



eni Australia

EXPLORATION DRILLING WA-362-P, WA-363-P ENVIRONMENT PLAN SUMMARY

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<p>EXPLORATION DRILLING WA-362-P, WA-363-P ENVIRONMENT PLAN SUMMARY</p>					
Abstract:					
<p>This summary of the Eni Australia Limited (Eni) Environment Plan for an exploration drilling program in WA-362-P and WA-363-P has been submitted to the Western Australian Department of Mines and Petroleum (DMP) in accordance with Regulations 11(7) and 11(8) of the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009.</p>					
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TABLE OF CONTENTS

1. INTRODUCTION.....	2
2. COORDINATES	2
3. DESCRIPTION OF THE ACTIVITIES.....	3
4. DESCRIPTION OF THE SURROUNDING ENVIRONMENT.....	3
5. MAJOR ENVIRONMENTAL HAZARDS AND CONTROLS	7
6. MANAGEMENT APPROACH	14
7. CONSULTATION.....	14
8. FURTHER INFORMATION.....	14

TABLES

Table 1: Coordinates of the drilling area	3
Table 2: Summary of environmental hazards and management controls	7

FIGURES

Figure 1: Location of permit areas and drilling target area.....	2
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1. INTRODUCTION

This document is a summary of the Environment Plan for an exploration drilling program in WA-362-P and WA-363-P submitted by Eni Australia Limited (Eni) to the Western Australian Department of Mines and Petroleum (DMP), in accordance with Regulations 11(7) and 11(8) of the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009 (OPGGSER).

Eni proposes to conduct exploration drilling in the WA-362-P and WA-363-P permit areas, located in Commonwealth waters off the Western Australia (WA) coast. The permit areas are located in the Carnarvon Basin, approximately 300 km north-northwest of Dampier and 400 km northwest of Port Hedland.

Drilling will take approximately 90 days to complete (45 days per well), and is scheduled to commence in February 2011 (subject to approval from regulatory authorities). Drilling will be undertaken by the *Saipem 10000* drillship.

2. COORDINATES

Permit areas WA-362-P and WA-363-P are shown in Figure 1. Coordinates for the well locations are provided in Table 1.

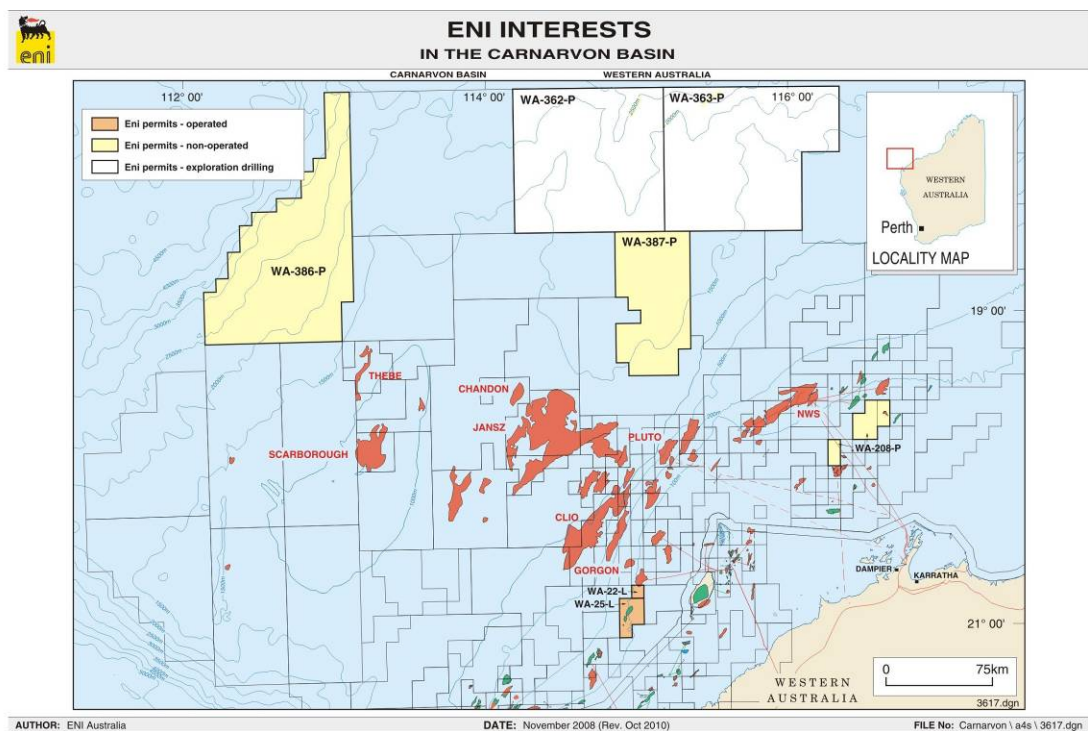


Figure 1: Location of permit areas

Table 1: Coordinates of well locations

	Latitude:	Longitude:	Easting X:	Northing Y:
Gawain-1	18° 10' 22.16" S	115° 00' 25.10"E	289 185 mE	7 989 550 mN
Galahad-1	17° 46' 1.19" S	115° 44' 57.24" E	367 409 mE	8 035 151 mN

* All coordinates are in GDA94, AMG Zone 50 S

3. DESCRIPTION OF THE ACTIVITIES

The exploration drilling campaign will involve two wells, drilled by the *Saipem 10000* in water depths of 1500–2000 m. Drilling is scheduled for February to April 2011, and will take around 45 days per well.

The drillship will hold its position using the Class III Dynamic Positioning system. Water-based muds (WBM) will be used to drill the well. The top sections of the well will be drilled riserless, with cuttings discharged directly to the seabed. Prior to reaching the reservoir, a riser and blowout-preventer (BOP) will be installed and cuttings returned to the rig for analysis and subsequent overboard disposal.

Eni's well control procedures are based on three key elements. These include:

- thorough assessment of the geology and formation pressures prevalent in the area
- design of the drilling fluid program
- well control procedures used by the drilling contractor.

Eni's drilling program will fully incorporate these three key well control elements to provide an industry best practice approach to well control. This will include training and accreditation of both the drilling contractor's and operator's site supervisory personnel.

At the completion of drilling, the wells will be abandoned in accordance with the requirements of the *Offshore Petroleum and Greenhouse Gas Storage Act 2006* (OPGGSA) and industry best practice.

4. DESCRIPTION OF THE SURROUNDING ENVIRONMENT

4.1 PHYSICAL ENVIRONMENT

The regional climate is arid to tropical. The summer season (December to March) is characterised by southwesterly winds, and tropical monsoon systems arriving from the west and north-west, bringing rainfall. The winter season (May to September) is dry, with continental air arriving on predominantly easterly winds.

The northwest of WA is the most cyclone-prone region on the Australian coastline. The average occurrence of cyclones in the vicinity of the permit areas (within 200 km) is 1.5 per year.

The permit areas are located in the Exmouth Plateau, an extensive deepwater bathymetric plateau, in water depths of 1500–2500 m. The 200-m depth isobar, representing the edge of the continental shelf, is around 150 km to the southeast. There are no islands or shallow seabed features in the permit areas and the nearest coastlines are the Montebello Islands (220 km to the south-southeast) and Barrow Island (255 km to the south-southeast). The closest part of the mainland coast is near Dampier, around 300 km to the southeast.

Seabed substrates in the permit areas are expected to comprise loose, silty carbonate sands and soft muds with occasional exposed hard substrate, which is typical of extensive areas at similar water depth and distance offshore beyond the continental shelf of WA.

4.2 BIOLOGICAL ENVIRONMENT

The deep offshore environment in the permit areas is typical of wide expanses of the continental slope and is not expected to represent habitat of particular significance for any marine megafauna.

Some marine migratory species with broad distributions, such as cetaceans, fish, sharks, marine turtles and seabirds, may traverse the areas, at least on occasion. Seven species listed as Threatened and Migratory, and six other listed Migratory species under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act), could occur in the area. However, the permit areas do not contain recognised critical habitat for any Threatened or Migratory fish, turtles or cetaceans.

Further detail regarding the main fauna groups that might occur in the area is as follows:

Fish

A number of sharks and pelagic finfish, including mackerels, tunas and billfishes, occur in the waters of the North West Shelf and could occur in the permit areas. However, the deep offshore environment does not contain particular features that would represent habitat of significance to sharks and finfish.

Marine turtles

Five species of marine turtle could occur in the permit areas, these being the green (*Chelonia mydas*), leatherback (*Dermochelys coriacea*), loggerhead (*Caretta caretta*), hawksbill (*Eretmochelys imbricate*) and flatback (*Natator depressus*) turtles, all of which are listed as Threatened and Migratory under the EPBC Act. These species are likely to inhabit islands of the continental shelf and beaches on the mainland coast, and would rarely travel through the deep offshore waters of the permit areas.

Cetaceans

Several whale species are known to occur in the waters of the North West Shelf, including the blue whale (*Balaenoptera musculus*), which is listed as Endangered, and the humpback whale (*Megaptera novaeangliae*) which is listed as Vulnerable under the EPBC Act.

Humpback whales are known to migrate along the WA coast during winter, to breeding areas in the Kimberley. Movements along the Pilbara coast are northbound in June–July and southbound in August–September, and are generally limited to shallow waters on the continental shelf, out to the 200 m bathymetric contour. This migration does not coincide, spatially or temporally, with the drilling campaign.

Blue whale migration patterns are similar to the humpback, but blue whales tend to be more widely dispersed and rarely present in large numbers outside aggregation areas. The nearest known aggregation area is located over 1000 km south of the permit areas at the Perth Canyon.

Four listed Migratory whale species may occur in the permit areas on occasion, including the Antarctic minke whale (*Balaenoptera bonaerensis*), Bryde's whale (*Balaenoptera edeni*), killer whale (*Orcinus orca*) and the sperm whale (*Physeter macrocephalus*). Given their widespread distributions and the absence of particular bathymetric features in the areas to be drilled, the permit areas are unlikely to represent important habitat for any of these species.

Birds

There are no important seabird feeding grounds in the waters of the permit areas and, given the distance from land, foraging activity in area is likely to be low.

Deepwater Biota

There is limited information available on the benthic communities in the permit areas, due to the remoteness of the area and deep water depths. The seabed can be considered to lie within the "bathypelagic zone" (defined as 1000–4000 m deep), which does not receive sunlight, and therefore does not support plants. Despite the lack of light, the biota of the bathypelagic zone can be diverse. The fauna are carnivorous, catching in their wide jaws the falling debris of the organisms which exist above them. Fish are common in the bathypelagic zone, typically feeding by ambushing prey or by attracting prey using bioluminescent lures.

Due to the relatively small changes in pressure with depth, fish inhabiting the bathypelagic zone can move freely over wide depth changes without being affected by pressure changes. As such, fish species occurring in the bathypelagic zone would be expected to occur over wide depth and geographical ranges. Sperm whales (*Physeter macrocephalus*) are capable of diving to the bathypelagic zone to feed on deep sea cephalopods and other megafauna.

Benthic invertebrates inhabiting the seabed would be expected to exhibit high diversity though low abundance and productivity due to the water depth, lack of light and reliance on detrital "rain" to drive deep sea ecosystems. Infaunal assemblages are expected to be dominated by polychaete worms and crustaceans, which is typical of marine infaunal assemblages elsewhere including those of continental shelf and slope habitats of the Australian north-west.

4.3 SOCIO-ECONOMIC ENVIRONMENT

The Northern Carnarvon Basin region (also known as the North-West Shelf) is Australia's premier hydrocarbon province. There are now 82 identified offshore oil and gas fields in the region, of which 42 have operating production facilities. Oil is produced from a number of small fields located in shallow waters offshore from Onslow, including the Saladin, Coaster, Roller and Skate fields. Further offshore, to the south of the permit areas, are the Griffin and Woollybutt oilfields and the Gorgon and Pluto gas fields, as well as onshore processing and export facilities on Barrow, Thevenard, Airlie and Varanus islands.

The permit areas coincide with four commercial fisheries, which are administered by the Australian Fisheries Management Authority (AFMA):

- Western Deepwater Trawl fishery
- Western Skipjack Tuna fishery
- Western Tuna and Billfish fishery
- North-west Slope Trawl fishery.

These fisheries all cover vast regions of offshore waters around the WA coast. During preparation of this EP, AFMA advised that no vessels had reported operating in the WA-362-P and WA 363-P permit areas from 2008 to 2010, so fishing activity in the vicinity of the drilling program is expected to be negligible.

5. MAJOR ENVIRONMENTAL HAZARDS AND CONTROLS

Table 2: Summary of environmental hazards and management controls

Source of Risk	Potential Environmental Effects/Incidents	Description	Controls in Place	Residual Risk
Disturbance to marine fauna				
Noise/ vibration caused by drilling and vertical seismic profiling (VSP)	Disturbance to cetaceans, turtles, seabirds and fish	<ul style="list-style-type: none"> The deep offshore waters of the permit areas are not a known feeding, breeding or aggregation area for marine fauna like cetaceans or turtles. Whale migration along the WA coast occurs from June-Sept, and is located mainly in shallower continental shelf waters. Drilling noise frequencies and intensities are not in the most sensitive range for cetaceans or turtles. 	<ul style="list-style-type: none"> Induction of all personnel to include the requirement to report cetacean sightings. Undertaken VSP in accordance with Australian guidelines for cetacean protection. These include observations for marine mammals prior to starting, and soft-start procedures. 	Low
Noise caused by support and supply vessels	Disturbance to cetaceans, turtles and fish	<ul style="list-style-type: none"> The deep offshore waters of the permit areas are not a known feeding, breeding or aggregation area for marine fauna like cetaceans or turtles. Noise levels are loudest when the supply vessels are positioning the rig. This is of a short duration relative to drilling. Supply vessels are under low propulsion power when in close proximity to the rig. 	<ul style="list-style-type: none"> Australian guidelines for cetacean interaction with vessels. 	Low
Noise caused by support aircraft	Disturbance to roosting seabirds and marine fauna	<ul style="list-style-type: none"> The deep offshore waters of the permit areas are not a known feeding, breeding or aggregation area for marine fauna and are distant from islands used as seabird rookeries. Around 3-4 flights to the drillship will occur each week. 	<ul style="list-style-type: none"> Compliance with Australian guidelines for whale-watching as it refers helicopters, i.e.: <ul style="list-style-type: none"> no flying lower than 500m within a 500m radius of a whale or dolphin; no hovering over the no-fly zone; avoiding approaching a whale or dolphin from head-on; avoiding flying directly over, or passing the shadow of the helicopter directly over a whale or dolphin; and cease the activity if the whale or dolphin shows signs of disturbance. 	Low



Source of Risk	Potential Environmental Effects/Incidents	Description	Controls in Place	Residual Risk
Light from rig	Disturbance to fish, turtles and seabirds	<ul style="list-style-type: none"> The deep offshore waters of the permit areas are not a known feeding, breeding or aggregation area for marine fauna and are distant from islands used as rookeries for seabirds or turtles. Lighting may result in a short term abundance of certain species (e.g. fish, plankton) attracted by the light. Drilling will last in the order of 45 days per well and this period of time will not cause irreversible fauna behaviour. 	<ul style="list-style-type: none"> None. The drillship will be lit using fluorescent lights that meet required safety standards. 	Low
Hull fouling	Introduction of marine pests to Australian waters	<ul style="list-style-type: none"> Drillship will transit from international waters direct to the drilling prospect. The deep offshore environment is not conducive to supporting potential marine pests. Support vessels will have recently been working in Australia. Support vessels will be in contact with drillship for less than 24 hrs each time so opportunity for translocation of pests to support vessels is minimal. 	<ul style="list-style-type: none"> Eni shall vet each vessel prior to its mobilisation from international waters including conducting a risk assessment to determine the risk the vessel poses in introducing pests from biofouling. Each vessel should have Antifouling Certification or maintain a Biofouling Record Book detailing the management actions implemented to minimise the risk of introducing or spreading pests via biofouling. 	Low
Discharges				
Drilling fluids	Toxicity effects on marine biota Adverse effects on water quality Increased turbidity in the water column	<ul style="list-style-type: none"> Drilling fluid adheres to drill cuttings and is consequently disposed of overboard with the cuttings. High dilution rates – dilutions of >1:100 within 20 m of the discharge are predicted during all sea conditions. Deepwater oceanic environment remote from sensitive marine resources. Low toxicity water based muds (WBMs) will be used as drilling fluids. At the end of various hole sections and on well completion drilling fluids may be discharged overboard. 	<ul style="list-style-type: none"> Drilling fluids are reviewed and selected based on technical suitability and by having a minimum overall effect on environment (including ecotoxicity and dosing requirement characteristics). Use of drilling chemicals will be minimised as far as is practicable. WBMs will be recycled during the drilling program, using cuttings shakers equipment aboard the rig. The amount disposed of with cuttings will be ≤15% of the total volume of WBMs used in the program. The deepwater ocean environment of the permit areas is not a significant breeding, feeding or aggregation area for pelagic fauna. Increased turbidity from drilling fluid discharge will be short-term. 	Low



Source of Risk	Potential Environmental Effects/Incidents	Description	Controls in Place	Residual Risk
Drill cuttings	Increased turbidity in the water column Disturbance to pelagic marine fauna	<ul style="list-style-type: none"> Turbidity in the water column during drilling is caused by the fine cuttings and drilling muds remaining suspended in the water. The deepwater ocean environment of the permit areas is not a significant breeding, feeding or aggregation area for pelagic fauna. Increased turbidity will be short-term, for the extent of the drilling program and a short period after. 	<ul style="list-style-type: none"> The top sections (i.e. the majority) of the wells will be drilled riser-less, so the turbid plume will be discharged at the seabed. This is unlikely to have any effects on surface water layers. 	Low
Drill cuttings	Smothering of benthic organisms	<ul style="list-style-type: none"> Outside the immediate vicinity of the well, drill cuttings are likely to settle on the seabed in a very thin layer (1 mm) over a radius of a few hundred metres. Benthic habitats in the permit areas are likely to be similar to those found throughout the region, with low species abundance. 	<ul style="list-style-type: none"> Undertake a post-drilling ROV survey to confirm the fate of riser-less drill cuttings on the seabed. 	Low
Deck drainage	Toxicity effects on marine biota Adverse effects on water quality	<ul style="list-style-type: none"> Low concentration of contaminants when combined with wash down water. Low volumes of overboard discharges involved. Deck areas occasionally washed down with biodegradable industrial detergent to avoid build up of oily contaminants. 	<ul style="list-style-type: none"> Drainage system on drill floor reports to slops tank. Absorbents and containers will be available on the rig to clean up small accumulations of oil and grease around work areas and decks. Process bunding has many times the capacity of the chemical tank volume with the facility to overflow to a main skid bund. Oily water from drillship machinery space bilges captured and directed to a sludge tank, which in turn drains into a slops tank before transport to the mainland for disposal at approved facilities. 	Low
Laboratory wastes	Toxicity effects on marine biota Adverse effects on water quality	<ul style="list-style-type: none"> Very small volumes of waste chemicals from laboratory generated during oil testing. 	<ul style="list-style-type: none"> Dispose of laboratory chemicals into drilling muds after use. 	Low
Cooling water	Physical effects (e.g. injury, death) to marine biota Adverse effects on water quality	<ul style="list-style-type: none"> Approximately 1000 m³/hr per engine room. Discharge point is located at keel level (12 m below water surface) The cooling water system is a segregated system, with no hydrocarbons or chemical content. High dilution rates due to the open ocean conditions. Any effects from heat would be highly localised. 	<ul style="list-style-type: none"> None. 	Low



Source of Risk	Potential Environmental Effects/Incidents	Description	Controls in Place	Residual Risk
Reject (brine) water	Toxicity effects on marine biota Adverse effects on water quality	<ul style="list-style-type: none"> Approximately 30 m³ per day of water produced from freshwater (steam) generator. High dilution rates due to the open ocean conditions. Any effects from salinity gradients would be highly localised. 	<ul style="list-style-type: none"> None. 	Low
Cement	Disposal of excess cement Smothering of benthic organisms	<ul style="list-style-type: none"> A maximum of 50 m³ of cement will be present on the seabed. Benthic habitats in the permit areas are likely to be similar to those found throughout the region, with low species abundance. 	<ul style="list-style-type: none"> Minimise the volume discharged. Cement and associated chemicals are reviewed and selected based on technical suitability and by having a minimum overall effect on environment. 	Low
Sewage, grey water and putrescible wastes	Disturbance to marine resources, adverse effects on water quality Nutrient enrichment and biostimulation of the water column surrounding the drillship	<ul style="list-style-type: none"> Maximum 145 people onboard. Estimated volumes of wastewater per day are 60 L sewage per person, and 140 L grey water per person. Grey water is comprised of potable water, soap and detergents. None of these components are inherently toxic. In the deepwater ocean environment, this wastewater stream will dilute rapidly and any effects on marine biota will be highly localised. 	<ul style="list-style-type: none"> All sewage to be treated and discharged in accordance with MARPOL Annex IV (Regulation 11). All food scraps and putrescible wastes to be comminuted (ground) to <25 mm and discharged in accordance with MARPOL Annex V (Regulation 3). 	Low
Ballast water	Displacement of endemic species with introduced pests	<ul style="list-style-type: none"> The open ocean environment does not provide a habitat for ballast water organisms to colonise. 	<ul style="list-style-type: none"> Ballast water from a foreign port will not be discharged into Australian waters less than 200 m deep. Ballast water records will be maintained onboard. 	Low
Disposal of BOP fluids	Toxicity effects on marine biota, adverse effects on water quality	<ul style="list-style-type: none"> Type of fluid: Erifon HD 603 (McDermid) Estimated 18 L/day discharged to sea during function tests. 	<ul style="list-style-type: none"> BOP fluids are reviewed and selected based on technical suitability and low toxicity in the marine environment 	Low
Solid and hazardous waste				
General rubbish	Toxicity or physical effects on marine biota. Adverse effects on water quality	<ul style="list-style-type: none"> Domestic and industrial solid wastes collected and segregated on the drillship. 	<ul style="list-style-type: none"> All solid wastes will be returned to the Australian mainland for appropriate onshore disposal. Induction of all personnel. Good housekeeping practices, including segregation of wastes. Tracking of waste i.e. monitoring of volumes and types. 	Low



Source of Risk	Potential Environmental Effects/Incidents	Description	Controls in Place	Residual Risk
Waste oil and chemicals	Toxicity effects on marine biota Adverse effects on water quality	<ul style="list-style-type: none"> Waste oil and chemicals will be stored onboard the drillship and transferred to the mainland for disposal. 	<ul style="list-style-type: none"> Wastes stored onboard in appropriate containers. Handling of all hazardous wastes must be conducted in line with drillship procedures. All hazardous waste material will be disposed of appropriately onshore. Hazardous wastes will be labelled and transferred, in accordance with Material Safety Data Sheet (MSDS) instructions. Induction of all personnel includes information on waste management procedures. 	Low
Atmospheric emissions				
Power generation	Localised effect on air quality for humans and animals Global contribution to greenhouse gases	<ul style="list-style-type: none"> Drillship uses approximately 30 m³ per day of diesel. The support vessel uses approximately 10 m³ per day. Permit area is distant from human population centres and terrestrial environments. 	<ul style="list-style-type: none"> Vessel surveyed and issued with International Air Pollution Prevention Certificate Drillship planned maintenance program in place. Equipment will be maintained to manufacturer's specifications. Complete overhaul of equipment onboard completed in mid-2010. Engine output is adjusted to maintain station under prevailing environmental conditions. Selection of low sulphur diesel in line with MARPOL requirements to minimise SO_x emissions. 	Low
Flared hydrocarbons	Localised effect on air quality for humans and animals Global contribution to greenhouse gases	<ul style="list-style-type: none"> Small volumes of hydrocarbons may be flared if well-testing is required (i.e. in the event that an oil reserve is found) Small volumes of hydrocarbons may be flared to release pressure if encountered unexpectedly (emergency flaring). 	<ul style="list-style-type: none"> The volume of gas flared will be minimised by Eni's well control measures. 	Low
Ozone depleting substances (ODS)	Localised effect on air quality for humans and animals	<ul style="list-style-type: none"> Some ODSs used in AC systems and freeze rooms, although planned to be removed in near future. These are closed systems and do not vent to atmosphere. For maintenance a vacuum pump used to recover the gas into the circuit. ODS (halon) will also be present on helicopters. In the event of an emergency a small volume of halon would be released. 	<ul style="list-style-type: none"> An ODS inventory shall be maintained and reviewed to ensure compliance with MARPOL Annex VI (Regulation 12) There will be no discharge of ODS except in the case of a helicopter emergency. Any release of ODS will be reported as an environmental incident and investigated. 	Low
Socio-economics				



Source of Risk	Potential Environmental Effects/Incidents	Description	Controls in Place	Residual Risk
Interference with commercial fishing	Disruption to fishing vessels	<ul style="list-style-type: none"> Negligible levels of commercial fishing occur in the permit areas. 	<ul style="list-style-type: none"> An exclusion zone will apply around the drillship. Navigation lighting and permanent watch aboard the rig and support vessels. Watch is kept at all times. 	Low
Interference with shipping	Disruption to shipping routes	<ul style="list-style-type: none"> Deep, open ocean location distant from mainland. Any ships using the area will be able to avoid the drillship easily. 	<ul style="list-style-type: none"> Notification to DMP and AMSA and establishment of 500 m exclusion zone around drillship. Navigation lighting and permanent watch aboard the rig and support vessels. 	Low
Interference with recreational vessels	Disruption to recreational users	<ul style="list-style-type: none"> No recreational vessels utilise this area. 	<ul style="list-style-type: none"> Nil required. 	Low
Interference with culturally significant sites	Disruption to significant sites	<ul style="list-style-type: none"> No known or suspected culturally or historically significant sites occur in this area. 	<ul style="list-style-type: none"> Nil required. 	Low
Interference with amenity, National Parks or Conservation Reserves	Disruption to conservation values of National Parks or Conservation Reserves	<ul style="list-style-type: none"> No national parks, Ramsar listed areas, conservation reserves or marine protected areas occur near the permit areas. 	<ul style="list-style-type: none"> Nil required. 	Low
Spills and leaks				
Loss of well control and blow-out (Condensate spill)	Widespread acute and chronic toxic effects to sensitive pelagic marine biota Unlikely to reach any shoreline as distant from mainland WA and islands. Risk is further reduced in summer conditions, when prevailing winds are easterly.	<ul style="list-style-type: none"> Maximum potential spill size: > 54,000 m³ condensate 	<ul style="list-style-type: none"> Bridging document for well control procedures to clarify Eni and Saipem responsibilities, with respect to testing, monitoring, crew training, etc. Include description of OSCP in inductions for all crew. BOP and hydrocarbon detection systems in place. Overbalanced drilling. Flare and oil storage facilities in the event of an influx of hydrocarbons during drilling. 	Medium
Leak from fittings and connections (Condensate or diesel spill)	Highly localised and short-term toxic effects to sensitive pelagic marine biota	<ul style="list-style-type: none"> Maximum potential spill size: <1 m³ condensate or diesel 	<ul style="list-style-type: none"> Pressure tested equipment. Planned maintenance programme. Onboard spill response procedures detailed in SOPEP 	Low



Source of Risk	Potential Environmental Effects/Incidents	Description	Controls in Place	Residual Risk
Refuelling incident (Diesel spill)	Localised, short-term toxic effects to sensitive marine biota	<ul style="list-style-type: none"> Maximum potential spill size: 5 m³ diesel 	<ul style="list-style-type: none"> Refuelling will be carried out under the Saipem Permit-To-Work system. Refuelling will be undertaken only during periods of calm weather and preferably in daylight hours. Low refuelling frequency due to large onboard storage capacity Transfer hoses will be fitted with 'dry break' couplings. Refuelling operations will be overseen by the Vessel Master or First Officer. 	Low
Vessel collision (Condensate or diesel spill)	Localised to broad acute and chronic toxic effects to sensitive pelagic marine biota Unlikely to reach any shoreline as distant from mainland WA and islands. Risk is further reduced in summer conditions, when prevailing winds are easterly.	<ul style="list-style-type: none"> Maximum potential spill size: 80 m³ condensate or diesel 	<ul style="list-style-type: none"> Saipem 10000 fuel tanks are located internally, protected by double-skinned hull. Saipem 10000 able to disconnect and move off quickly (e.g. 45 seconds) in the event of an imminent errant vessel collision. No vessels brought alongside the Saipem 10000 while dynamic positioning in use. Only vessels with dynamic positioning systems (DP3) are allowed to approach the drillship in the field. Notification to DMP and AMSA, and establishment of 500 m exclusion zone around drillship. Automatic Radar Plotting Aids (ARPA). 	Low
Leaks of hydraulic fluids	Localised, short-term toxic effects to sensitive marine biota	<ul style="list-style-type: none"> Maximum potential spill size: 0.05 m³ hydraulic fluid 	<ul style="list-style-type: none"> Preventative maintenance. Low toxicity hydraulic fluids used. Manned operation (visual detection of release). Drip pans/bunds. 	Low
Chemical spills, e.g. during bulk transfer	Localised to broad acute and chronic toxic effects to sensitive pelagic marine biota	<ul style="list-style-type: none"> Maximum potential spill size: 1 m³ chemical 	<ul style="list-style-type: none"> Transfers will be carried out under the Saipem Permit-To-Work system. Transfers will be undertaken only during periods of calm weather and preferably in daylight hours. Transfer operations will be overseen by the vessel's Master or First Officer. All crane operators licensed and competencies are assessed. 	Low

6. MANAGEMENT APPROACH

The drilling campaign has been planned and will be implemented in accordance with Eni's Health, Safety & Environment Integrated Management System (HSE IMS). Eni's overall environmental objective for the campaign is to avoid or minimise environmental risks to as low as reasonably practicable.

The management controls relevant to environmental risks are summarised in Table 2 above. All activities will be conducted to the satisfaction of the DMP, and in accordance with relevant regulatory requirements.

7. CONSULTATION

Due to the remote location of the permit areas, a limited number of stakeholders are expected to have interests in Eni's exploration drilling campaign. Eni have consulted with DMP, in accordance with the requirements of the OPGGSA, with regard to environmental assessment of the project. Eni also invited comments from AFMA representatives of commercial fisheries in the area, who raised no objections to the drilling campaign.

During drilling, the exact location of the rig will be communicated to mariners by the Drillship OIM in written notifications. These will be sent to DMP, the Australian Marine Safety Authority (AMSA), the National Offshore Petroleum Safety Authority (NOPSA), and other authorities or stakeholders as required.

On an ongoing basis, queries on the drilling campaign can be forwarded to the contact person nominated below.

8. FURTHER INFORMATION

The nominated contact person for the environmental management of the drilling campaign is:

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