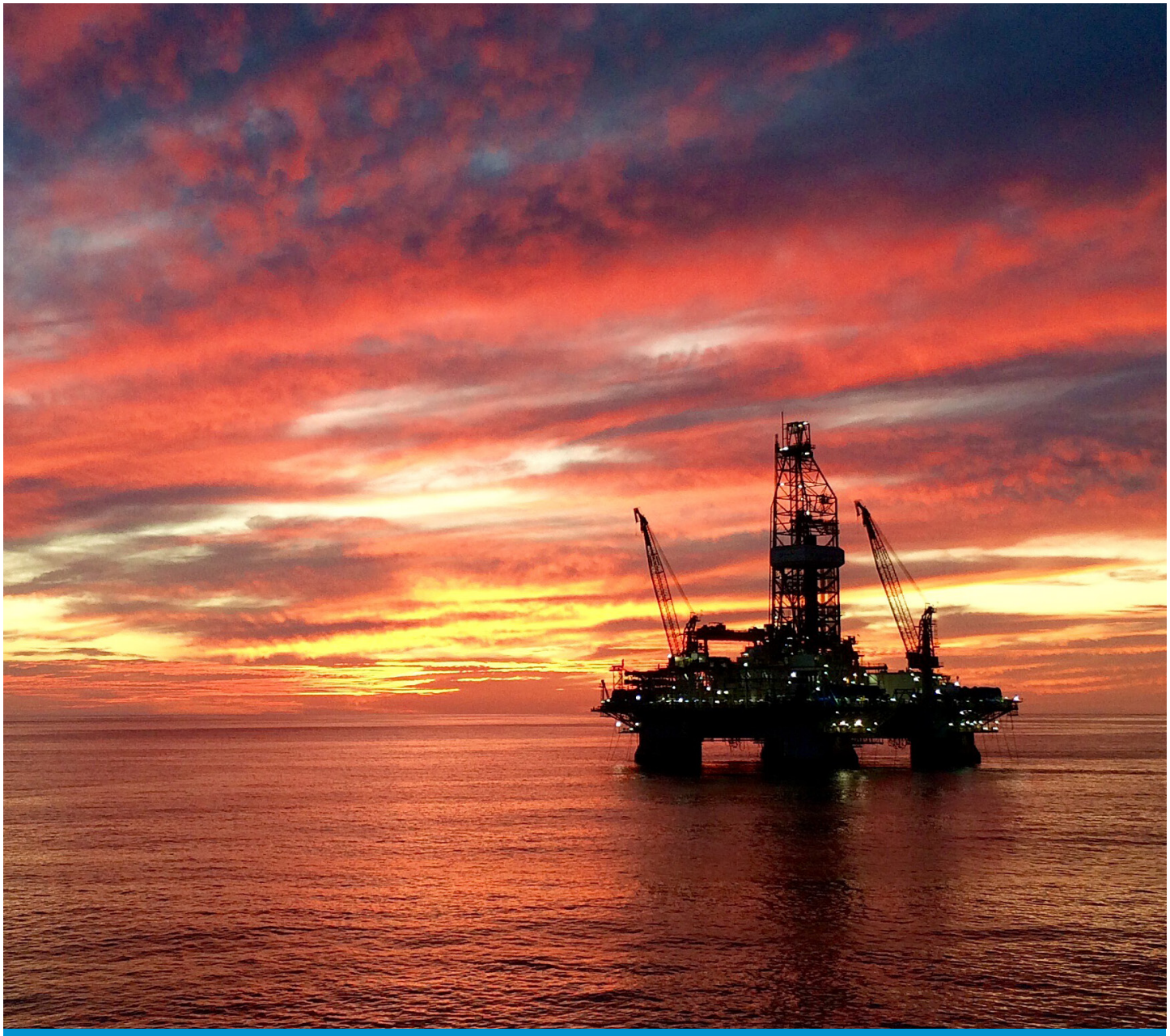


Santos

BAROSSA GAS PROJECT

Drilling and Completions Information Booklet

Santos is continuing its Barossa Gas Project consultation efforts to further ascertain, understand and assess values and sensitivities of the environment that may be affected by our proposed activities, and potential environmental impacts and risks.

There may be information Santos is not yet aware of but needs to properly understand to assess potential activity impacts and risks. Consultation may inform this. It may also inform what control measures are to be proposed to reduce environmental impacts and risks to as low as reasonably practicable and to an acceptable level.

This consultation material specifically relates to the Drilling and Completions Environment Plan.

Overview

Santos is a global energy company committed to helping the world decarbonise to reach net-zero emissions through reliable and affordable energy. For more than 65 years, Santos has been working in partnership with local communities, providing local jobs and business opportunities, safely developing its natural gas resources, and powering industries and households.

The Santos-operated Barossa Gas Project is an offshore gas and condensate project that proposes to provide a new source of gas to the existing Darwin liquified natural gas (DLNG) facility in the Northern Territory.

Natural gas would be extracted from the Barossa field, located in Commonwealth waters approximately 285 kilometres offshore north-north west from Darwin, and transported via a gas pipeline (Gas Export Pipeline GEP and Darwin Pipeline Duplication DPD) to the existing DLNG facility, with first gas targeted for 2025.

Project infrastructure would comprise a Floating Production Storage and Offloading (FPSO) facility, a subsea production system, supporting in-field subsea infrastructure, the GEP and the DPD.

Santos plans to drill six (6) subsea development wells at three (3) drill centres, with contingency plans for an additional two (2) wells. Gas and condensate would be gathered from the wells through the subsea production system and then brought to the FPSO facility via a network of subsea infrastructure.

Initial processing would occur at the FPSO facility, to separate the natural gas, water and condensate extracted from the Barossa field. The dry natural gas would be transported through the gas pipeline for onshore processing at the DLNG facility. Condensate would be transferred from the FPSO to specialised tankers for export.

Environmental approvals

The Commonwealth Government's independent expert regulator for offshore oil and gas development, the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA), accepted the Barossa Offshore Project Proposal (OPP) in March 2018.

Acceptance of the OPP is the government's project-level environmental approval for offshore projects, with construction and operations subject to further acceptance of activity-level environment plans (EPs).

To be accepted by NOPSEMA, an EP must meet the requirements set out in the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009* (OPGGS Environment Regulations).

The OPGGS Environment Regulations set out that an EP must (among other things):

+ comprehensively describe the activity to be carried out under the EP
+ describe the environment that may be affected by the activity, including the values and sensitivities of that environment
+ detail and evaluate the environmental impacts and risks for the relevant activity
+ demonstrate that the impacts and risks of the activity will be reduced to as low as reasonably practicable and an acceptable level (and detail the control measures to be used to achieve this)
+ demonstrate that Santos has consulted, in accordance with regulatory requirements, with each relevant person, including those whose functions, interests or activities may be affected by the activities to be carried out under the EP
+ demonstrate that the measures (if any) that Santos has adopted, or proposes to adopt, because of the consultations are appropriate.

The Barossa Drilling and Completions Environment Plan (Revision 3) was accepted by NOPSEMA in March 2022. Subsequently, drilling under the EP commenced on 16 July 2022.

Following Court proceedings, NOPSEMA's decision to accept Revision 3 of the EP was set aside. Santos has partially drilled and completed one development well. Santos is preparing a new revision of the EP for submission to NOPSEMA. The new revision is being prepared in line with the guidance of the Full Federal Court in relation to Revision 3 of the EP and in particular, guidance provided concerning consultation under the OPGGS Environment Regulations.

In order to meet its proposed schedule for the broader Barossa Project, Santos is aiming to resubmit the Drilling and Completions EP to NOPSEMA and, subject to regulatory approval, to recommence activities in 2023. This timeline has been developed by Santos in order to meet this objective, while still providing a reasonable period for meaningful consultation, having regard to Santos' regulatory obligations and to feedback from relevant persons.

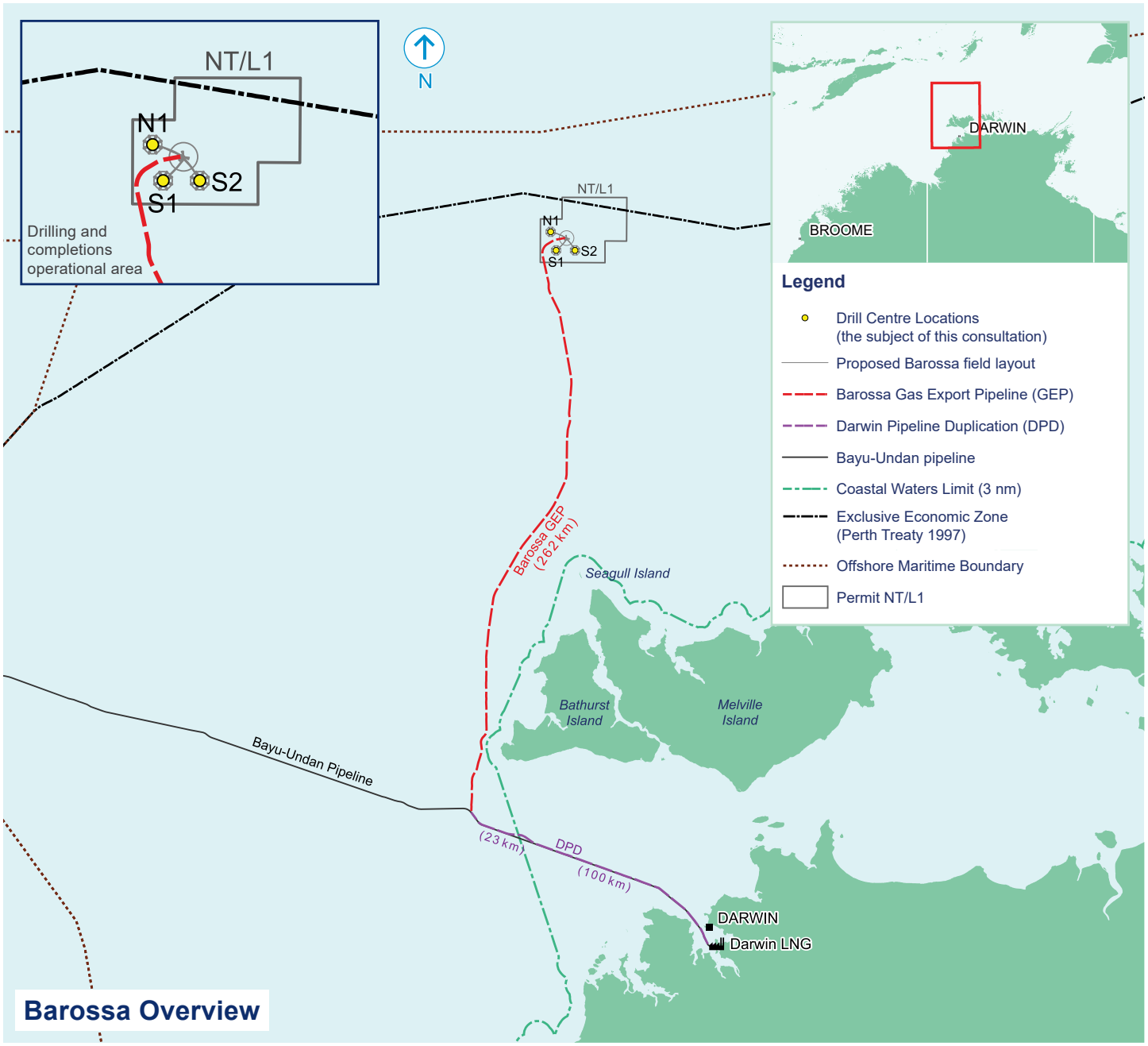


Figure 1 Barossa overview and drilling and completions environment plan operational area

Activity and location

Santos plans to drill six (6) subsea development wells at three (3) drill centres (S1, S1, N1 – refer to Figure 1) in the Barossa field. Contingency plans provide for an additional two (2) development wells to be drilled. The final well locations are subject to change (by up to 1km) but will remain within the defined operational area. Wells are to be drilled using a moored semi-submersible mobile offshore drilling unit (MODU).

A MODU is a moored drilling vessel that floats semi-submerged while drilling. A picture of a MODU is shown in Figure 2. The water depth at the three drill centres ranges from 230 metres to 280 metres deep.

The MODU will be supported by up to four (4) support vessels which will transit between the drilling area (see Figure 1) and the onshore supply base in Darwin. The offshore support vessels are specially designed ships that will cater for the logistical servicing of the offshore activity. This includes activities such as delivering supplies and equipment, moving equipment and positioning the MODU.

The permit area NT/L1 has been defined as the operational area within which drilling activities will occur (Figure 1). During drilling, a 500-metre exclusion zone (known as a petroleum safety zone (PSZ)) will be in place around the MODU. The exclusion zone will remain around each well until eventual field decommissioning. Vessels are prohibited from entering or being present in a petroleum safety zone without authorisation. For more information, visit the National Offshore Petroleum Safety and Environmental Management Authority website.

During drilling, a cautionary zone will also be in place around the MODU and anchors, which may extend up to 2.5 km from the MODU within which marine traffic will be monitored and clear communications maintained to reduce the risk of vessel interactions. Each well is expected to take about 90 days of continuous well operations (24 hours per day, seven days per week) to drill and complete. Activities are anticipated to be completed within about two years, subject to, for example, weather and operational performance.

Once drilling of a well is complete, an offshore light well intervention vessel (LWIV) or the MODU will install pressure-containing safety equipment at the top of each well, referred to as a subsea "Christmas Tree". The Christmas Tree will act like a tap, so Santos can control the

flow and pressure of the gas. The Christmas Tree is the primary mechanism for shutting in the well at the seabed and serves as the interface for well re-entry operations. The installation of well casing and the Christmas Tree is known as completion of the well.

A subsea control module attached to the tree contains the instrumentation, electronics and hydraulics connections needed for safe operation of the subsea tree valves, chokes and downhole valves.

Once installed, the wells remain suspended until future commissioning and production phases (which will be addressed in separate activity EPs).

Overview of proposed activities under Drilling and Completions EP

Further to the Activity Summary above, the list below provides an indicative breakdown of the types of activities proposed to be carried out under the Drilling and Completions EP:

+ movement of the MODU within the operational area (including the entry and exit of the area)
+ MODU and vessel commissioning and demobilising activities (e.g., equipment testing, tank flushing and cleaning, inventory management, etc.)
+ deployment and recovery of the MODU anchors and mooring lines (including potential for pre-lay anchors)
+ deployment and operation, and eventual removal, of a temporary acoustic survey positioning system
+ riserless drilling
+ drilling with a conventional closed-circulating fluid system and riserless mud recovery
+ installation of casing strings
+ drilling using water-based and non-aqueous drilling fluid systems
+ installation and operation of a blow-out preventer (BOP)
+ cementing
+ well completions, including perforating and well flowback (i.e., sampling, clean up, and flaring)
+ installation of Christmas Trees
+ contingency activities such as side-track drilling, re-drilling sections, re-spud and abandonment
+ light well intervention
+ ongoing well inspection, maintenance and management
+ general operations associated with the use of a MODU, vessels, helicopters and remotely operated vehicles (ROVs) within the operational area.

More detail about the specific activities proposed to be carried out under the Drilling and Completions EP can also be provided during consultation. If you have questions or would like further information about the detail of the activities listed above or what they involve, please ask us. Visit **santos.com/barossa**, phone **1800 267 600**, email **offshore.consultation@santos.com**.

Regional existing environment summary

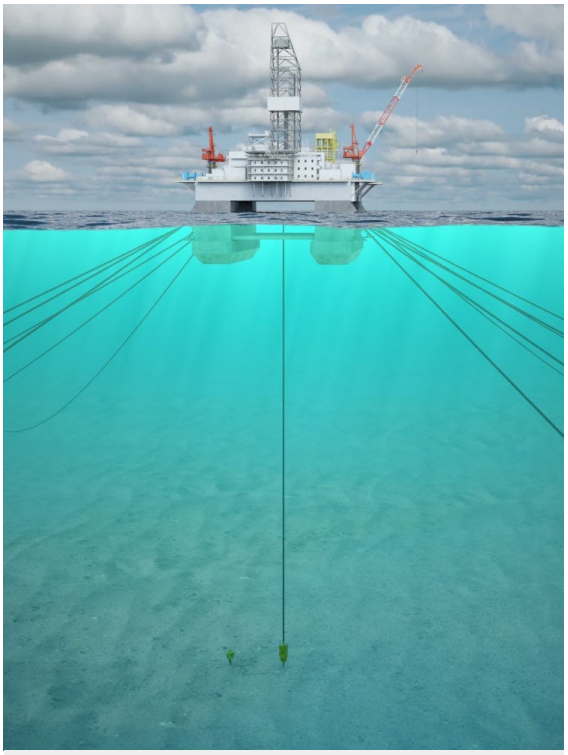


Figure 2 Graphical representation of MODU drilling

EMBA – environment that may be affected

In the preparation and assessment of EPs, each of the following is considered part of the 'environment' (under regulation 4 of the OPGGS Environment Regulations):

+ ecosystems and their constituent parts, including people and communities
+ natural and physical resources
+ the qualities and characteristics of locations, places and areas
+ the heritage value of places.

'Environment' includes the social, economic and cultural features of each of the above.

Santos recognises the region's various environmental values and sensitivities. In an EP, it is common to present a geographically defined area of the environment that may be affected (EMBA) by an offshore activity, primarily from a hydrocarbon spill.

The EMBA was defined by overlaying hundreds of individual hypothetical spill model simulations into a single map using the low threshold exposure values (which can equate to approximately 1 millilitre of hydrocarbon per 1000 litres of sea water) to identify the full geographical extent of the environment that might be contacted by hydrocarbons. This also provides the basis for assessing the range of potential socio-economic risks and establishes a planning area for scientific monitoring.

The entirety of an EMBA is not considered to be representative of biological impact, but is used for identifying the full geographical extent of the environment that could potentially be affected (including where the effect may not constitute a significant impact).

As EMBA threshold values are very low, the Moderate Exposure Value (MEVA) thresholds (which equate to approximately 10 millilitres of hydrocarbon per 1000 litres of sea water) is used to inform environmental assessment, identify potential environmental consequences, and develop spill response plans. The EMBA and MEVA are illustrated in Figure 3 below.

It should be noted that an actual spill is more accurately represented by only one of the simulations from the modelling, meaning a much smaller geographical area would be affected in the event of an actual spill.

To learn more about spill modelling, exposure values and spill responses, see NOPSEMA Spill Modelling Video.

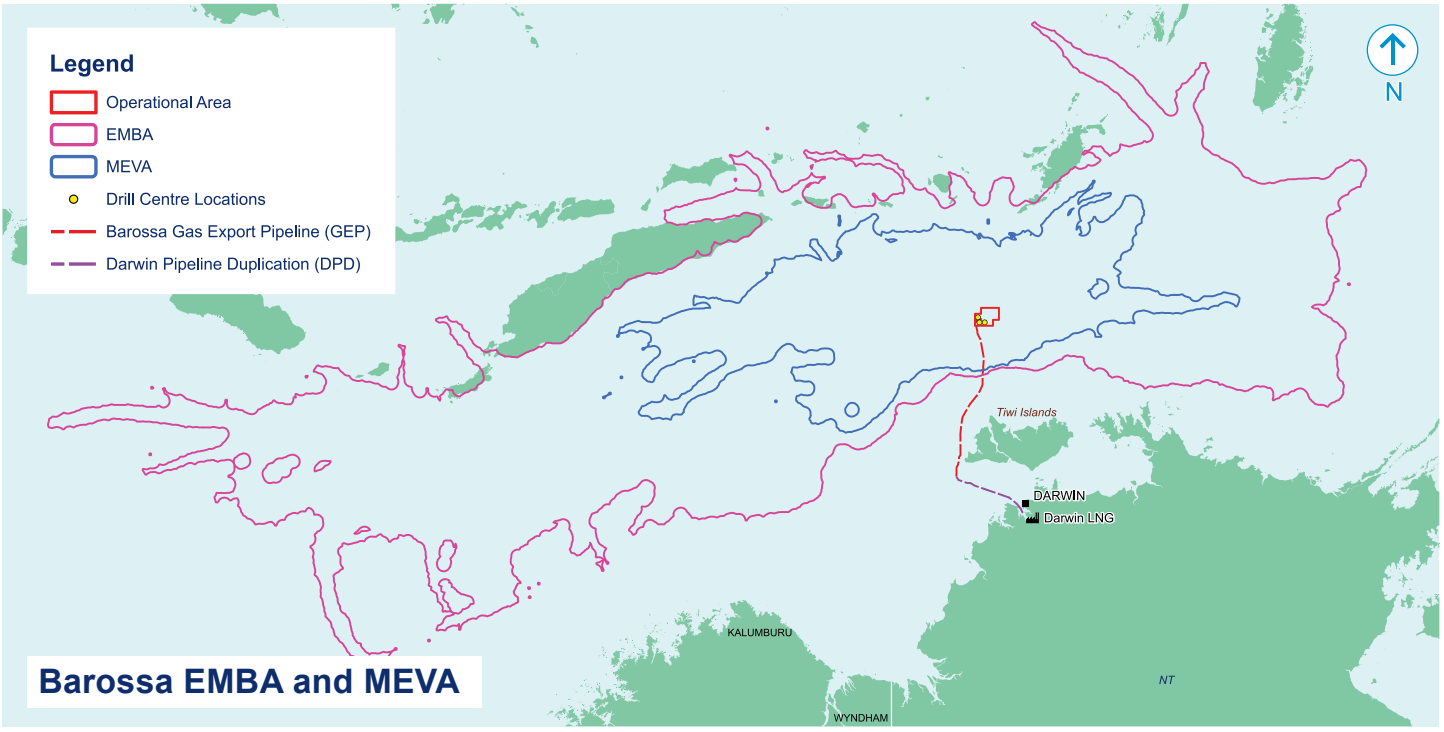


Figure 3 The EMBA and MEVA

Regional protected and significant areas

Table 1 contains a summary of known values and significant areas within the EMBA recognised under relevant environmental legislation. Further information in relation to each area can be found in Revision 3 of the Drilling EP. *Note that Revision 3 is in the process of being updated by Santos for resubmission to NOPSEMA.*

Protected and significant areas	Summary of known values and significant areas	Operational area	EMBA	Distance to operational area (km)
Australian marine parks				
Oceanic Shoals Marine Park	Important resting area for flatback and Olive Ridley turtles between egg laying (inter-nesting area) and foraging area for the loggerhead and olive ridley turtle.	✗	✓	**33**
Arafura Marine Park	This area may contain cultural and natural values, including sea country. Ecosystems representative of the Northern Shelf Province, Timor Transition and Tributary canyons of the Arafura Depression key ecological feature. There are turtle and seabird biologically important areas within the marine park.	✗	✓	**230**
Ashmore Reef Marine Park	Ecosystems representative of the North West Shelf, Timor Province and emergent oceanic reefs. This marine park has turtle, seabird, dugong and whale biologically important areas, including critical nesting and inter-nesting habitat for green turtles. The Ashmore Reef Marine Park is located in Australia's external territory and is subject to a memorandum of understanding between Indonesia and Australia. The marine park may also contain cultural and heritage sites. Commercial tourism, recreation and scientific research are important socioeconomic values of the marine park.	✗	✓	**796**
Ashmore/ Cartier Island Marine Park	Ecosystems representative of the Timor Province. This marine park has regional importance for feeding and breeding aggregations of birds and marine life, and contains a high diversity of fish, and hard and soft corals. The marine park provides inter-nesting, nesting and foraging habitat for marine turtles. The Cartier Island Marine Park is located in Australia's external territory and is subject to a memorandum of understanding between Indonesia and Australia.	✗	✓	**770**

Protected and significant areas	Summary of known values and significant areas	Operational area	EMBA	Distance to operational area (km)
State marine parks, management areas and reserves				
Scott Reef Nature Reserve	Valued due to a rich ecosystem supported by a group of atoll-like reefs surrounded by open ocean.	✗	✓	**1004**
Commonwealth heritage places				
Ashmore Reef National Nature Reserve	Significant due to the history of human use and occupation of the atoll. Islands are believed to have been visited by Indonesian fishermen, as well as Macassans and Bajo and people from the island of Ceram.	✗	✓	**800**
Scott Reef and surrounds – Commonwealth area	Significant due to its high representation of species with affinities with oceanic and Indonesian reef habitats that are not found in coastal waters.	✗	✓	**1004**
Wetlands of international and national importance (EPBC)				
Ashmore Reef Ramsar Site & Marine Park	Significant due to the importance of the islands in providing a resting place for migratory shorebirds and supporting large breeding colonies of seabirds. Ashmore Reef plays a primary role in the maintenance of biodiversity in reef systems in the region.	✗	✓	**796**
Key ecological features				
North Marine Region				
Carbonate bank and terrace system of the Van Diemen Rise	Unique seafloor features characterised by terrace, banks, channels and valleys. Supports rich sponge gardens, corals and diversity of fish life. Foraging areas for loggerhead, olive ridley and flatback turtles and provide habitat for humpback whales and sawfish. Regionally important due to enhancing productivity relative to their surrounds.	✗	✓	**50**
Pinnacles of the Bonaparte Basin	Unique seafloor features characterised by the largest concentration of pinnacles along the Australian margin. Recognised as a sponge biodiversity hotspot, and regionally important due to biodiversity value.	✗	✓	**191**
Shelf break and slope of the Arafura Shelf	Unique seafloor features characterised by continental slope, patch reefs and hard substrate pinnacles. An important ecological feature that enhances biological productivity and attracts pelagic organisms.	Yes, however, surveys confirm that the values associated with the key ecological feature are not within or proximal to the operational area.	✓	**0**
Tributary canyons of the Arafura Depression	Tributary canyons are seabed features that are approximately 80- 100 metres deep and 20km wide. Nationally and regionally important due to high productivity, high levels of biodiversity and endemism.	✗	✓	**242**
North-West Marine Region				
Ancient coastline at 125 m depth contour	The hard seabed substrate may provide a habitat for higher diversity and enhanced species richness relative to surrounding areas of predominantly soft sediment.	✗	✓	**698**

Protected and significant areas	Summary of known values and significant areas	Operational area	EMBA	Distance to operational area (km)
Ashmore Reef and Cartier Island and surrounding Commonwealth waters	Areas of enhanced productivity in an otherwise low-nutrient environment of regional importance for feeding and breeding aggregations of marine fauna. Includes the most diverse variety of fish of any region in Western Australia.	✗	✓	**765**
Carbonate bank and terrace system of the Sahul Shelf	Unique seafloor features characterised by terrace, banks, channels and valleys. Foraging areas for loggerhead, olive ridley and flatback turtles and habitat for humpback whales and green sawfish.	✗	✓	**321**
Continental slope demersal fish communities	High diversity of demersal fish assemblages. The EMBA covers about 50% of the total area of this key ecological feature.	✗	✓	**771**
Seringapatam Reef and Commonwealth waters in the Scott Reef Complex	Regionally important in supporting the diverse aggregations of marine life including whales in migration, high primary productivity and high species richness associated with the reefs themselves.	✗	✓	**971**

Table 1 Regional protected and significant areas

Marine fauna and biologically important areas

The Australian Government has not defined any biologically important areas or habitat critical to the survival of any species under the Environment Protection and Biodiversity Conservation Act 1999 within or close to the operational area. Within the EMBA there are biologically important areas for whale sharks, blue whales, dugongs, turtles and birds (Figure 4).

Drilling and completion activities will be conducted in water depths ranging from 230-280 metres where there is a variety of highly mobile marine fauna with a wide distribution that may transit the area in low numbers, such as:

+ blue, fin and sei whales
+ olive ridley, loggerhead, leatherback and flatback turtles
+ whale sharks
+ seabirds and migratory shorebirds
+ fish and sharks.

Santos has considered government guidance, including wildlife management plans, recovery plans, conservation advice and threat abatement plans in the development of the EP and to develop control measures to reduce impacts and risks to marine fauna and biologically important areas to as low as reasonably possible and to an acceptable level.

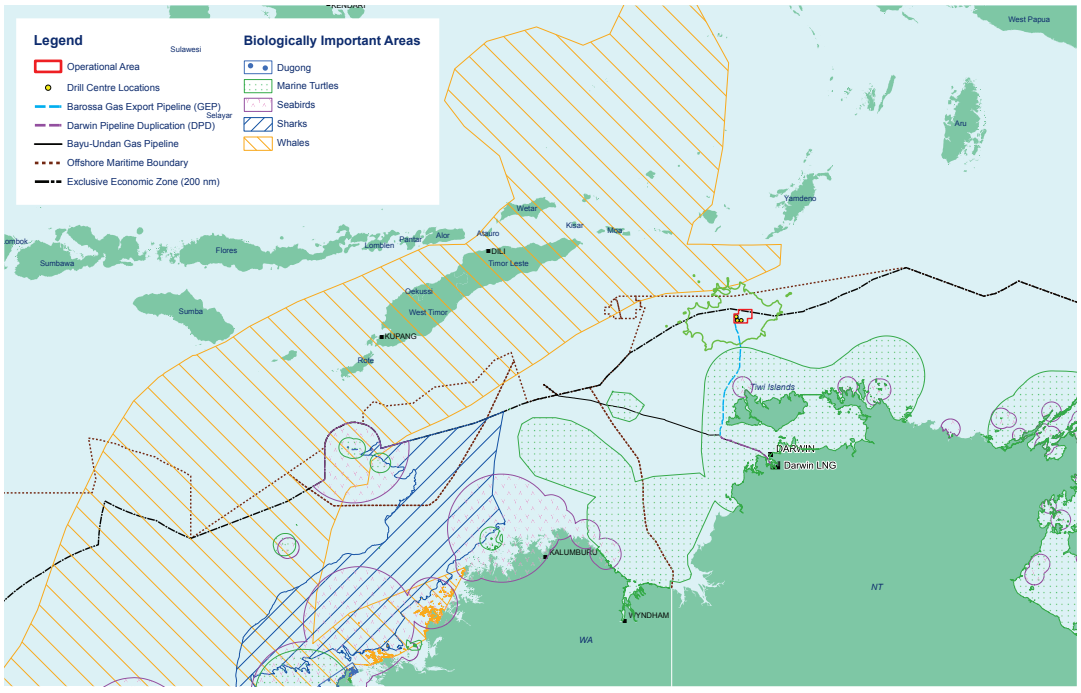


Figure 4 Closest biologically important areas to the operational area

Regional socio-economic summary

Regional socio-economic activities may include commercial, recreational and traditional fishing, aquaculture, tourism, petroleum industry activities, defence and shipping. Heritage and cultural values may also exist across the region due to the water depth and the remote offshore location of the operational area. The most likely marine users in the vicinity will be commercial fishing and shipping.

Nearest population centres

The operational area is located approximately 131km from Seagull Island which is part of the Tiwi Islands, Northern Territory (NT) with 2,348 residents reported during the 2021 Australian Bureau of Statistics census. Darwin, NT, is the closest city, located approximately 300km from the operational area, with a population of 148,801 residents. Darwin will be the logistics hub and supply base for the drilling activities, bringing employment and economic benefits to the local community.

Summary of other uses within the EMBA

Santos' understanding of the uses and values of the area, and its strategies to reduce impacts or risks to these uses and values, will be informed by consultation. Santos has set out in the list below a summary of the uses and values of the area of which it has knowledge based on existing information or previous consultation. Santos welcomes further information and encourages stakeholders to raise any further uses with Santos.

Commercial fishing

Santos recognises the presence and rights of commercial fishers within the operational area and EMBA. While the operational area is remote and water depths preclude most commercial fishing, the Timor Reef Fishery operates throughout the year. Low-level fishing effort for scampi also occurs in December and January each year in the north of the operational area. Other Commonwealth and NT managed fisheries provide rights to fish in the operational area, but activity has not recently occurred within the operational area and is considered highly unlikely due to the water depth, remoteness, distribution of targeted species and concentration of effort near coastal areas. Santos has been consulting with the relevant fisheries representative associations, licence-holders and government over many years.

Tourism and recreational fishing

The operational area is located in offshore waters that are not likely to be accessed for tourism activities (e.g. charter boat operations) or recreational fishing, as these tend to be centred around nearshore waters, islands and coastal areas. However, previous consultation has identified one fishing charter operator who may on occasions conduct tours near Evans Shoal, 62km west of the operational area. There are several shoals and banks within the EMBA, and some of these may be visited by small numbers of recreational fishers/charter vessels targeting fish that inhabit these shallower features. Indonesian and Timorese traditional fishers, as well as Australian recreational fishers, are expected to transit and fish in the EMBA. Some fishers may transit the operational area when travelling between sites.

Shipping

The Darwin Port is Australia's nearest port to Asia and the nation's 'northern gateway' for Australasian trade. It is the only port between Townsville (Queensland) and Fremantle (Western Australia) with full access to multi-modal transport services. The types of trading vessels include barges, rig tenders, LNG vessels, bunkers, livestock carriers, liquid bulk carriers and other types of vessels, with 1,510 trading vessel calls to port from 2021 to 2022. In addition to trading vessels, Darwin Port also services cruise ships and naval and fishing vessels.

There is also a port, Port Melville, located at Garden Point, Tiwi Islands, NT. Port Melville is a multi-user facility supporting the Northern Territory oil & gas industry, marine transport industry and local Tiwi community through the provision of a port facility and ancillary services (such as laydown areas and accommodation).

Petroleum industry

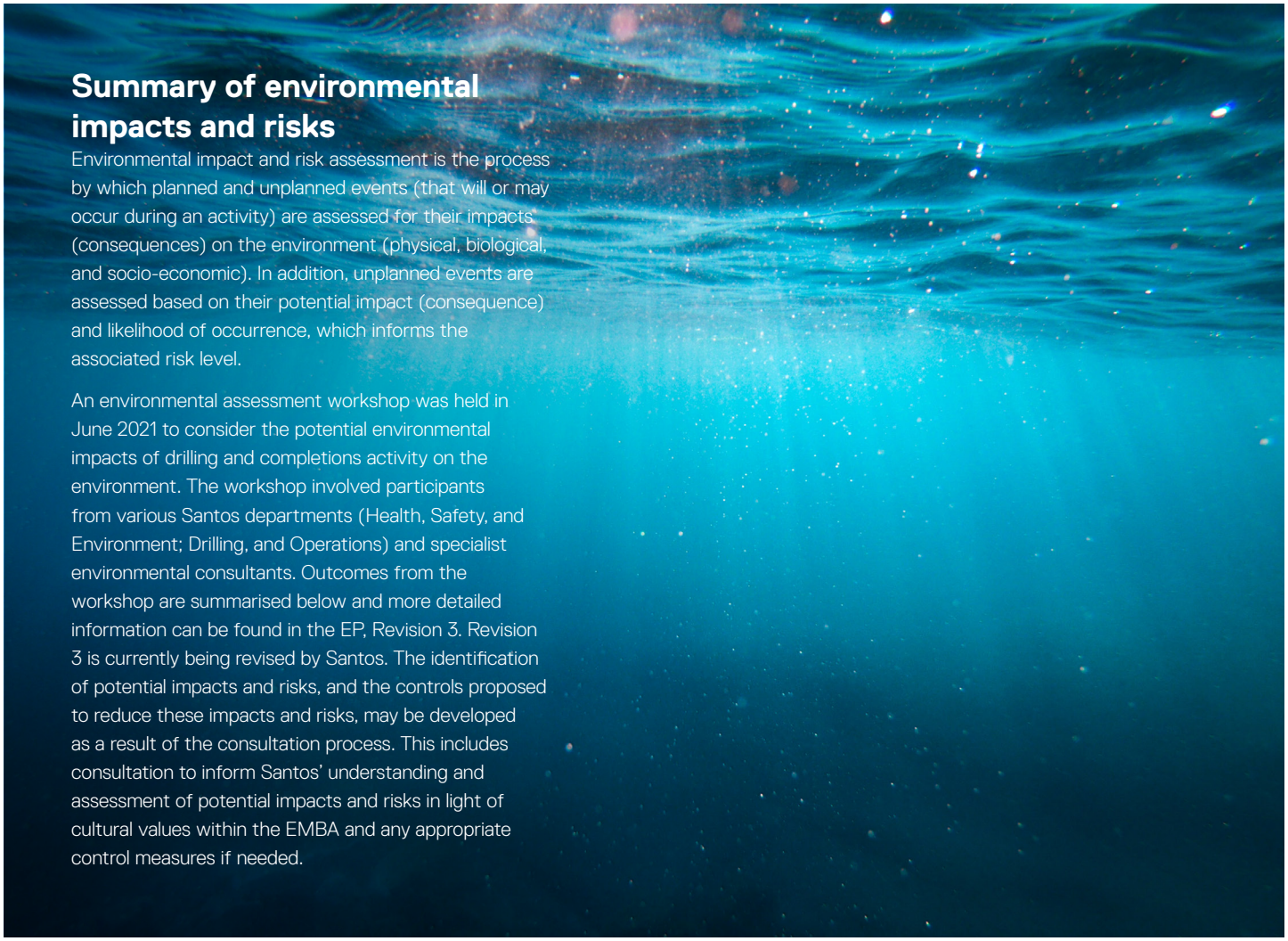
The closest operational offshore production facility is the Santos-operated Bayu–Undan platform located approximately 409km southwest of the operational area. The Bayu–Undan field produces natural gas that is exported via pipeline to the DLNG facility. Petroleum retention lease area and exploration permit leases within the region are currently held by various oil and gas operators (and subsidiaries), including Carnarvon Petroleum Limited, Woodside Energy Ltd, Shell Development (Australia) Pty Ltd, Osaka Gas Australia Pty Ltd, Eni Australia Limited, Origin Energy, and Timor Sea Oil & Gas Australia Pty Ltd.

Heritage

The closest world heritage property, national heritage place or Commonwealth heritage place is Ashmore Reef National Nature Reserve (a Commonwealth heritage place found 800km south-west of the operational area). Both the Ashmore Reef National Nature Reserve and the Scott Reef and Surrounds – Commonwealth area intersect the EMBA.

Cultural values

Santos has been alerted to Traditional Owners' connections with Sea Country. Santos is seeking to identify cultural features within the EMBA including through consultation with Traditional Owners and their relevant representative bodies. There are currently no native title claims or determinations within the EMBA.



Summary of environmental impacts and risks

Environmental impact and risk assessment is the process by which planned and unplanned events (that will or may occur during an activity) are assessed for their impacts (consequences) on the environment (physical, biological, and socio-economic). In addition, unplanned events are assessed based on their potential impact (consequence) and likelihood of occurrence, which informs the associated risk level.

An environmental assessment workshop was held in June 2021 to consider the potential environmental impacts of drilling and completions activity on the environment. The workshop involved participants from various Santos departments (Health, Safety, and Environment; Drilling, and Operations) and specialist environmental consultants. Outcomes from the workshop are summarised below and more detailed information can be found in the EP, Revision 3. Revision 3 is currently being revised by Santos. The identification of potential impacts and risks, and the controls proposed to reduce these impacts and risks, may be developed as a result of the consultation process. This includes consultation to inform Santos' understanding and assessment of potential impacts and risks in light of cultural values within the EMBA and any appropriate control measures if needed.

Planned activities

The Santos environmental assessment identified the following main potential impacts or risks associated with the planned activities:

- NOISE SOURCES
- LIGHT SOURCES
- SEABED DISTURBANCE
- INTERACTIONS WITH OTHER MARINE USERS
- AIR EMISSIONS
- DISCHARGES

Santos proposes to adopt a suite of Santos and contractor systems, procedures and standard control measures to reduce impacts and risks associated with these planned activities to a level that results in a minor or negligible environmental consequence. These consequence levels are considered by Santos to be acceptable and as low as reasonably practicable.

Santos continues to consult on the proposed drilling and completions activities to inform its understanding of environmental and cultural values and sensitivities, and the assessment of associated impacts, risks and control measures.

NOISE SOURCES

During the activity, noise will be generated by the MODU, drilling operations and flaring and from support vessels and helicopters. The MODU does not have propulsion so will not generate noise from propellers. The majority of the noise sources involved in the activity are lower pressure and not subject to sharp increases or decreases (e.g., engine noise) and will therefore be typical of other marine noise in the region (commercial shipping, fishing etc).

What impacts are expected?

Santos engaged subject matter experts to conduct several underwater noise assessments.

Studies supporting the risk assessment indicated potential temporary impacts to marine fauna are limited to 12km from the MODU and vessel noise sources, with no significant impacts at the species population level.

There are no known significant feeding, breeding or aggregation areas for any fauna within the operational area. The closest biologically important areas are for the pygmy blue whale and marine turtles, which are greater than 50km away. Although no biologically important area is within or close to the operational area, individual noise-sensitive fauna (including whales and turtles) may transit the area.

The activities will be conducted over a limited timeframe in a remote offshore location where there is a relatively low probability of encountering significant numbers of noise-sensitive fauna. Transiting marine fauna are expected to demonstrate short-term avoidance behaviour within the operational area. Overall, negligible environmental consequences are predicted.

How will Santos manage impacts?

Vessels are required to comply with Santos' Protected Marine Fauna Interaction and Sighting Procedure which requires compliance with regulatory requirements for managing noise impacts to fauna.

Control measures include restrictions on vessel and helicopter direction and speed to limit noise impacts to marine fauna.

LIGHT SOURCES

Artificial lighting is required for operational and navigational safety during the activity. Light sources include:

+ safety and navigational lighting on vessels, including the MODU (24 hours per day)
+ spot lighting when needed, such as when deploying or retrieving equipment
+ light from flaring during well flowback (intermittent, typically occurs for approximately 2-3 days).

Due to the size and height of the MODU, light from the MODU will be more visible than from other vessels.

What impacts are expected?

Light may impact light-sensitive marine fauna such as fish, turtles, seabirds and migratory shorebirds. Industry drilling lighting studies estimate that direct light from intermittent emergency MODU flaring may be visible up to ~52km from the MODU.

The most significant risk posed to marine turtles from artificial lighting is the potential disorientation of hatchlings following their emergence from nests by light spill on beaches, although breeding adult turtles can also be disoriented. The nearest turtle nesting beaches are greater than 138km from the operational area, where the MODU will be located.

While seabird species such as wedge-tailed shearwaters may be present within the operational area, the nearest wedge-tailed shearwater BIA is located more than 700km from the operational area and the nearest breeding colony further still.

Lighting is, therefore, expected to have a negligible impact on breeding or hatchling turtles and seabirds. Fish and seabirds may be attracted to artificial light leading to a short-term localised increase in fauna activity. The activity is assessed as unlikely to impact species abundance or distribution. Marine mammals are not known to be attracted to light sources at sea. Whales predominantly use acoustic senses rather than visual cues.

How will Santos manage impacts?

The vessels, including the MODU, are expected to produce similar light levels to other marine vessels in the region. Lighting is to be limited to that required for safe operations and compliance with maritime regulations.

INTERACTIONS WITH OTHER MARINE USERS

Other marine users that may be in the vicinity of the Barossa field include commercial fishing, shipping and other incidental marine traffic. Tourism and recreational fishing vessels are not expected in the operational area given the water depth and distance offshore.

Helicopter operations will be infrequent and unlikely to interfere with other marine users. Helicopters will not fly over the Tiwi Islands or Seagull Island unless in the case of an emergency.

What impacts may occur?

The area that other marine users will be excluded from is small when compared to the large area available for their use. Marine users have coexisted with previous Barossa petroleum activities (e.g., exploration drilling) and other nearby maritime activities (e.g., military exercises). Communication before and during the activity with other marine users is designed to reduce the likelihood of unplanned interactions.

How will Santos manage the impacts?

Santos is to communicate with other marine users before, during and at the end of the activity. Standard maritime notifications (e.g., Notice to Mariners) are designed to inform other marine users of the activity.

The MODU and vessels are to use automatic identification systems to aid in their detection at sea. Support vessels are to actively communicate with third-party vessels to inform them of the drilling activities. Well locations are to be marked on nautical charts. These proposed control measures are designed to be consistent with maritime regulations and industry practices.

AIR EMISSIONS

Air emissions will occur from:

+ fuel combustion to operate the MODU, vessels and helicopters
+ operation of vessel incinerators
+ hydrocarbon combustion through the MODU flare during well flowback activities
+ tank venting when transferring dry bulk drill products (e.g., barite, bentonite, cement) to prevent tank overpressure. The vented air will contain minor quantities of product particles.

What impacts are expected?

The potential impacts of air emissions identified include:

+ deterioration of local air quality
+ contribution to national greenhouse gas (GHG) levels.

Air emissions may result in a temporary, localised reduction of air quality. In the offshore environment, air emissions rapidly dissipate into the surrounding atmosphere. Impacts are very localised and not significant.

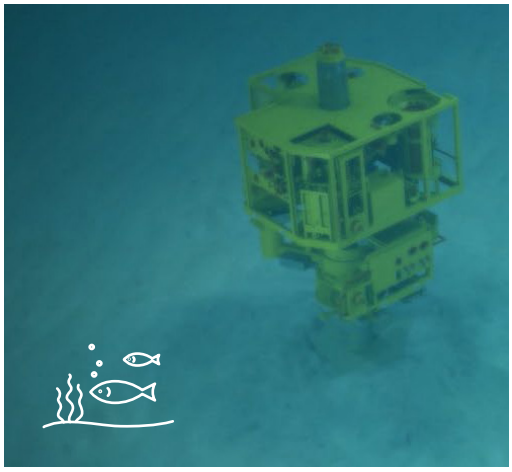
Seabirds and migratory shorebirds are unlikely to be impacted by the localised and temporary reduction in air quality.Detectable environmental impacts are not predicted from greenhouse gas emissions during drilling and completions operations.

The estimated direct GHG emissions are 168,000 tonnes of CO2-e, which is less than 0.03% of the total 2022 annual Australian GHG emissions. No indirect GHG emissions are associated with this drilling activity as there is no ability to extract, produce or transport the natural gas. The future Barossa Production Operations EP will assess indirect GHG emissions for the Barossa Development associated with end use combustion of Barossa natural gas and condensate products.

How will Santos manage impacts?

Santos proposes to adopt numerous control measures to manage MODU and vessel emissions, including requiring contractor MODU/vessels' compliance with MARPOL requirements for use of low-sulphur fuel and air pollution prevention certifications. ('MARPOL' is a reference to the International Convention for the Prevention of Pollution from Ships).

Well flowback flaring is planned to be temporary and of short duration (approximately 2-3 days) and flowback procedures are to be adopted for effective flaring of hydrocarbons. The control measures to be adopted are designed to be consistent with maritime regulations and petroleum industry standards. Santos has a climate transition strategy and action plan to become a net-zero emissions energy and fuels business by 2040.



SEABED DISTURBANCE

Seabed disturbance will occur because of:

+ MODU mooring (anchoring)
+ well construction
+ placement of objects on the seabed such as drilling equipment.

MODU mooring and well construction will cause an estimated seabed disturbance of 1560m2 (at each of the three drill centres) and 5m2 (for each well). This will result in localised impacts to benthic habitat (and associated fauna) in the operational area.

What impacts are expected?

Extensive marine studies have been completed within the operational area to inform the impact assessment. The seabed within the area is generally flat and devoid of any significant physical seabed or habitat features. Benthic habitats and fauna assemblages expected to be impacted are considered widespread throughout the region.

The 'Shelf break and slope of the Arafura Shelf' key ecological feature (KEF) overlaps a portion of the operational area. The estimated seabed disturbance represents a very small portion of this KEF (<0.001%). This key ecological feature is valued for its sea floor, which features the shelf break and patch reefs, hard substrate pinnacles and submerged reefs of the shelf slope. The sea floor features related to this key ecological feature have not been observed within the operational area.

There is no biologically important area for any marine fauna species within the operational area. Given the small scale of seabed disturbance and knowledge of the existing environment, significant impacts to marine fauna as a result seabed disturbance are not expected to occur.

Cultural values within the operational area and associated potential risks and impacts will continue to be identified, including through consultation with First Nations Peoples and their representative bodies, so that these can also be assessed. Seabed disturbance is not expected to impact commercial fisheries based on the small size of disturbance compared with the large available fishing area.

How will Santos manage impacts?

The MODU anchor mooring design and station keeping system are designed to limit the extent of seabed disturbance by minimising the length of mooring line deployed, and all deployed equipment is to be recovered at the end of a drilling campaign to enable seabed and habitat recovery. Santos continues to consider risks and impacts to cultural values and additional control measures may be adopted following consultation.

DISCHARGES

Discharges will occur from the MODU and support vessels, and during drilling and completions activities.

Vessel discharges

The types of discharges are typical of most offshore commercial vessels and include deck runoff, treated sewage and grey water, machinery cooling water, treated bilge water, ballast water, macerated food scraps and brine (from water making). These discharges will be small in volume and released into surface waters. The MODU will produce similar operational discharges.

Drilling and completions discharges

Discharges from drilling and completions activities include drilled solids, drilling and control fluids, brines, cement, formation water, hydraulic fluids, chemicals such as tracer dyes, and tank cleaning products.

During drilling, the drill bit produces 'cuttings' (drilled solids) which become entrained in the drilling fluids (or muds). Over time, the drilled solids and fluids are discharged to the seabed and sea surface. Drilling discharges with larger particle sizes, such as large drill cuttings, are expected to settle directly around the MODU and wells. In contrast, discharges with finer particles, such as drilling muds, may be carried with prevailing currents before settling.

Cement is required for well construction. The majority of cement pumped remains downhole (i.e., in the well), but minor volumes may be discharged to the seabed or sea surface (e.g., during cement tank cleaning).

Once a well has been drilled, subsea well completion fluids will be required to render the well 'solids free' and to prevent the formation of downhole contamination. Brines (highly concentrated solutions of inorganic salts) are used for this purpose. Residual brines will be discharged at sea surface.

Formation water may be produced from the reservoir during well flowback and discharged to the sea. Well flowback notionally takes ~2-3 days per well. The non-flammable completion fluids and produced water will be treated via a water treatment package to reduce the oil-in-water content to <30 mg/L before being discharged. Methanol and mono-ethylene glycol (MEG) may also be injected into the flow stream and either flared or discharged to the sea. These substances "Pose Little or No Risk to the Environment" (PLONOR) as determined by the OSPAR Commission.

A blowout preventer (BOP) is to be installed during drilling and subsea Christmas Trees are to be installed on each of the wells once drilling is complete. The BOP and Christmas Trees are to be routinely checked by completing pressure and function testing. Each function test will release small volumes of control fluid near the seabed.

What impacts are expected?

Vessel discharges

Vessel discharges will be localised and limited to surface waters. Machinery cooling water discharge will be continuous but all other operational discharges will be intermittent and of short duration (minutes to hours). The discharges are expected to be dispersed and diluted rapidly within the offshore waters. Discharges may cause short-term changes to behaviour in marine fauna (avoidance or attraction). For example, fish and seabirds may be attracted to macerated food scraps discharged by vessels. Increased biological oxygen demand on the receiving waters may promote localised elevated levels of phytoplankton due to nutrient inputs and bacteria activity due to organic carbon inputs. This could subsequently impact higher order predators. However, analysis indicates that dispersion and dilution are expected to be rapid and the discharges of nutrient-rich fluids are of low volume.

Drilling and completions discharges

Drilling and completions discharges will be intermittent during the activity, with volumes dependent on a range of variables. Discharges to the marine environment will result in a localised (around the discharge location) and temporary (minutes to hours) reduction in water quality. The operational area is in a high-energy, well mixed deep open water environment. The discharges are expected to be dispersed and diluted rapidly, with concentrations significantly dropping the further away from the discharge location. Water quality change outside the operational area is unlikely to occur.

The discharges are not expected to have significant toxicological impacts on marine biota. Marine fauna transiting the operational area are expected to either avoid turbid stretches of water or pass through with no significant effects.

The seabed within the operational area is predominantly bare sediment and contains a low abundance and diversity of infauna. Seabed disturbance caused by drilled solids and hardened cement should therefore be of minor consequence owing to the small area that would be affected and insignificant impacts on widely distributed benthic fauna. Drilling discharges are not expected to contact any surrounding shoals, banks or protected areas due to their distance from the operational area.

How will Santos manage impacts?

Vessel discharges

Vessel discharges are to be managed to acceptable levels as regulated by maritime laws and conventions, such as MARPOL. Industry standard oil-water filtration equipment to be used to reduce oil-in-water prior to overboard discharge. These control measures are designed to reduce the environmental consequences to minor and as low as reasonably practicable.

Drilling and completions discharges

Santos proposes to adopt control measures to manage drilling and completions discharges to seek to minimise impacts to water quality, benthic communities and marine fauna. These are designed to be consistent with petroleum industry practices and include:

+ chemical selection procedures so that only environmentally acceptable products are to be discharged
+ specialised drilling equipment and operating procedures to seek to minimise the volume of drilling fluids to be used
+ stringent well flowback procedures are to be adopted, designed to seek to align formation water oil-in-water content with acceptable levels (<30 mg/L) prior to discharge.

The measures proposed to be adopted have been assessed as appropriate to manage impacts to a minor consequence level.

Unplanned events

Santos uses an environmental assessment guideline to identify, analyse and evaluate incident scenarios (unplanned events). Potential unplanned events have been identified and considered and the associated potential environmental consequences and the event likelihoods (i.e., the risks) have been assessed. Based on the assessment undertaken prior to preparation of the Drilling and Completions EP (which is now under revision), the following unplanned environmental risks have been identified for this activity:

+ dropped objects
+ introduction of invasive marine species
+ interaction with marine fauna
+ non-hydrocarbon liquid release
+ condensate spill
+ marine diesel spill.

Santos proposes to adopt a suite of Santos and contractor systems, procedures and standard control measures to seek to reduce the impacts and risks associated with these unplanned events to a level that results in a minor or negligible environmental consequence. These consequence levels are considered by Santos to be acceptable and as low as reasonably practicable.

Santos continues to consult on the proposed drilling and completions activity to inform its assessment of associated impacts, risks and control measures.

DROPPED OBJECTS

Objects that could be accidentally released to the marine environment from the MODU and vessels include:

+ non-hazardous solid wastes, such as paper, plastics and packaging
+ hazardous solid wastes, such as batteries, fluorescent tubes, medical wastes and aerosol cans
+ equipment and materials, such as supplies, hard hats, tools or infrastructure parts.

Release of these objects may occur as a result of the following:

+ overfull or uncovered bins
+ incorrectly disposed items
+ incidents during transfers of waste or supplies
+ accidentally dropped objects/lost equipment.

What environmental impacts could occur?

All non-buoyant objects are expected to sink to the seabed and remain within the operational area.

In the event of a dropped object, there will be localised and short-term damage to the seabed. The extent of the impact should be limited to the size of the object and given the size of the equipment used, any impact is expected to be very small. No significant seabed features or biota have been identified in the operational area. Therefore, it is highly unlikely that any object dropped during the activity would cause a significant impact to the ecological values associated with the seabed or benthic habitats.

Buoyant objects could potentially move beyond the operational area. In relevant recovery plans and conservation advice, marine pollution is listed as a potential threat to several marine fauna species. Depending on debris size of the dropped object, there is the potential for ingestion by marine fauna, such as marine turtles, which could potentially

result in injury or death. However, given the limited quantities, impacts to fauna would be limited to individuals and are not expected to result in a decrease of the local population size. Release of hazardous solids may result in the pollution of the immediate environment, leading to detrimental health impacts to marine fauna (including potential injury or death).

How will Santos manage the risk?

Santos has numerous control measures to reduce the risk of dropped objects, lost equipment or releasing waste to the environment. These measures include:

+ safety standards and procedures to reduce the risk of tools and other equipment being dropped during lifting operations
+ dropped objects, regardless of size, must be reported, and attempts made to recover the object according to safety and environment criteria.

These control measures are designed to comply with maritime legislation. In addition, these control measures are consistent with applicable actions described in the relevant fauna recovery plans and conservation advice, reducing the risk to low.

INTRODUCTION OF INVASIVE MARINE SPECIES

Invasive marine species (IMS) are marine flora and fauna that have been introduced into a region that is beyond their natural range but have the ability to survive and possibly thrive. The majority of climatically compatible IMS to northern Australia are found in south-east Asian countries.

Some IMS pose a significant risk to environmental values, biodiversity, ecosystem health, human health, fisheries, aquaculture, shipping, ports and tourism. The risk of introducing IMS is common for all maritime activities. The introduction of (IMS) may occur due to the following:

+ biofouling on vessels, including the MODU, external/internal niches (such as sea chests and sea water systems) and routinely submerged equipment
+ discharge of high-risk ballast water.

What environmental impacts could occur?

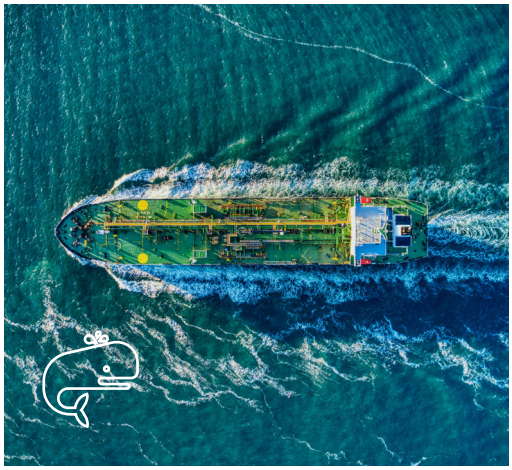
IMS, if successfully established, can:

+ outcompete native species for food or space
+ prey on native species
+ change the nature of the environment
+ impact fisheries or aquaculture.

The ability of invasive marine species to colonise a habitat depends on several environmental conditions. For example, highly disturbed environments (such as marinas) or shallower areas are more susceptible to colonisation than open-water environments. The operational area provides an unfavourable habitat for IMS due to water depths exceeding 200 metres and the vast distance to the coast. These conditions limit light availability and have low habitat biodiversity with sparse epibiota, therefore, there is a very low likelihood that IMS would be able to survive translocation and subsequently establish and colonise.

How will Santos manage the risk?

The pathways and vessel mitigation measures for IMS introduction are well understood and known. Vessels and MODUs contracted to Santos, and vessel ballast, are to be managed according to control measures that comply with maritime regulations, industry practices, and the Biosecurity Act 2015. With these control measures adopted, the risk of introducing an IMS is assessed as being reduced to low and as low as reasonably practicable.



INTERACTION WITH MARINE FAUNA

How could interactions with marine fauna occur?

There is the potential for vessels and helicopters to unintentionally interact with marine fauna, including a potential collision that could result in injury or mortality to fauna. The MODU is not self-propelled and will be stationary once on location, hence, marine fauna interactions are not anticipated.

What environmental impacts could occur?

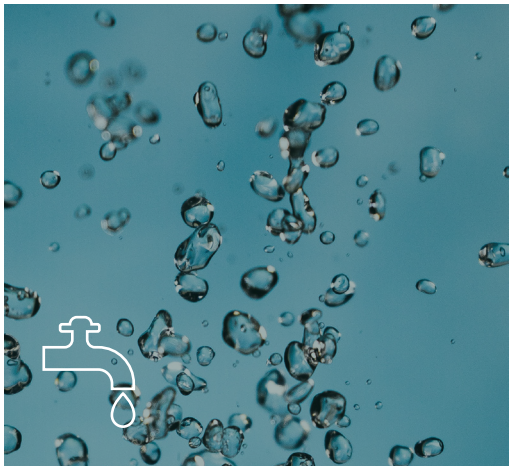
Marine fauna most at risk of colliding with vessels are marine mammals, turtles, whale sharks and birds. Some of these species are threatened, and some marine fauna may have cultural significance. The operational area does not intersect any biologically important area or habitat critical to the survival of any marine fauna species. Marine fauna presence, including birds, is expected to be limited to a small number of transient individuals. Vessel movements should be of relatively low frequency, albeit for an extended duration. Marine fauna tends to move away from vessels and helicopters.

While injury or death to individual animals would be highly undesirable, this would represent a small proportion of any local population and not beyond any natural variation in population size.

How will Santos manage the risk?

The likelihood of marine fauna interaction resulting in injury or death is considered unlikely given that Santos proposes to adopt a procedure for interacting with marine fauna to reduce risks of physical and behavioural impacts to marine fauna from vessels. If they are sighted, vessels can slow down, or move away and helicopters can increase distances from sighted fauna if required. Further, there is a lack of BIAs or significant breeding, nesting and aggregation areas of marine fauna within the operational area, and marine fauna have a tendency to move away from vessels and helicopters.

This and other control measures are to be designed to align with management actions outlined in government-published fauna recovery plans and conservation advice. The risk of interactions with marine fauna is assessed as very low and reduced to as low as reasonably practicable. The risk is no higher than for any other regional maritime or aviation activity.



NON-HYDROCARBON LIQUID RELEASE

How could non-hydrocarbon liquids be released?

Non-hydrocarbon liquids, including miscellaneous chemicals and waste streams (brine, mixed cement, cleaning and cooling agents, stored or spent chemicals and leftover paint materials), are used or stored on board the vessels, including the MODU. An accidental release of non-hydrocarbon liquids into the marine environment has the potential to occur from:

+ transferring, storing or using bulk products (e.g., mixed cement)
+ mechanical failure of equipment, such as a tank or pipework failure
+ handling and storage spills and leaks due to insufficient fastening
+ hose or hose connection failure or leak
+ lifting – dropped objects damaging liquid vessels (containers)
+ inadequate bunding.

The maximum volume that could be released from the most likely spills is small and limited to individual container sizes (up to 1m3).

What environmental impacts could occur?

Impacts to water quality are expected to be short-term and localised due to the selection of environmentally acceptable chemicals, the relatively small size of an unplanned spill and the rapid dispersal. A decrease in water quality is likely to be restricted to the immediate area surrounding the spill location and contained within the operational area.

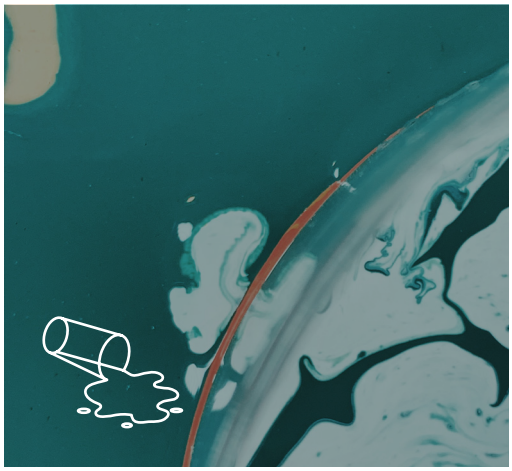
Due to the small volumes and expected rapid dilution to concentrations below impact thresholds, impacts to water quality are not expected to cause flow-on effects to sediment quality or benthic habitats (greater than 200 metres below the surface).

The operational area does not overlap any biologically important areas, and marine fauna is expected to be limited to a small number of transient individuals.

How will Santos manage the risk?

Santos has a suite of procedures to manage the selection, storage, handling and clean-up of chemicals and other non-hydrocarbon liquids. In addition, MODUs and vessels are to have spill response plans. The Santos chemical selection procedure is designed so that only environmentally acceptable chemicals are used for drilling fluids. These procedures should assist to minimise the likelihood of non-hydrocarbon liquid spills, and subsequent environmental consequences should they occur.

The control measures proposed to be adopted are designed to be consistent with maritime and petroleum industry standards and appropriate to manage the risks to low and as low as reasonably practicable and acceptable levels.



CONDENSATE SPILL

How could a condensate spill occur?

Natural-gas condensate, also called natural gas liquids, is a low-density mixture of hydrocarbon liquids that are present as gaseous components in the raw natural gas produced from many natural gas fields, including Barossa. Barossa condensate is a low viscosity, Group 1 (non-persistent) hydrocarbon.

The likelihood of an event leading to a spill is considered 'remote'. A condensate spill could occur due to a loss of well control caused by shallow gas, well kick, tripping, loss of primary and secondary well barriers and failure to keep the correct mud density.

The credible worse-case type of oil release scenario is subsea loss of well control of 129,000m3 of Barossa condensate released over 90 days at the seabed.

Based on industry statistics and Santos' risk assessments, the likelihood of a loss of well control event leading to a spill of this size is considered 'remote' – requires exceptional circumstances and is unlikely even in the long term.

What environmental impacts could occur?

Physical environment or habitat

There are no known emergent or shoreline habitats within the MEVA (Figure 3). Water and sediment quality in the Arafura and Oceanic Shoals marine parks, several key ecological features and various banks and shoals may be affected.

There is a low probability that some shoals and banks within the MEVA may be contacted by hydrocarbons in a worse-case event, with local water quality affected.

Potential impacts that may occur as a result of hydrocarbon exposure could include sub-lethal stress and, in some cases, total or partial mortality of sensitive benthic organisms (e.g., corals) and the early life stages of resident fish and invertebrate species. This could cause localised and long-term effects to shallow hard coral communities at shoals and banks.

A condensate release could also temporarily reduce local air quality, with up to 57% of condensate evaporating within the first few hours, and 80% evaporating after two days. Vapour concentrations above human health and safety risk levels (also a proxy for environmental risk) are assessed as limited to approximately 2.5km from the release source, rapidly dispersing with the prevailing wind.

Threatened or migratory fauna

In the event of a loss of well control, a reduction in water quality has the potential to impact marine fauna. Some species of marine fauna may have cultural significance. Impacts to marine fauna within the MEVA will be greatest within several kilometres of a spill, where condensate may be present on the sea surface. Upon release to the marine environment, condensate rapidly loses toxicity and will become thinner at the surface due to evaporation or entrainment within the water column.

Seabirds that come into contact with sea surface condensate may experience secondary effects through ingestion of condensate after eating exposed fish or preening. No condensate contact with shorelines or bird biologically important areas is predicted to occur. Therefore, it is expected that there will be no significant impacts to breeding, feeding and roosting bird populations.

Although there are no known significant feeding, breeding or aggregation areas for the pygmy blue whale within the MEVA, there is a biologically important area for distribution. Potential impacts to the pygmy blue whale and other whales are likely to be limited to individuals transiting through the area with the potential for coating of baleen (in whales), ingestion of oiled prey (plankton/fish) and behavioural impacts. No population-level impacts are expected.

The MEVA overlaps a turtle inter-nesting biologically important area. No impact to shorelines or turtle nesting beaches is predicted. Due to the distance from breeding and nesting areas, any potential impacts are likely to be limited to individuals that may be transiting or feeding at submerged shoals and banks. No population-level impacts are expected.

Protected areas

The MEVA intersects Arafura and Oceanic Shoals marine parks. Although hydrocarbons are only predicted to occur within the 0 to 10 metre layer of the water column, one or more of the protected values within the marine parks could be impacted.

Socio-economic receptors

There is potential for temporary disruption to fishing activities in the unlikely event of a condensate spill. Impacts include, but are not limited to, a disruption/displacement of fishing activities caused by the physical presence of the slick, loss of catch, decline in commercially important fish stocks and/or suspension of fishing operations.

A condensate spill could also disrupt other regional oil and gas operations, military exercises and commercial shipping.

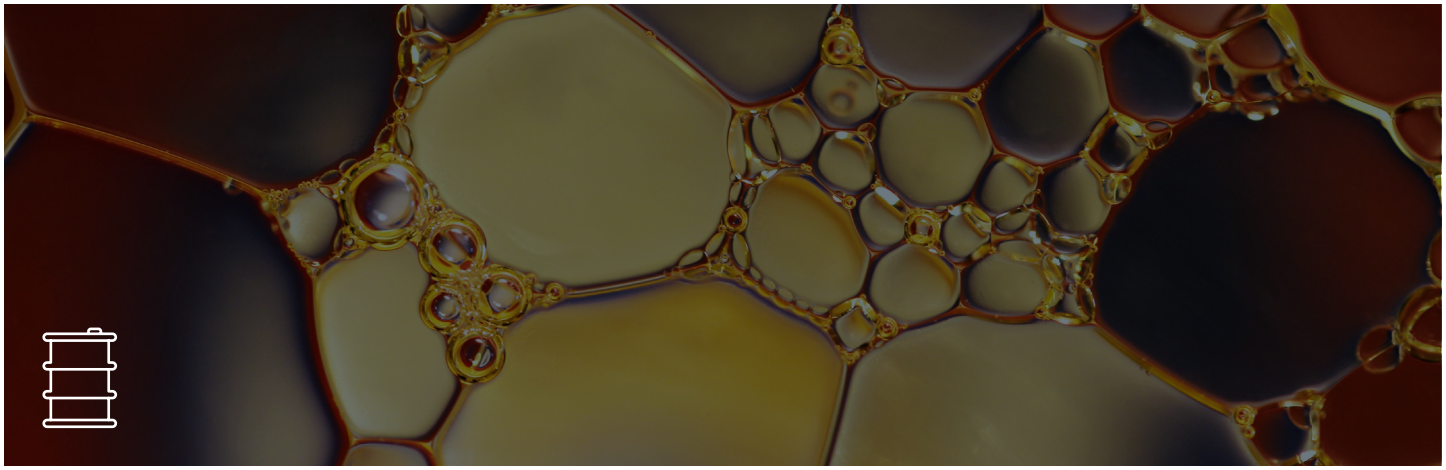
While there was no shoreline oil accumulation predicted in the event of a spill, the EMBA may overlap cultural features such as Sea Country, songlines and totemic species. Cultural features within the EMBA and associated potential risks and impacts will continue to be identified, including through consultation with Traditional Owners and their representative bodies.

How will Santos manage the risk?

Industry standard safe drilling methodologies, including inherently safe well designs and primary and secondary well control measures, are proposed to be implemented to reduce the likelihood of a loss of containment.

Safety options have been considered in well design and equipment choice for the activity. In addition, a selection of spill response strategies and associated control measures, including those required to maintain preparedness and response arrangements, are detailed within a drilling Oil Pollution Emergency Plan (OPEP). The OPEP is a regulatory requirement that must demonstrate spill response risks have been reduced to as low as reasonably practicable.

The combination of the standard prevention control measures (i.e., safe drilling methods), and the spill response strategies, as presented in the OPEP, together reduce the hydrocarbon spill risk to a low level.



MARINE DIESEL SPILL

How could a marine diesel spill occur?

A marine diesel oil (MDO) spill could occur because of the following:

+ a significant collision that ruptured a fuel tank
+ a refuelling incident due to fuel hose failure or rupture, coupling failure or fuel tank overfilling.

In the event of a vessel collision, the MDO spill volume is anticipated to be less than 250m3. A maximum spill volume from refuelling incidents of 10m3 is anticipated given hose couplings design and rapid shutdown of pumps.

What environmental impacts could occur?

Physical environment and habitats

Water quality changes would be temporary and localised due to the rapid MDO weathering and dispersion.

Given the surface nature of the release, the maximum depth that hydrocarbons associated with a 250m3 spill of MDO may entrain is ~20 to 30 metres. Any potential impacts should be limited to the upper water column (sea surface to ~30 metres deep). Shallow water shoals and banks present at (less than 30 metres water depth) within the MEVA may be impacted. Potential impacts include sub-lethal stress and mortality of sensitive benthic organisms (e.g., corals) and the early life stages of resident fish and invertebrates.

Threatened/migratory fauna

A MDO spill from a vessel collision may impact marine fauna, including fauna which may have cultural significance.

Seabirds may contact surface MDO whilst foraging, potentially causing secondary effects through ingestion from eating oiled fish or after preening. The MEVA does not impact any bird breeding or foraging biologically important areas; hence potential impacts should be limited to individuals transiting the area.

Although there are no known significant feeding, breeding or aggregation areas for the pygmy blue whale within the MEVA, there is a biologically important area for distribution range. Potential impacts to the pygmy blue whale and other whales are likely to be limited to individuals transiting through the area with the potential for coating of baleen (in whales), ingestion of oiled prey (plankton/fish) and behavioural impacts. No population-level impacts are expected.

No MDO spill is expected to contact shoreline or turtle nesting beaches. The MEVA overlaps biologically important areas for marine turtles. Still, given the rapid dispersion of MDO, any potential impacts are likely to be limited to individuals transiting through the area and population-scale impacts are unlikely.

Protected areas

The open water environment within the Oceanic Shoals and Arafura mark parks may be affected by a 250m3 release of MDO at or above moderate exposure values. However, impacts are predicted to be temporary and localised due to the rapid evaporation rates of the volatile components of MDO and its rapid natural degradation and dispersion in the open ocean.

Socio-economic receptors

A vessel collision resulting in an MDO spill may temporarily disrupt fishing activities if it spreads to fishing areas. However, due to the high MDO evaporation rate, any impacts are predicted to be localised and not detectable at a fisheries stock level. Other marine users that may be disrupted include regional oil and gas operations, military exercises and commercial shipping.

While there was no shoreline oil accumulation predicted in the event of a spill, the EMBA may overlap cultural values such as Sea Country, songlines and totemic species. Cultural values within the EMBA and associated potential risks and impacts will continue to be identified, including through consultation with Traditional Owners and their representative bodies.

How will Santos manage the risk?

Santos is to communicate with other marine users before and during the activity. Standard maritime notifications (e.g., Notice to Mariners) are designed to inform other marine users of the activity. The MODU and vessels are to have automatic identification systems and minimum navigational lighting to aid in their detection at sea. Support vessels are to actively communicate with third-party vessels to inform them of the marine activities. Operational procedures and equipment maintenance practices should minimise refuelling incidents. Spill response plans will be in place and regular exercises conducted.

These control measures are designed to comply with maritime regulations and standard industry practices. The risk of a MDO spill is low and has been reduced to as low as reasonably practicable.

SPILL RESPONSE OPERATIONS

In the event of an unplanned hydrocarbon spill, there is the potential for response operations and activities to cause further environmental harm (if they are poorly planned and coordinated or undertaken by those with an inadequate level of training and guidance).

How will Santos manage the risk?

Santos has a process to ensure the environmental impacts from spill response operations are reduced to as low as reasonably practicable.

By applying a net environmental benefit analysis (NEBA), Santos can determine whether an environmental benefit will be achieved through implementing a response strategy or by undertaking no response.

Santos proposes to apply a range of industry standard procedures to manage impacts from vessel operations used in spill response operations (similar to those described for vessel discharges).

Santos also proposes to implement processes for consulting with affected stakeholders to seek to avoid spill response operations resulting in unintended impacts.

Summary of the risk management strategy

Santos has a management system that includes specific measures to be used for the duration of the drilling and completions activity, which seek to confirm:

+ environmental impacts and risks continue to be identified for the duration of the activity and reduced to as low as reasonably practicable and acceptable levels
+ control measures are effective in reducing environmental impacts and risks to as low as reasonably practicable and acceptable levels
+ environmental performance outcomes and standards set out in the EP are being met
+ ongoing appropriate consultation with relevant authorities and other relevant interested persons or organisations
+ roles, accountabilities and responsibilities are defined and understood
+ workforce training is completed and competencies assured
+ emergency preparedness and response arrangements
+ incident reporting, investigation and follow-up
+ audits, inspections, reporting and notifications and document management.

Your feedback and what's next

In preparing an environment plan for submission to NOPSEMA, a titleholder must consult with each 'relevant person', including relevant Commonwealth, State and Northern Territory departments or agencies and persons (or organisations) whose functions, interests or activities may be affected by the activity proposed to be carried out under an environment plan.

Examples of 'functions, interests or activities' that may be affected by the activities to be carried out under an EP may include those arising in relation to a spiritual or cultural connection to land or to sea country, tourism, recreational and commercial fishing and local communities (though these are merely illustrative examples and not an exhaustive list). The information contained in this information booklet may assist your consideration of whether you are a relevant person.

More information about 'relevant persons' can be found on our website at **www.santos.com/barossa/relevant-persons**

Relevant persons being consulted on environment plans under the OPGGS Environment Regulations should note that they:

+ are entitled to be given sufficient information to allow them to make an informed assessment of the possible consequences of the activity on their functions, interests or activities
+ are entitled to be allowed a reasonable period for the consultation
+ may request particular information provided in consultation not be published. If you do ask this, Santos will respect that and the information will not be published under the relevant regulations. Information we need to give to NOPSEMA to assess our plan will be provided in a separate report (rather than in the published EP).

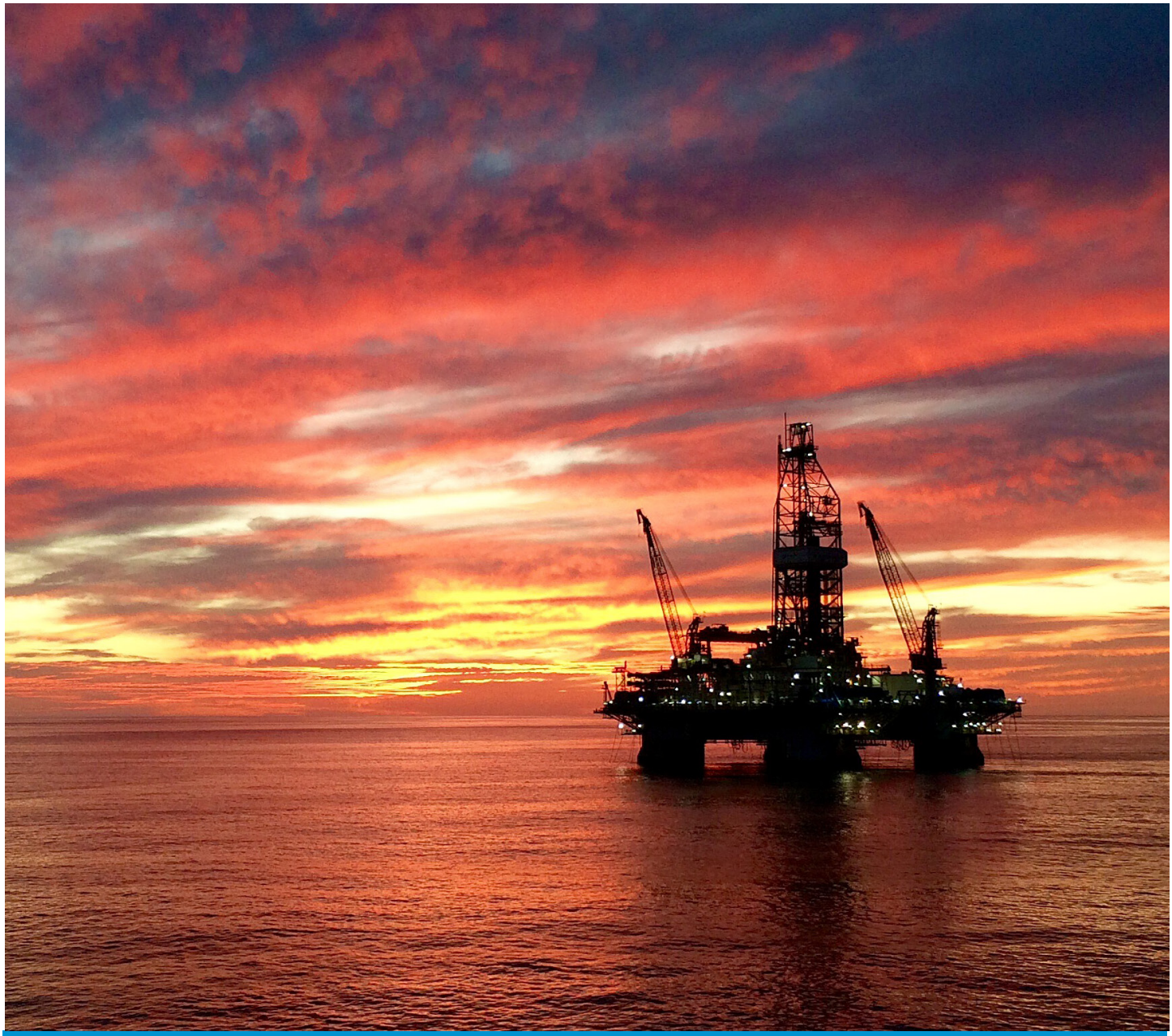
Your feedback and input is important to Santos. Santos wants to understand the appropriate consultation processes for different relevant persons. Santos also wants to provide information for people in an appropriate and accessible manner so that relevant persons may make informed assessments of the possible consequences of the proposed drilling and completions activities for them, so that they can provide feedback to inform the environment plan.

We welcome input from relevant persons about additional information they seek and how they wish to be consulted. Such input may be provided by:

+ phone on **1800 267 600**
+ email at **offshore.consultation@santos.com**
+ or by clicking the QR code below

to seek to be included in consultations and to provide feedback on how you would like to be consulted (if a relevant person).

If you think you, your organisation or another person or organisation you know of may be a relevant person for the purposes of one of Santos's proposed activities, and we have not already contacted you (or the other person or organisation) in that capacity, please contact Santos to seek to be included in consultations and to provide feedback on how you would like to be consulted (if a relevant person). If you suggest other potential relevant persons to Santos and provide information as to how those relevant persons may be reached, we may also contact those persons or organisations and provide copies of this information. Santos also welcomes you to encourage other potential relevant persons to get in touch with Santos at the above contact details.



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