



GRIFFIN CESSATION ENVIRONMENT PLAN SUMMARY

Document No: APU-000314

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1 INTRODUCTION

BHP Billiton Petroleum Pty Ltd (BHP Billiton) is the designated operator on behalf of a joint venture comprising BHP Billiton Petroleum (Australia) Pty Ltd, INPEX Corporation Ltd, and Exxon-Mobil Australia Pty Ltd, which are the holders of Petroleum Exploration Permit WA-10-L. Production operations in WA-10-L (Griffin Field) ceased production with the departure of the Griffin Venture (GV FPSO) in September 2009. All subsea infrastructure was left in-situ, the wells were depressurised and infrastructure flushed of hydrocarbons.

The project specific Environment Plan (EP) has been developed and ensures that all operations are planned and conducted in line with BHPBP's environmental standards and comply with statutory requirements.

The EP will serve as a practicable environmental management tool to be used throughout the activity by operators to implement targeted environmental control measures.

This summary EP contains the findings and conclusions of the environmental impact assessment undertaken for the proposed activity. This process ensures any potential environmental impacts associated with the activity, during both routine and non-routine (abnormal) operations, have been identified and appropriately assessed. Relevant preventative and mitigation measures have been developed and implemented to ensure any adverse impacts are eliminated where possible or managed to be as low as reasonably possible.

2 LOCATION OF THE ACTIVITY

The Griffin Development is situated within Permit Area WA-10-L located on the North West Shelf (Latitude 21°13.4'S and Longitude 114°38.7'E) approximately 68 km offshore in a water depth of 130 m. The export pipeline extends from the Riser Turret Mooring (RTM) in Commonwealth waters (Pipeline licence WA-3-PL) through WA State waters (pipeline licence TPL/10) to the shore, crossing the outer and inner North West Shelf. The surrounding area includes Barrow Island and Dampier, 80 km and 235 km north-east respectively and the town of Onslow 70 km to the east (Figure 2-1). The coordinates of key features are provided in Table 2-1.

Table 2-1: Griffin location (GDA94)

Description	Easting	Northing	Water Depth (m LAT)
Riser Turret Mooring	566888	765299	130
Pipeline End manifold	567630	7651731	130
Pipeline Cwth/State boundary	581028	7625791	20

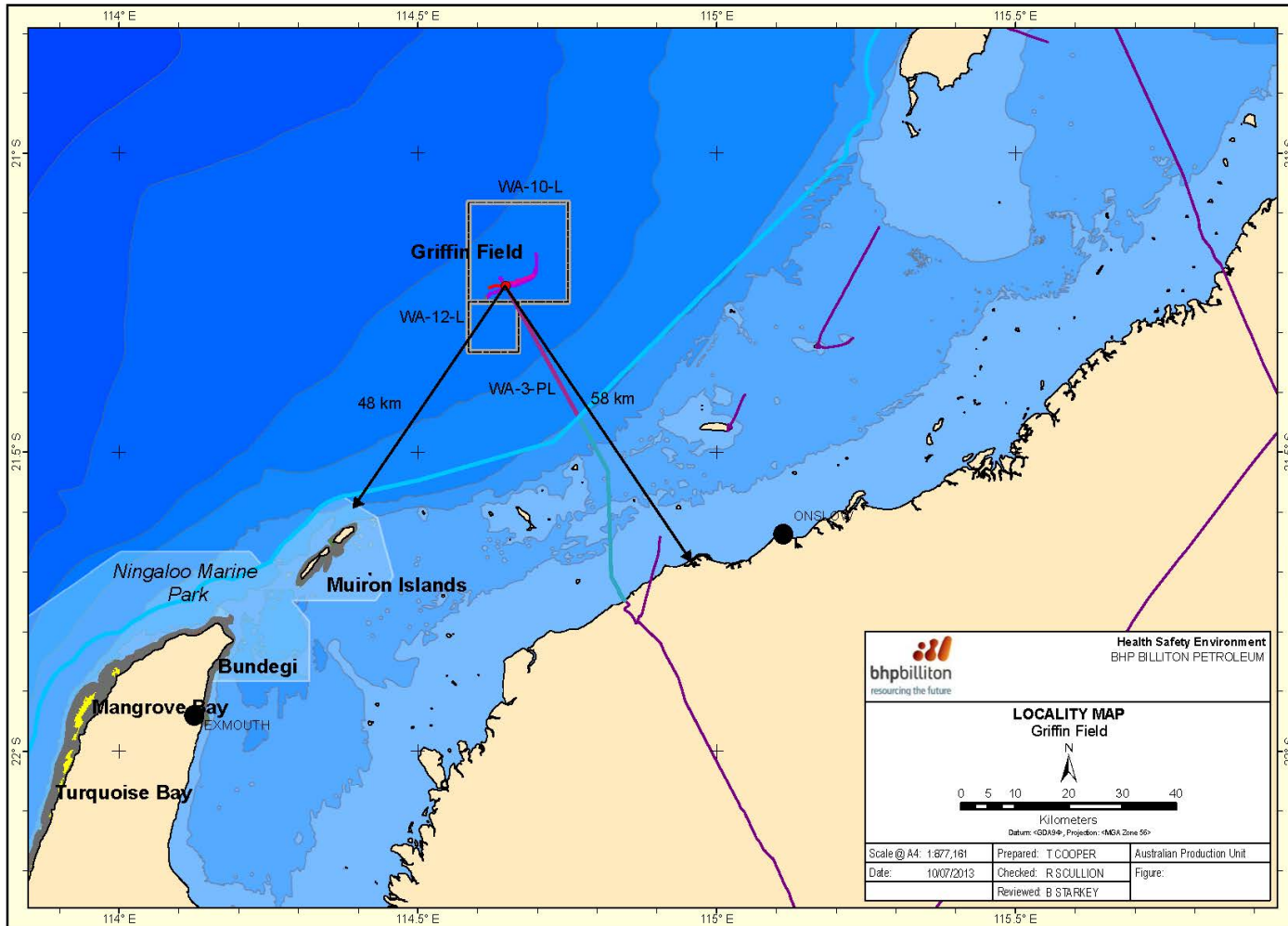


Figure 2-1: Location diagram showing Griffin

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3 DESCRIPTION OF THE ACTION

The Griffin Development infrastructure comprises three main components: subsea facilities (includes trees, manifolds, flowlines, umbilicals, moorings, Pipeline End Manifold (PLEM)); the RTM and export gas pipeline. The infield equipment spans an area approximately 6 km² from the RTM central point to six surrounding development sectors. The gas pipeline stretches ~62 km from the PLEM to the shoreline, south of Exmouth.

As part of field suspension activities all wells have been displaced with treated water, whilst the flowlines / risers were flushed (until returns had an oil in water content of less than 30 ppm) and fully displaced with treated water. As part of field suspension activities the gas export pipeline was depressurised and displaced with nitrogen.

The current status of the pipeline can be summarised as follows:

- The pipeline is no longer connected to a source of hydrocarbons; and
- The pipeline contents have been displaced with inert gas (nitrogen).

3.1 Surface and Subsea Inspections

A contractor will undertake site inspection work of the RTM, flow lines, pipeline and other infrastructure. The following activities will typically be done:

- Soundings of the RTM location to confirm the submerged riser is sitting vertically on the seabed;
- Remote Operated Vehicle (ROV) inspection of subsea infrastructure, including Cathodic Potential readings;
- Installation & or removal of control Flying Leads;
- Installation & or removal of Subsea Control Modules; and
- ROV Manual valve operations on subsea trees or manifolds.

3.2 Timing

Inspection visits will occur during the duration of the cessation.

4 DESCRIPTION OF RECEIVING ENVIRONMENT

4.1 Natural Environment

The Griffin Permit area is located on the Outer Rowley Shelf. The Outer Rowley Shelf, which is on the middle shelf of the Northwest Shelf Province and covers 47% of the North-West Marine Bioregion. The general geomorphology of the Rowley Shelf seabed is gentle and smooth, although the Inner Rowley Shelf features a number of island reefs and other geomorphologic features. The range of habitats and species of the Outer Rowley Shelf is much less diverse than the inner Rowley Shelf.

4.2 Biological Environment

The Griffin Permit area (the Outer Rowley Shelf) contains benthic assemblages comprising predominantly crustaceans, cephalopods and small fish that live within a structural habitat formed by sparse community of sponges, soft corals, sea pens and gorgonians. Results of the 2009 Griffin Field Subsea Operations ROV

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Surveys identified epibiota such as oysters, barnacles and soft and hard corals having colonised on the subsea infrastructure. Soft growth cover varied from 5 to 15% cover of seabed infrastructure, predominantly hydroids with entrapped sediment (up to 250 mm) in the deeper water sections and up to 75% cover of soft corals and sponges (up to 1 m long) in shallow water up to 80 m.

The most common whale species in the North West Shelf region is the humpback whale, which migrates through the region during their movement along the Western Australian coast. In addition to the humpback whale, the minke whale and several other toothed whales may be sighted in the vicinity of the proposed wells. The abundance of the whales present in the vicinity of the Griffin location is likely to vary seasonally from low numbers during December to May and low to moderate abundance from June to November.

Five species of sea turtle are known to possibly occur in the region, including green turtles, loggerhead turtles, hawksbill turtles, flatback turtles and leatherback turtles.

A number of different pelagic fish occur in the deeper offshore waters of the region. Pelagic fish species are seasonally abundant and may pass through the area during annual migrations. The most notable species of deep water pelagic fishes in the area are the billfish, which include sailfish, marlin and swordfish.

The region also supports diverse and abundant shark and ray populations. Whaler sharks are the most numerous and diverse, occurring in a wide range of habitats such as intertidal (black-tip reef shark), offshore reef drop-offs (grey reef shark) and deep ocean areas (oceanic white-tip). The whale shark is also known to frequent the region.

Dolphins are common inhabitants of the offshore waters of the region. Spinner dolphins and striped dolphins are expected in deeper waters while bottle-nosed dolphins are common in shallow water areas of the North West Shelf.

A large number of seabird species migrate across the region, and may pass through the permit area, including ten species of migratory seabirds protected under international agreements. The southern giant petrel and the soft plumaged petrel, which are listed Threatened species, may be sighted in the vicinity of the Griffin location.

4.3 Socio-Economic Environment

There are no conservation reserves or parks located within the vicinity of the Griffin location. The closest marine conservation areas are the Muiron Islands Marine Management Area and the Ningaloo Marine Park. The Griffin location is 48 km north-east of the closest point of the Muiron Island Marine Management Area.

There are a number of commercial fisheries in the area. The fisheries operating in the vicinity of the well location include the Mackerel Managed Fishery, Western Tuna and Billfish Fishery, Northern Shark Fisheries, Pilbara Demersal Scalefish Fisheries and the Onslow Prawn Managed Fishery.

Recreational fishing mostly occurs within State waters adjacent to populated coastal areas. The Griffin Permit area is located outside State waters thereby avoiding popular recreational fishing locations. Due to the remoteness of the Griffin Permit area, recreational fishing areas are unlikely to be impacted by Cessation activities. The Griffin Field lies outside commercial Shipping Fairways.

5 MAJOR ENVIRONMENTAL HAZARDS AND CONTROLS

Risk analysis has been undertaken for all environmental aspects of the activity, consistent with the procedures outlined in the Australian and New Zealand Standards AS/NZS ISO 31000:2009 (Risk Management – Principles and Guidelines) and BHP Billiton's Management Policies.

These aspects, potential impacts and preventative and mitigative controls are indicated below. All mitigation measures associated with hazards will be used to reduce environmental risk to ALARP and will be of an acceptable level.

Environmental/Other Aspect	Potential Impact	Management and Mitigation Methods
Physical presence of RTM and subsea infrastructure	Interference with fishing, shipping and/or other users	Maintaining 500m safety zone and 5nm cautionary area; Maritime Safety Information Notice.
Physical presence of inspection vessel	Interference with fishing, shipping and/or other users	Maintaining 500m safety zone and 5nm cautionary area; Maritime Safety Information Notice.
Interference to fauna	Displacement or attraction of fauna Physical impact from collisions	Short duration and frequency of trips; Briefing/induction on cetacean/turtle interaction guidelines.
Waste Disposal from inspection vessel	Impact on the marine environment from waste disposal	No disposal of harmful substances or garbage to sea; wastes identified, segregated and stored according to type (returned to shore preferred)
Spill of diesel from inspection vessel	Contamination or pollution of the water column; visual pollution	Maintaining 500m safety zone and 5nm cautionary area; Maritime Safety Information Notice.
Subsea fluid release	Contamination or pollution of the water column; visual pollution	Maintaining 500m safety zone and 5nm cautionary area; Maritime Safety Information Notice.
Failure of RTM anchor system	Interference with fishing, shipping and/or other users or damage to flow lines and other infrastructure.	Facility design; Inspection of anchor chains.

6 MANAGEMENT APPROACH

The Griffin Cessation activities will be managed in compliance with the Griffin Cessation Environment Plan submitted to NOPSEMA under the regulations and BHP Billiton's risk management policy.

The objective of the Environment Plan is to ensure that potential adverse impacts on the environment associated with the activities, during both routine and non-routine operations, are identified, and will be reduced to ALARP and will be of acceptable level.

The Environment Plan details specific objectives and standards for each environmental aspect that was identified and assessed in the Environmental Risk Assessment. The Environment Plan then details for each environmental aspect the range of controls to be implemented (consistent with standards) to achieve the performance objectives. The Environment Plan then established the specific measurement criteria that will be used to demonstrate that performance objectives are achieved.

The implementation strategy identifies the roles and responsibilities and the training and competency requirements for all personnel (BHP Billiton and contractors) in relation to implementing controls, managing noncompliance, emergency response (oil spills) and meeting monitoring and auditing and reporting requirements during the activity. The Environment Plan details the types of monitoring and auditing that will be undertaken (including audits and monitoring during the activity) and reporting requirements for environmental incidents (recordable and reportable incidents) and reporting overall compliance of the activity.

7 CONSULTATION

BHPB has been actively involved in stakeholder engagement in the Onslow region since the development of the Griffin Joint Venture in the early 1990's. This project included the Griffin gas plant at Tubridgi, located approximately 20 km south of Onslow. This development triggered the start of a long term relationship with the town of Onslow, local pastoralists, Shire of Ashburton and the Thalanyji (the recognised Native Title holders). BHP Billiton's ongoing development in the region includes the Stybarrow and Pyrenees FPSO facilities and the Macedon domestic gas project..

In support of the resubmission of the Griffin Development Cessation EP, BHP Billiton undertook an assessment of the proposed activities and potential environmental, social and economic impacts to determine relevant authorities, persons and organisations to be identified based on:

- A demonstrated interest in the proposed activity or potential environmental, social or economic impact;
- They were a Commonwealth, State or Local Government authority with jurisdiction over the activity;
- They undertook normal business activities in the vicinity of the proposed activity, and;
- Their potential involvement in responding to the unlikely event of loss of containment of chemicals or hydrocarbons.

An Environment Plan Fact Sheet was prepared and distributed to key stakeholders in July 2012. It contained a summary of key project information including: a map showing the location of the proposed activity; a description of the activity; and details on where to seek additional information if required.

BHP Billiton met with stakeholders face to face and provided:

- a presentation of information on the activity via the Onslow Community Reference Group meeting; and
- a toll-free 1800 number and email address for queries.

This activity is conducted in addition to the comprehensive and extensive engagement already complete for BHP Billiton activities in the Exmouth and Onslow area for a rolling schedule of offshore seismic, installation, operation and exploration activities in 2012 and 2013.

BHP Billiton will continue to engage with stakeholders in the lead up to the commencement of activities through regular Community Reference Group (CRG) meetings.

8 CONTACT DETAILS

For further information about this activity please contact BHPB Petroleum Government and External Affairs Team on 1800 110 258 or send an email to bhppetexternalaffairs@bhpbilliton.com.