



**Vanuatu-1 (WA-54-L) Drilling Program**  
**ENVIRONMENT PLAN SUMMARY**

**VAN1-2000-SUM-0001**

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1	12/11/2013	To NOPSEMA for public disclosure	O Glade-Wright	S Jarvis	A Gill
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## ABBREVIATIONS & ACRONYMS

AHS	Australian Hydrographic Service
AIS	Automatic Identification System
ALARP	As Low As Reasonably Practicable
AMSA	Australian Maritime Safety Authority (Cth)
APASA	Asia-Pacific Applied Science Associates
APPEA	Australian Petroleum Production and Exploration Association
AQIS	Australian Quarantine Inspection Service (Cth)
AS	Australian Standard
BHA	Bottom Hole Assembly
BOP	Blowout Preventer
CAMBA	China-Australia Migratory Birds Agreement 1974
DEC	Department of Environment and Conservation (WA)
DEWHA	Department of Environment, Water, Heritage and the Arts (Cth)
DoF	Department of Fisheries (WA)
DSEWPC	Department of Sustainability, Environment, Water, Population and Communities (Cth)
EHS	Environment Health & Safety
EHSMS	Environment Health & Safety Management System
EP	Environment Plan
EPBC Act	Environment Protection and Biodiversity Conservation Act 1999
ERP	Emergency Response Plan
FPSO	Floating Production Storage and Offloading Unit
GDA	Geodetic Datum of Australia
HWDP	Heavy Weight Drill Pipe
IAPP	International Air Pollution Prevention
ISO	International Standards Organisation
MARPOL	International Convention for the Prevention of Pollution from Ships
MDO	Marine Diesel Oil
MODU	Mobile Offshore Drilling Unit
NOPSEMA	National Offshore Petroleum Safety and Environmental Management Authority
NWS	North West Shelf
OPGGS	Offshore Petroleum and Greenhouse Gas Storage
OSCP	Oil Spill Contingency Plan
OSMP	Operational and Scientific Monitoring Program
OWS	Oily Water Separator
PMP	Preventative Maintenance Program
PSZ	Petroleum Safety Zone
RCC	Rescue Coordination Centre
ROV	Remotely Operated Vehicle
SOPEP	Ship Oil Pollution Emergency Plan
VSP	Vertical Seismic Profiling
WA	Western Australia
WOMP	Well Operations Management Plan

## 1 Introduction

Santos Limited (Santos) is proposing to drill the Vanuatu-1 exploration well located within Petroleum Production Licence WA-54-L on Western Australia's (WA) North West Shelf (NWS). The Vanuatu-1 well is situated at the northern end of the Dampier Sub-Basin approximately 2 km south-east of Fletcher East manifold, which is tied into the Mutineer Floating Production Storage Offloading (FPSO) (Figure 1). Santos is the nominated operator of the permit on behalf of its Joint Venture Partners JX Nippon Oil & Gas Exploration (Australia) Pty Ltd and KUFPEC (Perth) Pty Ltd.

The objective of the drilling program is to determine whether the target formations have commercially recoverable volumes of light crude oil.

The drilling will be conducted in accordance with all applicable legislation and regulations and specifically to meet the requirements of the *Offshore Petroleum and Greenhouse Gas Storage Act 2006* and its regulations.

In accordance with Regulation 6(1) of the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009 (OPGGS (Environment) Regulations), an accepted Environment Plan (EP) is required by the operator before carrying out an activity. The term "*Petroleum activity*" is defined under Regulation 4(1) of the OPGGS (Environment) Regulations. For the Vanuatu-1 drilling program, the period of the petroleum activity includes:

*From the time that the MODU initiates anchoring at location of the well within the production licence area WA-54-L until completion of the proposed drilling and demobilisation from the well location.*

## 2 Well Location

The proposed Vanuatu-1 well is located in a water depth of approximately 157 m at (GDA 94, AMG Zone 50):

<u>Degrees</u>	<u>UTM</u>
19° 15' 34.12" S latitude	7,870,450.9 N
116° 48' 46.60" E longitude	480,343.2 E

Approximate distances from the proposed Vanuatu-1 well to key features in the region are listed in Table 1.

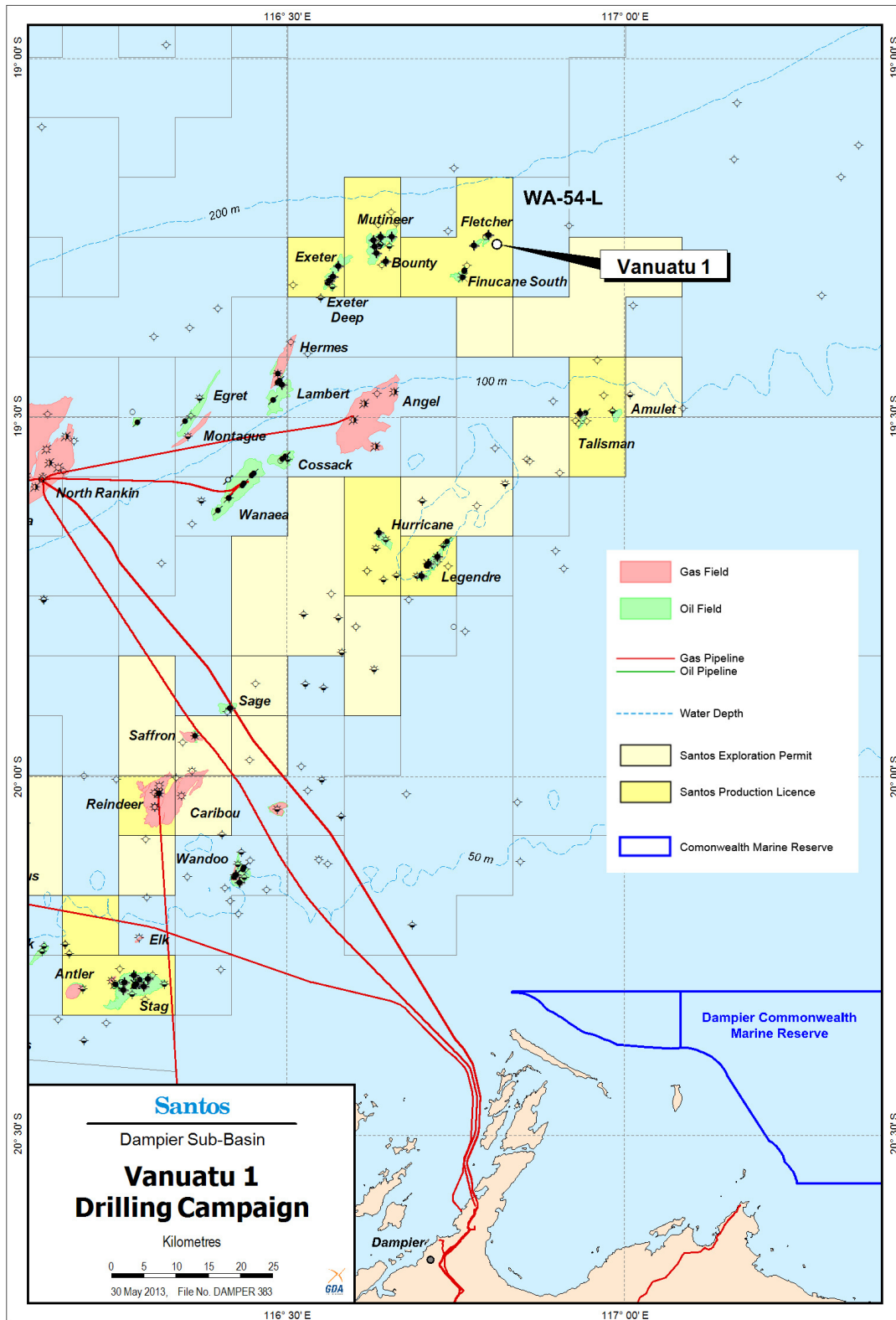


Figure 1 Vanuatu-1 location map

**Table 1 : Approximate distances from the Vanuatu-1 well to key features in the region**

Locality	Distance
<b>Environmental features</b>	
Legendre Island (nearest island)	125 km to the south
North West Island	185 km to the south-west
Barrow Island	215 km to the south-south-west
Dampier Archipelago	135 km to the south
Rowley Shoals	275 km to the north-east
<b>Marine conservation parks (closest boundary)</b>	
Dampier Marine National Park Zone (Cth)	116 km to the south
Montebello Commonwealth Marine Reserve (Cth)	127 km to the south-west
Barrow Island Marine Park (WA)	180 km to the south-west
Argo-Rowley Terrace Commonwealth Marine reserve (Cth)	165 km to the north
Ningaloo Commonwealth Marine Reserve (Cth and WA)	388 km to the south-west
<b>Coastal towns</b>	
Dampier	157 km to the south
Karratha	165 km to the south
Port Hedland	220 km to the south-east
Onslow	330 km to the south-west
Exmouth	415 km to the south-west

### 3 Description of the Action

Santos plans to drill the Vanuatu-1 well and, in a success case, drill a sidetrack from the parent well and undertake appraisal activities including wireline logging and vertical seismic profiling (VSP). Drilling is scheduled to commence in the first quarter (Q1) of 2014 (subject to approvals, rig availability and weather). Drilling is anticipated to take approximately 28 days, with the potential for an additional 10 days to drill a side track well in a success case.

Santos has contracted the *Nan Hai VI* semi-submersible Mobile Offshore Drilling Unit (MODU) to drill the Vanuatu-1 well.

The MODU will be supported by a minimum of two support vessels for the duration of the drilling campaign. Another vessel may be spot-hired on an as-required basis to provide operational support.

The support vessels will fulfil the following functions:

- Tow the rig to and from location;
- Run and pull anchors for MODU mooring;
- Supply fresh water, food, fuel, and bulk drilling fluid materials and drilling equipment;
- Monitor a nominated petroleum safety zone (PSZ) around the MODU and intercept errant vessels; and
- Assist in emergency response functions.

The Port of Dampier will be used as the drilling supply base. Personnel will access the MODU via helicopter that will be based in Karratha. Helicopter refuelling will occur only at the Karratha heliport – there is no provision for helicopter refuelling on the MODU for this campaign.

## 4 Description of Existing Environment

The physical, biological and socio-economic environment in and around the project area and the Northwest Shelf (NWS) region in general are described in the following sections.

### 4.1 Physical Environment

The proposed Vanuatu-1 project area lies on the continental shelf within the NWS Bioregion. The physical environment of the area is summarised as:

- Sea surface temperatures vary seasonally within the monthly-averaged limits of 24°C (winter and early spring) to 27°C (summer) (APASA 2013).
- Annual rainfall is typically low and highly variable, with most rainfall occurring during the summer period (the wet season, January to July), usually associated with either monsoonal thunderstorms or tropical cyclones.
- The winter wind (June-August) condition is characterised by moderate to strong east to southeast winds. Summer (September – March) is more variable, however southwesterly winds predominate. April-May and September are the transitional periods when winds are lighter and more variable.
- Ocean currents on the NWS are dominated by the southward-flowing warm surface Indonesian Throughflow, which flows from the tropics to the waters of southwest Western Australia.

### 4.2 Biological Environment

#### ***Benthic Environment***

The benthic habitat within the permit area is a featureless, soft sediment habitat (Neptune Geomatics, 2011). The depth of water limits the occurrence of algae, seagrasses, corals and some fish and reptile species. Sandy substrates of the NWS in this region are considered to support a low density of benthic communities of bryozoans, molluscs and echinoids, with sponge communities found only in areas containing hard substrates (DEWHA, 2008).

### ***Pelagic Environment***

The NWS supports a diverse assemblage of fish, particularly in shallow water near the mainland and around islands. Most fish have tropical distributions and are well distributed throughout the Indo-West Pacific region.

Two listed threatened or migratory species of marine mammal have been identified as occurring in the Project area according to the *EPBC Act* Protected Matters Search Tool (PMST).

The humpback whale (*Megaptera novaeangliae*) is the most commonly sighted whale in the region and it is listed as 'vulnerable' under the *EPBC Act*. Humpback whales migrate annually from their warm water breeding areas around the Kimberley coast of Western Australia (between 15-20° latitude) to their summer colder feeding waters (Antarctic), south of 56°S latitude (Bannister, 1996; Jenner *et al.*, 2001).

The peak migratory periods for humpback whales around the Dampier Archipelago are July and August for the northbound leg and August/September for the southbound leg, both of which are outside the anticipated drilling period.

Blue whales (*Balaenoptera musculus*) have widespread migration patterns that are not known to follow particular coastlines or oceanographic features (Bannister *et al.*, 1996). They are an oceanic species that migrate between warm water breeding grounds and cold water feeding grounds (between 20 and 70°S latitude in the southern hemisphere). The project area does not include any known blue whale feeding, breeding or resting areas and there is no literature indicating sightings of blue whales around the project area.

Dolphins are relatively common in the waters of the NWS, however, no listed threatened species are known to be present in the Project area or broader Region. The spotted bottlenose and Indo-Pacific humpback dolphins are listed as migratory species that are likely to occur in the Project area and the broader Region, however both species are known to prefer shallow, inshore and near shore waters and are unlikely to be present, other than transiting the area from time to time.

Five listed threatened and migratory species of marine turtles may occur within the Project area. Given that the Project area is in an offshore environment with waters in excess of 150 m deep, there are no key feeding, nesting or habitat features likely to be present, however individuals may transit the area.

Within the region of the Vanuatu-1 well, four turtle species, the green, hawksbill, flatback, and loggerhead turtles (from the family Cheloniidae) are known to have major breeding rookeries along the Ningaloo and Pilbara coast.

Similarly the Dampier Archipelago, the Montebello Island group and the Lowendal Islands have been identified as regionally significant rookeries for the hawksbill, green and flatback turtles and to a lesser extent the loggerhead turtle.



The green turtle is common around Barrow Island, while identified rookeries for the flatback turtle include Barrow Island and more north-easterly beaches including those at Cape Thouin (Prince, 1993; 1994; Pendoley, 1997).

Twelve species of sea snakes may occur in the project area according to the *EPBC Act* PMST. None of these species are listed as threatened or migratory and they are generally widespread throughout the waters of the NWS in offshore and near-shore habitats.

Seabirds and shorebirds may transit the area on occasion but the deep waters and distance to emergent land make it unlikely that the project area comprises important habitat to birds. No listed threatened or migratory species of seabirds have been identified in the project area.

While the region is known to support large populations of cartilaginous fishes (i.e. sharks and rays) there is only one listed threatened species (whale shark) identified as potentially occurring within the project area and two listed migratory species (short fin mako and long fin mako). Whale sharks (listed as vulnerable) are not known to aggregate in or near the project area, however, they may occasionally pass through the area. No other listed or migratory fish species have been identified within the project area.

#### 4.3 Cultural Environment

The water depth of the Project area means it is highly unlikely that Aboriginal or non-Aboriginal archaeological sites (i.e., evidence of past occupation) occur. The National Heritage List, which includes Indigenous places of outstanding heritage value, does not list any sites in or around the Project area.

The Australian National Shipwreck Database (DSEWPC, 2012) lists 51 shipwrecks registered as occurring within the Dampier region but none within the Project area. The Western Australian Shipwrecks Database (WA Museum, 2012) also indicates that there are no listed shipwrecks in the Project area. This is consistent with the findings of a geophysical and geotechnical survey of the Fletcher-Finucane Development area (Neptune Geomatics, 2011), which covered the Vanuatu-1 location and did not identify any shipwrecks within the area.

#### 4.4 Socio-economic Environment

##### ***Tourism and Recreation***

Aquatic recreation such as boating, diving and fishing occurs near the coast and islands off the Pilbara and Ningaloo coast. These activities are concentrated closer to population centres such as Dampier, Onslow, Point Samson, Exmouth and Port Hedland.

In the offshore waters of the project area, tourism activities are limited due to its distance from the mainland and island shorelines.

RecFish West indicates that the wider Fletcher Finucane and Mutineer Exeter operational areas (including Vanuatu) are not likely to be visited by recreational fishers and charter boats, with the closest area of interest being the Glomar Shoals, located approximately 30 km south of the Vanuatu drilling location.

### **Commercial Fisheries**

The project area overlaps the following Commonwealth and State managed fisheries:

- North West Slope Trawl
- Pilbara Demersal Scalefish Fishery
- Mackerel Managed Fishery
- North Coast Prawn Managed Fishery
- Northern Shark Fishery (closed)

### **Petroleum Exploration and Production**

The NWS is Australia's most prolific oil and gas production area, largely responsible for Western Australia accounting for 77% of the country's oil and condensate production and 55% of the country's gas production in 2010 (APPEA, 2011). The closest petroleum production infrastructure to the proposed Vanuatu-1 exploration well is the Mutineer-Exeter FPSO (the *MODEC Venture 11*) which is located approximately 21 km to the west.

### **Shipping**

The Maritime Standards Division of AMSA has informed Santos that the location of the Vanuatu-1 well location is approximately 1.8 nm west of the western edge of the Dampier Shipping Fairway, which carries all the Dampier Lombok shipping. Significant vessel traffic uses this fairway travelling to and from the Port of Dampier, however it is expected that the traffic will adhere to the fairway (correspondence with AMSA on 8 May 2013).

### **Defence Activities**

The production licence area WA-54-L does not overlap with any Department of Defence training or military exercise areas.

## **5 Environmental Hazards and Controls**

Environmental risk assessment refers to a process where hazards associated with an activity are assessed for their impact on the environment (physical, biological, and socio-economic) at a defined location and specified period of time. Regulations 13(3) and 13(3A) in the OPGGS (Environment) Regulations require that the environmental impacts and risks must be included in an EP and evaluated.

The environmental risk assessment process applied to the Vanuatu-1 program is based on the Santos EHS Management Standard 09 "Hazard Identification, Risk Assessment and Control", which describes the Santos standard and process with respect to risk assessment for all Santos activities. The methodology described in EHSMS09 is based upon the risk management process described in AS/NZ ISO 31000. Table 2 summarises the key environmental hazards and their associated controls.

**Table 2 Vanuatu-1 Hazards and Controls**

Environmental Hazard	Controls
<b>Physical Presence</b>	
<b>Seabed disturbance</b>	<ul style="list-style-type: none"> <li>• Anchoring and positioning will comply with the MODU move, positioning and anchoring plan.</li> <li>• Pre-drilling ROV inspection to indicate drill location is free of obstruction.</li> <li>• Comply with materials handling and transfer procedures to minimise the risk of dropped objects.</li> <li>• A third party inspector is engaged for managing all equipment being shipped to the facility; this includes a check for potential dropped objects risks.</li> <li>• Post-drilling ROV survey will be conducted to identify any dropped objects and these are retrieved where practicable.</li> </ul>
<b>Underwater Noise</b>	<ul style="list-style-type: none"> <li>• Preventative maintenance plan is in place.</li> <li>• VSP limited to 2 x 12 hour days.</li> <li>• VSP will comply with the DSEWPC EPBC Act Policy Statement 2.1 (2008) Part A.</li> <li>• The Australian Guidelines for Whale and Dolphin Watching (2005) for sea-faring activities will be implemented for the support vessels as relevant. Specifically, as related to noise this includes:               <ul style="list-style-type: none"> <li>○ Caution zone (300 m either side of whales and 150 m either side of dolphins) – vessels must operate at no wake speed in this zone.</li> <li>○ No approach zone (100 m either side of whales and 50 m either side of dolphins) – vessels should not enter this zone and should not wait in front of the direction of travel of an individual or pod cetaceans.</li> </ul> </li> </ul>
<b>Light Emissions</b>	<ul style="list-style-type: none"> <li>• Not applicable - based on the location, distance from sensitive receptors (particularly turtle nesting areas) and minimum safety requirements, the inherent risk is 'very low', and no further management measures are considered reasonably practicable.</li> </ul>
<b>Collisions with Cetaceans</b>	<ul style="list-style-type: none"> <li>• The Australian Guidelines for Whale and Dolphin Watching (2005) for sea-faring activities will be implemented as relevant, specifically:               <ul style="list-style-type: none"> <li>○ Caution zone (300 m either side of whales and 150 m either side of dolphins) – vessels must operate at no wake speed in this zone.</li> <li>○ No approach zone (100 m either side of whales and 50 m either side of dolphins) – vessels should not enter this zone and should not wait in front of the direction of travel of an individual or pod cetaceans.</li> </ul> </li> </ul>
<b>Introduction of Invasive Marine Species</b>	<ul style="list-style-type: none"> <li>• The support vessels are in possession of current International Anti-fouling System Certificates to verify that they comply with the International Convention on the Control of Harmful Anti-fouling Systems on Ships.</li> <li>• The MODU and support vessels will comply with the Australian Ballast Water Management Requirements (2011, v5), specifically:               <ul style="list-style-type: none"> <li>○ The vessel must have a Ballast Water Management Plan and Log Book.</li> <li>○ All vessels arriving in Australia from international waters are required to submit to the Quarantine Pre-Arrival Report (QPAR) to AQIS between 12-96 hours prior to entering Australian waters.</li> </ul> </li> <li>• There are no ballast water exchanges within 12 nm from nearest land.</li> </ul>
<b>Interference with Other Users</b>	<ul style="list-style-type: none"> <li>• Consultation with relevant stakeholders shall be conducted in accordance with Division 2.2A, Clause 11A and Division 2.3, Clause 16 OPGGS (Environment) Regulations.</li> <li>• Details of the drilling campaign will be provided to RCC and AHS so that radio warnings to shipping are promulgated and are noted in the Notice to Mariners.</li> <li>• The MODU will be fitted with either AIS and/or a RACON.</li> </ul>

Environmental Hazard	Controls
	<ul style="list-style-type: none"> <li>The support vessels will monitor the PSZ and act as chase vessels.</li> <li>One vessel will remain on location with the MODU at all times.</li> </ul>
<b>Routine Discharges</b>	
<b>Atmospheric Emissions</b>	<ul style="list-style-type: none"> <li>Use of marine-grade diesel, which is low in sulphur content, thus minimising the generation of SO<sub>x</sub>.</li> <li>Engines and mobile equipment are maintained in accordance with the PMP to ensure they operate at maximum efficiency.</li> <li>Vessels have a current Air Pollution Prevention (IAPP) Certificate or International Air Pollution Prevention (IAPP) Certificate (for foreign vessels).</li> </ul>
<b>Drilling Cuttings and Fluids</b>	<ul style="list-style-type: none"> <li>All chemicals selected for use in drilling operations are accepted via Santos' chemical selection process.</li> <li>Shaker screens will be used to maximise fluid separation from cuttings prior to overboard disposal of cuttings.</li> </ul>
<b>Cement</b>	<ul style="list-style-type: none"> <li>Only additives approved through the Santos chemical selection process will be used.</li> <li>An ROV will be used to observe cement returns to the seabed during grouting of the conductor.</li> </ul>
<b>Cooling and Desalination Water</b>	<ul style="list-style-type: none"> <li>Engines and water maker is maintained in accordance with the PMP so that they run within the expected operational range.</li> </ul>
<b>Sewage, Greywater and Putrescible Waste</b>	<ul style="list-style-type: none"> <li>The MODU and vessels have an approved sewage treatment plant or sewage comminuting and disinfecting system.</li> <li>MODU and support vessels will have in place valid international Sewage Pollution Prevention certificates.</li> <li>Equipment/engines onboard the MODU and support vessels are maintained in accordance with a PMP.</li> <li>A discharge of putrescible wastes have been comminuted or ground to particles &lt;25mm.</li> </ul>
<b>Deck Drainage and Bilge Water</b>	<ul style="list-style-type: none"> <li>OWS onboard the MODU and support vessels are maintained to standard.</li> <li>Oily water from machinery space bilges is backloaded for treatment onshore.</li> <li>SOPEP kits are readily available on the MODU in the event of a spill.</li> <li>All fuel, oils, lubricants and chemical spills to the deck are to be cleaned up immediately by trained crew.</li> <li>All fuel, oils, lubricants and chemical will be stored on the MODU in appropriately banded areas or containment/storage vesicles.</li> <li>Waste water discharged from machinery spaces on the MODU and support vessels are to contain less than 15 ppm hydrocarbons (MARPOL Annex 1).</li> <li>The MODU and support vessels have a current Oil Pollution Prevention Certificate.</li> </ul>
<b>Non-hazardous Solid Waste and Hazardous Waste</b>	<ul style="list-style-type: none"> <li>The MODU and support vessels shall carry a garbage record book.</li> <li>The MODU and support vessels shall carry and implement a waste management plan.</li> <li>The MODU and support vessels shall have signage displaying the types and conditions of waste disposal.</li> <li>Crew inductions will include information on correct waste disposal, spill recording and good housekeeping.</li> <li>Waste segregation and onshore disposal of non-hazardous solid waste and liquid hazardous waste.</li> <li>Appropriate storage of fuel, oils, lubricants and chemicals; and SOPEP kit availability; and immediate spill clean-up.</li> </ul>

Environmental Hazard	Controls
<b>Unplanned Events</b>	
<b>Well Blowout – Light Crude Oil</b>	<ul style="list-style-type: none"> <li>• Well control training and drill 'kick' response training is undertaken by relevant drill crew in line with the MODU's contractors training matrix.</li> <li>• Well construction to be in accordance with the NOPSEMA accepted WOMP and drilling program.</li> <li>• Adherence to the Santos Drilling &amp; Completions Management System (DCMS) including:               <ul style="list-style-type: none"> <li>○ At all stages in the well lifecycle there is two barrier protection.</li> <li>○ Cement containment barriers will be used for the abandonment of the well or a section of well.</li> <li>○ The BOP stack must:                   <ol style="list-style-type: none"> <li>I. Be capable of closing around all tubulars (drill string, BHA, casing liner, tubing) being run and allow circulation. This includes closing on tubing and control lines when running a completion.</li> <li>II. Be capable of shearing all sizes of drill pipe in use (excluding HWDP), sealing the well bore and allowing circulation below. The rig contractor must provide evidence of this capability with the drill pipe to be used in the well program.</li> <li>III. Have rams that fit all sizes of drill pipe in use.</li> </ol> </li> </ul> </li> <li>• Barrier and testing and verification will be undertaken, with critical acceptance criteria signed off for each well section.</li> <li>• Reduce the risk of interference with others and therefore potential collisions leading to blowout (refer to Interference with other Users).</li> <li>• Selection of muds (refer to Drilling Cuttings and Fluids).</li> <li>• The Santos ERP, Well Kill Plan, OSCP and OSMP will be implemented immediately upon a blowout.</li> </ul>
<b>Diesel Spill</b>	<p><u>Management Measures (Vessel Collision)</u></p> <ul style="list-style-type: none"> <li>• Reduce the risk of interference with others and therefore potential collisions leading to diesel spill (refer to Interference with other Users).</li> </ul> <p><u>Management Measures (Fuel Bunkering)</u></p> <ul style="list-style-type: none"> <li>• Bunkering is undertaken in accordance with the Maersk Nan Hai Operational Checklist for Fuel Transfers from Supply Vessels.</li> <li>• Appropriate storage of fuel, oils, lubricants and chemicals; SOPEP kit availability; and immediate spill clean-up requirements (as described in Deck Drainage and Bilge Water).</li> </ul> <p><u>Management Measures/Response to reduce the consequence of a MDO spill</u></p> <ul style="list-style-type: none"> <li>• The Santos OSCP and ERP will be implemented in the event of a spill to sea.</li> </ul>

## 6 Management Approach

The Vanuatu-1 program will be managed in compliance with the EP accepted by NOPSEMA in accordance with the OPGGS (Environment) Regulations.

The objective of the EP is to ensure that the potential adverse impacts on the environment associated with the activity during both routine and non-routine operations are identified, will be

reduced to ALARP and will be of an acceptable level. This includes the definition of risk controls that are in place to manage each of the identified risks.

The EP defines environmental performance objectives and environmental performance standards that are used as a basis for managing environmental risks identified through the risk assessment process. Specific measurement criteria have been determined, which are used to demonstrate these performance objectives and standards are achieved.

An implementation strategy is described within the EP. The implementation strategy provides a summary of the Santos systems, practices and procedures in place to manage the environmental risk associated with its activities to ALARP. It also sets out strategies to ensure that the specific environmental objectives and standards for Vanuatu-1 drilling as outlined in the EP are established and monitored, in accordance with Regulation 14 of the OPGGS (Environment) Regulations.

## 7 Stakeholder Consultation

Santos has been actively involved in stakeholder engagement and consultation in the Dampier region since the initial development of the Mutineer Exeter production facility in 2005. Santos is committed to continuing to consult with appropriate stakeholders to ensure concerns associated with the Vanuatu-1 drilling campaign are incorporated into the management of the activity wherever practicable.

Santos EHSMS07, Consultation and Communication Guideline, has been used to develop the stakeholder consultation strategy. This guideline defines a stakeholder as:

*'Any affected persons, interested persons or organisations that are impacted by, or can impact, a project.'*

In relation to the development of the EP, stakeholders were emailed an information flyer on 5 June 2013 with an invitation to provide comment. The flyer provided detail on the exploration well and associated activities and a summary of the key environmental management controls expected to be in place for the project and as detailed in the EP. The purpose of the flyer was to ensure that stakeholders were aware of the known and potential environmental risks and the management controls that will be in place to mitigate them.

Santos was conscious that the relevant, interested and extended stakeholders for the Vanuatu-1 exploration well would likely be the same as those that had been recently contacted for the Mutineer-Exeter Operations Environment Plan (January 2013) which is in relatively close proximity of the activities.

On this basis, those stakeholders identified as 'relevant' stakeholders were sent a targeted cover email with the information flyer attached to ensure their previous concerns were identified, acknowledged and where possible addressed in both this EP and the information sent to them.

Stakeholders included:

- Federal government regulatory/referral authorities;

- State government regulatory/referral authorities;
- Commercial fisheries and representatives;
- Conservation agencies;
- Industry stakeholders; and
- Oil spill response support agencies.

## **8 Contact Details**

The Santos environmental contact for this drilling activity is;

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Additional information regarding Santos can be obtained from its website at: [www.santos.com](http://www.santos.com)

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