



Environmental Statement (ES) Summary and Sign-Off

Title:	Cheviot Field Development Environmental Statement
Operator:	Alpha Petroleum Resources Ltd
Report No:	D/4180/2015
Submission Date:	September 2015
Block No:	2/10b, 2/15a, 3/6a and 3/11b
Development Type:	Field Development
Reviewer:	Carrie Shaw
Date:	May 2016

A) Project Description:

Alpha Petroleum Resources Limited propose to develop the Cheviot field and its satellite accumulation, Peel, through the installation of a Floating Production, Storage and Offloading vessel (FPSO). The development will require the drilling of 26 wells; 20 oil production wells, three water injection wells and two gas reinjection wells serving the Cheviot development, and one production well targeting the Peel reservoir..

The Cheviot Field and the Peel satellite accumulation are located within UKCS Blocks 2/10b, 2/15a and 3/11b, and the FPSO will be located in Block 3/6a. The development is approximately 95 kilometres (km) from the nearest coastline on the Shetland Islands and approximately 50 km west of the UK/Norway median line, in a water depth of approximately 150 metres (m).

The wells will be drilled from three drill centres using an anchored semi-submersible mobile drilling unit (MoDU) and will be tied back via manifolds to the Cheviot FPSO. A combination of water based mud (WBM) and low toxicity oil based mud (LTOBM) will be used to drill the wells, with WBM cuttings discharged to sea and LTOBM cuttings contained and shipped to shore for treatment and disposal. Each well will generate up to a maximum of approximately 3,500 tonnes of WBM cuttings and 3,800 tonnes of LTOBM cuttings. Vertical seismic profiling (VSP) will be undertaken at up to six production wells following drilling. No extended well tests will be carried out, but there will be limited flaring during well clean up.

Pipelay operations to install the pipelines, flowlines and umbilicals will be undertaken using a reel lay vessel. The base case is for rigid pipelines and for most of the lines to be trenched and backfilled. However, the option to lay the largest 16 inch production line on the seabed surface is being considered. The umbilicals will be laid in pre-cut trenches and backfilled if required. An estimated 920 concrete mattresses and 16,500 tonnes of rock will be required to mitigate against upheaval buckling and to protect the pipelines and subsea infrastructure.

Drilling of the wells is scheduled to commence in Q1 2019, with drilling operations expected to be completed by Q2 2023. The current schedule is based on drilling 10 wells prior to the arrival of the FPSO, to allow the subsea infrastructure to be installed and the wells to be brought on stream once the FPSO is commissioned, which is anticipated to be during 2021.

Installation and commissioning of the subsea infrastructure will be carried out in a number of distinct campaigns between 2020 and 2023. The expected field life of the Cheviot development is 20 years. All activities will be subject of an Oil Pollution Emergency Plan (OPEP) that will need to be approved prior to commencement of operations.

B) Key Environmental Impacts:

The ES identified and discussed the following key activities as having the potential to cause an environmental impact:

<i>Drilling:</i>	Combustion emissions, well clean-up emissions, MoDU anchors, MoDU presence, MoDU and vessel noise, VSP noise, cuttings discharges and accidental hydrocarbon spills.
<i>Infrastructure installation operations:</i>	Combustion emissions, FPSO anchors, subsea infrastructure, protection operations and deposits, piling noise, subsea infrastructure installation noise, hydrotest discharges and accidental spills.
<i>Production:</i>	Atmospheric emissions, produced water discharges, and accidental hydrocarbon spills.
<i>Wider concerns:</i>	Accidental events, transboundary issues, cumulative effects

C) Key Environmental Sensitivities:

The EIA identified the following environmental sensitivities:

- **Fish:** The development area is located within spawning grounds for cod, haddock, Norway pout, saithe, sandeels and whiting and nursery areas for anglerfish, blue whiting, European hake, haddock, herring, ling, mackerel, Norway pout, sandeels, spurdog and whiting. The spawning and nursery areas are extensive and the development proposals are considered unlikely to have an impact on these species.
- **Seabirds:** Seabird vulnerability is very high or high from January to April, and during July and September, and moderate to low for the remainder of the year. It has been assessed that there are sufficient mitigation measures in place to prevent accidental spills that could have a significant impact on seabirds, and these measures will be covered in the OPEP.
- **Protected habitats:** The proposed development does not lie within any protected areas. The closest is the Pobie Bank Reef candidate Special Area of Conservation / Site of Community Importance (cSAC/SCI), which is located approximately 50 km west of the Cheviot development. The development proposals are not expected to have any significant impact on protected habitats.
- **Protected species:** The dominant species of cetaceans likely to be encountered within this region of the North Sea include Harbour Porpoise, Minke Whale and White-beaked Dolphin, which have all been recorded in low numbers, although the number of Harbour Porpoise recorded is higher in February. A survey of the Cheviot area undertaken in 2004 also recorded Killer Whale during October. Grey seal and Harbour seal are widely found in the North Sea, but sightings within the proposed development area are low. Any disturbance of marine mammals is expected to be limited to the drilling period and during infrastructure installation, and the localised disturbance is considered unlikely to have any significant impact.
- **Other users of the sea:** The proposed development is situated within ICES

rectangles 50F0 and 50F1, and relative fishing effort in the area is moderate. Shipping density in the vicinity of the proposed development is moderate to low. Appropriate navigational controls will be put in place, and it is not anticipated that there will be any significant impact on other users of the sea.

D) Consultation:

The Joint Nature Conservation Committee (JNCC), Marine Scotland (MS), the Maritime and Coastguard Agency (MCA), Ministry of Defence (MoD) and Northern Lighthouse Board (NLB) were consulted on the proposals. The ES was also subject to public notice.

JNCC: JNCC requested clarification of information presented in the ES, including information on the presence of the sea-pen *Virgulia mirabilis* reported in the Environmental Baseline Survey (EBS) undertaken by Gardline (2011). Following the provision of further information, JNCC had no further comments.

MS: MS requested further information on the concept selection, the drilling programme, the timing of VSP operations and decommissioning aspects. Following the provision of further information, MS had no further comments.

MCA: MCA confirmed that they had no objections.

MoD: The development lies within a MoD training range, but the MoD confirmed they had no objections.

NLB: NLB confirmed that they had no objections.

Public Notice: No comments were received in response to the public notice.

E) Further Information:

Further information was requested from Alpha Petroleum Resources Ltd to address the issues raised by JNCC and MS and during the internal DECC review. The information requested included clarification on the presence of the sea-pen *Virgulia mirabilis*, concept selection, the drilling programme, the timing of VSP operations, acid gas incineration scenarios and decommissioning aspects. The additional information received from Alpha Petroleum Resources Ltd on 3rd February 2016 adequately addressed the issues raised.

F) Conclusion:

Following a review of the ES, the responses received from consultees and the additional information provided by Alpha Petroleum Resources Limited, DECC OGED is satisfied that this project will not have a significant adverse impact on the receiving environment or the living resources it supports, or on any protected sites or species or other users of the sea.

G) Recommendation:

On the basis of the information presented within the ES and advice received from consultees, DECC OGED is content that there are no environmental or navigational objections to approval of the proposals, and has advised the OGA that there are no objections to the grant of the relevant consents.

Approved

.....*Sarah Pritchard*..... Date19/05/2016

Sarah Pritchard
Head of Offshore Oil & Gas Environment, DECC OGED