# Consents given under the Petroleum Act 1998 and Reviews under the Assessment of Environmental Effects Regulations 1999

**BP**

**BLOCK 204/28b**

Pursuant to Regulation 5(8) of the above Regulations, the Secretary of State for Trade and Industry gives notice that, being content that the requirements of the above Regulations have been satisfied, he has, pursuant to Licence P903 , granted a consent to BP Amoco Plc to the getting of petroleum and the drilling of an exploration well in Block 204/28b (hereafter referred to as "the project") subject to BP Amoco Plc conducting operations in respect of the project in accordance with the relevant environmental statement. Consent for the well was given on 30 July 1999.

## Background

There have been three wells (204/28-1, 204/29-1 and 204/27A-1) drilled within 15 miles of the site. The site is 160 km west of Shetland and a similar distance north-west of Orkney. The objectives of the project include determining the presence and nature of hydrocarbons in the main target rock strata between 1555 and 1624m depth and in a secondary target strata at 987 m and to acquire a vertical profile of the well geology to calibrate seismic results.

## Drilling and Well Testing

### *Drilling*

Either a Class 3 or Class 4 semi-sub drilling rig will be used. Both are designed for moored drilling in water depths considerably greater than at Vrackie and to greater depths below the seabed, so dynamic positioning is not expected to be required.

| Drill Bit (in) | Metres drilled | Tonnage cuttings discharged | Discharge location |
|---|---|---|---|
| 36 | 111 | 208 | At seabed |
| 17½ | 530 | 212 | At seabed |
| 12¼ | 1338 | 268 | From rig |
| **Total** | **1979** | **688** | |

**Drilling statistics using water-based muds**

The 36" and 17½" sections will be drilled riserless, forming a small cone of discharged material around the well site. The lower sections will be drilled using wbm, which will be reconditioned for reuse, and the cleaned cuttings discharged overboard.

### *Well Testing and Flaring*

If potentially significant quantities of hydrocarbons are found it may be necessary to test the well and flare any hydrocarbons produced. This will represent a significant source of atmospheric emissions and a worse case scenario is presented where it is assumed 801 tonnes of oil is burnt over a 12 hour period.

## Abandonment/Suspension

The well will be abandoned or suspended, depending on economic viability. Once the well has been plugged and isolated, it may be abandoned by cutting and removal of the casing below the level of the seabed and removing all equipment installed on the seabed. If suspended, the BOP stack and marine riser will be removed

and a corrosion cap installed. After abandonment/suspension a seabed inspection will be carried out to check for obstructions.

**Drainage**

The drainage discharges are likely to be handled by three types of drainage systems:

Open Deck Scuppers: run-off water, not normally contaminated.

Contaminated Drains: since using wbm, only source of contamination will be leakage of machine oils and lubricants, which will be dealt with by bilge system.

Bilge System

These waters dealt with separately and routed to an oily water separating tank. Water discharged will be sampled by oil content meter; if greater than 15ppm, overboard line will be closed.

**Environmental Sensitivities and Impacts**

All routine, non-routine and hazard/accident events with the potential to impact on the environment have been considered, together with control and mitigation measures to minimise or avoid potential impacts.

ROV, side-scan sonar surveys and seabed sampling has been carried out as part of a baseline environmental survey to determine key environmental sensitivities. While *Lophelia pertusa* was identified at two of the sample sites of the survey, it was found to have been dead before recovery, suggesting it had been transported to the site by the strong currents in the area. The majority of impacts have been reduced to a minor or negligible level.

The greatest potential impacts identified from routine operations are those resulting from discharge of cuttings and wbm, namely:

- increased turbidity
- physical smothering of benthic fauna
- potential toxic effects from mud chemicals

High velocity current flows in upper water layers together with large water depths should prevent the formation of a large cuttings pile. Modelling predicts a central dome about 2 - 3 m high covering an area of about 0.2 ha, surrounded by a diffuse pile between 2 - 15 mm thick covering about 40ha. The significance is further considered to be moderate because of the diverse seabed community existing in the area, the use of low HOCNF category chemicals and the area of immediate impact is likely to be less than 2km².

Where possible, emissions resulting from drilling operations have been quantified and their contribution to cumulative environmental effects assessed. These emissions again are considered to be of a moderate effect.

The most serious impact of the project is from accidental events resulting in a large oil spill. The probability of such a spill is considered to be very low. Modelling predicts that, given such an event, the probability of oil beaching on the nearest coast (Orkney or Shetland), 100 - 110 km distant, is less than 10%, with an approximate time period of 2 -3 days.

A number of mitigation measures are already in place, including membership of the Atlantic Margin Coastal Defence Plan, a dedicated oil spill response through OSRL and through Briggs Marine. The following measures will also be in place:

- the production of a risk assessment of all possible hazards
- the production of an approved oil spill response plan
- a stand by vessel containing dispersants and other equipment

Cumulative impacts are considered low, with full compliance with all legislative requirements.

There is a small possibility that marine mammals may be affected by noise but these are considered to be of limited significance due to the short duration and nature of the operations.

**Recommendation**

Overall the environmental statement is satisfactory and adequately assesses the potential environmental impacts of the proposed development. Recommend that consent be given.