

Wellhead Management Environment Plan Summary: Kelt-1 Exploration Well and Noblige-2 Appraisal Well

Drilling and Completions

July 2013
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Page 3 of 10

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TABLE OF CONTENTS

WELLHEAD MANAGEMENT	3
ENVIRONMENT PLAN SUMMARY:	3
KELT-1 EXPLORATION WELL AND NOBLIGE-2 APPRAISAL WELL	3
DRILLING AND COMPLETIONS	3
1. INTRODUCTION	5
1.1 Background and Purpose	5
2. LOCATION OF THE ACTIVITY.....	5
3. DESCRIPTION OF THE ACTION	5
4. DESCRIPTION OF THE ENVIRONMENT.....	5
4.1 Physical Environment	5
4.2 Biological Environment	6
4.3 Socioeconomic Environment	6
5. MAJOR ENVIRONMENTAL HAZARDS AND CONTROLS	8
6. MANAGEMENT APPROACH	8
7. CONSULTATION	8
8. CONTACT DETAILS.....	9

1. INTRODUCTION

1.1 Background and Purpose

The *Wellhead Management Environment Plan: Kelt-1 Exploration Well and Noblige-2 Appraisal Well* (EP) has been prepared in accordance with the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009* (Environment Regulations). The EP updates and consolidates the environmental approvals granted for the Kelt-1 exploration well and the Noblige-2 appraisal well drilling activities during 2011 and addresses the ongoing management of the wellhead assemblies remaining in situ for each well, for the five-year duration of the EP.

The EP has been reviewed and accepted by the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA). This EP summary has been prepared as per the requirements of Regulations 11(7) and (8) of the Environment Regulations.

2. LOCATION OF THE ACTIVITY

Both the Kelt-1 Exploration Well (Kelt-1) and the Noblige-2 Appraisal Well (Noblige-2) are located in Commonwealth waters, within Exploration Permit Area WA-404-P (**Figure 2-1**). Woodside Energy Ltd is the operator for both wellheads and the instrument holder for Permit Area WA-404-P. Kelt-1 is approximately 304 km north-west of Karratha and Noblige-2 is approximately 300 km north-west of Karratha. **Table 2-1** summarises the well details including water depth, well status, surface coordinates and permit area.

Table 2-1: Kelt-1 and Noblige-2 Water Depth, Status and Coordinates

Well	Water Depth (m LAT)	Status	Longitude	Latitude	Permit Area
Kelt-1	1,444 m	Plugged and abandoned	114° 25' 33.293" E	19° 13' 55.143" S	WA-404-P
Noblige-2	1,324 m	Plugged and abandoned	114° 20' 36.321" E	19° 24' 35.259" S	WA-404-P

3. DESCRIPTION OF THE ACTION

At the completion of drilling and evaluation in 2011, the Kelt-1 and Noblige-2 wells were plugged and abandoned. Following the completion of the plugging and abandonment of the well, Woodside was unable to successfully cut the wellheads despite multiple attempts. As there was no alternate method available to Woodside during the campaign to successfully cut and recover the Kelt-1 and Noblige-2 wellheads, the wellheads were left in place and the Department of Mines and Petroleum were notified. The Kelt-1 wellhead assembly extends 2.38 metres above the seabed and the Noblige-2 wellhead assembly extends 4.40 metres above the seabed.

The EP addresses the ongoing management of the wellhead assemblies remaining in situ for each well for the five-year duration of this EP. No further actions (operations) are proposed for these wellheads under this EP.

4. DESCRIPTION OF THE ENVIRONMENT

4.1 Physical Environment

The Kelt-1 and Noblige-2 wells are located on the North West Shelf (NWS) in the North West Marine Bioregion (NWMR), on the outer continental shelf slope.

4.2 Biological Environment

Woodside has collected numerous biological grab samples of the unconsolidated seabed sediments at the North Rankin Complex and the surrounding area, as well as additional sampling throughout the broader region. Studies have revealed that infauna associated with soft unconsolidated sediment habitat in the area is widespread and well represented along the continental shelf and upper slopes of the NWS. Offshore seabed surveys across the NWS have detected a general reduction in epibenthic coverage with increasing depth.

No Critical Habitats or Threatened Ecological Communities, as listed under the EPBC Act, occur within the area of the two wellheads. This was indicated by the EPBC Act Protected Matters Report for the well locations (including 10 km radius around the well sites).

4.3 Socioeconomic Environment

A number of Commonwealth (beyond 200 m isobath) and State (within 200 m isobath) managed fisheries occur in the region. Major Commonwealth and State commercial fisheries include the following:

- Commonwealth North West Slope Trawl Fishery;
- Commonwealth Western Tuna and Billfish Fishery;
- Commonwealth Skipjack Tuna Fishery; and
- Commonwealth Southern Bluefin Tuna Fishery

Feedback received from the Department of Fisheries (DoF) during stakeholder consultation indicated that no commercial fishing has been reported in the permit area in the past five years.

No tourist activities take place specifically within the area of the wellheads. Due to water depths and distance offshore, recreational fishing is unlikely to occur in the wellhead locations. Recreational fishing in the region is focussed around the coastal waters and islands in the region, although occasional recreational fishing occurs at Rankin Bank and Glomar Shoals.

The petroleum exploration and production industry is a significant stakeholder in the region. The permits in the area of the wellhead locations are operated by Woodside, Chevron and Apache.

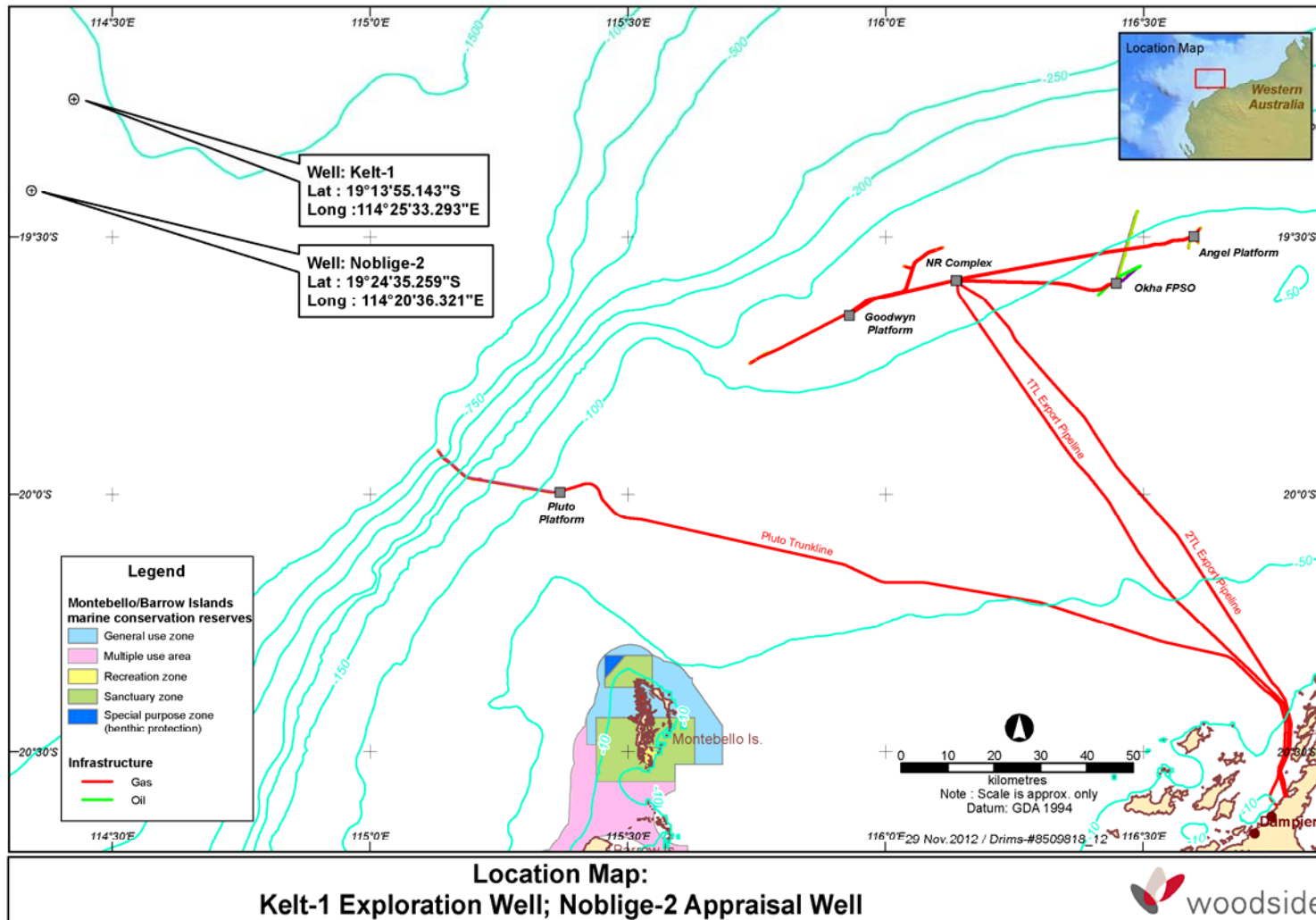


Figure 2-1: Existing Kelt-1 and Noblige-2 Well Locations

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5. MAJOR ENVIRONMENTAL HAZARDS AND CONTROLS

Woodside undertook an environmental risk assessment to understand the potential environmental risks associated with the Kelt-1 and Noblige-2 wellhead assemblies and to ensure that they are reduced to as low as reasonably practicable (ALARP), ensuring that they will be of an acceptable level using a method consistent with Woodside standards.

The key environmental hazards and control measures to be applied to the management of the Kelt-1 and Noblige-2 wellhead assemblies are shown **Appendix A**. These are consistent with Woodside corporate and project-specific objectives, standards and criteria. All control measures associated with the hazards will be implemented to reduce environmental risk to ALARP and will be of an acceptable level.

6. MANAGEMENT APPROACH

The Kelt-1 and Noblige-2 wellhead assemblies will be managed in accordance with the EP accepted by NOPSEMA under the Environment Regulations, other relevant environmental legislation and Woodside's Management System (e.g. Woodside Environment Policy).

The objective of the EP is to ensure that potential adverse impacts on the environment associated with the Kelt-1 and Noblige-2 wellhead assemblies, during planned activities are identified, are reduced to ALARP and are of an acceptable level. The EP details specific objectives and standards for each environmental aspect that was identified and assessed in the Environmental Risk Assessment (Section 5 of the EP). For each environmental aspect the range of controls to be implemented (consistent with the standards) to achieve the performance objectives are detailed. The EP then establishes the specific measurement criteria that will be used to demonstrate that the performance objectives and standards have been achieved.

The implementation strategy detailed in the EP identifies the roles/responsibilities and training/competency requirements for all personnel (Woodside and its contractors) in relation to implementing controls, managing non-compliance, emergency response and meeting monitoring, auditing and reporting requirements during the activities. The EP details the types of monitoring and auditing that will be undertaken and the reporting requirements for environmental incidents and reporting on overall compliance of the activities with the EP.

7. CONSULTATION

Woodside conducted a stakeholder assessment for the proposed activity to identify relevant and interested stakeholders based on the well location. A consultation fact sheet was sent electronically to all identified stakeholders prior to lodgement of the EP with NOPSEMA for assessment and acceptance. This advice was supported by engagement with potentially affected stakeholders.

Woodside received feedback on the proposed activity from a range of stakeholders, including government agencies and other petroleum operators and a commercial fishing business. No issues of material concern were raised by stakeholders.

8. CONTACT DETAILS

Further information on the Wellhead Management for the Kelt-1 and Noblige-2 wells can be obtained from:

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APPENDIX A: Summary of key environmental hazards and control measures to applied for Kelt-1 and Noblige-2 wellhead management

Source of Risk	Key Potential Environmental Impacts	Control/Mitigation Measures
Interference with fishing operations	Displacement of commercial fishing operations and potential for equipment loss or damage.	Issuing a fact sheet and/or conducting annual stakeholder briefings
Interference with other petroleum operators activities	Potential for equipment loss or damage from activities undertaken by petroleum operators.	Response to any Access of Authority requests through National Offshore Petroleum Titles Administrator, notifying the applicant of the wellhead locations

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Page 10 of 10

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