

ENVIRONMENT PLAN

Beehive-1 Exploration Drilling

1-Introduction

WA-488-P

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Rev 6

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Front cover image: The Noble Tom Prosser jack-up mobile offshore drilling unit, warm stacked in Port of Darwin (Photo credit: G. Pinzone, Aventus Consulting).

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Acronyms

Acronym	Definition
2D	Two-dimensional
3D	Three-dimensional
AAR	Air to Air Refuelling
ACMA	Australian Communications and Media Authority
AEP	Australian Energy Producers (formerly APPEA)
AET	Australian External Territory
AEW&C	Airborne Early Warning and Control
AFANT	Amateur Fishermen's Association of the Northern Territory
AFE	Authority for Expenditure
AFMA	Australian Fisheries Management Authority
AFZ	Australian Fishing Zone
AHIS	Aboriginal Heritage Inquiry System
AHO	Australian Hydrographic Office
AIMS	Australian Institute of Marine Science
AIS	Automatic Identification System
ALARP	As Low As Reasonably Practicable
AMOSC	Australian Marine Oil Spill Centre
AMP	Australian Marine Park
AMSA	Australian Maritime Safety Authority
APPEA	Australian Petroleum Production and Exploration Association
AS	Australian Standard
ASBTIA	Australian Southern Bluefin Tuna Industry Association
BAT	Best Available Techniques
BHA	Bottom Hole Assembly
BIA	Biologically Important Area
BOD	Basis of Design
BOM	Bureau of Meteorology
BOP	Blowout Preventor
BPEM	Best Practice Environmental Management
BRUVS	Baited Remote Underwater Video Systems
BWMC	Ballast Water Management Certificate
BWMP	Ballast Water Management Plan
BWR	Ballast Water Report
BWRS	Ballast Water Record System
CAMBA	People's Republic of China for the Protection of Migratory Birds and their Environment 1986
CASA	Civil Aviation Safety Authority (Cth)
CEFAS	Centres for Environment, Fisheries and Aquaculture Science (UK)
CFA	Commonwealth Fisheries Authority
CHARM	Chemical Hazard and Risk Management

Acronym	Definition
CoEP	Code of Environmental Practice
CMID	Common Marine Inspection Document
CMP	Conservation Management Plan
CPUE	Catch Per Unit Effort
Cth	Commonwealth
DAFF	Department of Agriculture, Fisheries and Forestry (Cth)
DCCEW	Department of Climate Change, Energy, the Environment and Water (Cth)
DBCA	Department of Biodiversity, Conservation and Attractions (WA)
DDRs	Daily Drilling Reports
DEPWS	Department of Environment, Parks and Water Security (NT)
DIMT	Drilling Incident Management Team
DITT	Department of Industry, Tourism and Trade (NT)
DMIRS	Department of Mines, Industry Regulation and Safety (WA)
DNP	Director of National Parks (Cth)
DoD	Department of Defence
DoF	Department of Fisheries (WA)
DoT	Department of Transport (WA)
DP	Dynamic Positioning
DPIRD	Department of Primary Industries and Region Development (WA)
DPLH	Department of Planning, Lands and Heritage (WA)
DST	Drill Stem Test
EB	Environmental Benefit
EEZ	Exclusive Economic Zone
EIA	Environmental Impact Assessment
EIAPP	Engine International Air Pollution Prevention
EMBA	Environment That May Be Affected
EMP	Emergency Marine Pest Plan
EOG	EOG Resources Australia Block WA-488-P Pty Ltd
EP	Environment Plan
ePAR	Electronic Pre-Arrival Report
EPBC Act	Environment Protection and Biodiversity Conservation Act 1999 (Cth)
EPO	Environmental Performance Objective
EPS	Environmental Performance Standard
ERA	Environmental Risk Assessment
ERM	Environmental Resources Management Australia Pty Ltd
ERP	Emergency Response Plan
ERT	Emergency Response Team
ESD	Ecologically Sustainable Development
Ev	Evaluation
FOSC	Federal On-Scene Coordinator
G&G	Geophysical and Geotechnical (investigations)

Acronym	Definition
GEP	Gas Export Pipeline
GHG	Greenhouse Gas
GMDSS	Global Maritime Distress and Safety System
GMP	Garbage Management Plan
HFC	High Frequency Cetacean
HFO	Heavy Fuel Oil
HMCS	Harmonised Mandatory Control Scheme
HQ	Hazard Quotient
HSE	Health, Safety and Environment
HTB	High Temperature Blend
HVAC	Heating, Ventilation and Air Conditioning
IADC	International Association of Drilling Contractors
IAFS	International Anti-fouling System
IAPP	International Air Pollution Prevention
IAT	Integrated Acceptance Test
IAWC	International Alliance for Well Control
IEE	International Energy Efficiency
IMAS	Institute for Marine and Antarctic Studies
IMCA	International Marine Contractors Association
IMCRA	Integrated Marine and Coastal Regionalisation of Australia
IMDG	International Marine Dangerous Goods
IMO	International Maritime Organisation
IMP	Impact
IMS	Invasive Marine Species
IMT	Incident Management Team
IOGP	International Association of Oil & Gas Producers
IOPP	International Oil Pollution Prevention
IPIECA	International Petroleum Industry Environmental Conservation Association
IPP	International Pollution Prevention
ISPP	International Sewage Pollution Prevention
ISPS	International Ship and Port Facility Security
ITOPF	International Tanker Owners Pollution Federation
IUCN	International Union for the Conservation of Nature
IWCF	International Well Control Forum
JAMBA	Agreement between the Government of Australia and the Government of Japan for the Protection of Migratory Birds and Birds in Danger of Extinction and their Environment
JBG	Joseph Bonaparte Gulf
JSA	Job Safety Analysis
KCMF	Kimberley Crab Managed Fishery (also referred as the North Coast Crab Fishery).
KEF	Key Ecological Feature
KGBF	Kimberley Gillnet and Barramundi Fishery

Acronym	Definition
KLC	Kimberley Land Council
KPMF	Kimberley Prawn Managed Fishery
LAT	Lowest Astronomical Tide
LCM	Lost Circulation Material
LFC	Low Frequency Cetacean
LoWC	Loss of Well Control
LPM	Labrador Petro Management
Ltd	Limited
LWD	Logging While Drilling
MAA	Mutual Assistance Agreement
MARPOL	International Convention for the Prevention of Pollution from Ships
MBC	Maritime Border Command
MDO	Marine Diesel Oil
MFC	Mid Frequency Cetacean
MFO	Marine Fauna Observer
MMF	Mackerel Managed Fishery
MMO	Marine Mammal Observer
MNES	Matters of National Environmental Significance
MoC	Management of Change
MoU	Memorandum of Understanding
MODU	Mobile Offshore Drilling Unit
MP	Marine Park
MSA	Master Services Agreement
MSL	Mean Sea Level
MSS	Marine Seismic Survey
MWD	Measurement While Drilling
NATA	National Association of Testing Authorities
NatPlan	National Plan for Maritime Environmental Emergencies
NCVA	National Conservation Values Atlas
NDSMF	Northern Demersal Scalefish Managed Fishery
NEBA	Net Environmental Benefit Analysis
NIW	Nationally Important Wetland
NLC	Northern Land Council
NMFS	National Marine Fisheries Service
NMR	North Marine Region
NMSC	Australian National Marine Safety Committee
NNTT	National Native Title Tribunal
NOEC	No Effect Concentration
NOPSEMA	National Offshore Petroleum Safety and Environment Management Authority
NPF	Northern Prawn Fishery
NPFI	Northern Prawn Fishing Industry Pty Ltd

Acronym	Definition
NSW	New South Wales
NT	Northern Territory
NTM	Notice To Mariners
NTSC	Northern Territory Seafood Council
NWMR	Northwest Marine Region
NWSA	North Wildcatch Seafood Australia
NZS	New Zealand Standard
OCNS	Offshore Chemical Notification Scheme
OCTG	Oil Country Tubular Goods
ODS	Ozone Depleting Substances
OEM	Original Equipment Manufacturer
OIM	Offshore Installation Manager
OIW	Oil-in-Water
OOC	Offshore Operations Committee
OPEP	Oil Pollution Emergency Plan
OPGGS	Offshore Petroleum and Greenhouse Gas Storage Act 2006 (Cth)
OPGGS(E)	Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2023
OSAT-2	Operational Science Advisory Team study
OSCA	Oil Spill Control Agent
OSMP	Operational and Scientific Monitoring Program
OSPAR	Oslo-Paris Convention 1992
OSRL	Oil Spill Response Ltd
OSTM	Oil Spill Trajectory Modelling
OVID	Offshore Vessel Inspection Database
OWR	Oiled Wildlife Response
OWS	Oily Water Separator
P&A	Plug and Abandon/Abandonment
P&ID	Piping and Instrumentation Diagrams
PAH	Polyaromatic Hydrocarbons
PBW	Pygmy Blue Whale
PCBs	Polychlorinated Biphenyls
PDSA	Pre-Drill Seabed Assessment
PEC	Predicted effect concentration
PHG	Pre-hydrated gel
PLONOR	Pose Little or No Risk
PMS	Planned Maintenance System
PMST	Protected Matters Search Tool
POB	Persons On Board
POLREP	Pollution Report
PPA	Pearl Producers Association
PPE	Personal Protective Equipment

Acronym	Definition
PSZ	Petroleum Safety Zone
PTS	Permanent Threshold Shift
PTW	Permit To Work
PVC	Polyvinyl Chlorides
RCC	Response Coordination Centre
REACH	Registration, Evaluation and Authorisation of Chemicals
RO	Reverse Osmosis
ROKAMBA	Republic of Korea Migratory Birds Agreement 2006
ROV	Remotely Operated Vehicle
RQ	Risk Quotient
RSK	Risk
RWP	Relief Well Plan
SBM	Synthetic-based Mud
SBTF	Southern Bluefin Tuna Fishery
SCAT	Shoreline clean-up and assessment
SCR	Safety Case Revision
SDS	Safety Data Sheet
SECE	Safety and Environmentally Critical Elements
SECP	Safety and Environmentally Critical Positions
SEEMP	Ship Energy Efficiency Management Plan
SEL	Sound Exposure Level
SEP	Stakeholder Engagement Plan
SIMAP	Spill Impact Mapping Analysis Program
SIMOPS	Simultaneous Operations
SITREP	Situation Report
SMPEP	Shipboard Marine Pollution Emergency Plan
SPL	Sound Pressure Level
SPRAT	Species Profile and Threats
SSS	Side scan sonar
STCW	Standards of Training, Certification and Watchkeeping for Seafarers
STP	Sewage Treatment Plant
TAP	Threat Abatement Plan
TD	Total Depth
TECS	Threatened Ecological Communities
TOC	Total Organic Carbon
TOFS	Time Out for Safety
TRP	Tactical Response Plan
TSS	Total Suspended Solids
TTS	Temporary Threshold Shift
TVDSS	Total Vertical Depth Subsea
UK	United Kingdom

Acronym	Definition
UNEP IE	United Nations Environment Programme Industry and Environment
USA	United States of America
USBL	Ultrashort Base Line
UXO	Unexploded Ordnance
VHF	Very High Frequency
VOC	Volatile Organic Compounds
VoO	Vessels of Opportunity
VSP	Vertical Seismic Profile/Profiling
WA	Western Australia
WAF	Water-Accommodated Fraction
WAFIC	Western Australian Fishing Industry Council
WBM	Water-based Mud
WCMP	Well Construction Management Process
WEL	Woodside Energy Limited
WestPlan	Western Australian Oil Spill Contingency Plan 2015
WHP	Wellhead Platform
WOMP	Well Operations Management Plan
WSTF	Western Skipjack Tuna Fishery
WTBF	Western Tuna and Billfish Fishery
WWC	Wild Well Control

Units

Abbreviation	Definition
”	Inch
km	Kilometre
m	Metre
mm	Millimetre
MM	Million
nm	Nautical miles
m^2	Square metres/metres squared
km^2	Square kilometres/kilometres squared
ppb	Parts per billion
ppm	Parts per million

1. Introduction

1.1. Background

EOG Resources Australia Block WA-488 Pty Ltd (hereafter referred to as EOG) is the titleholder of exploration permit WA-488-P and proposes to drill the Beehive-1 exploration well within Commonwealth marine waters approximately 80 kilometres (km) off the Western Australian (WA) coastline, located in the Joseph Bonaparte Gulf (JBG), WA (Figure 1.1). This is referred to as 'the activity' throughout this document.

1.2. Purpose

EOG proposes to undertake the activity using a jack-up mobile offshore drilling unit (MODU) with auxiliary activities including support vessels and helicopters. The activity will be conducted entirely within Commonwealth waters in accordance with the *Offshore Petroleum and Greenhouse Gas Storage Act* 2006 (Cth) (OPGGS Act 2006) and Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2023 (herein referred to as the OPGGS(E)).

This Environment Plan (EP) covers all operations associated with the activity. It aims to secure acceptance of the activity from the National Offshore Petroleum Safety and Environment Management Authority (NOPSEMA) by demonstrating that EOG will manage the environmental impacts and risks of the activity (as defined in Section 1.4.1 of this EP) to As Low as Reasonably Practicable (ALARP) and to an acceptable level.

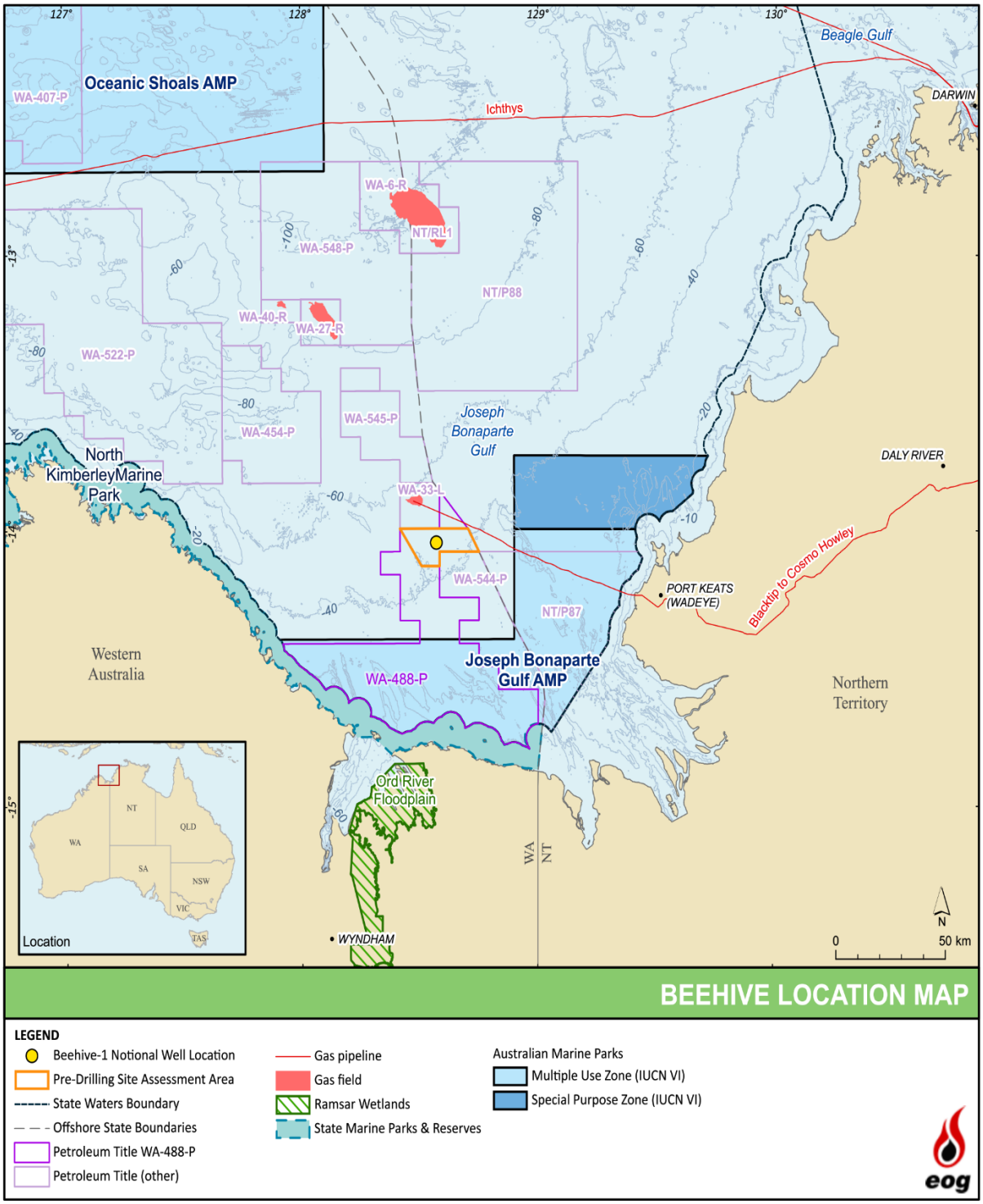


Figure 1.1. Location of Beehive-1 in WA-488-P

1.3. Titleholder and Liaison Person

EOG Resources, Inc. (as the parent company of EOG) was established in 1985 and is listed on the New York Stock Exchange. It is one of the largest independent crude oil and natural gas exploration and production companies in the United States of America (USA) with hydrocarbon reserves in the USA and Trinidad & Tobago. The company has a market cap of approximately USD$74 billion (AUD$112 billion) as of 13th of May 2024 and employs around 3,000 people.

EOG Resources, Inc. is the USA based parent company of EOG Resources Australia Block WA-488 Pty Ltd, the Australian entity responsible for the proposed development of permit area WA-488-P.

The Titleholder for this activity is:

EOG Resources Australia Block WA-488 Pty Ltd

Suite 406, Level 4, 20 Bond Street,

Sydney, NSW, 2000, Australia

The nominated liaison person for this EP is outlined in Table 1.1.

Table 1.1. Titleholder nominated liaison details

Parameter	Details
Name	Jonathan Chung
Position	Director, Business Development International
Address	1111 Bagby Street, Sky Lobby 2, Houston, Texas 77007 USA
Telephone number	+1 713-651-7000
Email address	australia@eogresources.com

EOG will notify NOPSEMA of any change in titleholder, a change in the titleholder's nominated liaison person, or a change in the contact details for either the titleholder or the liaison person including changes to the activity or the EP in accordance with the details provided in Table 1.2.

Table 1.2. OPGGS notification requirements – change of contact details and end of activity

Regulation requirements	OPGGS(E)
A change of Titleholder, change in the Titleholder's nominated liaison person or a change in the contact details for either the Titleholder or the liaison person. Notification to be provided within 7 days of the change.	Regulation 23(3)
The end of operation of the EP (i.e., at completion of the activity). To be reported using proforma (FM1408) on the NOPSEMA website.	Regulation 46
The end of an activity (i.e., within 10 days of completion of the activity). To be reported using proforma (FM1405) on the NOPSEMA website.	Regulation 54(2)

1.4. Scope of this Plan

The activity (as defined in Regulation 17 of the OPGGS(E)) is defined as:

> *The physical process of drilling a well, from the time that the drill rig first jacks down its legs on site until the time it jacks up its legs and departs the operational area.*

This EP has been prepared in accordance with the OPGGS(E) for assessment and acceptance by NOPSEMA. In brief, this EP includes a description of:

- The nature of the activity (location, layout, operational details);
- Stakeholder consultation activities;
- The environment affected by the activity;
- Environmental impacts and risks (including emergency incidents);
- Mitigation and management measures;
- Environmental performance outcomes, standards and measurement criteria;
- How impacts and risks are demonstrated to be ALARP and acceptable;
- The implementation strategy to ensure that the environmental impacts and risks are managed in a systematic manner; and
- Reporting arrangements.

1.5. Environment Plan Summary

Table 1.3 provides a summary of this EP as required by Regulation 35(7) of the OPGGS(E).

Table 1.3. EP Summary of material requirements

EP Summary requirement	EP section
The location of the activity	Section 2.1
A description of the receiving environment	Chapter 5 & Appendix 11
A description of the activity	Chapter 2
Details of the environmental impacts and risks	Chapters 7 & 8
The control measures for the activity	Chapters 7 & 8
The arrangements for ongoing monitoring of the titleholder's environmental performance	Chapter 9
Response arrangements in the oil pollution emergency plan (OPEP)	OPEP
Consultation already undertaken and plans for ongoing consultation	Chapter 4
Details of the titleholder's nominated liaison person for the activity	Section 1.3