



Diamond Offshore Drilling Inc.



Australian Drilling Associates Pty Ltd



Beach Petroleum Limited

VESSEL SAFETY CASE

REVISION DOCUMENT

For

**THE SPIKEY BEACH – 1 WELL
DRILLING PROGRAM**

Utilising the

OCEAN PATRIOT SEMISUBMERSIBLE MODU

(Revision 0 - 2009)



Ocean Patriot / ADA / Beach T/38-P Spikey Beach – 1 Vessel Safety Case Revision Document

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1. VSCR DOCUMENT MANAGEMENT

1.1 Document Approvals

The content of this Vessel Safety Case Revision (VSCR) Document has been reviewed by Diamond Offshore Drilling (Diamond), Australian Drilling Associates (ADA) and Beach Petroleum Limited (Beach), to ensure the intent meets the requirements of Part 3, Division 1 of the Petroleum (Submerged Lands) (Management of Safety on Offshore Facilities) Regulations 1996.

Diamond Offshore, Beach and ADA agree:

1. All Spikey Beach-1 well drilling program specific hazards have been identified and the associated risks have been eliminated or measures have been taken to control them to ALARP;
2. All well drilling program specific controls documented in the Section 3 Formal Safety Assessment (FSA) of Ocean Patriot Vessel Safety Case (VSC), have been identified and have been/will be put in place;
3. No modifications are required to the Ocean Patriot rig to conduct the Beach Spikey Beach - 1 well drilling program;
4. By following the requirements stated in this VSCR document for ongoing Hazard Identification and Risk Management, any new or modified risks shall be identified and treated to ALARP;
5. The content, intent and requirements within this VSCR Document have been, and will continue to be communicated to the Ocean Patriot rig workforce.

This ongoing approval process provides an assurance that risks are treated to ALARP and operations of the Beach T/38-P Spikey Beach - 1 well drilling program can be conducted within the normal capabilities of the Ocean Patriot semi-submersible rig.

This VSCR Document is approved for the Beach T/38-P Spikey Beach - 1 2009 exploration well drilling program in offshore Bass Basin Australia.

Diamond Offshore General Company Country Manager Approval

(Name, Date and Signature)

Alvin Mcall

Alvin Mcall
AUG-3-2009

Ocean Patriot Rig Operations / Drilling Manager

(Name, Date and Signature)

Steve Vacula

Steve Vacula 2-8-09

Diamond Offshore Drilling HSE Manager

(Name, Date and Signature)

Ben Devlin

Ben Devlin
31-7-09

ADA Drilling Superintendent

(Name, Date and Signature)

Iain Robertson

I. Robertson
29/07/2009

Beach Petroleum Drilling Operations Manager

(Name, Date and Signature)

Michael Giuliano

Michael Giuliano
31/07/09



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1.2 Distribution List

Diamond Offshore Drilling

1.	Diamond Offshore Country Manager
2.	Ocean Patriot Rig Operations / Drilling Manager
3.	Ocean Patriot OIM
4.	Diamond Offshore HSE Manager
5.	Ocean Patriot Rig Library / Recreational Room

Beach Petroleum Limited / ADA

6.	Beach Petroleum Limited Exploration Manager
7.	ADA Drilling Superintendent
8.	ADA Operations Director
9.	ADA Senior Drilling Engineer
10.	ADA Offshore Drilling Supervisor
11.	ADA Materials and Logistics Coordinator
12.	ADA QHSE Coordinator
13.	ADA Emergency Response Room

TBA (Vessel Service Provider)

14.	EMAS Offshore Operations Manager
15.	Lewek Emerald – Master
16.	Lewek Swift – Master

TBA (Aviation Service Provider)

17.	Bristow Helicopters Australia Operations Manager
18.	Bristow Helicopters Australia Chief Pilot

Designated Authorities

19.	NOPSA
20.	DIER Tasmania



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1.3 Document Control

This Safety Case Revision Document (Bridging Document) is a “*Controlled Document*”. Should the recipient (user) become aware of any changes or corrections which are required, please photocopy this page and the relevant page(s) to be changed, note the corrections and deliver them to:

Diamond Offshore General Company (DOGC)
Ocean Patriot Rig Operations Manager
Diamond Offshore Drilling
Unit 2, 5 Turner Ave Bentley WA 6110, Australia

1.9.1 Document Revisions

The Diamond Offshore Ocean Patriot Rig Operations Manager, the ADA Drilling Manager and the Beach Petroleum Limited Exploration Manager are jointly responsible for approving any updates or revisions to this VSCR Document. Responsibility for managing change within the project is detailed in the Ocean Patriot VSC.

1.9.2 Change Request Form

Name:

Position:

Document Issue Number:

Tel:

Fax:

Please note the following requested / recommended changes to the following page(s):

Section: Pages:

Section: Pages:

Requested Changes:

DOCUMENT REVISION RECORD				
Version	Section Number(s)	Page Numbers	Date of Latest Revision	Approved (Diamond Offshore/Beach/ADA)
0	All	All	July 2009	ADA / Beach / Diamond
B	All	All	July 2009	ADA / Beach
A	All	All	July 2009	ADA

For un-issued versions, the letters A, B, C etc. to be used;

For original issued versions, the numbers 0, 1, 2 etc. to be used;

To determine if an individual page has been revised or updated, identify the page number in the Revision Record above and confirm if the latest revision number listed is the same as the revision number listed on the page footer. If they match, the page is fully updated.

1.4 Glossary

Acronym	Description
ADA	Australian Drilling Associates
AHTS	Anchor Handling, Towing and Support Vessel
ALARP	As Low As Reasonably Practicable
AMSA	Australian Maritime Safety Authority
Application for Permission to Drill	Application made to the Designated Authority for 'Approval to Drill' Information contained therein includes the well location, permit information, well targets, geology, logging and sampling program. Drilling operation details are contained in the Drilling Program
ARPA	Automatic Radar Plotting Aid
CASA	(Australian) Civil Aviation Safety Authority
Designated Authority (DA)	The Department of Infrastructure, Energy and Resources (DIER), Director of Mines
Drilling Program	An approved document that describes the procedures and limitations under which an Operation must be conducted. It describes, where applicable, the engineering principles behind the design of these items. The program is reviewed and approved prior to commencement of operations
Drilling Superintendent	Person who represents ADA onboard the Rig, and who is responsible for ensuring that the objectives of the Drilling, Completions, Testing or Abandonment/Suspension Program are reached, by directing and supervising the work of the Drilling Contractor, Third Party Contractors onboard the Ocean Patriot and the Support Contractors.
DSV	Drilling Supervisor-Person who represents ADA onboard the Ocean Patriot
DWOP	Drill Well on Paper
DOGC	Diamond Offshore General Company
EL	Elevation
ER	Emergency Response
ERM	(Ocean Patriot) Emergency Response Manual
ERP	ADA Beach Spikey Beach - 1 Drilling ERP Addendum.
ESD	Emergency Shutdown
FSA	Formal Safety Assessment (Diamond Offshore) VSC Section 3
Good Oil-field Practice	All those things that are generally accepted as good and safe in the carrying on of exploration for petroleum, or in Operations for the recovery of petroleum, as the case may be.
GEMS	Global Excellence Management System
H ₂ S	Hydrogen Sulphide
HAZID	Hazard Identification and Risk Assessment Workshop
HLO	Helicopter Landing Officer
HSE	Health Safety and Environment
HSE MS	ADA Health, Safety and Environment Management System
HUET	Helicopter Underwater Escape Training

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Acronym	Description
ISPS	International Ship and Port Facility Security Code
JSA	Job Safety Analysis
MAE	Major Accident Event
MedEvac	Medical Evacuation
MoC	Management of Change
MODU	Mobile Offshore Drilling Unit (the Rig)
MOPO	Matrix of Permitted Operations
MSDS	Material Data Safety Sheets
MTOFSA	(Australian) Maritime Transport and Offshore Facility Security Act
NOPSA	National Offshore Petroleum Safety Authority
OHS	Occupation Health and Safety
OIM	Offshore Installation Manager
Operator	Beach Petroleum is the Operator under the Offshore Petroleum and Greenhouse Gas Storage Act 2006. In the case of Exploration Permit – The Permittee Retention Lease – The Lessee Production License – The Licensee
OPGGSA	Offshore Petroleum and Greenhouse Gas Storage Act 2006
OSV	Offshore Support Vessel
PPE	Personal Protective Equipment
PTW	Permit to Work (Diamond Offshore)
SIMOPS	Simultaneous Operations
SMS	Safety Management System (Diamond Offshore) VSC Section 2
SOP	Standard Operating Procedures
Support Contractor	Primary Contractor contracted by ADA to supply helicopters and AHTS Vessels in support to the Rig
Third Party Contractors	Third parties contracted by ADA to provide services on the Ocean Patriot
VSC	Vessel Safety Case, being the safety case in respect of the Ocean Patriot as a facility for the purposes of the Offshore Petroleum and Greenhouse Gas Storage Act 2006 (Cth)
VSCR	Vessel Safety Case Revision, (this document) being the Spikey Beach-1 well drilling program specific revision of the Vessel Safety Case in respect of the specific location, permit holder and drilling program
Well Drilling Program	The well operations conducted by the Ocean Patriot within a designated geographical area and time period as described in the VSCR
WOMP	(Beach/ADA) Well Operations Management Plan



2. INTRODUCTION

Beach Petroleum Limited (Beach) has contracted the Diamond Offshore Ocean Patriot Mobile Offshore Drilling Unit (MODU) to conduct the Spikey Beach - 1 well drilling program in the Tasmanian permit area of the T-38/P Bass Basin in 2009.

Australian Drilling Associates Pty Ltd (ADA) has been appointed by Beach Petroleum Limited as the Drilling Program Project Manager in Spikey Beach – 1 drilling program in T-38/P Bass Basin. The Ocean Patriot MODU has a revised Department of Primary Industries (DPI) accepted Diamond Offshore General Company Safety Case MODU Safety Case reference number PE/28/0005 approved on 1st November 2004 attached at Appendix 1. This document represents a review of the Vessel Safety Case Revision (VSCR) as it applies to the Beach T/38-P Spikey Beach–1 well drilling program in 2009. The VSCR is compiled in accordance with and fulfils the requirements of Regulation 34 of the Petroleum (Submerged Lands) (Management of Safety on Offshore Facilities) Regulations 1996.

It is intended that all drilling activities conducted on the Ocean Patriot rig will be undertaken under the Diamond Offshore Safety Management System (SMS) and Diamond Offshore HSE Policy as attached at Appendix 3, unless otherwise stated within this document.

2.1 Nominated Operator

It is acknowledged that Diamond Offshore General Company (hereinafter referred to as Diamond) is the Nominated Facility Operator of the Ocean Patriot as defined under the P(SL) (Management of Safety on Offshore Facilities) Regulations 1996 and accepted by NOPSA (reference letter DRIMS No 1885969 v2) on 11th March 2005 (Appendix 4). As such, the Rig will be under the day-to-day control and management of the Ocean Patriot Offshore Installation Manager (OIM) as the Diamond Operator representative.

Diamond has a legal responsibility, as the nominated Facility Operator of the Ocean Patriot, to ensure that all activities undertaken on the Rig are conducted in a safe manner and that the risks associated with the work activity are managed to ALARP. In order to achieve this, Diamond has in place a comprehensive SMS and Risk Management process.

Diamond will ensure that all activities undertaken on the Rig are conducted and managed under the Diamond SMS and all personnel including third party contractors will be provided with induction training into the SMS system prior to undertaking work on the Ocean Patriot. Table 1 defines the responsibility of Diamond under Schedule 3 (Occupational Health and Safety) of the Offshore Petroleum and Greenhouse Gas Storage Act 2006 (OPGGSA 2006).



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Table 1: Summary of responsibilities under Schedule 3 Part 2 Occupational Health and Safety of the OPGGSA 2006

OPGGSA Section	Clause	Responsibility	Comment
Schedule 3 Clause 9	Duties of Operator	Diamond Offshore	<ul style="list-style-type: none"> - Maintain a policy document relating to safety of Diamond Offshore operations and which is communicated to all employees and third party contractors on the Rig; - Overall responsibility for the safety of all personnel on the Ocean Patriot; - Overall management of safety for all Ocean Patriot activities including SMS management and control of work activities; - “Duty of care” for all personnel on the Ocean Patriot facility; - Assurance that all third party contractors are competent to undertake work assigned to them; - All personnel working on the facility are inducted in accordance with the Diamond Offshore SMS; - All personnel working on the facility are informed, instructed, trained and supervised accordingly for them to carry out work in accordance with the HSE expectations; - All third parties are approved by Diamond Offshore for assurance that third party suppliers and sub-contractors have systems in place to manage risk to ALARP.
Schedule 3 Clause 10	Duties of persons in control of parts of facility or particular work	Diamond Offshore	<ul style="list-style-type: none"> - Ensuring that a safe place of work is provided and maintained for all personnel on the Rig; - Ensuring safe systems of work are provided and followed by all personnel working on or around the Rig; - Ensuring all personnel are inducted into the Diamond Offshore SMS and are assessed as competent to carry out their work; - Ensuring personnel contracted by Beach and ADA who arrive on the Ocean Patriot rig are competent to carry out their work; - Equipment used by personnel contracted by Beach and ADA is fit for purpose; - Well related hazards and associated risks have been managed by Beach and ADA to ALARP; - Approval and acceptance of all personnel and equipment as fit for purpose; - Induction training of all third party contractors on the Ocean Patriot rig; - Management systems to ensure all equipment used is certified, validated and fit for purpose;



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OPGGSA Section	Clause	Responsibility	Comment
			<ul style="list-style-type: none"> - Training and competence of its employees and contractors; - Management system, procedures and work instructions; - Equipment used by personnel contracted by Beach and ADA is fit for purpose through a formal process of validation.
Schedule 3 Clause 11	Duties of Employers	Diamond Offshore	<ul style="list-style-type: none"> - Day to day direction of work associated with the well via well programme written work instructions; - All personnel working on the facility are informed, instructed, trained and supervised accordingly for them to carry out work in accordance with the HSE expectations; - Selection and competency verification of Beach, ADA and third party contractors.
Schedule 3 Clause 12	Duties of manufacturers in relation to plant and substances	Diamond Offshore	<ul style="list-style-type: none"> - Not applicable - Diamond Offshore do not manufacture or import plant or substances.
Schedule 3 Clause 13	Duties of suppliers of facilities, plant and substances	Diamond Offshore	<ul style="list-style-type: none"> - Overall responsibility and control of all equipment used and installed and substances taken onto Ocean Patriot; - Diamond Offshore SMS requires audit and evidence of third party verification of equipment prior to the use of equipment on the Ocean Patriot rig.
		Beach Petroleum Limited / ADA	<ul style="list-style-type: none"> - Beach and ADA management systems provide pre-qualification audit of all third party management and equipment engaged by Beach and ADA as fit-for purpose and meets validation certification requirements, validation and final approval to be conducted by Diamond Offshore; - Requirement for pre-qualification review of equipment certification and MSDS of chemicals and hazardous substances, validation and final approval to be conducted by Diamond Offshore.
Schedule 3 Clause 14	Duties of persons erecting facilities or installing plant	Diamond Offshore	<ul style="list-style-type: none"> - Diamond Offshore SMS provides a means of controlling and ensuring all third party contractors are competent; - Diamond Offshore SMS and procedures ensure all third party contractors are competent to erect/install equipment on the Ocean Patriot required for the drill program.



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OPGGSA Section	Clause	Responsibility	Comment
Schedule 3 Clause 15	Duties of persons in relation to occupational health and safety	Diamond Offshore	- Participate in induction training for the Ocean Patriot rig; - Adhere to the Diamond Offshore SMS/"Duty of care" for all personnel on the Ocean Patriot Rig.
		All Individuals	- Work on the Ocean Patriot rig in accordance with the Diamond Offshore SMS.

2.2 Interface with Operator

Design of the wells and/or management of the contributing services (e.g. cementing, testing, logging, etc.) together with any development of operational procedures relating to the design, has been/will be performed by Beach / ADA and approved by Diamond prior to use. All activities undertaken on the Rig will be performed under the Diamond SMS and any well operations procedures developed by Beach / ADA relating to well design in the drilling program will comply with Diamond SMS requirements.

All Beach / ADA operational procedures will be provided to Diamond for review and acceptance for use on the Ocean Patriot and will be incorporated into the Diamond SMS for the duration of the Beach T/38-P Spikey Beach - 1 drilling program.

Beach / ADA have a duty of care under their HSE Management System (HSE MS) to ensure personnel contracted by Beach / ADA to work on the Ocean Patriot, have been trained and assessed as competent to carry out their work and that the equipment intended for use by contracted personnel is validated as fit for purpose and in good working condition, prior to transiting for the Rig. To further ensure the scope of training and competency of the workforce, ADA will conduct third party contractor HSE management pre-qualification in respect of all third party companies contracted to Beach.

ADA will also conduct third party pre-qualification for Beach third-party equipment, of which the results of the pre-qualifications will be provided to Diamond Offshore for review, validation and final approval in accordance with OPGGSA 2006 Schedule 3 requirements.

Diamond, the nominated Facility Operator, shall work closely with Beach / ADA to ensure all activities undertaken on the Rig are carried out in a safe manner and that the risks associated with the work activity are managed to As Low As Reasonably Practicable (ALARP) levels. It is Diamond's requirement that Beach / ADA will cooperate fully in this activity, as documented, and shall provide information, assistance and appropriate support at all times.

It is considered by Diamond and Beach / ADA that potential hazards associated with the 2009 Beach T/38-P Spikey Beach - 1 drilling program have been identified and are controlled to ALARP, communicated to and understood by all relevant personnel and/or organisations.

2.3 Ocean Patriot Australian Contract Administrator

The Ocean Patriot has been contracted to ADA under a rig management arrangement with ADA, who will function as the contract administrator role for the Beach T/38-P Spikey Beach – 1 2009 well drilling program and will assume the safety, well planning, drilling management, emergency support and project administration roles.

ADA provides the rig, support services and project management under the Beach Petroleum Spikey Beach – 1 drilling program in the T-38/P permit area. The scope for this VSCR is intended to exclusively address those activities undertaken in the course of this drilling program.

2.4 Ocean Patriot Crew

The Ocean Patriot is run by Diamond employees and the recruitment of all Diamond personnel is completed in accordance with Diamond GEMS Personnel and Training program to provide experienced suitably trained and competent personnel for the Ocean Patriot. As also referred to Ocean Patriot VSC SMS Section 3.6 on Contractor and Support Service Management element, it is not Diamond Offshore policy to employ well service sub contractors. If the need arises, Diamond have in place contracts with subcontract or personnel which are mainly service company personnel engaged to complete specific work in their capacity as specialists i.e. engineers, fabricators, marine personnel and catering crew. Selection and competency verification of well – services personnel and drilling engineers, contracted by the customer, are the responsibility of the customer. Diamond have committed to ensure all rig crew personnel are



inducted into the Diamond SMS, VSC, VSCR and the rig equipment prior to commencing petroleum exploration activities in Australian waters.

2.5 Vessel Safety Case Revision (VSCR) Document Objective

The objective of this VSCR Document is to demonstrate that management of safety for the Beach T/38-P Spikey Beach - 1 well drilling program utilizing the Ocean Patriot semisubmersible rig will ensure that risks are assessed and controlled ALARP. The hazard assessment will form an appendix to the respective document addendums.

This VSCR does not cover completions and well testing activities. A separate regulatory submission will be made covering completions and well testing with specific hazard assessment, as required.

The safety systems interface between Diamond (as the registered operator of the Ocean Patriot), Beach (as Operator), ADA (as the Drilling Project Manager) and 3rd Party Contractor systems, are clearly defined, validated and are designed to provide a safe work environment for all personnel involved.

2.6 Methodology

This VSCR is the Master SCR addressing the participation and joint commitments of ADA, Diamond and Beach. This SCR has been prepared to address Beach T/38-P Spikey Beach - 1 well drilling program. The document has been jointly developed by Diamond, Beach and ADA Drilling Management Team with input from third party and support contractors. The process for developing this VSCR document involved the following steps:

- Review of the NOPSA Safety Case Assessment Policy (N-04300-PL0052);
- Review of the NOPSA Safety Case Preparation and Document Submission Guidelines (September 2004);
- Development of the site / well descriptions;
- Review of the Diamond Ocean Patriot VSC Facility Description, Safety Management System (SMS) and the Formal Safety Assessment (FSA) against the proposed Beach T/38-P Spikey Beach – 1 well drilling program;
- Identification of SMS responsibilities and interfaces between Diamond, Beach and ADA;
- Identification and assessment of specific site and well hazards using the Spikey Beach - 1 Basis for Well Design and the Ocean Patriot Hazard Register.

The process for developing the site specific Risk Assessments/HAZID appendices involved the following steps:

- A drilling HAZID and risk assessment, with involvement from Diamond Offshore personnel, individual from Beach, ADA and contractors to assess and agree the well and site specific hazards, associated risks, barriers and controls, and to agree interfaces for routine and emergency operations
- Identification of well drilling program hazards and risk management methodologies (elimination or reduction to ALARP) (Details of ADA project risk assessment / HAZID is explained in this Beach T/38-P Spikey Beach -1 Drilling Program VSCR);
- Should well testing become programmed on any well, then a separate well test HAZID to control hazards to ALARP will be conducted by a panel of appropriate and experience persons from all stakeholders. The HAZID will include a review of the test package and test program to be conducted. Actions arising from the HAZID will be recorded and monitored to close out with appropriate liaison and communication between relevant parties;

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- A Scope of Validation will be prepared and approved by the regulator and a further review of the applicable Vessel Safety Case Revision Document will be conducted and submitted for approval by the regulator;
- Workforce consultation, communication and review;
- Finalisation, dissemination, implementation and ongoing hazard identification, risk management and management of change.

2.7 Document Revision

The Diamond Rig Operations Manager is accountable for the currency of this Safety Case Revision Document. In general this document will be reviewed and/or revised under the following circumstances:

- Substantial or significant change in the management systems of Diamond and/or Beach / ADA or;
- A significant change in the operating area, or;
- A significant change in the planned well drilling program, or;
- A mutually agreed improvement.

2.8 Responsibilities under the OPGGSA 2006

Under the Petroleum (Submerged Lands) (MoSoF) Regulations 1996, Diamond is recognised as the “facility operator” of the Ocean Patriot. Diamond recognises and accepts that as operator they have a legal responsibility to ensure all activities undertaken on the Ocean Patriot are conducted in a safe manner and that the risks are managed to ALARP.

In order to achieve this, Diamond have in place a comprehensive SMS and risk management process and will ensure all activities undertaken on the rig are conducted and managed in accordance with the Diamond SMS.

All personnel, including third party contractors, will be trained in the Diamond SMS on arrival at the rig and prior to being permitted to undertake any work on the Ocean Patriot. All personnel are required, as part of the induction process, to acknowledge that they understand that their acceptance and involvement in SMS programs is an expectation of Diamond, Beach and ADA.

The responsibilities of Diamond, Beach and ADA under Schedule 3 (Occupational Health and Safety), Part 2 (Occupational Health and Safety) and Division 1 (Duties Relating to Occupational Health and Safety) of the OPGGSA 2006 are summarised below:

Beach Petroleum Limited as the Operator is responsible for:

- Design and construction of the Spikey Beach – 1 well (through ADA);
- Training and ensuring competence of its employees and contractors (through ADA);
- Day to day direction of work associated with the well, via written work instructions and work programmes (through ADA);
- Provision of logistical support including support vessels and helicopters to the rig operator (through ADA);
- Assurance that Beach and ADA suppliers and/or subcontractors have systems in place to manage risks to ALARP, by means of a screening and selection process measured against defined roles and responsibilities, selection criteria mechanisms and skills requirements as set out in the Beach / ADA HSE MS Manual Organisation and Resources for suppliers and subcontractors.
- Personnel with relevant competencies and experience in managing the principal hazards anticipated during the well drilling program, including ocean towing and rig

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positioning will be allocated specific roles in the drilling program. Appropriate personnel (onshore and offshore) with specific experience in managing the principal hazards on the wells (including ocean towing and rig positioning) have been contracted for the program

- Safety management of 3rd Party Contractors including main service providers is an integral part of the Beach / ADA tender selection process which includes the ADA HSE Third Party Contractor HSE Prequalification, which cover HSE Commitment, Planning, Implementation and Check / Review elements and support document reviews. On behalf of Beach, ADA will review and evaluate the project HSE management system or plan readiness of the 3rd party contractors including main service providers, prior to the start of project. All critical contracts require 3rd Party Contractors to provide HSE Management System or Plan details including policies or project plans, which also specifies the competency skills for the personnel involved. HSEMS Compliance Audits shall also be carried out by ADA to verify the effectiveness of the planned system.

Diamond as Facility Operator is responsible for:

- Ocean Patriot MODU;
- Diamond SMS (Section 2) and on-board work control systems including;
 - Training and competency of personnel,
 - Selection of Personnel,
 - Approval of Contractor Personnel,
 - Competency Assessment and Assurance,
- The safety of all personnel on the Ocean Patriot;
- Assurance that Diamond suppliers/subcontractors and Operator subcontractors have systems in place that are 'fit for purpose' to manage risks to ALARP.

Areas of Cooperation are:

- All personnel arriving on the Ocean Patriot are required to comply with requirements of the Diamond SMS;
- Personnel contracted by Beach and ADA are engaged via the established screening and selection process after being assessed and considered competent to carry out the assigned duties on the Ocean Patriot;
- Equipment used by personnel contracted by Beach and ADA is assessed and considered fit for purpose with relevant document evidence and where applicable appropriate evidence of current test/certification to be available with equipment upon arrival to the logistics base and prior to embarkation to the rig;
- Well-related hazards and associated risk have been identified and will be managed by Beach and ADA to ALARP.

A summary of responsibilities under Schedule 3 of the OPGGSA 2006 is provided in Table 1. It is the responsibility of the OIM to ensure that no activity is undertaken on the Rig which may affect the overall safety of the Rig and/or its personnel including those activities that are under the direction of Beach / ADA.

Furthermore, all activities undertaken on the Ocean Patriot will be performed under the Diamond SMS and any well operations procedures developed by Beach / ADA relating to well design, operations and drilling must comply with Diamond SMS requirements.

2.9 Ocean Patriot Contract Primary Authority

Beach Petroleum as Operator and Diamond (as owner and operator of the Ocean Patriot), authorise the Ocean Patriot OIM, as the person responsible and accountable for the safety of the Rig and all personnel aboard at all times and under all conditions, including the operation of drilling equipment and the safe conduct of the drilling program activities, within the permit area, within the declared 500 metre safety exclusion zone.

Further, Beach and ADA acknowledge the Ocean Patriot OIM is the single approval authority for all work to be conducted within the safety exclusion zone. While a number of primary and 3rd party contractors will be engaged in work on the rig at various times. Such contractors will operate under the authority of the Ocean Patriot OIM while conducting any operations onboard.

The relevant interfaces between Beach, ADA and Ocean Patriot management are identified in the Diagram 1: Ocean Patriot Organisation Chart below and the following Diagram 2: Beach / ADA - Diamond Offshore Interface Chart.

Diagram 1: Diamond / Ocean Patriot Functional Organisation Chart
(for Non – Self Propelled Semisubmersibles)

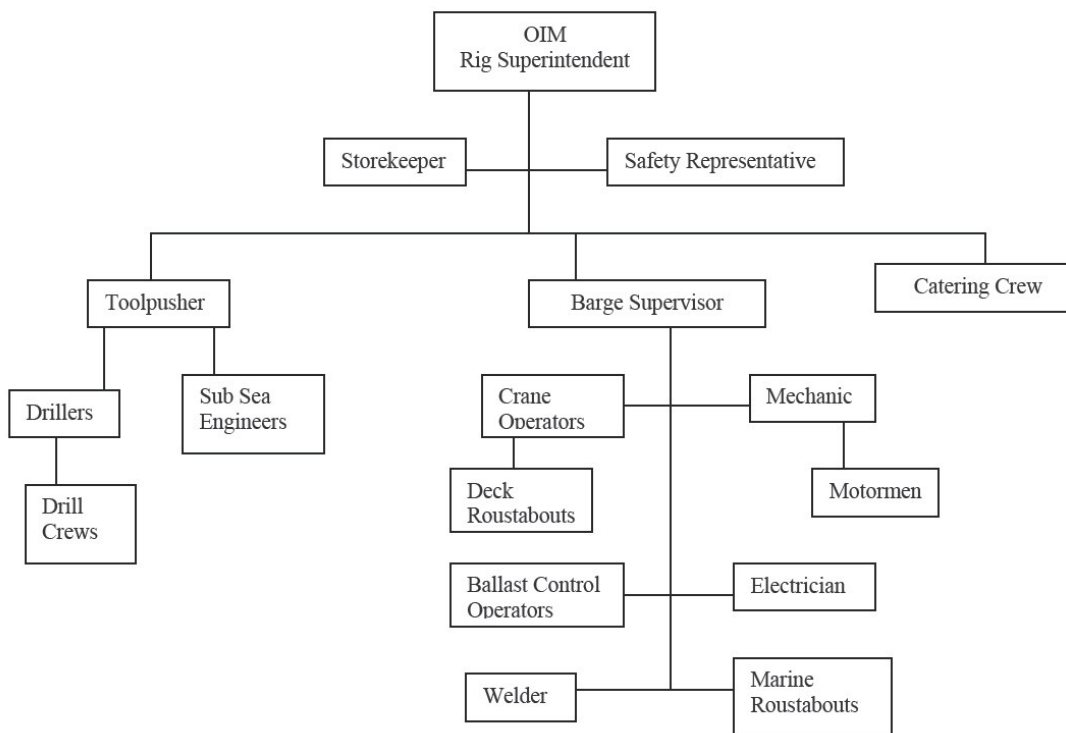
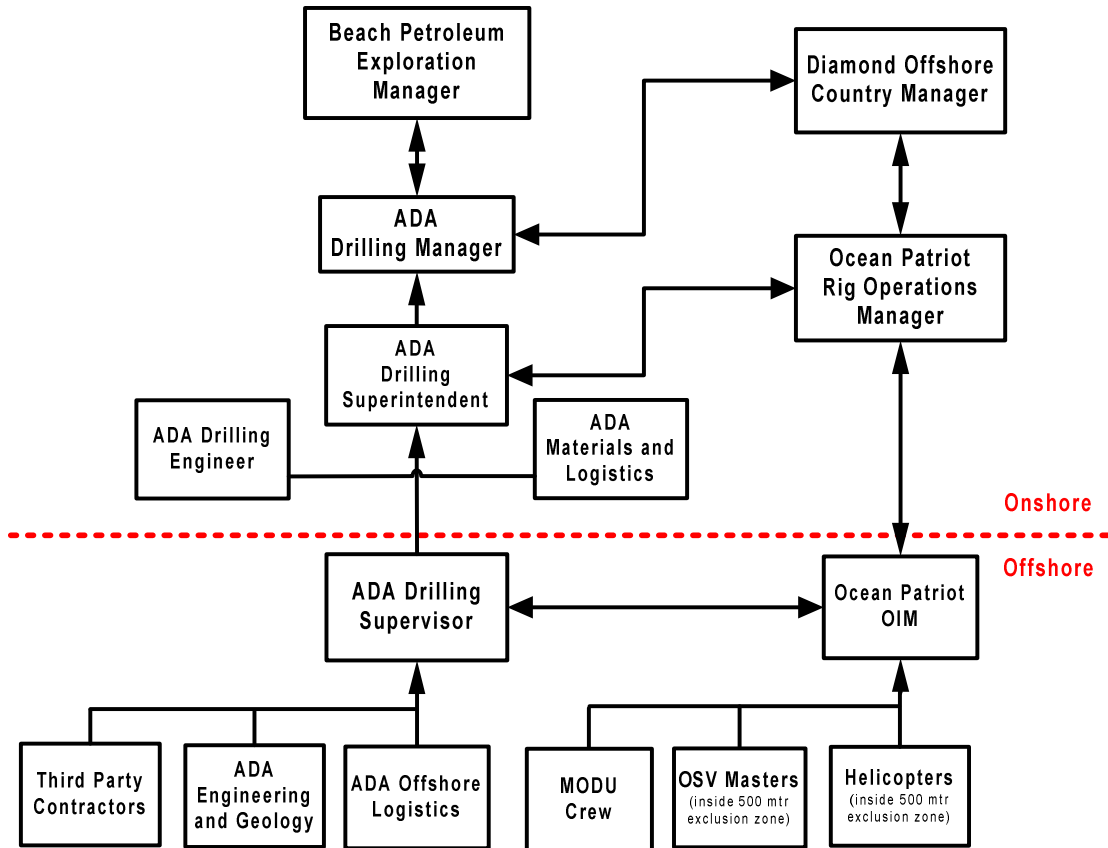


Diagram 2: Beach / ADA - Diamond Offshore Interface Chart





3. RIG SAFETY CASE

This document, in conjunction with the Diamond SMS in Ocean Patriot VSC and the ADA HSE MS provides the complete Vessel Safety Case Revision for the drilling of the Spikey Beach – 1 well by Ocean Patriot, detailing the following information:

- MODU Facility Description (Ocean Patriot VSC Section 1);
- Diamond Offshore SMS (Ocean Patriot VSC Section 2) and Beach / ADA HSE MS and the linkages between the systems (Appendix 5);
- Ocean Patriot Formal Safety Assessment (Ocean Patriot VSC Section 3).

3.1 Management of Safety Overview

All Ocean Patriot drilling activities will be conducted and administered under the existing Diamond SMS detailed in the Ocean Patriot VSC Section 2 on SMS. Permit to Work and Job Safety Analysis process implementation which are applied within the Diamond Offshore rigs worldwide, are detailed in the Safe Work Practices of Corporate Global Excellence Management System (GEMS) Section 2.11 and 2.17 respectively. Elements of Drilling Operations, outlined in the Safe Work Practices of GEMS Section 03 are also bridged to this Ocean Patriot VSCR Document.

The Ocean Patriot OIM will assume the role of Work Permit Authority; responsible for ensuring all activities requiring a work permit are assessed, understood, preparations undertaken, equipment made safe under appropriate isolations as required and such preparations, isolations and permit processes approved and endorsed by the appropriate Ocean Patriot Department Supervisors prior to approval of the work permit and the commencement of work on the rig.

3.2 Workforce Involvement

In accordance with Petroleum (Submerged Lands) (MoSoF) Regulations 1996, Part 3, Division 1 Regulation 15 on Involvement of members of the workforce, there has been an effective consultation with, and participation of, members of the workforce (including personnel from Beach / ADA, Diamond, Primary Support Contractors and Third Party Contractors) in the preparation of this VSCR. Further to this a separate project specific Safety Case Revision Addendum will be compiled. In each instance workforce involvement has been planned and implemented by the following:

- Participation in the drilling HAZID by Operator for the well drilling program i.e. Beach Petroleum, ADA representatives, Ocean Patriot personnel, 3rd party contractors, vessel and aviation contractors;
- Review of this VSCR and project specific Safety Case Revision Addendum by competent and suitably experienced Diamond, Beach, ADA and Ocean Patriot personnel and incorporation of their comments into the document;
- Discussions on HSE related concerns which include informing, communicating and consulting within the workforce are addressed in the Ocean Patriot VSC SMS Section 2.2 on Workforce Involvement: Co-operation & Communication via the Policy Formulation & Writing Procedures, Weekly safety meetings, Pre-tour safety meetings, Pre-Task/Toolbox Meetings and JSA, STOP, Safety Alerts, Training, Incident Investigations, Hazard Hunts, Planned Safety Inspections etc.;
- HSE work practice familiarisation efforts which covers a general awareness of hazards and emergency procedures and responsibilities, for all new personnel arriving on board Ocean Patriot, through the Safety Induction program implementation as detailed in Ocean Patriot VSC SMS Section 2.2.11;

Ocean Patriot / ADA / Beach T/38-P Spikey Beach – 1 Vessel Safety Case Revision Document

- Engaging proactive workforce contribution through the Du Pont Safety Training Observation Program (STOP) Process.

In addition, contents of this VSCR Document will be communicated to the Ocean Patriot workforce prior to the drilling program commencing and copies of this VSCR Document will be provided for reference during the Beach T/38-P Spikey Beach - 1 Well Drilling program.

A summary presentation will be produced and presented to the Ocean Patriot crew prior to spud or during the planned Drilling Well on Paper (DWOP) session and during rig inductions.

Diamond Offshore, Beach and ADA are both fully committed to the ongoing involvement of the workforce in the communication and management of safety for the Beach T/38-P Spikey Beach - 1 well drilling program.

Diamond Offshore, Beach and ADA have reviewed each other's commitments and agree to cooperate fully and encourage joint work force participation in accordance with the Ocean Patriot VSC, SMS Section 2.2 on Workforce Involvement: Co-operation and Communication.

3.3 Drill Well on Paper (DWOP)

Beach / ADA will conduct DWOP session to address the requirements of the drilling or completion project facing the team. All key parties and contractors involved in the program will be included. The drilling management team will perform an in-depth review and analysis of drilling and completions and endorse the detailed operational plans for implementation on the Ocean Patriot. Elements to be addressed during the DWOP will include:

- Technical and HSE performance requirements for the program;
- Organizational and reporting structure of the team;
- Expectations of management and the project leadership teams related to;
 - HSE Performance
 - Time and Cost performance
 - Key performance indicators
- Detailed procedures for each task in the drilling and completion plan required to safely and efficiently deliver a high level of performance;
- Roles and responsibilities within the team;

Balance people and process to ensure all team members are motivated to contribute their best efforts toward high HSE performance and continual improvement.

3.4 Ocean Patriot Safety Inductions

All personnel (new employees, visitors, customers and third party sub – contractors) involved in this Beach T/38-P Spikey Beach – 1 Well Drilling program will receive an induction (full / short) and orientation into the Diamond Offshore Ocean Patriot MODU prior to commencing work on board the rig, which will allow the inductee to visualize the facilities and lifesaving equipment on board the MODU, as per Diamond Offshore Ocean Patriot VSC, Section 2..2.11 on Safety Inductions and not limited to:

- | | |
|---------------------------------------------------------------------|--------------------------|
| • HSE Policies; | • Permit to Work system; |
| • Legislative documents e.g. Emergency Response Manual, P(SL)A etc. | • Hours of work |
| • Safety responsibilities | • Safety meetings |

Ocean Patriot / ADA / Beach T/38-P Spikey Beach – 1 Vessel Safety Case Revision Document

- Workplace hazards
- Emergency procedures including emergency escape routes and muster points,
- Emergency alarms (gas detectors and alarms), PA system.
- Hazardous Communication Program
- Smoking regulations
- Personal safety equipment
- Emergency equipment including locations, firefighting equipment, station bill duties,
- Involvement in Safety Training Observation Program
- Explanation of various safety signs
- Personal protective equipment
- Walkway and lifeboat / liferaft access areas
- Safety drills / training
- Accident / hazard reporting
- General interest including orientation tour of rig
- Safety medications
- Firearms, weapons, contraband

All persons attending the induction shall complete an assessment and orientation questionnaire. Failure in achieving the acceptable result will require the inductee to be re-inducted prior to commencing work. The above induction procedure and effectiveness is monitored by the Diamond Offshore HSE & QA Manager.

3.5 HSE Demarcation

It is the intention of Diamond, Beach and ADA to have a clear demarcation of HSE interfaces to ensure there will be no confusion between the roles and responsibilities of personnel, organisations, management of safety, operating procedures and/or reporting structure.

Diamond as the 'Facility Operator' has ultimate responsibility for HSE on the Ocean Patriot and Beach through ADA will comply with all Diamond HSE policies and procedures. Where potential gaps or conflicts exist between Diamond and Beach / ADA's policy and procedures, the over-riding procedure is defined where appropriate in this document.

Where potential or unexpected gaps or conflict in procedures arise during the course of operations, the Diamond policy will apply and may be subject to risk assessment of the specific task in question at the time. Should Beach / ADA and Diamond not agree on the resolution of any conflict onboard, the specific task or operation will cease until an agreement is reached and documented on the safest way to proceed.

3.6 Safety Features and Systems

The Outline Drilling Program will be designed for Spikey Beach - 1 well and will contain a summary of the safety features (e.g. casing, mud and logging programmes, casing, and leak off pressure testing, and well control). ADA will utilise the Diamond Offshore EHS-WCM-01 Ocean Patriot Well Control Manual Rev 4 for the Beach T/38-P Spikey Beach – 1 well drilling program.

The philosophy of and criteria for the design, construction, operation and management of each well shall be in accordance with the following ADA procedures:

- Approved Well Design Procedure;
- Well Operations Management Plan; and
- Formal Risk Assessment.



Ocean Patriot / ADA / Beach T/38-P Spikey Beach – 1 Vessel Safety Case Revision Document

Well design is based on the:

- Formation, fluids and expected pressures and anticipated problems;
- Hole size, casing and well control equipment used to control the expected well bore conditions (the well control including the Diverter, BOP and Conductor are part of the Ocean Patriot VSC).

4. SAFETY MANAGEMENT SYSTEMS

4.1 Introduction

The Diamond SMS shall be solely utilised during the time the Ocean Patriot is on location in the T-38/P permit area in the Bass Basin. The ADA Drilling Supervisor will be the Beach / ADA designated representative on the Rig and will have a direct interface with the Ocean Patriot OIM and the appointed ADA Drilling Superintendent.

All activities undertaken on the Ocean Patriot will be performed under the Diamond SMS and any well operations procedures developed by ADA related to well design, drilling and evaluation will comply with the SMS requirements and be approved by Diamond prior to any activity commencing.

Designs of the wells, together with the development of operational procedures relating to the design, are performed by ADA. Operational procedures will be provided to Diamond for review and acceptance for use on the Ocean Patriot and for incorporation into the Diamond SMS for the duration of the drilling program.

4.2 Diamond Offshore Safety Management System

The Diamond SMS is a comprehensive suite of policies, procedures, directives and pro- forma documentation, the SMS is inclusive of the following and not limited to:

- Diamond Offshore EHS-ERM-01 Emergency Response Manual Rev 4;
- Diamond offshore EHS-WCM-01 Well Control Manual Rev 4;
- Global Excellence Management System (GEMS) Safe Work Practices;
- Global Excellence Management System (GEMS) Occupational Health Practices;
- Diamond Offshore Drilling Environmental Management System;

A full description of the Diamond SMS is provided in the Diamond Ocean Patriot VSC Section 2.

4.3 Hazardous Materials and Radioactive Sources Inventory

Storage and transportation of hazardous materials and radioactive sources to or from the Ocean Patriot will be documented in accordance with the applicable Dangerous Goods regulations. All hazardous materials and radioactive sources, quantities and storage location onboard the Rig will be identified in a hazardous materials and radioactive sources register maintained by the OIM and Beach / ADA Logistics, who will maintain records of all hazardous and radioactive substances shipped to the rig by Beach / ADA and/or 3rd Party Contractors.

Relevant information for all hazardous materials and radioactive sources, including Material Safety Data Sheets (MSDS), will be provided to the Ocean Patriot Materials Coordinator and managed with reference to the Materials Control Procedures in Diamond GEMS Third Party Services element on Material Handling, Storage & Shipping.

The Ocean Patriot OIM and Beach / ADA Drilling Supervisor will receive regular updates of the onboard hazardous materials and radioactive sources inventory. Procedures for addressing handling including prevention & mitigation measures, storage and transportation of hazardous

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materials such as methanol, asbestos etc and radioactive substances are provided in per Ocean VSC Facility Description Section 8 on Hazardous Substances and Inventories and Ocean Patriot VSC FSA on MAE / Hazard Register 029 on Exposure to Hazardous Materials.

4.4 Drawing Set

Relevant drawings for the Ocean Patriot and a location map for the Spikey Beach – 1 well are contained in the following documents:

- Ocean Patriot Vessel Safety Case Facility Description Section 10.0;
- ADA / Beach T/38-P Drilling Program for Spikey Beach – 1 well;

4.5 Emergency Preparedness and Management

In the event of an emergency onboard the Ocean Patriot the main controlling plan will be as per the Diamond GEMS Safety & Environmental on Corporate Emergency Management Plan, and any response shall be carried out in accordance with this manual. The Ocean Patriot OIM assumes the responsibility of Emergency Response Team Leader (ERTL) and is responsible for the overall Rig emergency response.

All site specific emergency response requirements are within the Ocean Patriot VSC performance standards. The emergency response mechanisms for any major accident event during the Beach T/38-P Spikey Beach - 1 well drilling program are as per the Ocean Patriot VSC and specific emergency response plans are detailed in the Diamond GEMS Safety & Environmental on Corporate Emergency Management Plan and other relevant plans.

Exceptions to this are for Oil Spills, which are in accordance with the procedures on Pollution Prevention, Environmental Incident and Reporting in the Diamond Environmental Management System of GEMS Safety & Environmental, Diamond Offshore Ocean Patriot Shipboard Oil Pollution Emergency Plan (SOPEP) Rev 1 and/or the approved Revised Environment Plan for Spikey Beach-1.

In addition to the implementation of the Diamond GEMS Safety & Environmental on Corporate Emergency Management Plan, the Beach / ADA Drilling ERP Addendum shall be implemented for all emergency incidents in order to provide onshore support to the Rig and the offshore emergency response. Beach / ADA ERP Addendum procedures include:

- | | |
|----------------------------------------------|----------------------------------------|
| • Down Manning and Evacuation | • Fire or Explosion Emergency |
| • Well Control Emergency | • Unsecured leakage of HAZMAT |
| • Severe Storms or Weather Conditions | • Failure of Rig Structural Components |
| • Failure of Rig Equipment | • Loss of Station Position |
| • Vessel Collision | • Helicopter Emergency |
| • Man overboard | • Fatality and Serious Injury |
| • Bomb or Terrorist Threats | • Criminal Acts or Workplace Violence |
| • Illegal Boarding / Armed Hijacking | • Errant Vessel |
| • H ₂ S / CO ₂ Release | • Shallow Gas Blowout |

The Beach / ADA Drilling ERP Addendum detail the required supporting role of Beach / ADA in the event of an emergency on the Ocean Patriot. In addition, the Beach / ADA ERP addendum



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details further responses that may be required for emergency situations which do not directly involve the Ocean Patriot (i.e. associated aircraft, vessel and/or logistics base operations).

The agreed scenario based emergency response exercise for Beach T/38-P Spikey Beach – 1 well drilling program which include the Ocean Patriot emergency response teams and the activation of Diamond, ADA and Beach emergency teams will be carried out at a date as near to arrival on location as is practical, is described in the Ocean Patriot ADA Beach Spikey Beach -1 Well Drilling Program's HSE Management Plan 2009.

Based on the Ocean Patriot VSC SMS Section 3.5.6 on Exercise & Drills and GEMS Safety & Environmental element on Safe Work Practices – Offshore Emergency Drills and Exercise the OIM will ensure emergency drill exercises (escape/muster/evacuation and fire) are carried out at least once every week.

4.6 Management of Change

Changes to the Ocean Patriot, Diamond SMS and/or operating procedures including those requested by Beach / ADA shall be managed in accordance with the Ocean Patriot Vessel Safety Case, SMS Section 3.3 on Management of Change and Diamond GEMS Management of Change which cover elements on engineering change request technical services request for work and personnel. In assessing changes to the planned Beach T/38-P Spikey Beach – 1 well drilling program Beach / ADA applies a management of change (MoC) process according to the ADA HSE MS procedures for management of change. This process includes the risk assessment of change to ensure the risks associated with any proposed changes are kept to ALARP.

Any changes to the drilling program will be updated in the written instructions to all staff concerned including drillers, which will then be endorsed by the Ocean Patriot OIM. Diamond and Beach / ADA agree to consult whenever a change may impact safety or operations on the Rig.

4.7 Incident Reporting, Investigation and Follow Up

All Incidents on the Ocean Patriot will be investigated in accordance with the Diamond procedures detailed in the Ocean Patriot VSC, SMS Section 4.3 on Reactive Monitoring and Safe Work Practices which include procedures on Accident, Incident and Near Miss Reporting and Investigation and GEMS Safety and Environmental procedures on Injury / Illness / Near Miss Reporting and Incident Investigation. Copies of reports raised shall be forwarded to the ADA Drilling Superintendent and ADA HSE. Third Party Contractors may be required to complete an Incident Report in accordance with their company's procedure; copies will be given to the OIM, ADA Drilling Supervisor and ADA HSE.

The responsibility to formally report incidents on the Ocean Patriot rests with Diamond Offshore. All reportable incidents will be investigated and analysed by the ADA Drilling Supervisor joining the Ocean Patriot investigation team.

Beach / ADA may at their discretion lead a joint Diamond Offshore – Beach / ADA investigation of an incident and report the incident separately in accordance with the ADA HSE MS Hazard Reporting Incident Notification and Investigation Procedure.

Recommendations and actions established from the incident investigation shall be regularly reviewed and communicated during the Daily Drilling meeting, Weekly meeting on the rig and the Weekly ADA / Spikey Beach-1 HSE Conference Call. An incident register shall be maintained on the Ocean Patriot to ensure appropriate close – out of corrective and preventive actions.



4.8 Validation, Monitoring and Auditing

Diamond and ADA have formal audit arrangements, which will be applied during the Beach T/38-P Spikey Beach – 1 well drilling program. The ADA's audit schedule and audit implementation are included in the Beach T/38-P Spikey Beach – 1 Audit Program carried out in accordance with these plans which link to the ADA Audit Plan for this operations.

This VSCR provides details of the interfaces between the Ocean Patriot VSC SMS and ADA HSE MS including procedures that ensure barriers and controls are implemented and remain in place and which ensure new or modified risks will be identified as operations progress.

New or modified risks shall be subject to a joint Diamond, ADA and Third Party Contractor review which will also include work force involvement.

Diamond will carry out audits in accordance with the Diamond GEMS elements on Audits and Corrective Actions and Ocean Patriot VSC SMS Section 5 Audit & Review. Diamond also agrees to support and assist in all audits conducted by ADA in an atmosphere of openness and mutual cooperation.

4.9 Contractor Management

Management of Third Party Contractors provided by Beach / ADA will be evaluated and managed in accordance with the Diamond GEMS on Third Party Services and Ocean Patriot VSC, SMS Section 3.6 and ADA HSE MS Manual element covering Contractor Management. The intent of these guidelines and the associated procedures is to ensure the contracting of 3rd Party services and the purchase, hire or lease of equipment and materials does not present an increased risk to the health and safety of personnel or to the environment.

Additionally, to ensure effective arrangements are in place to safeguard the health and safety of all personnel (including visitors) involved in the 3rd Party Contractor interface through the Beach T/38-P Spikey Beach - 1 well drilling program.

In addition to other consideration (e.g. quality, cost, availability, etc.) the criteria for the selection and retention of 3rd Part Contractors includes each contractor demonstrating:

- A commitment to HSE as identified in their pre-qualification documentation;
- Monitoring and maintenance of mandatory levels of competence of personnel and processes for competency to relevant job and HSE standards;
- Validation of the currency of equipment certification and 'fitness for purpose';
- The ability to carry out their work in a manner that, as far as is reasonably practicable and acceptable to ADA / Beach, does not present risk to own or other contractor employees, rig personnel, to the public, property or to the environment;

A core element of contractor acceptance is the ADA Prequalification and Audit Program, which is intended to provide a consistent standard of QA across the Beach T/38-P Spikey Beach – 1 Well Drilling Program activities. The programs include but are not limited to:

- Beach / ADA Audit and Inspection Protocol ;
- All contracts have detailed HSE technical specifications for the services being provided referencing established external standards as appropriate.
- All 3rd Party personnel involved in the drilling program are required to undergo all relevant inductions, training, safety meetings, emergency drills and risk management practices as required by the OIM and ADA / Beach.
- The ADA Drilling Supervisor is responsible for ensuring that all 3rd Party personnel onboard the Rig are aware of and familiar with their individual emergency roles and responsibilities.

5. BEACH WELLS SUMMARY

5.1 Exploration Drilling Program Description

This Beach / ADA Vessel Safety Case revision document is written specifically for Beach T/38-P Spikey Beach – 1 exploration well drilling program in the Bass Basin of the Tasmanian T/38-P permit area.

5.2 Permit Area Description

The T/38-P permit area is approximately 83 nautical miles SSW of Wilson's Promontory, the southernmost mainland location and approximately 34 nautical miles North of Burnie Tasmania and approximately 85 nautical miles east of King Island. Table 1 summarise the details of the Beach T/38-P Spikey Beach-1 drilling program.

Table 1: Beach T/38-P Spikey Beach-1 Well Drilling Program Description in Bass Basin, Offshore Australia

<i>Spikey Beach - 1</i>	
Permit Areas:	Tasmania T/38-P
Type of Well:	Exploration
Location Details:	Latitude – 40°28'55.326" S Longitude – 145°52'23.552" E
Rig Heading:	TBA
Water Depth:	73.7 metres
<i>Logistics Management</i>	
ADA Operations Base	ADA Office Melbourne, VIC
Beach Petroleum Limited	Adelaide, SA
Diamond Offshore Operations Base:	Diamond Offshore Regional Office in Perth
Aviation Base:	Bristow Helicopters Australia Pty Ltd, Essendon Airport
Helicopter Contractor and Type of aircraft:	Bristow Helicopters Australia Pty Ltd / AS332L (Super Puma). Independent Operation base and helicopters audits were performed by HART Aviation on the 23 rd July 2009.
Helicopter flight time from Essendon Airport to Spikey Beach-1:	Approximately 1 hour and 30 minutes in nil winds
Logistics Supply Base	Toll Logistics, Geelong Port
Offshore Support Vessel (OSV) Contractor:	EMAS
Name of Vessels:	EMAS offshore support vessels i.e. Lewek Emerald and Lewek Swift
Steaming time from Geelong Port to Spikey Beach-1:	Approximately 12 hours without allowance for sea conditions

5.3 Met Ocean Conditions

Met Ocean data indicates that weather conditions prevalent in the Tasmania T/38-P area of operations are within the safe operating limits of the Ocean Patriot. Full details of the well site locations and their associated Met Ocean environment conditions are contained in the approved ADA Bass Basin Environment Plan.

5.4 Sea Bed Survey

Beach has contracted a qualified surveyor to undertake a seabed survey of the Bass Basin to provide the information required including bathymetry, 3D side scan and shallow gas survey to ensure no uncharted wreckage is present and to provide the information required to Diamond to validate the sites for anchoring prior to rig movement onto location.

5.5 ROV

Although not identified as safety critical equipment, ROV observation is maintained for early detection of seabed disturbance. An ROV may be deployed and used to bubble watch during riser-less drilling.

The ROV Contractor has undergone standard 3rd Party Contractor HSE Assessment prior to being awarded the ROV contract (i.e. this entailed reviewing Beach's pre-qualification assessments of the ROV contractors). ROV operations will only be conducted by an approved ROV Contractor and certified operator(s). A review has also been conducted of the location of the ROV onboard the Ocean Patriot.

5.6 Drilling Program Logistics Support

Operational support will be provided to the Ocean Patriot from Diamond's offices in Perth and Beach / ADA will provide operational logistical support from the ADA head office in Melbourne, and the Beach / ADA supply base at Toll Logistics based in Geelong Port, Victoria.

5.7 Marine Operations

Two Offshore Support vessels (AHTS) (Lewek Emerald and Lewek Swift) supplied by EMAS Offshore, will be used during the drilling program to tow the Ocean Patriot to the well site from the previous drilling program location and to move bulk and liquid materials, equipment and containers between Toll Logistics Shore Base in Geelong Port and the Ocean Patriot.

The vessels have been inspected by an independent marine surveyor and are in current survey and the details have been reviewed by Diamond and Beach / ADA to confirm their suitability for operations in support of the Ocean Patriot.

One Offshore Support Vessel (OSV) will be on station as a standby vessel, in the vicinity of the Ocean Patriot at all times during drilling operations although the particular vessel on station may alternate between the two assigned, subject to operational requirements. While on location the vessel undertaking the standby role will also perform collision watch duties.

The emergency duties of the offshore support vessels are covered in the Beach / ADA ERP Addendum. OSV for Standby Duties include:

- Supply operations;
- Fire fighting Support, shielding in a fire emergency, emergency response and rescue;
- Standby vessels during helicopter operations;
- Evacuation support in the event of a worst case scenario e.g. helicopters are not available;
- monitoring passing vessel traffic and separation from vessel traffic;
- Liaison with the local fishing and recreational boating industry;
- Radio and visual watch of rig maintained;
- Maintain portable radios, emergency and first aid equipment in a ready state.

All offshore support vessels have IMS accreditation accepted by AMSA. The offshore support vessels carry adequate life saving and safety equipment on board to transport personnel from the Rig should the need arise.

5.8 Maritime Security

The Ocean Patriot will comply with the relevant security requirements detailed by Beach / ADA during all interface operations with the offshore support vessels.

5.9 Crew Changes (Fixed Wing / Helicopter / Fatigue Management)

5.9.1 Fixed Wing Operations

Commercial fixed wing transport will be utilised during the project for personnel transiting to Melbourne. Commercial flights were not assessed in the Ocean Patriot Safety Case Hazard Analysis conducted on 15th July 2009 as commercial flights are operated by a Civil Aircraft Safety Authority (CASA) audited commercial airline or similar of international body. Beach / ADA will not audit these services.

5.9.2 Helicopter Operations

Helicopter operations will be performed by Bristow Helicopters in accordance with CASA regulations. Helicopter type, suitability, and performance criteria are contractually controlled, as is minimum flight and engineering crew qualifications and experience levels. A primary helicopter shall be dedicated for crew changes and operational flights.

During the drilling program, helicopter operations will be used for:

- Personnel transfers between Bristow Helicopters Essendon Airport and the Ocean Patriot including medical evacuation;
- Occasional transportation of equipment to/from the Ocean Patriot;
- Heavy weather and other emergency evacuation, search and rescue operations and day time MedEvac.

During the Beach T/38-P Spikey Beach – 1 drilling program the helicopter contractor will provide MedEvac support for non-urgent MedEvacs during the day time and HEMS Victoria will be used for other MedEvac situations. A primary helicopter shall be available for maintenance back up.

An AS332L Super Puma Aircraft will be provided by Bristow Helicopters for the program and will be based at Bristow Helicopters Essendon Base with the available alternate airbases being Wynyard and Devonport aviation base. Helicopter flight time between Wynyard and Devonport aviation base in Tasmania and the Ocean Patriot in Spikey Beach - 1 is approximately 35 minutes with nil winds.

The helideck currently has refuelling capabilities with adequate aviation fuel storage tanks, as described in the Ocean Patriot VSC Section 1 Facility Description Section 3.3.4 Helicopter Facilities.

Helicopter movement to/from the Ocean Patriot will be managed by Bristow Helicopters ground staff under direction of Beach/ADA Logistics, in conjunction with the ADA Drilling Supervisor and the Ocean Patriot Radio Operator.

The Ocean Patriot Helicopter Landing Officer (HLO) will be responsible for the conduct of all Helicopter operations onboard the Ocean Patriot. The HLO and Helideck crew have been trained in the operation of the Helideck and its associated equipment and specific aircraft operations inductions will be provided by Bristow Helicopters prior to the commencement of aviation operations as addressed in the Ocean Patriot procedures.

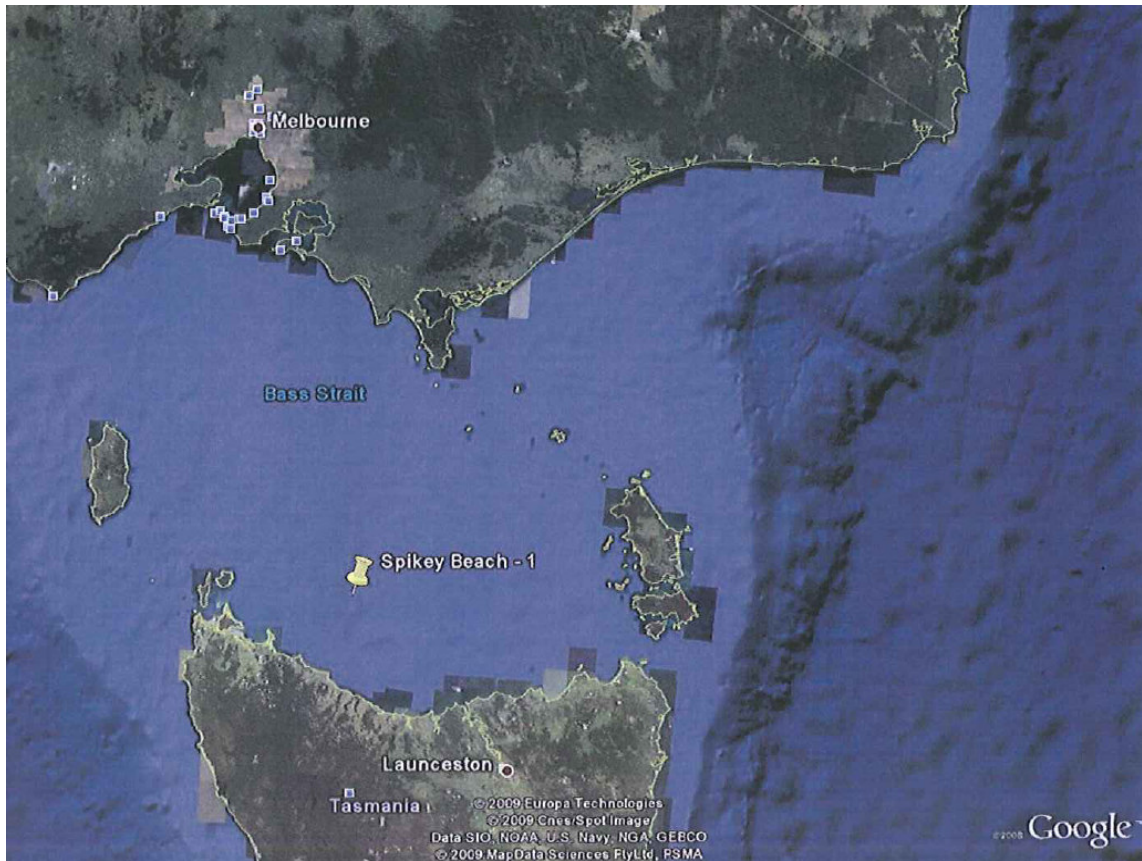
All personnel travelling to the Ocean Patriot during the Beach T/38-P Spikey Beach - 1 Drilling Program will be HUET trained and will have current certification. Exemptions to this requirement which involves one off situation will only be approved by the OIM as a one off situation.

5.9.3 Fatigue Management

Personnel (Diamond, Beach / ADA or Third Party Contractor) working onboard the Ocean Patriot shall not perform excess duties required of them as described in the Section 2.02.08 Maximum Allowable Work Hours Policy of the Diamond Offshore's Personnel Policies & Procedures Rev 4 and also in line with Diamond's ultimate goal to provide an accident free workplace for its crews and mitigate fatigue effects on personal safety and performance.

There is a potential for fatigue associated with travel to the rig location, particularly for any personnel joining the rig via transfer from an international flight. Thus, the OIM is responsible for ensuring that all personnel onboard the Ocean Patriot follow Diamond Offshore's Maximum Allowable Hours of Work policy.

Diagram 3: Beach Spikey Beach – 1 Well Location Map



6. DRILLING PROGRAM FORMAL SAFETY ASSESSMENT AND ALARP

In the Formal Safety Assessment carried out for the preparation of this SCR, the hazards and associated risks identified in the Beach T/38-P Spikey Beach – 1 well drilling program were derived from previous/ offset wells drilled in the Bass Basin and the 38 Ocean Patriot MAEs per the Ocean Patriot Vessel Safety Case. The drilling program hazards and associated risks were assessed at the Beach / ADA Drilling HAZID Review Workshop conducted on 15th July 2009. A multidisciplinary panel of suitably qualified and experienced personnel were drawn together from the crew of the Ocean Patriot, Beach, ADA, and 3rd party contractors including ROV, Helicopter and Offshore Support Vessel operator to consider the hazards identified and to put in place mitigations barriers and controls to manage operations to ALARP.

The HAZID Review Workshop commenced with an introduction to the risk assessment process and the proposed drilling program. The hazard assessment focused on those issues relating to the drilling of Spikey Beach-1 well.

The hazard participants were then divided into separate working groups and asked to discuss potential hazards that could occur under the principal areas of;

- Location specific hazards – mobilisation to site, support services including helicopter and support / work boats;
- Reservoir related issues;
- Drilling related issues

During the group session, the independent facilitator prompted discussions within each group by use of guidewords / hazards associated with drilling activities that had been identified in similar drilling programs.

The team then reviewed all hazards documented and assessed whether:

- The hazard was already covered by the Vessel safety Case (VSC); and / or
- The hazard recorded fully reflected the intended drilling activity. This included a review of assumptions and identified control measures.

The groups were given sufficient time to brainstorm hazards / identify controls and note any further actions that may be required. The groups were then brought together and an open workshop was then held to discuss all hazards that had been identified by the individual groups.

If the hazard recorded was deemed to be covered by the VSC the team moved on to the next issue. Where the hazard was identified in the VSC or was already documented in the hazard sheets, but had the potential to be slightly different to what was shown, the workshop attendees went through the exercise of assessing the hazard and identifying the control measures to ensure appropriate controls were in place and associated risks were reduced to ALARP. Actions were raised where further work or mitigation measures were required.

Following this, an examination of all the Major Accident Events (MAEs) covered and documented within the Ocean Patriot VSC was conducted to further identify any changes or significant differences that the drilling activities would impose on the safety of the Ocean Patriot MODU. The output from the review of the VSC MAEs was incorporated within the Hazard data sheets where appropriate.

The results of the HAZID were recorded and a copy of the completed register established.

A total of 4 HAZID actions were identified. These will need to be tracked and closed prior to the commencement of drilling activities.

In addition a review of the Major Accident Events (MAE's) identified within the Ocean Patriot Vessel Safety case was undertaken as a separate exercise outside of the workshop. The review

Ocean Patriot / ADA / Beach T/38-P Spikey Beach – 1 Vessel Safety Case Revision Document

aimed to assess the impact of the drilling program on the MAE's identified within the vessel safety case. No changes to the MAE's were identified.

Table 3: Formal Safety Assessment Risk Analysis

VSC Hazard Register No.	Hazardous Event	Spikey Beach Well Drilling Program Specific Assessment
008	Gas release from the poor-boy degasser	No program specific changes
014	Loss of Main power during control of incident (Blowout, fire etc)	No program specific changes
017	Hose failure while pressure testing (cementing, BOP testing, drill stem testing)	No program specific changes
018	Failure of drill line results in flying debris	No program specific changes
020	Entry into a confined space with hazardous atmosphere	No program specific changes
021	Hot work ignites an explosive environment	No program specific changes
023	Personnel within a Halon area during Halon release	No program specific changes
024	Helicopter crash on landing or take off	No program specific changes
025	Helifuel fire	No program specific changes. No intention to heli - refuel on MODU
026	Release of hydrocarbon (oil, gas, condensate)	No program specific changes
028	Fire in the paint locker	No program specific changes
029	Exposure to hazardous material	Program Specific Risk ALARP
030	Explosive (uncontrolled detonation)	No program specific changes
031	Uncontrolled release of liquid nitrogen	No program specific changes
035	Crown block/disk brake failure	No program specific changes
046	Flare causes burns to personnel	No program specific changes
048	Unignited gas release, hydrocarbon risk	No program n specific changes
048	Unignited gas release H2S risk	No program specific changes. No H ₂ S anticipated
050	Loss of communications when required during a critical event	No program specific changes
055	Delayed operation of the BOP controls	No program specific changes
056	H2S release in mud pits/shale shaker or rig floor	No program specific changes
057	Swinging loads and collision of cranes	No program specific changes
061	Equipment failure whilst under maintenance	No program specific changes
062	Fuel release form fuel lines	No program specific changes
066	Failure of drill line	Program Specific Risk ALARP
067	Uncontrolled blowout	No program specific changes
069	EI Magco brake failure	No program specific changes
072	Incompatible casing threads - failure	No program specific changes

VSC Hazard Register No.	Hazardous Event	Spikey Beach Well Drilling Program Specific Assessment
073	Pump discharge exceeds pipe-work pressure rating	No program specific changes
074	Gas returns at mud pits	No program specific changes
075	Drilling with incorrect mud density (well kick, blowout)	No program specific changes
079	Dropped personnel from Billy Pugh	No program specific changes
081	Incorrect geological survey done	No program specific changes
082	Choke line leaks, gas leaks through flanges at the choke manifold	No program specific changes
083	Undetected H2S flows at shakers, rig floor, mud pits and mud pump room	No program specific changes
084	Explosion in the derrick	No program specific changes
085	Fuel fire during crane refuelling	No program specific changes
087	Helicopter crash into the sea	No program specific changes

6.1 ALARP Summary

Diamond Offshore and Beach / ADA have determined that it has adequate and sufficient systems in place to demonstrate that plans and procedures have been developed and implemented to maintain threat barriers, consequence recovery measures and escalation factor controls to the required standards on the Ocean Patriot.

The outcomes were made through a thorough process or risk assessment that included participation from Diamond Offshore, Beach, ADA and third party contractor personnel. It is concluded that the threat barriers, consequence recovery measures and escalation factors for the effective management of risk to ALARP are in place and being used by competent personnel.

6.2 Drilling Program Specific Hazard Assessment

6.2.1 Ship Collision

From an examination of shipping lanes and traffic densities, the field is located in close proximity to known shipping lane i.e. Tasmanian Ferry. The hazard and controls associated with ship impact are covered in the VSC and are considered ALARP.

All drilling program's offshore support vessels are fitted with the standard array of collision avoidance systems and automatic radar plotting aids (ARPA). Rig transit movements and the well location will be provided to AMSA and gazetted in local notifications to mariners with regular marine communications ensuring that errant vessels do not collide with the rig. The drilling program will have an offshore support vessel will at all times become a dedicated standby vessel on location within 2 nautical miles ~ closer than one hour steaming.

6.2.2 Offshore Support Vessel Collision

The planned OSV supporting the Rig have significant experience in the industry and in the area. The risk from a collision with these vessels is adequately covered by the Diamond Offshore Ocean Patriot Vessel Safety Case. The standby vessel will maintain a 24 hour watch for vessel collision; in addition their ARPA radar is to be fully operational. The standby boat is to notify the

Ocean Patriot / ADA / Beach T/38-P Spikey Beach – 1 Vessel Safety Case Revision Document

Ocean Patriot OIM should their ARPA radar become unserviceable or watch keeping is reduced.

6.2.3 Hydrogen Sulphide

At the HAZID review it was discussed that historically levels of H₂S within the area have been low, this has been confirmed through analysis of offset data.

The hazard from H₂S is considered ALARP.

6.2.4 Simultaneous Operations

There will be no simultaneous operations occurring during drilling work.

6.2.5 Subsea Equipment

There is no subsea equipment within the area of the planned drill. However as part of the Diamond management and planning process controls are in place to ensure risks are minimised and include:

- Rig tow plan – detailing location of all subsea equipment;
- Mooring analysis;
- Onboard survey

Given the controls in place the risk associated with impacts on existing subsea equipment is considered to be ALARP.

6.2.6 Occupational Hazards And / Or Incidents

Occupational hazards are a significant contributor to risk on the Ocean Patriot and include:

- Slips, trips, falls;
- Caught by/between equipment hazards and/or crushing hazards;
- Occupational hygiene hazards (i.e. noise, vibration, heat, cold, light etc.);
- Falling overboard, from height etc;
- Manual handling etc.

Extensive risk minimisation measures have been implemented and include safety training, operational procedures, JSA's, PPE, machinery guards and other measures. For activities associated to the Beach T/38-P Spikey Beach-1 well drilling program in Bass basin, this risk is considered no greater than in the MODU FSA



Table 4: Formal Safety Assessment – Assumptions Comparison

FSA subject	Ocean Patriot Vessel Safety Case Assumption	Spikey Beach-1 Drilling Program Conditions and Comments	Within FSA Envelope?
Flight time to Ocean Patriot	The VSC does not quantitatively assess the risk associated with exposure to helicopter flight times.	<ul style="list-style-type: none"> Approximate flight times from the Ocean Patriot to the Helicopter base at Essendon Airport is 1 hour 30 minutes^{+/-} one way with nil wind; Ocean Patriot MODU currently has refuelling capabilities to accommodate for any refuelling activity onboard. However no heli - refuelling is planned; 	Yes
Flights / person	The VSC makes a quantitative assessment of the risk associated with exposure to helicopter flight times per person.	<p>Risk levels during this drilling program are unlikely to change significantly based on the personnel transfer rotation:</p> <ul style="list-style-type: none"> Beach / ADA personnel will be working on a “4 on, 4 off” rotation; Ocean Patriot Expatriates and Australian Nationals on a 4 week on 4 week off shift rotation; <p>Per Ocean Patriot VSC FSA Section 7.2.1.1 Helicopter Crash Frequency Assessment:</p> <p>The VSC assumes flying times in Commonwealth waters of 3hrs.</p> <p>There are 6 return flights to the Ocean Patriot per week, which equates to approximately 312 return helicopter flights per year. Given that each return flight requires one takeoff and landing on the Ocean Patriot, the potential accident frequency in the vicinity of the Ocean Patriot can be estimated as per Calculation</p> <p>Calculation Helicopter Crash Accident Frequency</p> <p>Accident Frequency = TOLs on the Ocean Patriot per annum × TOL</p> <p>Accident Frequency</p> $= 312 \times 4.64E^{-6}$ $= 1.45E^{-3}/\text{annum}$	Yes
Ocean Patriot	The Ocean Patriot is limited to a maximum of	Maximum manning level during the drilling program will not exceed the	Yes



Ocean Patriot / ADA / Beach T/38-P Spikey Beach – 1 Vessel Safety Case Revision Document

FSA subject	Ocean Patriot Vessel Safety Case Assumption	Spikey Beach-1 Drilling Program Conditions and Comments	Within FSA Envelope?
manning level	100 POB by bed space.	Ocean Patriot maximum POB of 100 personnel	
Ship Collision	<p>Significant Passing Vessel Ship Collision frequency is $1.01E^{-03}$ per year based on DNV's WOAD (Worldwide Offshore Accident) Databank data.</p> <p>The VSC discounts Standby Vessel collision on the basis that procedural control on the speed of manoeuvring when in close proximity to the RIG prevents collision with sufficient energy to threaten the integrity of the Ocean Patriot.</p>	<p>The Ocean Patriot will be on location within the Spikey Beach-1 location for approximately 25 days.</p> <p>Overall passing vessel collision frequency for the drilling program estimated to be significantly lower than that assumed in the VSC. Although one of the SV's will be positioned at the Ocean Patriot it is not considered to pose a significant collision risk with the Rig on the basis that the OSV will operate under permit-to-work authorisation from the Rig within a 500 metre radius and hence will be subject to the same procedural control as any vessel in close proximity.</p> <p>OSVs are equipped with an Automatic Identification System (AIS) which will lower the risk of collision; they will monitor transient vessel movement in the area on a continuous basis, will maintain a shipping log and will comply with collision and traffic management SOPs.</p> <p>The Ocean Patriot ERM outlines the response in the event of an unknown vessel approaching the Ocean Patriot.</p>	Yes
Radioactive sources	Ocean Patriot Hazard Risk Register includes controls for this hazard.	No drilling program-specific radioactive sources required.	Yes
Dropped Objects	Dropped objects are not considered to contribute to a major accident event.	Dropped object risk during the drilling programme should be similar to those in the Ocean Patriot VSC since the number of crane lifts and lifts in the derrick associated with drilling will be similar and not working over live equipment.	Yes
Hydrogen Sulphide	Toxic gas detection is installed on the Ocean Patriot.	Historically levels of H ₂ S within the drill area have been low, this has been confirmed through analysis of offset data.	Yes
Emergency	The VSC details Emergency Response	For helicopter incidents en-route to the Rig, Emergency Response will be	Yes



Ocean Patriot / ADA / Beach T/38-P Spikey Beach – 1 Vessel Safety Case Revision Document

FSA subject	Ocean Patriot Vessel Safety Case Assumption	Spikey Beach-1 Drilling Program Conditions and Comments	Within FSA Envelope?
Response	requirements close to the Ocean Patriot (i.e. Rescue Boat and Offshore Support Vessel will be available).	coordinated through Beach/ADA, the Beach/ADA programme specific ERP Addendum provides details on how this type of incident will be managed.	
Water Depth	VSC identifies the maximum operating water depth of 457 meters	The Spikey Beach-1 well site has a water depth range which is within the operating limits for the Ocean Patriot.	Yes
Metoccean conditions	The VSC identifies the Ocean Patriot is designed to the following met ocean conditions: Wave Height - 6.6 metres Max. Operating Current velocity – 1.0 knot by wind, 3.0 knots by tide Max. Wind Velocity – 40 knots	The met ocean conditions for the planned locations relevant to time of year are within the defined Ocean Patriot met ocean limitations. However, in the advent of adverse weather conditions beyond the drilling design criteria for the Ocean Patriot, drilling will be suspended and the well secured. If a heavy frontal storm is forecast, the Ocean Patriot will initiate preparations for heavy weather and potential evacuation.	Yes
Offshore Support Vessel	The rig will be supported by a Offshore Support Vessel generally on station at the rig at all times during the drilling program. Offshore Support Vessel will be available for precautionary evacuation using personnel basket transfer.	Contractual arrangements between Beach/ADA and Diamond provide that a support vessel will be on station at the Ocean Patriot at all times during the drilling program. The OSVs will have first aid facilities, a fast rescue craft. A dedicate standby vessel will be on location within 2 nautical miles at all times. However, during helicopter flights and in the event of over the side working, the OSV will be called in to the Ocean Patriot on close standby to allow rapid response to ditching or man overboard situations.	Yes
Well Testing		No well testing program is in place. Should this occur it will be the subject of a separate HAZID exercise as part of a further SCR.	NA

7. Drilling Program Specific Summary

A HAZID Review workshop was conducted on the 15th July 2009 to clarify existing an known hazards, to identify new hazards and any variations to existing or known hazards resulting from location specific elements.

No high or unacceptable risks were identified in the location specific drilling risk assessment, however a number of actions were identified which require close out prior to the commencement of drilling activities. A total of 4 actions were noted during the assessment. A full list of actions generated from the HAZID is provided in the Appendix 7.

A review of the VSC MAE's found no new MAEs or significant issues and in fact some MAEs are not applicable to this drilling program. In other instances the drilling program risks were assessed as potentially less than that assessed with the VSC.

Reference

1. Ocean Patriot Safety Case, Revision Rev 27 October 2004; DPI (Petroleum Operations Safety & Environment) Approval Ref PE/28/0005 1 November 2004;
 - 1.1 Ocean Patriot Facility Description,
 - 1.2 Diamond Safety Management System Manual (GEMS),
 - 1.3 Ocean Patriot Formal Safety Assessment,
2. Diamond Offshore EHS-ERM-01 Ocean Patriot Emergency Response Manual Rev 4;
3. Diamond Offshore Ocean Patriot Shipboard Oil Pollution Emergency Plan;
4. Diamond Offshore EHS-WCM-01 Ocean Patriot Well Control Manual Rev 4;
5. Identification of Spikey Beach-1 well drilling program hazards and risk management methodologies (elimination or reduction to ALARP) (ADA project risk assessment – HAZID_15th July 2009, The Oaks – On – Collins, Melbourne);
6. ADA HSE MS Manual, Revision 0, July 2007;
7. Spikey Beach-1 Basis for Well Design / ADA Drilling Programs (Rev 0);
8. 02-02 ADA Offshore Drilling Australia Emergency Response Plan, (Rev 1);
9. Beach Emergency Management Plan;
10. Environment Risk Assessment (DIER Letter on ADA Bass Basin EP - 30th June 2009);
11. ADA Oil Spill Contingency Plan (Rev 0);
12. ADA Beach T/38-P Well Operations Management Plan (Revision 0);
13. ADA Beach T/38-P Spikey Beach-1 Drilling ERP Addendum (Revision 0);
14. ADA Outline Drilling Program, (Revision 0);
15. Diamond Drilling and Completions Process Manual;
16. P(SL) (Management of Safety on Offshore Facilities) Regulations 1996;
17. Schedule 3 (Occupational Health and Safety) OPGGSA 2006;
18. P (SLA) (Management of Environment) Regulation 1999;
19. Beach/ ADA Well Operations Management Plan (Revision 0, 2009);
20. Review of the NOPSA Safety Case Assessment Policy (N-04300-PL0052);
21. Review of the NOPSA Safety Case Preparation and Document Submission Guidelines (September 2004).

**APPENDIX 1: Diamond Offshore General Company Safety Case for Ocean Patriot
MODU – DPI Acceptance Letter****Department of Primary Industries****Ref: PE/28/0005**

1 November 2004

Mr David Johnson
HSE & QA Manager
Diamond Offshore General Company
Unit 2
5 Turner Avenue
Bentley 6210
WESTERN AUSTRALIA

Dear Mr Johnson

Acceptance of Ocean Patriot MODU Safety Case

I refer to the Ocean Patriot Mobile Offshore Drilling Unit ALARP workshop held in Melbourne on 13 October 2004 and the revised Vessel Safety Case dated 27 October 2004.

This is to inform you that, under the provisions of Regulation 11 (1) of the *Petroleum (Submerged Lands) (Management of Safety on Offshore Facilities Regulations 1996)*, and as the delegated authority, I hereby accept the revised Diamond Offshore General Company Safety Case for the Ocean Patriot MODU.

The continued recognition of the Safety Case will be contingent upon all of the outstanding items set out in the "Master Action List" submitted on 25 October 2004 being completed by Friday 19 November 2004. It is also contingent upon ongoing satisfactory maintenance of the Safety Case and auditing of the Safety Management System in accordance with a mutually agreed schedule.

This acceptance given is not advice that the use of the Ocean Patriot in accordance with the Safety Case will in fact be safe. Whilst health and safety are matters considered in making the relevant decision under the regulations, the responsibility for safe operation of the MODU remains at all times with the Diamond Offshore General Company.

Yours sincerely




BRUCE ARMOUR
Manager, Petroleum Operations Safety & Environment
Pursuant to Instrument of Delegation



For more information call our Customer Service Centre on 136 186 or visit our website at www.dpi.vic.gov.au

APPENDIX 2: ADA HSE Policy




Australian Drilling Associates Pty Ltd

Health, Safety and Environmental Policy

ADA is committed to the application of proactive management in the elimination of injuries, dangerous occurrences and harm to the environment in its efforts to provide a safe, healthy and progressive work environment for all employees, clients and all who come in contact with our operations.

To achieve this ADA shall:


- Maintain a work environment that is safe, conducive to high levels of work performance, and in conformance with all ADA's policies, standards and procedures
- Endeavour to prevent all injuries and work related ill health, in the work place
- Maintain our Management System in compliance with current legislation and apply where relevant, "best practice" methodology in preventing injury, caring for the environment and ensure contractors operate a similar system and suitable interfacing is applied
- Establish and maintain, safe systems of work, throughout our operations and ensure contractors operate similar systems and appropriate interfacing exists
- Develop commitment, responsibility and accountability to ADA's Health, Safety and Environmental (HSE) objectives and targets
- Monitor and analyse all hazards to ensure appropriate corrective actions are applied and verify their effective application
- Ensure that all facilities and projects are resourced, designed, engineered and maintained to satisfy legislative and ADA's HSE requirements
- Ensure all operations comply with relevant statutory obligations
- Encourage open communication with employees and contractors and support participation in all activities related to the improvement and fulfilment of all HSE Issues
- Continually develop and support appropriate behaviour to reduce human error with respect to the job, the individual and the team



John Bell
Managing Director

Date: 21-May 2008

APPENDIX 3: Diamond Offshore HSE Policy



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Occupational Health and Safety Policy

DIAMOND
OFFSHORE

GENERAL POLICY

It is Diamond Offshore's policy to act positively to prevent injury, ill health, damage, and loss arising from its operations, and to comply with safety and health measures required by law. Diamond Offshore believes that all work related injuries, illnesses, and property losses are preventable, and that safety is good business. The most important factor in the undertaking of anyone's job is the prevention of injury or ill health to any employee. Diamond Offshore considers safety to be its number one priority.

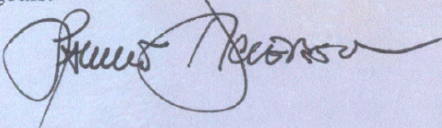
OBJECTIVES

Diamond Offshore's objectives in the fulfillment of this policy are:


- To be an industry leader in occupational health and safety.
- To give occupational health and safety considerations equal to quality, morale, cost and production.
- That no work starts without confirmation that essential safety systems are in place, and that if safety would be compromised, operations are to be suspended.
- That no unsafe acts are acceptable within the work of any Diamond Offshore employee or other person working on any worksite, facility or rig.
- To provide appropriate levels of health care and rehabilitation for all personnel.
- To audit and continually improve occupational health and safety procedures.
- To have all personnel recognize their responsibility to identify and eliminate hazards, control risk, and to prevent injury to themselves and others.
- To promote a proactive approach to health and safety, and encourage all personnel to participate actively in the development of its occupational health and safety programs.
- That third party personnel clearly understand and adhere to Diamond Offshore's occupational health and safety policy and standards, and where necessary, assist in achieving this.
- To provide leadership and training for all employees in the following of safe operating procedures and in developing safe work attitudes.

RESPONSIBILITIES

The responsibility for the implementation of this policy rests with the Executives, Managers, OIMs, Supervisors and the HSE Department of Diamond Offshore. All personnel working on any Diamond Offshore worksite must assist the Company and its employees to achieve these goals.

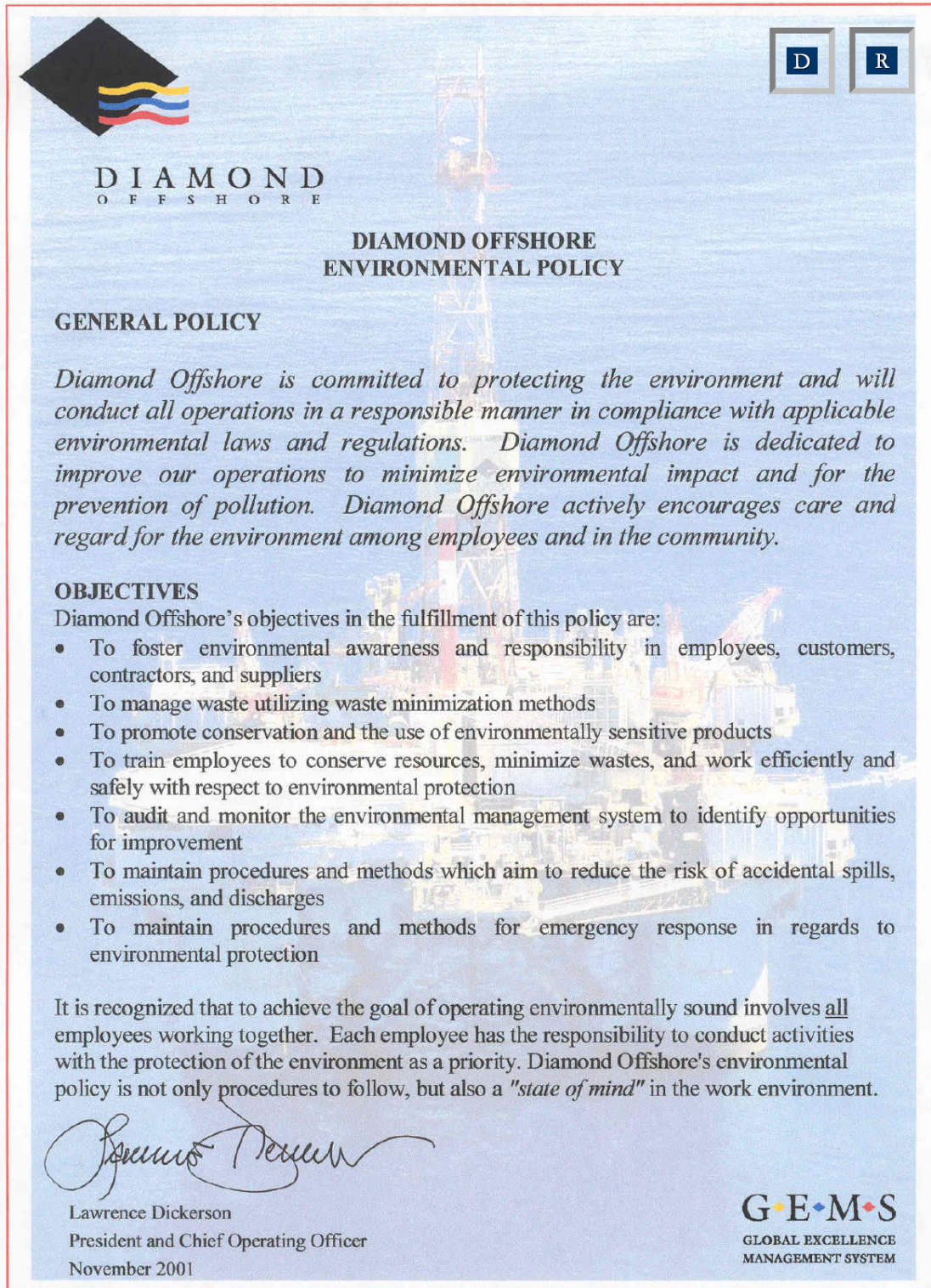



Lawrence Dickerson
President and Chief Operating Officer
August 2003



G•E•M•S
GLOBAL EXCELLENCE
MANAGEMENT SYSTEM





D

R

DIAMOND
OFFSHORE

**DIAMOND OFFSHORE
ENVIRONMENTAL POLICY**

GENERAL POLICY

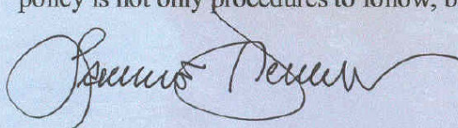
Diamond Offshore is committed to protecting the environment and will conduct all operations in a responsible manner in compliance with applicable environmental laws and regulations. Diamond Offshore is dedicated to improve our operations to minimize environmental impact and for the prevention of pollution. Diamond Offshore actively encourages care and regard for the environment among employees and in the community.

OBJECTIVES

Diamond Offshore's objectives in the fulfillment of this policy are:

- To foster environmental awareness and responsibility in employees, customers, contractors, and suppliers
- To manage waste utilizing waste minimization methods
- To promote conservation and the use of environmentally sensitive products
- To train employees to conserve resources, minimize wastes, and work efficiently and safely with respect to environmental protection
- To audit and monitor the environmental management system to identify opportunities for improvement
- To maintain procedures and methods which aim to reduce the risk of accidental spills, emissions, and discharges
- To maintain procedures and methods for emergency response in regards to environmental protection


It is recognized that to achieve the goal of operating environmentally sound involves all employees working together. Each employee has the responsibility to conduct activities with the protection of the environment as a priority. Diamond Offshore's environmental policy is not only procedures to follow, but also a "state of mind" in the work environment.



Lawrence Dickerson
President and Chief Operating Officer
November 2001

G•E•M•S
GLOBAL EXCELLENCE
MANAGEMENT SYSTEM

APPENDIX 4: NPSA Letter on Nomination of Facility Operator of Ocean Patriot


NPSA
 Level 22, St Martins Tower
 44 St Georges Terrace
 Perth WA 6000
 Australia
 GPO Box 2568
 Perth WA 6001
 Phone: +61 (0) 8 6461 7000
 Fax: +61 (0) 8 6461 7037
 Web: www.npsa.gov.au
 ABN 22 365 178 289

Our ref:
Your ref: DRIMS No 1885969 v2

Diamond Offshore General Company
Unit 2, 5 Turner Ave
Bentley, WA 6102

Attention: Mr. Ronald James, Area Manager – Australasia

Dear Ronnie

RE: Nomination Of Operator For A Facility Under the Petroleum (Submerged Lands) (Management Of Safety On Offshore Facilities) Regulations 1996


I refer to Brain Heslin's letter dated 3rd March nominating Diamond Offshore General Company as the operator of the Ocean Patriot facility.

Pursuant to Regulation 7 of the *Petroleum (Submerged Lands) (Management of Safety on Offshore Facilities) Regulations 1996*, I advise that Diamond Offshore General Company has been accepted as the facility operator.

Should the registered operator cease to be the person who has, or will have, the day to day management and control of the facility and operations at the facility, you will need to nominate a new operator.

Further information regarding this decision can be obtained from Patrick Senyca who is the OHS inspector assigned to your facility, on 08-6461-7021

Yours sincerely



Ted Kirkbride
Team Leader

11 March 2005

CC: Woodside Energy Limited Brian Heslin, Well Delivery Drilling & Completions Manager
DPI Victoria, Horacio Haag
NPSA Melbourne, Ray Wells

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NATIONAL OFFSHORE PETROLEUM SAFETY AUTHORITY

APPENDIX 5: Beach Petroleum HSE Policy



HSE POLICIES

HEALTH AND SAFETY POLICY

Beach Petroleum is committed to the health and safety of employees, contractors and the public through sound management practices.

Beach Petroleum will conduct its activities in such a manner as to ensure:

- A healthy and safe workplace for all employees, contractors and subcontractors at all sites;
- The protection of members of the public possibly affected by its operations;
- Compliance with all applicable Government Acts, regulations and standards;

These objectives will be achieved by:

- Developing relevant HSE procedures and systems;
- Developing health and safety targets in consultation with employees to promote, measure and continually improve health and safety performance;
- Communicating, consulting and encouraging participation with employees and relevant parties;
- Ensuring that incidents, hazards, near misses, concerns and complaints are reported adequately, investigated and steps taken to prevent recurrence;
- Ensuring that all personnel are medically fit and capable of fulfilling their responsibilities at all time.

“SAFETY WILL TAKE PRECEDENCE IN ALL OPERATIONS”

Similarly each employee has the responsibility to:

- Protect their own safety and that of their fellow workers;
- Follow all reasonable HSE instructions as directed by supervisors;
- Comply with all Company and regulatory health and safety requirements;
- Participate in the promotion and development of safe work practices and procedures.

Application of this policy resides with Beach Petroleum management and with all employees sharing responsibility for its implementation.

Managing Director Signature



Operative from: 30/05/2006

Review by: 30/05/2008



HSE POLICIES

ENVIRONMENTAL POLICY

Beach Petroleum is committed to conducting operations in an environmentally responsible manner. To fulfill these objectives the Company will:

- Avoid the pollution of land, water and air by conformance with regulatory guidelines and industry standards applicable to all areas of operation.
- Identify sites of archaeological, historical and natural significance, which could be impacted by the company's operations and minimise their disturbance;
- Ensure that incidents, near misses, concerns and complaints are reported adequately, investigated and appropriate procedures implemented;
- Inform all employees and contractors of their environmental and cultural heritage responsibilities;
- Ensure that all operational sites have a waste management plan and that waste generated by operations is disposed of in a safe and environmentally efficient manner and in conformance with relevant environmental legislation;
- Distribute appropriate guidelines, regulations and publications;
- Protect native flora and fauna in all areas of operation;
- Develop and comply with codes of practice required by regulating authorities which minimise environmental impacts from all field operations.

Any personnel failing to comply with the requirements of this policy will be subject to disciplinary actions including assessment, or where necessary, dismissal, in accordance with Company procedures.

Application of this policy resides with Beach Petroleum management and with all employees sharing responsibility for its implementation.

Managing Director Signature



Operative from: 30/05/2006

Review by: 30/05/2008

APPENDIX 6: ADA/Beach & Diamond Offshore SMS & EMS Interface

Main HSEMS Reference Beyond 500m Exclusion Zone		Main HSEMS Reference Within 500m Exclusion Zone	
(PRIMARY) ADA / BEACH HSEMS Standard		Diamond Offshore SMS (per Ocean Patriot VSC) and GEMS Diamond Offshore EMS	
COMMIT		COMMIT	
#1	Leadership and Commitment	#1.0 EMS12.02	POLICIES Occupational Health and Safety Policy; Environmental Policy; Alcohol and Drug Policy Environmental Policy
#2	Organization, Accountability, Responsibility and Authority	#2.0 #2.1.1 #2.1.2 #2.1.3	ORGANISATION AND RESPONSIBILITIES Responsibilities Job Descriptions Health, Safety and Environmental Objectives
PLAN		PLAN	
#3	Planning, Objectives and Targets	#3.0 #2.1.3 #2.1.4	PLANNING AND IMPLEMENTATION Health, Safety and Environmental Objectives Annual Plans
#4	Legal requirements, Document Control and Information Management	#2.2.7	Consultation with Authorities
#7	Risk Assessment and Management	#3.1.1 #3.1.2 #3.1.3 #3.1.4	Risk Objectives Hazard Identification Risk Assessment Acceptance Criteria
#18	Environmental Effects, Assessment and Management	EMS12.03 EMS12.10	Hazard Communication/COSHH Environmental Aspects
DO		DO	
#5	Personnel, Competence, Training and Behaviors	#2.2.11 #3.5.5 #3.5.6 #3.5.7 #3.7.7 #3.8 #3.8.2 #3.8.3 #3.8.5 #3.8.6 #3.8.7 #3.8.8 #3.8.9 #3.8.10 #3.8.11 #3.8.12 #3.8.13	Safety Inductions Emergency Response Training Exercise and Drills Induction Training Courses EMPLOYEE SELECTION, COMPETENCE AND TRAINING Personnel Administration Personnel Recruitment and Selection Competency Training of Personnel Identifying Training Requirements Survival Training Safety Training Responsibilities for the Training Program Induction Training Program Training in Emergency Drills Training Records
#6	Communication, Consultation and Community Involvement	#2.2 #2.2.1 #2.2.2 #2.2.3 #2.2.4 #2.2.5 #2.2.6	Workforce Involvement: Co-operation & Communication Weekly Safety Meetings Pre-Tour Safety Meetings Pre Task / TBM and JSA Safety Training Observation Program (STOP) Job Safety Analysis Workforce Involvement in Policy

Ocean Patriot / ADA / Beach T/38-P Spikey Beach – 1 Vessel Safety Case Revision Document

		#2.2.8 #2.2.9 #2.2.12	Formulation and Writing Procedures Safety Alerts and Bulletins Safety Award Scheme Safety Representatives and Safety Committees
#7	Risk Assessment and Management	#3.1.1 #3.1.2 #3.1.3 #3.1.4 EMS12.03 EMS12.10 EMS12.11	Risk Objectives Hazard Identification Risk Assessment Acceptance Criteria Hazard Communication/COSHH Environmental Aspects Asbestos
#8	Incident Investigation and Reporting Management	#4.3 #4.3.1 #4.3.2 #4.3.3 EMS12.05	REACTIVE MONITORING Accident, Incident and Near Miss Reporting Accident and Incident Investigation Safety Statistics Environmental Incident Procedures and Reporting
#10	Operations and Maintenance	#3.2 #3.2.2	SAFE OPERATIONS PROCEDURES, SAFE WORKING PRACTICES AND SAFE SYSTEMS OF WORK. Safe Operations Procedures and Safe Working Practices (Company Safety Policies and Procedures Manual, Emergency Response Manual, Well Control Manual, Medical Procedures Manual, Well Operations Procedure Manual, Offshore Safe Working Practices Manual, Rig Operations / Operating Manual, Training & Development Manual, Personnel Policies and Procedures Manual, QMS, Global Excellence Management System (GEMS))
#11	Management of Change	#3.3 #3.3.2 #3.3.3	Management of Change Engineering Modifications and Change Control Planned Maintenance System (PMS)
#12	Facilities design, Construction and Commissioning	#3.3 #3.3.2 #3.3.3	Management of Change Engineering Modifications and Change Control Planned Maintenance System (PMS)
#13	Contractors, Suppliers, Partners and Visitors	#3.4 #3.4.2 #3.4.3 #3.4.4 #3.4.5 #3.4.6 #3.6 #3.6.1	PROCUREMENT Purchasing Goals and Objectives Inspection and Testing of Materials and Equipment Selection and Management of Suppliers, Vendors and Sub-Contractors Material Control of Lifting Equipment MODU Purchasing Services CONTRACTOR AND SUPPORT SERVICES MANAGEMENT Third Party Equipment Checklist
#14	Crisis and Emergency Management	#3.5 #3.5.2 #3.5.3 #3.5.4 #3.5.5 #3.5.6 #3.5.7 #3.5.8	EMERGENCY RESPONSE Emergency Response Organisation: Onshore Emergency Procedures Emergency Response Organisation: Offshore Emergency Response Training Exercise and Drills Induction Support Services and Outside

Ocean Patriot / ADA / Beach T/38-P Spikey Beach – 1 Vessel Safety Case Revision Document

		EMS 12.04	Organisations Pollution Prevention
#15	Plant and Equipment	#3.3.3	Maintenance System (PMS)
#16	Monitoring the Work Environment	EMS 12.04	Pollution Prevention
#17	Health and Fitness for Work	#3.7 #3.7.1 #3.7.2 #3.7.3 #3.7.4 #3.7.5 #3.7.6 #3.7.7 #3.7.8	OCCUPATIONAL HEALTH AND HYGIENE Health Monitoring Offshore Medical / Fitness Alcohol and Drug Policy Offshore Health and Hygiene PPE MSDS Training Courses Medical Procedures Manual
#18	Environmental Effects, Assessment and Management	EMS12.10	Environmental Aspects
#19	Product Stewardship, Conservation and Waste Management	EMS12.06 EMS12.07 EMS12.08 EMS12.09 EMS12.12	Waste Minimization Overboard Discharge Policy Sewage Discharge Policy Solid Waste Management Plan Waste Management
CHECK & REVIEW		CHECK & REVIEW	
#9	Performance Measurement	#3.2.1 #4.0 #4.2 #4.3 #4.3.1 #4.3.2 #4.3.3	Document Control PERFORMANCE MEASUREMENT ACTIVE MONITORING REACTIVE MONITORING Accident, Incident and Near Miss Reporting Accident and Incident Investigation Safety Statistics
#20	Audit Assessment and Review	#5.0 #5.2 #5.3 #5.4 #5.5 #5.6 #5.7 #5.8 #5.9 #5.10 #5.11	AUDIT AND REVIEW AUDIT OBJECTIVES AUDIT RESPONSIBILITIES AUDIT SCOPE AUDIT PLANNING AND SCHEDULE AUDIT IMPLEMENTATION AUDIT PROCEDURE AUDIT TRAINING CORRECTIVE ACTIONS REVIEW PERFORMANCE STANDARDS

APPENDIX 7: HELICOPTER EMERGENCY MEDICAL SERVICES (HEMS)

HELICOPTER EMERGENCY MEDICAL SERVICES (HEMS)

Non Emergency: 1300 883 200

Emergency: 1300 883 100

Air Ambulance Victoria operates three helicopters. These are based at Essendon, Bendigo and the Latrobe Valley. They are known as the Helicopter Emergency Medical Service (HEMS). Funding has been provided for an additional emergency helicopter in Warrnambool and a retrieval helicopter based in Essendon.

The ambulance helicopters are used as an emergency response to critical emergencies. They can provide an advanced level of care, quick attendance and fast transport of an injured patient to a major hospital. They are also involved in search and rescue, winch operations and sea rescue.

The Essendon helicopter (HEMS 1) is used for both ambulance and police cases. It is staffed by a police pilot, observer and a MICA flight paramedic. It is a Dauphin twin engine helicopter capable of carrying two stretcher patients. It operates primarily within 175km of Melbourne.



Both the Latrobe Valley (HEMS 2) and Bendigo (HEMS 3) helicopters are used only as emergency ambulance vehicles and are branded accordingly. They are Bell 412 helicopters and both are also fitted for bucket capability to be used in aerial firefighting.

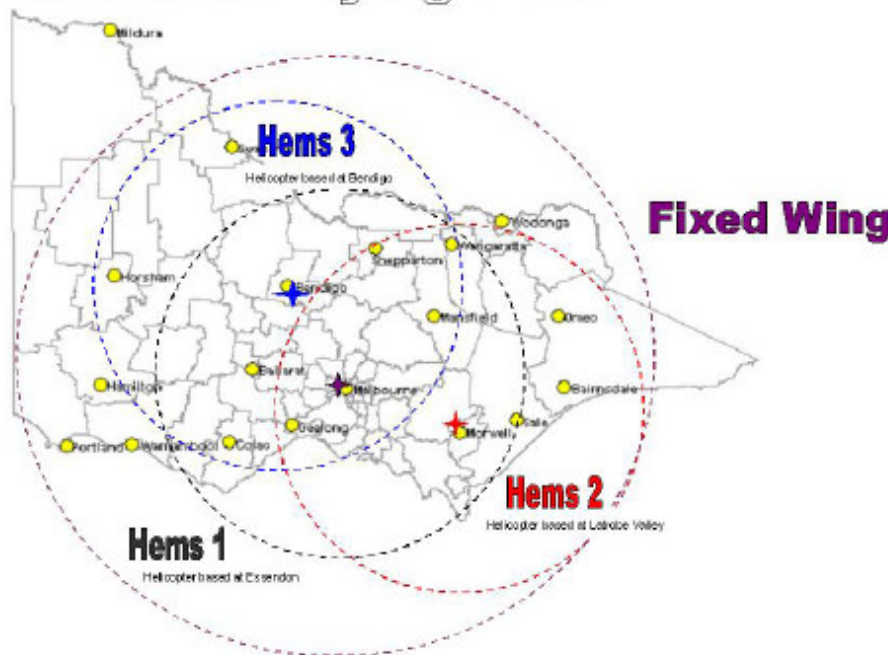


All helicopters having a winching capacity of 272kg and can winch a height of 76 metres.

Air Ambulance Coverage

Through the air ambulance helicopters and aeroplanes, the Metropolitan Ambulance Service Air Wing can reach most of the state within one hour.

60 Minute Flying Time



**APPENDIX 8: SPIKEY BEACH-1 WELL DRILLING PROGRAM HAZID WORKSHOP
REPORT (DRILLING)**



AUSTRALIAN DRILLING ASSOCIATES DIAMOND OFFSHORE



BEACH PETROLEUM SPIKEY BEACH 1 HAZID ASSESSMENT STUDY AND MAJOR ACCIDENT EVENT REVIEW 2009 Revision 0

Issue Date	Rev	Description	Prepared By:	Reviewed By:	Approved By	Approved for use Date:
24/07/09	A	Issued for Comment	RL	WS	IR	24/07/09
24/07/09	A	Issued for Comment	RL	WS	IR	24/07/09
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1. EXECUTIVE SUMMARY

This technical note documents the HAZID Assessment that was carried out on the Beach Petroleum Spikey Beach – 1 Drilling Program. The HAZID was conducted as a facilitated workshop and was held on the 15th July 2009. Project personnel from Beach, ADA and Third Party Contractors attended the workshop.

The results of the HAZID were recorded and a copy of the completed register is provided in Attachment 1.

A total of 4 HAZID actions were identified. These will need to be tackled and closed prior to the commencement of drilling activities.

In addition a review of the Major Accident Events (MAE's) identified within the Ocean Patriot Vessel Safety Case was undertaken as a separate exercise outside of the workshop. The review aimed to assess the impact of the drilling campaign on the MAE's identified within the vessel safety case. No changes to the MAE's were identified.

2. INTRODUCTION

Beach Petroleum has contracted Australian Drilling Associates (ADA) and Diamond Offshore – Ocean Patriot MODU to conducting drilling activities for T/38-P Spikey Beach-1 well, located in the Bass Strait. ADA are the drilling managers, while Diamond Offshore are the designated operators of the Ocean Patriot and responsible for day to day management of the rig.

As part of this drilling campaign and in accordance with Diamond Offshore Safety Case requirements the following assessments have been conducted:

- A Hazard Assessment conducted for the drilling work;
- Campaign specific hazards and associated risks, barriers and controls were reviewed to assess their possible impact on the Major Accident Events (MAEs) in the Diamond Offshore Ocean Patriot Vessel Safety case (VSC).

3. HAZARD WORKSHOP

3.1. Objectives and Scope

The primary focus of the workshop was to review the drilling program and intended drill program and the Diamond Offshore Ocean Patriot Formal Safety Analysis:

- To identify any unique operations associated to the drilling program;
- To evaluate any hazards and to capture risk reduction measures to mitigate the risks and to ensure that the risks are As Low As Reasonably Practicable (ALARP)

3.2. HAZID Attendees

The HAZID was held at OAKS ON COLLINS, MELBOURNE, 480 Collins Street, Melbourne VIC on the 15 July 2009. The workshop was attended by

representatives from Beach, ADA, Diamond Offshore and third party contractors. The workshop was facilitated by an independent third party. A list of participants is provided in Attachment 1 of this report.

3.3. HAZID Methodology

The workshop commenced with an introduction to the risk assessment process and the proposed drilling programme. The hazard assessment focused on those issues relating to drilling of the well.

The hazard participants were then divided into separate working groups and asked to discuss potential hazards that could occur under the principal areas of;

- Location specific hazards – mobilisation to site, support services including helicopter and support / work boats
- Reservoir related issues
- Drilling related issues

During the group session the independent facilitator prompted discussions within each group by use of guidewords/ hazards associated with drilling activities that had been identified in similar drilling campaigns.

The team then reviewed all hazards documented and assessed whether:

- The hazard was already covered by the Vessel Safety Case (VSC); and / or
- The hazard recorded fully reflected the intended drilling activity. This included a review of assumptions and identified control measures.

The group were given sufficient time to brainstorm hazards / identify controls and note any further actions that may be required. The groups were then brought together and an open workshop was then held to discuss all hazards that had been identified by the individual groups.

If the hazard recorded was deemed to be covered by the VSC the team moved on to the next issue. Where the hazard was identified in the VSC or was already documented in the hazard sheets, but had the potential to be slightly different to what was shown, the workshop attendees went through the exercise of assessing the hazard and identifying the control measures to ensure appropriate controls were in place and associated risks were reduced to ALARP. Actions were raised where further work or mitigation measures were required.

Following this, an examination of all the Major Accident Events (MAEs) covered and documented within the Ocean Patriot VSC was conducted to further identify any changes or significant differences that the drilling activities would impose on the safety of the Ocean Patriot MODU. The output from the review of the VSC MAEs was incorporated within the Hazard data sheets where appropriate.

4. VESSEL SAFETY CASE BARRIERS

Vessel Safety case (VSC) Barriers and Controls identified within the Ocean Patriot for the MAEs which could be affected by campaign specific hazards and the campaign specific references in the FSA Risk Analysis were examined to

- Ensure the barriers and controls will eliminate risks or control them to ALARP, and
- Will be in place prior to the commencement of drilling and intervention work

Table 1: Formal Safety Assessment Risk Analysis

VSC Hazard Register	Hazard	Program Specific Assessment
008	Gas release from the poor boy degasser	No Program specific changes
014	Loss of main power during control of Incident (blowout, fire, etc)	No Program specific changes
017	Hose failure while pressure testing (cementing, bop testing, drill stem testing)	No Program specific changes
018	Failure of drill line results in flying debris	No Program specific changes
020	Entry into a confined space with hazardous Atmosphere	No Program specific changes
021	Hot work ignites an explosive environment	No Program specific changes
023	Personnel within Halon area during Halon Release	No Program specific changes
024	Helicopter crash on landing or take off	No Program specific changes
025	Helifuel fire	No Program specific changes. No intention to refuel on MODU
026	Release of hydrocarob (oil, gas , condensate)	No Program specific changes
028	Fire in the paint locker	No Program specific changes
029	Exposure to hazardous materials	Program Specific Risk ALARP
030	Explosive (uncontrolled detonation)	No Program specific

Spikey Beach – 1 Drilling HAZID Assessment



		changes
031	Uncontrolled release of liquid nitrogen	No Program specific changes
035	Crown block / disk brake failure	No Program specific changes
046	Flare causes burns to personnel	No Program specific changes
048	Unignited gas release, hydrocarbon risk	No Program specific changes
048	Unignited gas release, H ₂ S risk	No Program specific changes. No H ₂ S Anticipated
050	Loss of communications when required during a critical event	No Program specific changes
055	Delayed operation of the BOP controls	No Program specific changes
056	H ₂ s release in mud pits/shale shaker or rig Floor	No Program specific changes
057	Swinging loads and collision of cranes	No Program specific changes
061	Equipment failure whilst under maintenance	No Program specific changes
062	Fuel release from fuel lines	No Program specific changes
066	Failure of drill line	Program Specific Risk ALARP
067	Failure of drill line	No Program specific changes
069	Elmagco brake failure	No Program specific changes
072	Incompatible casing threads failure	No Program specific changes
073	Pump discharge exceeds pipe work pressure Rating	No Program specific changes
074	Gas returns at mud pits	No Program specific changes
075	Drilling with incorrect mud density (well kick, blowout)	No Program specific changes
079	Dropped personnel from Billy Pugh	No Program specific changes
081	Incorrect geological survey information	No Program specific changes
082	Choke line leaks, gas leaks through flanges at the choke manifold	No Program specific changes
083	Undetected H ₂ S flows at shakers, rig floor, mud pits & mud pump room	No Program specific changes

084	Explosion in the derrick	No Program specific changes
085	Fuel fire during crane refueling	No Program specific changes
087	Helicopter crash into the sea	No Program specific changes

5. DRILLING PROGRAM SPECIFIC MAJOR ACCIDENT EVENTS

5.1. Ship Collision

From an examination of shipping lanes and traffic densities, the field is located in close proximity to known shipping lane i.e. Tasmanian Ferry. The hazard and controls associated with ship impact are covered in the VSC and are considered ALARP.

All drilling program's offshore support vessels are fitted with the standard array of collision avoidance systems and automatic radar plotting aids (ARPA). Rig transit movements and the well location will be provided to AMSA and gazetted in local notifications to mariners with regular marine communications ensuring that errant vessels do not collide with the rig. The drilling program will have an offshore support vessel will at all times become a dedicated standby vessel on location within 2 nautical miles ~ closer than one hour steaming.

5.2. Offshore Support Vessel Collision

The planned OSV supporting the Rig have significant experience in the industry and in the area. The risk from a collision with these vessels is adequately covered by the Diamond Offshore Ocean Patriot Vessel Safety Case. The standby vessel will maintain a 24 hour watch for vessel collision; in addition their ARPA radar is to be fully operational. The standby boat is to notify the Ocean Patriot OIM should their ARPA radar become unserviceable or watch keeping is reduced.

5.3. Hydrogen Sulphide

At the HAZID review it was discussed that historically levels of H₂S within the area have been low, this has been confirmed through analysis of offset data.

The hazard from H₂S is considered ALARP.

5.4. Simultaneous Operations (SIMOPS)

There will be no simultaneous operations occurring during drilling work.

5.5. Subsea Equipment

There is no subsea equipment within the area of the planned drill. However as part of the Diamond management and planning process controls are in place to ensure risks are minimised and include:

- *Rig tow plan – detailing location of all subsea equipment;*
- *Mooring analysis;*
- *Onboard survey*

Given the controls in place the risk associated with impacts on existing subsea equipment is considered to be ALARP.

5.6. Occupational Hazards and / or Incidents

Occupational hazards are a significant contributor to risk on the Ocean Patriot and include:

- *Slips, trips, falls;*
- *Caught by/between equipment hazards and/or crushing hazards;*
- *Occupational hygiene hazards (i.e. noise, vibration, heat, cold, light etc.);*
- *Falling overboard, from height etc;*
- *Manual handling etc.*

Extensive risk minimisation measures have been implemented and include safety training, operational procedures, JSA's, PPE, machinery guards and other measures. For activities associated to the Beach T/38-P Spikey Beach-1 well drilling program in Bass basin, this risk is considered no greater than in the MODU FSA.

Spikey Beach – 1 Drilling Program HAZID Assessment



Table 2: Formal Safety Assessment – Assumptions Comparison

FSA subject	Ocean Patriot Vessel Safety Case Assumption	Spikey Beach-1 Drilling Program Conditions and Comments	Within FSA Envelope?
Flight time to Ocean Patriot	The VSC does not quantitatively assess the risk associated with exposure to helicopter flight times.	<ul style="list-style-type: none"> Approximate flight times from the Ocean Patriot to the Helicopter base at Essendon Airport is 40 minutes^{+/-} one way with nil wind; Ocean Patriot MODU currently has refuelling capabilities to accommodate for any refuelling activity onboard. However no heli - refuelling is planned; 	Yes
Flights / person	The VSC makes a quantitative assessment of the risk associated with exposure to helicopter flight times per person.	<p>Risk levels during this drilling program are unlikely to change significantly based on the personnel transfer rotation:</p> <ul style="list-style-type: none"> Beach / ADA personnel will be working on a "2 on, 2 off" rotation; Ocean Patriot Expatriates and Australian Nationals on a 4 week on 4 week off shift rotation; <p>Per Ocean Patriot VSC FSA Section 7.2.1.1 Helicopter Crash Frequency Assessment:</p> <p>The VSC assumes flying times in Commonwealth waters of 3hrs.</p> <p>There are 6 return flights to the Ocean Patriot per week, which equates to approximately 312 return helicopter flights per year. Given that each return flight requires one takeoff and landing on the Ocean Patriot, the potential accident frequency in the vicinity of the Ocean Patriot can be estimated as per Calculation</p>	Yes

Spikey Beach – 1 Drilling Program HAZID Assessment



FSA subject	Ocean Patriot Vessel Safety Case Assumption	Spikey Beach-1 Drilling Program Conditions and Comments	Within FSA Envelope?
		Calculation Helicopter Crash Accident Frequency Accident Frequency = TOLs on the Ocean Patriot per annum \times TOL Accident Frequency $= 312 \times 4.64\text{E}^{-6}$ $= 1.45\text{E}^{-3}/\text{annum}$	
Ocean Patriot manning level	The Ocean Patriot is limited to a maximum of 100 POB by bed space.	Maximum manning level during the drilling program will not exceed the Ocean Patriot maximum POB of 100 personnel	Yes
Ship Collision	<p>Significant Passing Vessel Ship Collision frequency is 1.01E^{-03} per year based on DNV's WOAD (Worldwide Offshore Accident) Databank data.</p> <p>The VSC discounts Standby Vessel collision on the basis that procedural control on the speed of manoeuvring when in close proximity to the RIG prevents collision with sufficient energy to threaten the integrity of the Ocean Patriot.</p>	<p>The Ocean Patriot will be on location within the Spikey Beach-1 location for approximately 25 days.</p> <p>Overall passing vessel collision frequency for the drilling program estimated to be significantly lower than that assumed in the VSC. Although one of the SV's will be positioned at the Ocean Patriot it is not considered to pose a significant collision risk with the Rig on the basis that the OSV will operate under permit-to-work authorisation from the Rig within a 500 metre radius and hence will be subject to the same procedural control as any vessel in close proximity.</p> <p>OSVs are equipped with an Automatic Identification System (AIS) which will lower the risk of collision; they will monitor transient vessel movement in the area on a continuous basis, will maintain a shipping log and will comply with collision and traffic management SOPs.</p> <p>The Ocean Patriot ERM outlines the response in the event of an unknown vessel approaching the Ocean Patriot.</p>	Yes

Spikey Beach – 1 Drilling Program HAZID Assessment



FSA subject	Ocean Patriot Vessel Safety Case Assumption	Spikey Beach-1 Drilling Program Conditions and Comments	Within FSA Envelope?
Radioactive sources	Ocean Patriot Hazard Risk Register includes controls for this hazard.	No drilling program-specific radioactive sources required.	Yes
Dropped Objects	Dropped objects are not considered to contribute to a major accident event.	Dropped object risk during the drilling programme should be similar to those in the Ocean Patriot VSC since the number of crane lifts and lifts in the derrick associated with drilling will be similar and not working over live equipment.	Yes
Hydrogen Sulphide	Toxic gas detection is installed on the Ocean Patriot.	Historically levels of H ₂ S within the drill area have been low, this has been confirmed through analysis of offset data.	Yes
Emergency Response	The VSC details Emergency Response requirements close to the Ocean Patriot (i.e. Rescue Boat and Offshore Support Vessel will be available).	For helicopter incidents en-route to the Rig, Emergency Response will be coordinated through Beach/ADA, the Beach/ADA programme specific ERP Addendum provides details on how this type of incident will be managed.	Yes
Water Depth	VSC identifies the maximum operating water depth of 457 meters	The Spikey Beach-1 well site has a water depth range which is within the operating limits for the Ocean Patriot.	Yes
Metoocean conditions	The VSC identifies the Ocean Patriot is designed to the following met ocean conditions: Wave Height - 6.6 metres Max. Operating Current velocity – 1.0 knot by wind, 3.0 knots by tide Max. Wind Velocity – 40 knots	The met ocean conditions for the planned locations relevant to time of year are within the defined Ocean Patriot met ocean limitations. However, in the advent of adverse weather conditions beyond the drilling design criteria for the Ocean Patriot, drilling will be suspended and the well secured. If a heavy frontal storm is forecast, the Ocean Patriot will initiate preparations for heavy weather and potential evacuation.	Yes

Spikey Beach – 1 Drilling Program HAZID Assessment



FSA subject	Ocean Patriot Vessel Safety Case Assumption	Spikey Beach-1 Drilling Program Conditions and Comments	Within FSA Envelope?
Offshore Support Vessel	<p>The rig will be supported by a Offshore Support Vessel generally on station at the rig at all times during the drilling program.</p> <p>Offshore Support Vessel will be available for precautionary evacuation using personnel basket transfer.</p>	<p>Contractual arrangements between Beach/ADA and Diamond provide that a support vessel will be on station at the Ocean Patriot at all times during the drilling program. The OSVs will have first aid facilities, a fast rescue craft.</p> <p>A dedicate standby vessel will be on location within 2 nautical miles at all times. However, during helicopter flights and in the event of over the side working, the OSV will be called in to the Ocean Patriot on close standby to allow rapid response to ditching or man overboard situations.</p>	Yes
Well Testing		<p>No well testing program is in place. Should this occur it will be the subject of a separate HAZID exercise as part of a further SCR.</p>	NA

6. DISCUSSION

A HAZID workshop was conducted to clarify existing and known hazards, to identify new hazards and any variations to existing or known hazards resulting from location specific elements.

No high or unacceptable risks were identified in the location specific drilling risk assessment, however a number of actions were identified which require close out prior to the commencement of drilling activities. A total of 4 actions were noted during the assessment. A full list of actions generated from the HAZID is provided in Appendix 1.

A review of the VSC MAEs found no new MAEs or significant issues and in fact some MAEs are not applicable to this Program. In other instances the Program risks were assessed as potentially less than that assessed with the VSC.

7. REFERENCES

- i. **Ocean Patriot Vessel Safety Case Revision 1, dated 27/10/04**
- ii. **HAZID Minutes -**

An HSE-Critical Activity is a management activity that has a critical role in:

- Controlling major hazards and threats
- Preventing the initiation of Major Accident Events
- Reducing the consequence of potentially major accident events.

By definition, if an HSE-Critical Activity is not carried out at all or not carried out correctly, the chances of a major accident occurring will increase and/or the chances an initial accident escalating into something more major, will increase.

HSE CRITICAL ACTIVITIES	Diamond SMS Reference
1 Develop and maintain HSE procedures and policies. Implement HSE	3.2.1 Document Control / 3.2.2 Safe Work Practices
2 procedures and policies offshore.	3.2.1 Document Control / 3.2.2 Safe Work Practices 2.2 Workforce Involvement, Co-operation and Communication
3 Provide resources for full implementation of the HSE Management System on the rig.	2.2 Workforce Involvement, Co-operation and Communication
4 Maintain and implement competency assurance systems.	3.8 Employee Selection, Competency and Training 3.8 Employee Selection, Competency and Training 3.8 Employee Selection, Competency and Training
5 Delivering orientation and induction to all personnel coming on board .	3.8 Employee Selection, Competency and Training
6 Safety training of crews.	3.8 Employee Selection, Competency and Training
7 Monitoring weather, identifying suitable weather windows.	Marine Ops Manual, Tow Plan
8 Prepare rig for ocean / field transit.	Marine Ops Manual
9 Adhering to the Rig Marine Operations Manual instructions and limits.	Marine Ops Manual
10 Maintenance of the MOM.	3.2.1 Document Control / 3.2.2 Safe Work Practices
12 General housekeeping.	3.2.2 Safe Work Practices

Spikey Beach – 1 Drilling Program HAZID Assessment



13	Implementation of Permit To Work.	3.2.2 Safe Work Practices
14	Supervision of PTW activities.	3.2.2 Safe Work Practices
15	Ensuring integrity of the rig as a whole, including all systems and 3rd party equipment.	Safe Work Practices Manual
16	Ensuring safety of rigging and slinging in lifting operations, including inspection of lifting equipment prior to use.	3.2.2 Safe Work Practices
17	Organizing and overseeing the maintenance of all safety equipment (other than well control systems).	Safe Work Practices Manual
18	Organizing and overseeing the maintenance of well control systems.	Safe Work Practices Manual
19	Ensuring integrity of all EX and IS equipment in hazardous areas.	Safe Work Practices Manual
20	Calibration of gas detectors and other instrumentation.	Safe Work Practices Manual
21	Training and instructing personnel.	3.8 Employee Selection, Competency and Training
22	Conducting pre-tour, pre-job planning and JSA's.	3.8 Employee Selection, Competency and Training
23		3.2.2 Safe Work Practices
24	Daily inspection of drilling floor and equipment.	3.2.2 Safe Work Practices
25	Derrick inspections.	3.2.2 Safe Work Practices
26	Developing well control and kill program.	3.2.2 Safe Work Practices
27	Providing technical advice to client regarding drilling operations and parameters.	Driller's instructions
28	Monitor down-hole conditions and mud	3.2.2 Safe Work Practices / Well Control Procedures

	parameters, and take actions accordingly to control well.	
28	Operating and maintaining communications equipment.	Safe Work Practices Manual
29	Controlling boats on location.	3.2.2 Safe Work Practices
30	Control of helicopter and helipad activities and access.	3.2.2 Safe Work Practices
31	Providing front line medical health and hygiene services on the rig.	3.7 Occupational Health and Hygiene
32	Organize and implement emergency response training and exercises.	3.5 Emergency Response
33	Responding to emergencies.	3.5 Emergency Response
		3.5 Emergency Response
34	Accounting for personnel in an emergency.	3.5 Emergency Response
35	Fighting fires and rescuing trapped and injured personnel on the rig.	3.5 Emergency Response
36	Driving lifeboats to evacuate personnel in an emergency.	3.5 Emergency Response
37	Investigation of accidents, incidents and near misses, and follow-up of corrective actions.	4.0 Performance Measurement

HSE-Critical Equipment is defined as any piece of equipment or physical system including computer programs, the failure of which could cause a major accident or the purpose of which is to prevent a major accident or limit its effects. These are the hardw

HSE CRITICAL EQUIPMENT

Life-saving systems

- 1 Lifeboats and accessories
- 2 Liferrafts and accessories
- 3 Davit launching safety systems for lifeboats (off-load release etc.)
- 4 Lifejackets
- 5 Helicopter rescue gear
- 6 Line throwing gun
- 7 Fast rescue boat

Fire fighting systems

- 8 Foam system
- 9 CO2 systems
- 10 Portable fire extinguishers
- 11 Fireman's suits
- 12 Self contained Breathing Apparatus
- 13 Firewater pumps, ring main and hose stations

Detection systems

- 14 Gas/smoke/heat detection systems
- 15 Environmental protection systems. Although there are several dedicated environmental protection systems on the rig (e.g. Macerator, Sewage treatment plant, Bunding, Material transfer hoses, Oily water separator, Spill kits), none are applicable for Major

Blowout prevention systems

Spikey Beach – 1 Drilling Program HAZID Assessment



- 16 Diverter system
- 17 Dual Annular BOP
- 18 RAM type BOPs
- 19 Internal BOP/ Full opening safety valves
- 20 Choke manifold and control panel
- 21 Accumulator and BOP Control Panel
- 22 Casing and cement
- 23 Telescopic Joint
- 24 Marine Riser
- 25 Lower Marine Riser Package (LMRP)
- 26 BOP Pods
- 27 Mux cables
- 28 Tensioner/Tensioner system
- 29 Choke & kill drape hoses
- 30 Rigid conduit drape hoses
- Major Hoisting Systems**
- 31 Drawworks, Drill line and blocks
- 32 Derrick Structure
- 33 Deck Cranes
- 34 BOP Elevator
- 35 Top Drive System
- 36 Crown Motion Compensator (CMC)
- 37 Gantry Crane
- Lifting Gear**
- 38 Pad eyes, sheaves, chain hoists, shackles, slings, wire rope, plate clamps, hooks, spreader bars, Trolley Beams
- 39 Personnel Basket
- 40 Air hoists/Utility & Manrider
- Mud Monitoring Systems**
- 41 Flow Sensor, pit totalizing sensor, trip tank instrumentation
- Communication Systems**
- 42 GMDSS, VHF Portable radios, Helicopter VHF, Enmarsat, Single Side Band Marine, PA-GA system, EPIRB, antennas, transceivers,
- Major Structures**
- 43 Helideck
- 44 Sampson posts
- 45 Water-tight doors
- 46 Bulkheads including Living Quarters box/walls.
- 47 Pontoons
- 48 NA
- Alarm Systems**
- 49 ER Alarms, Engine alarms, bilge water alarms, PVT Gain/loss alarm, Flow alarm, Monitoring alarms systems, CO2 flooding alarm
- Emergency Standby Systems and Shut Down System**
- 50 Emergency Generator, Switchboard, Lighting, Battery backup.
- 51 Emergency Shut Down (onboard ESD)
- 52 Fire Dampers
- 53 Well test ESD systems
- Computer-based Control Systems**
- 54 Stability program

Spikey Beach – 1 Drilling Program HAZID Assessment



- 55 Preventative Maintenance System
- 56 Data Management System (DMS)
- Navigation Systems**
- 57 Navigation lights
- 58 Obstruction lights
- 59 RADAR systems
- Ignition Control Systems**
- 60 Helicopter electrical grounding system
- 61 IS/EX equipment within all Hazardous Areas
- Miscellaneous Systems**
- 62 Poor boy degasser (including vent)
- 63 Open pits
- 64 Fuel containment systems
- 65 Pressure vessels & Pressure Relief Valves
- 66 Personal Escape Equipment (PEE)
- 67 Well test containment systems
- 68 Heli fuel filters

SUMMARY OF ACTION ITEMS				
Activity	Action No	Action	Responsibility	Status
Location	1	Ensure emergency plan is updated with correct contact numbers. Numbers need to be tested for accuracy prior to campaign	ADA	
	2	Ensure ERP identified alternative landing areas for helicopter	ADA	
Drilling		Diamond has a contractor package which provides details and training for use of Diamond PTW. Provided to all third party contractors. Contractors required to be completed prior to arrival on MODU.		
	3	Ensure packages distributed to third party contractors	ADA/ DOI	
	4	Ensure that third party contractors have tested equipment prior to bringing onto rig.	ADA	

Spikey Beach – 1 Drilling Program HAZID Assessment



	Full certification required
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ATTACHMENT 1 – HAZID Attendees

Spikey Beach – 1 Drilling Program HAZID Assessment



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OCEAN PATRIOT ADA BEACH PETROLEUM SPIKEY BEACH-1 HAZARD IDENTIFICATION WORKSHOP PARTICIPANTS HELD ON 15TH JULY 2009, OAKS-ON-COLLINS, 480 COLLINS STREET, MELBOURNE, VIC 3000

NAME	COMPANY	PHONE NUMBER	DISCIPLINE	EMAIL	SIGNATURE
WAFIR SABRON	ADA	040367484	HSE	w.sabron@australian-drilling.com	W. Sabron
JACQUES TREDoux	EMAS	0458166009	Marine Supp.	jacques.tredoux@emasoffshore.com	J. Tredoux
Michael Merlino	Schlumberger	0402852141	Cementing	merlinomichael@gmail.com	M. Merlino
Michael Giuliano	Beach	0418821275	Drilling	michael.giuliano@beachpetroleum.com.au	M. Giuliano
Denny Kohn	Beach	0412526881	HSE	denny.kohn@beachpetroleum.com.au	D. Kohn
SON HUYNH	MI	0422594026	Drilling Fluids	shuynh@miswaco.com	S. Huynh
STEVE MAGNUSSON	TOT		Manager	steve.m@tot.com.au	S. Magnusson
GARRY WILLIAMS	SS7	0408893339	Drilling	GARRY.WILLIAMS@SS7.COM	G. Williams
PAUL BARRETT	ADA	-	Drill Supp.	p.barrett@australian-drilling.com	P. Barrett
STEVE VACULA	DODI	0423582297	Ops Mgr	svacula@dodi.com	S. Vacula
JASON TOMLIN	ISOM	042346744	HSE	jason.tomlin@isom.com	J. Tomlin
Tanya Morrison	ADA	0421647037	HSE	tanya.morrison@australian-drilling.com	T. Morrison
RON SCHURPENZER	BROWN	0411118358	Helicopters	ron.schurpenzer@brown.com.au	R. Schurpenzer
Kenyon Forbes	SMITH Int.	040747635	ACER MGR	kforbes@smith.com	K. Forbes
Tom Armstrong	Smith	040747631	Ops MGR	tom.armstrong@smith.com	T. Armstrong
JOSEPH ZACHARIA	Schlumberger	0428109716	WIRELINE	jz3acharia@slb.com	J. Zacharia
IAN ROBERTSON	ADA	-	Drill MGR	i.robertson@australian-drilling.com	I. Robertson
RYAN MULLIGAN	SLB	044980522	DE	ryan.mulligan@slb.com	R. Mulligan
Ed Bamberough	BAKER HUGHES	0411690880	MANAGING	edward.bamberough@bakerhughes.com	E. Bamberough
BEN DEVLIN	DIAMOND	0408186057	HSA MANAGER	bdevlin@dodi.com	B. Devlin
RAS LAL	NUFFIELD	0402061543	RISK ENGINEER	ras.lal@nuffieldconsultants.com	R. Lal
Derry Hoffman	DODI	-	Driller	-	D. Hoffman
Scott Sanders	DODI	-	A. Driller	-	S. Sanders

Spikey Beach – 1 Drilling Program HAZID Assessment



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NAME	COMPANY	PHONE NUMBER	DISCIPLINE	EMAIL	SIGNATURE
Dale Johnson	DODI	-	BARGE SUPERVISOR	-	
Tim Rogers	DODI	-	SDR	-	
Preston Brown	D.O. DI	-	ITANK operator	-	