



[Home](#) | [Field Index](#)

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

Texaco

BLOCK 214/27A-D

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 P912, granted a consent to Texaco Britain Limited to the getting of petroleum and the drilling of an exploration well in Block 214/27a-d (hereafter referred to as "the project") subject to Texaco Britain Limited conducting operations in respect of the project in accordance with the relevant environmental statement. Consent for the well was given on 8 May 2000.

Background

Texaco Britain Ltd is proposing to drill and potentially test an exploration well in UK Continental Shelf Block 214/27a, approximately 90km west of the Shetland Islands, to assess the extent of gas reserves thought to exist in that area. The site lies on the West Shetland Slope in a water depth of approximately 680 metres.

Drilling

Drilling is scheduled to commence between June and September 2000, and is expected to last for 38 days, although a total of 82 days has been allowed to cover possible well testing and contingencies.

Texaco proposes to drill the upper sections of the well with seawater as the drilling fluid, with cuttings deposited directly on the seabed adjacent to the well. The lower sections will be drilled using KCl and KCl:NaCl-polymer water-based muds, with cuttings discharged after treatment/ solids control on the drilling rig. An ester-based mud system may be used in the bottom hole section if drilling problems, e.g. hydrate formation, arise.

Well Design and Cuttings Discharge Proposed

Hole Section	Section Depth (metres)	Mud System	Discharge Location	Cuttings Weight (tonnes) ¹
36"	700-760	Seawater/High viscosity pills	Direct to seabed	102.5
17½"	760-1478	Seawater/High viscosity pills	Direct to seabed	260.7
12¼"	1478-2636	KCl/Polymer Water Based	From rig	205.2
8½"	2636-4352	KCl/NaCl Polymer Water Based (likely)	From rig	144.3
			Total	713

Note 1 : calculated using average cuttings SG = 2.33 for all sections

Well Testing

If a well test is required, flaring will involve use of a high-efficiency burner over a maximum period of 96 hours. Reservoir hydrocarbons are expected to be gaseous in nature. Maximum emissions, based on extrapolation by UKOOA procedures, are estimated at:

Emission Component	Tonnes
--------------------	--------

CO ₂	7247
CO	23
NO ₂	4
SO _x	0.03
CH ₄	120
VOCs	13

Well Abandonment/Suspension

If the prospect is not viable the well will be abandoned by mechanically cutting the well casing a few metres below seabed level, to UKOOA Guidelines. If economically viable, the well will be suspended, leaving 3-4 metres of casing protruding from seabed, again to UKOOA Guidelines (1997).

Environmental Sensitivities

The ES reports a screening process for the identification of potential environmental impacts from drilling the well. The screening process, including the basis to classification of impact levels is fully described. No major impacts are anticipated.

Three activities were identified as presenting the risk of potential moderate impact:

- discharge of drilling mud and cuttings;
- accidental spillage of hydrocarbons;
- atmospheric emissions from power generation and well testing(if undertaken).

The ES correctly identified the potential cumulative impact from noise generation on cetacean activities. No transboundary impacts were identified.

Drilling Muds/Cuttings

Modelling studies suggest that immediately adjacent to the well a cuttings pile up to 1.7m thick can be expected from top hole drilling, covering approximately 20 m². This will result in smothering of benthic fauna in this very localised area, although the dominant polychaete species may be able to migrate.

Near-surface discharge of treated cuttings from lower hole drilling was modelled (PROTEUS - **see Note 1**), indicating a resultant thin deposit covering a seabed area of approximately 3200 metres in length by 500 metres wide. Centreline thickness is expected to be only 0.5mm, with the majority area less than 0.1mm thick. The mud used in the lower hole is of very low intrinsic toxicity (HOCNF category F). Drilling contingency chemicals include one HOCNF category B (EZ Spot). Any impact on the benthic fauna beyond the immediate vicinity of the well is expected to be negligible and mud/cuttings would be expected to disperse widely in the slope currents (see **Note 2**). In the unlikely event that ester-based muds have to be employed in the lower hole section, primarily organic enrichment effects on benthic fauna close to the well can be expected. However, with the mode of discharge and the local physical regime, sediment contamination is expected to be low and both published laboratory and field studies indicate that such esters will degrade readily. Only moderate limited impacts can be anticipated, with recovery rapid. Certain potentially sensitive species such as *Lophelia pertusa* were found to be absent from the immediate drilling site, and the rapid dispersion of transported cuttings would not be expected to result in significant impact on such species, if present, beyond the immediate site.

Oil Spillage

Reservoir hydrocarbons are expected to be gaseous in nature, therefore the only significant spillage risk is from fuel transfer at the rig. Modelling studies indicate that with a worst case scenario involving a 2000 tonne diesel spill, a slick would disperse naturally within 9 hours, after travelling 36km in a 30 knot wind regime. The nearest coastline is Shetland, 90km from the well site. Although any threat to the coastline is negligible the ES did address coastline sensitivity. Seabirds in the immediate vicinity of the rig during drilling are most at risk, especially in July when vulnerability is high. Strict loading controls are presented in the ES, including refuelling restricted to fair weather and daylight hours. In line with OPRC, an approved Contingency Plan will be in place; and this plan has been submitted to DTI as this ES is under review.

Atmospheric Emissions

These are expected to be within routine drilling rig operational standards, with estimated emissions presented in the ES for drilling and support operations. As already stated, any well testing will employ high efficiency burners.

Noise

Although only addressed as a possible cumulative impact issue within the ES, the potential impact of noise from drilling operations on cetacean activities within the area is likely to be perceived as a significant issue by some. The ES discusses noise generation and potential impacts (section 2.3.5) and places emphasis on the short-term nature and remote location of the drilling operation, but Texaco should be encouraged to continue to update its understanding of this subject, particularly with regard to the extent of possible zones of potential impact. On a scientific basis any significant impact on cetacean activities, notably migration, is unlikely but perceived risk remains.

Recommendation

No significant environmental impact was identified. Overall, the ES is satisfactory and adequately assesses the potential environmental impacts of the proposed development. Recommend that consent for the development is given.