Marine Impact Assessment. Consequently, no discrete Noise Impact Assessment is required, and this theme has been screened-out.

5.6 ARCHAEOLOGICAL AND CULTURAL HERITAGE THEME

The Screening Tool identified the need for an Archaeological and Cultural Heritage Impact Assessment. This is likely due to the potential occurrence of submerged prehistoric archaeological sites or material within the seabed sediments in portions of the concession area that are shallower than 120 m.

The EAP consulted with the Heritage and Archaeological Specialist, John Gribble, who agreed with the STR findings, and confirmed that a Heritage Impact Assessment (HIA) is required to support the BAR submission—and that this assessment should be submitted to the South African Heritage Resource Agency (SAHRA)—in terms of Section 38 of the National Heritage Resource Act (NHRA), 25 of 1999. It was further identified that the HIA must include input from a Palaeontological Specialist (discussed below). **The HIA has since been completed.**

5.7 PALAEONTOLOGY THEME

The Screening Tool identified the need for a Palaeontological Impact Assessment. This is likely due to the potential occurrence of Cretaceous fossil wood, Paleogene, Miocene shelly macrofauna, Phosphatized/ petrified bones and skulls of extinct marine mammal species, shark teeth and other fish, and/ or exotic or extralimital seashells with palaeontological significance within the offshore concession area.

A Palaeontologist, John Pether, was contacted and confirmed that a Palaeontological Impact Assessment (PIA) was required, and that it should form part of the HIA. Both the HIA and PIA have subsequently been completed.

5.8 SOCIO-ECONOMIC ASSESSMENT

The STR did not identify the requirement for a Socio-Economic Assessment (Potentially due to lack of overlap with Socio-Economic Spatial data upon which the STR relies). However, given the nature and location of this project, there are bound to be social and economic benefits or potential impacts, that need to be considered.

Consequently, the EAP consulted with a Socio-Economic Specialist (Gwynneth Letley), who both agreed that a Socio-Economic Assessment is required. This study has subsequently been completed.

5.9 AGRICULTURAL THEME

The Screening Tool identified the need for an Agricultural Impact Assessment. This is likely due to the selected selected Application Category within the Screening Tool, which often triggers this assessment by default.

However, the site is offshore, with no agricultural land or resources in close proximity that is expected to be affected by the proposed activities. Consequently, it's the EAPs opinion that the study area has no agricultural significance.

The STR result is therefore disputed, this theme has been screened out, and no further assessment is required as part of the BA process.

5.10 TERRESTRIAL BIODIVERSITY THEME

The Screening Tool identified the need for a Terrestrial Biodiversity Impact Assessment. This is likely due to the result of national spatial datasets used in the tool, and errors/inadequacies in these datasets. Given that prospecting works will occur far offshore, no impacts on terrestrial biodiversity are expected.

Consequently, this theme has been screened out, and no Terrestrial Biodiversity Impact Assessment will be conducted as part of the Basic Assessment (BA) process.

5.11 RADIOACTIVITY THEME

The Screening Tool identified the potential need for a Radioactivity Impact Assessment, likely due to the selected Application Category, which often triggers this assessment by default.

However, the natural maximum values of raw mineral radiation from any materials extracted during prospecting are not expected to exceed safety guidelines. As an example, natural maximum values of raw Monazite radiation around workers in a factory was measured at 0.62 mSv y, which is lower than the reference level range for abnormally high levels of 1-20 mSv y for natural background radiation (as published in the International Commission of Radiological Protection (Iwaoka *et al.* 2017).

In addition, all regulations and standards as set out by the South African Maritime Safety Authority (SAMSA), International Maritime Organization (IMO), The International Maritime Dangerous Goods (IMDG) Code and International Atomic Energy Agency Safety Standards (IMDG) will be complied with when prospecting, extracting, working with, storing and transporting any minerals. For this reason, the probability of radioactive material ending up in the ocean is considered INSIGNIFICANT.

On this basis, the EAP confirms that there is no sensitivity for the Radioactivity Theme, and it is therefore screened out. No further assessment is required as part of the BA process.

6 CONCLUSION

Since Concession 6C is located approximately 4–5 km offshore, it is the EAPs opinion that prospecting-related impacts will be limited to the surrounding marine environment; seabed features/resources; and the people that rely upon (or have the potential of relying upon) this environment and its resources—including those individuals actually involved in/benefiting from—the proposed works.

Of the nine themes identified by the National Screening Tool, this SSV found that seven could be screened out—either due to being entirely irrelevant to the proposed works, or because they could be sufficiently considered within other assessments and would require no discrete assessment to be conducted (see Table 6.1). It is important to note that, although the STR did not identify the Marine Theme as a required specialist assessment, the EAP and Marine Specialists recommended that a Marine and Fisheries Impact Assessment be undertaken—due to the nature of the proposed offshore activities, and the potential impacts on the marine environment, resources, and features. The assessment has already been conducted, and includes an evaluation of the potential impacts on marine flora and fauna—including the effects of underwater noise on marine ecology. Likewise, despite not being identified in the STR, the EAP and Socio-Economic Specialist agreed that there are bound to be social and economic benefits or potential impacts associated with the proposed works, and thus a Socio-Economic Assessment is required (which has since been completed).

All told, only four individual specialist studies were identified as required to support this Basic Assessment (BA) process—with the Marine and Fisheries Impact Assessment encompassing four separate assessment themes related to the marine environment; and the Heritage Impact Assessment including impacts pertaining to both Archaeological and Palaeontological resources. All specialist assessments have been undertaken in accordance with their relevant gazetted protocol (see Section 3.1).

Table 6.1 (next page) provides a summary of the Screening Tool themes, associated sensitivity ratings, and required assessments. It also reflects the EAPs verified sensitivity ratings and assessment recommendations for each theme based on the SSV outcomes. The proposed assessments will be undertaken accordingly.

As none of the identified studies have theme-specific protocols, the studies must (and have) comply with Appendix 6 of the EIA Regulations—specifically the *Site Sensitivity Verification Requirements where a Specialist Assessment is Required but no Protocol has been Prescribed* (published in GN 320 of 2020).

Table 6.1. Summary of environmental themes and prescribed sensitivity ratings from the STRs; the EAPs explanation for the STR results, and their recommendation as to the requirement for a specialist study (and the required level of assessment).

Theme/ Identified Assessment (Per STRs)	Screening Tool Sensitivity Rating	Explanation of STR Rating and EAP/Specialist Recommendation
Aquatic Biodiversity Impact Assessment	**No rating** only indicates that an assessment is required.	**Reason for STR Inclusion:** Likely due to the selected Application Category, which often triggers this assessment by default, or due to limitations in the spatial datasets used by the ST, **EAP/Specialist Recommendation:** Since Aquatic Assessments pertain to freshwater and estuarine environments, the far-offshore location of the proposed works means that no aquatic impacts are expected. **Consequently, this study was screened-out.**
Marine Impact Assessment	**Not identified by STR** Theme identified for inclusion by EAP.	**Reason for STR Exclusion:** Despite being located marine environment, this sensitivity was likely not identified due to limitations in the datasets used by the ST. **EAP/Specialist Recommendation:** Given the project location and proposed works, **a comprehensive Marine Impact Assessment was prescribed by the EAP and Specialists—and has since been completed.**
Animal Species Assessment	**No rating** only indicates that an assessment is required.	**Reason for STR Inclusion:** Likely due to the selected Application Category, which often triggers this assessment by default/ due to the offshore nature of the study area. **EAP/Specialist Recommendation: While a discrete Animal Species Assessment is not required,** any sensitivities/impacts on marine animal species (birds, fish, mammals, invertebrates, etc.) were included in the Marine Impact Assessment.
Plant Species Assessment	**No rating** only indicates that an assessment is required.	**Reason for STR Inclusion:** Likely due to broad-scale spatial layers used that may flag areas based on regional vegetation types. **EAP/Specialist Recommendation:** As the concession area is located far offshore, the prospecting works will have no effect on terrestrial vegetation. **Consequently, no discrete study is required.** However, any potential impacts/sensitivities related to marine plant species have been included within the prescribed Marine Impact Assessment.
Noise Impact Assessment	**No rating** only indicates that an assessment is required.	**Reason for STR Inclusion:** Likely due to the selected Application Category, which often triggers this assessment by default. **EAP/Specialist Recommendation: While a discrete Noise Impact Assessment is not required**, all noise sensitivities/impacts on marine animals were identified for inclusion in the Marine Impact Assessment—which has since been completed.
Archaeological and Cultural Heritage Impact Assessment	**No rating** only indicates that an assessment is required.	**Reason for STR Inclusion:** Likely due to the potential occurrence of submerged prehistoric archaeological sites or material within the seabed sediments in portions of the concession area that are shallower than 120 m. **Specialist Recommendation:** The appointed specialist was in agreement with the STR, and agreed that Archaeological/Cultural Heritage Resources may be present in prospecting areas. **Consequently, an Archaeological and Cultural Heritage Impact Assessment was prescribed—which has since been completed.**
Palaeontological Impact Assessment	**No rating** only indicates that an assessment is required.	**Reason for STR Inclusion:** Likely due to the potential occurrence of Cretaceous fossil wood, Paleogene, Miocene shelly macrofauna, Phosphatized/ petrified bones and skulls of extinct marine mammal species, shark teeth and other fish, and/ or exotic or extralimital seashells with palaeontological significance within the offshore concession area. **Specialist Recommendation:** The appointed specialist was in agreement with the STR, and agreed that Palaeontological Resources may be present in prospecting areas. **Consequently, a Palaeontological Impact Assessment was prescribed—which has since been completed.**
Socio-Economic Assessment	**Not identified by STR** Theme identified for inclusion by EAP.	**Reason for STR Exclusion:** Potentially not included due to lack of overlap with Socio-Economic Spatial data upon which the STR relies. **Specialist Recommendation:** Both the EAP and appointed specialist were in agreement that the proposed works may have impacts on Socio-Economic receptors. **Consequently, a Socio-Economic Assessment was prescribed—which has since been completed.**
Agriculture Impact Assessment	**No rating** only indicates that an assessment is required.	**Reason for STR Inclusion:** Likely due to the selected Application Category, which often triggers this assessment by default. **EAP/Specialist Recommendation:** The proposed works will have no bearing on agricultural receptors, due to them occurring far offshore. **This assessment was thus screened-out.**
Terrestrial Biodiversity Impact Assessment	**No rating** only indicates that an assessment is required.	**Reason for STR Inclusion:** Likely the result of national-scale spatial datasets used in the tool/errors in these datasets. **EAP/Specialist Recommendation:** Given the far-offshore location of the proposed works, no Terrestrial Biodiversity Impacts are expected. **Consequently, this study was screened-out.**
Radioactivity Impact Assessment	**No rating** only indicates that an assessment is required.	**Reason for STR Inclusion:** Likely due to the selected Application Category, which often triggers this assessment by default. **EAP/Specialist Recommendation:** None of the proposed prospecting works are expected to produce significant radiological impacts. **Consequently, this study was screened-out.**

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