

**TULLOW OIL UK plc**  
**CAMERON EXPLORATION WELL**  
**Environmental Statement Summary**

**To: Wendy Kennedy – Head of Oil & Gas Environment and Decommissioning**

**From: Angus Laurie – Environmental Manager**

**Date: 04 April 2011**

<b>ES Title:</b>	Cameron Exploration Well
<b>Operator:</b>	Tullow Oil UK
<b>ES Report No:</b>	W/4101/2010
<b>ES Date:</b>	December 2010
<b>Block Nos:</b>	44/19b
<b>Development Type:</b>	Gas Exploration Well (with possible condensate)

### **Project Description**

Tullow Oil UK ('Tullow') are planning to drill a single gas exploration well in Block 44/19b in the southern North Sea, commencing mid-April 2011. The proposed well is located 182 kilometres (km) from the nearest UK landfall at Flamborough Head, and 5 km from the UK-Dutch median line, and is 4.4 km within the southern boundary of the Dogger Bank pSAC.

The Cameron exploration well be drilled using the ENSCO 80 jack-up rig and the drilling programme is expected to last approximately 82 days. The well will be drilled using a combination of water-based and low toxicity oil-based muds. Cuttings from the sections drilled with water-based mud (WBM) will be discharged to sea, and cuttings from the sections drilled with oil-based mud (OBM) will be shipped to shore for treatment and/or disposal. There are no well testing or well clean-up operations planned. If hydrocarbons are detected, the well will be suspended. If no hydrocarbons are detected, the well will be plugged and abandoned.

### **Key Environmental Sensitivities**

The EIA identified the following environmental sensitivities in block 44/19b:

- Annex 1 Habitats: The Dogger Bank has been selected under the EU Habitats Directive as a pSAC, as an example of 'sandbanks which are slightly covered by sea water all the time.'
- Seabird vulnerability is high from October to December.
- Fish spawning area for mackerel, plaice, herring, sprat, sole and *Nephrops*. Fish nursery for whiting, *Nephrops* and sprat.
- Overall cetacean abundance is relatively low in the Southern North Sea but the harbour porpoise may be present in medium numbers during June and July. Low numbers of Minke whale and white beaked dolphin may also be present during the drilling programme.
- Fishing activity (ICES rectangle 37F2) occurs throughout the year, but is generally lower through the winter months, with highest effort between June and September. Activity is predominately concentrated on sandeel and demersal species found in the vicinity of the Dogger Bank.

- There is relatively moderate shipping density. A shipping study, including full navigation risk assessment has been commissioned to support the Consent to Locate application.

## Key Potential Environmental Impacts

Potential impacts and mitigation measures are detailed in the ES. The key areas of potential concern are largely related to direct physical impacts during the drilling operation.

### 1. Physical Presence of Drilling Rig and Rig Stabilisation

- **Spud Cans:** The placement of the jack-up rig spud cans will disturb localised areas of seabed, impacting approximately 0.000462 km<sup>2</sup> of seabed to a depth of 4 to 5 metres (m). Any residual impact will be of a comparatively short duration, and recovery to pre-impact levels is likely to take place through immigration of species into the disturbed area.
- **Rig stabilisation:** Rock deposits may be required but are thought to be unlikely. The volume of rock to be deposited would be a maximum of 1,300 tonnes per spud can (3,900 tonnes in total). Additional seabed disturbance from rig stabilisation activities would impact only a relatively small area at the rig location; approximately 0.000353 km<sup>2</sup> in the vicinity of each leg.

### 2. Mud and Cuttings Discharge

Drilling operations will involve the discharge of WBM and associated cuttings into the water column. A worst case scenario of 1,765 tonnes of WBM and cuttings will be discharged. OBM contaminated cuttings will be shipped to shore for treatment and/or disposal.

- **Discharge of WBM and Cuttings:** Typically WBMs have very low toxicity and the vast majority of the chemicals proposed for use are on the OSPAR PLONOR (Posing Little Or No Risk) list. A maximum of 0.063 km<sup>2</sup> of the seabed will be impacted by the drill cuttings from the Cameron well. Cuttings will form a small pile on the seabed approximately 420 m by 150 m. Contamination of sediments by heavier particles such as barite and bentonite is possible but unlikely to be significant in terms of environmental impact. Sessile species in the vicinity of the drilling rig will be impacted but mobile species would be expected to avoid areas of disturbance. The benthic community in the development area is typical of the SNS and no rare or protected species have been identified.
- **Noise:** There will be noise associated with the operation of the drilling rig and from supply vessels. However, the levels are not expected to be significant, and the overall impact is predicted to be low; particularly as the number of cetaceans recorded in this area is low at this time of year and the drilling operation is of a finite duration. There is a possibility that a Vertical Seismic Profile (VSP) may be undertaken, but this would be subject to an application for a relevant consent and would result in minimal disturbance to cetaceans.
- **Fishing:** There will be a temporary decrease in the area available for commercial fishing, which could be extended if the well is suspended, but the overall impact is expected to be insignificant.

**Existing Activities:** There have been a number of offshore activities on the Dogger Bank, although there is currently no activity in Block 44/19. Historically there have been six wells drilled within this block, although these have all been plugged and abandoned, and there are no pipelines running through the block. The Tyne South, Kelvin, Caister and Minke gas fields to the west and south of Block 44/19 have been actively exploited. The proposed Cameron exploration project is located within a MOD Practice and Exercise Areas (PEXAs). There are no Offshore Wind Farms (OWFs) operating in the general vicinity of the proposed exploration well, but two OWF sites have been proposed in the Croown Estate Round 3 licensing; Dogger Bank and Hornsea, located 57 km to the north and 38 km to the south of the proposed exploration well location respectively. The cumulative and in-combination environmental impacts with existing and future development activities in this block are considered to be insignificant.

- **Atmospheric Emissions:** The main sources of atmospheric emissions during drilling operations will be as a result of power generation onboard the drilling rig and emissions from standby and supply vessels. Practical steps to limit atmospheric emissions that will be adopted during the drilling programme. This would include advance planning to ensure efficient operations, well maintained and operated power generation equipment and regular monitoring of fuel consumption.

## **Consultee Comments**

**JNCC** drew attention to the Dogger Bank pSAC, and recommended that DECC should undertake an appropriate assessment (AA) in relation to the proposed well as it could have a 'likely significant effect on the sandbank feature of the Dogger Bank pSAC.' DECC undertook a Habitats Regulations Assessment (HRA) and concluded that the total spatial impact of the Cameron exploration well would be <math>0.07 \text{ km}^2</math>, representing less than 0.005% of the total area of the Dogger Bank pSAC. Following review of the HRA, JNCC concluded that the proposed well 'either on its own or in combination with other plans and projects, [would] not have an adverse effect on the integrity of the Dogger Bank site.'

**CEFAS** had no significant comments and had no objections to the chemicals selected for use.

**The Dutch Authorities** did not comment on the proposals.

**The Public Consultation** did not result in any comments.

**Conclusion**

Following consultation and the provision of additional information, DECC and its consultees are satisfied that this project is not likely to have a significant impact on the receiving environment, including any sites or species protected under the Habitats Regulations.

**Recommendation**

On the basis of the information presented within the ES and advice from consultees it is recommended that the Cameron Field Development ES should be approved.

*Wendy Kennedy*

04/04/2011

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**Wendy Kennedy**

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**Date**