

ALVHEIM, VOLUND AND VILJE

Alvheim

This oil and gas field lies in 120-130 metres of water in the northern North Sea west of Heimdal. It comprises three deposits, 25/4-7, 24/6-2 and 26/6-4 Boa. The last of these lies partly in the UK sector, and has been unitised between the Alvheim group and the British licensees – Maersk Oil & Gas and OMV. Alvheim is operated by Marathon Petroleum Norge.

Reservoir and recovery strategy

The Alvheim field embraces the Kneler, Boa and Kameleon reservoirs. Located in the Heimdal formation, the first of these is about 2 200 metres deep. Boa lies 2 300 metres down, and its discovery well identified a 25-metre gas column on top of 28 metres of oil in high-quality sands. The reservoir is built up from Palaeocene sandstones deposited as turbidites. Alvheim is produced by natural water drive.

Transport

The oil is exported by tanker, with processed rich gas carried in to a tie-in with Britain’s Sage pipeline to St Fergus.

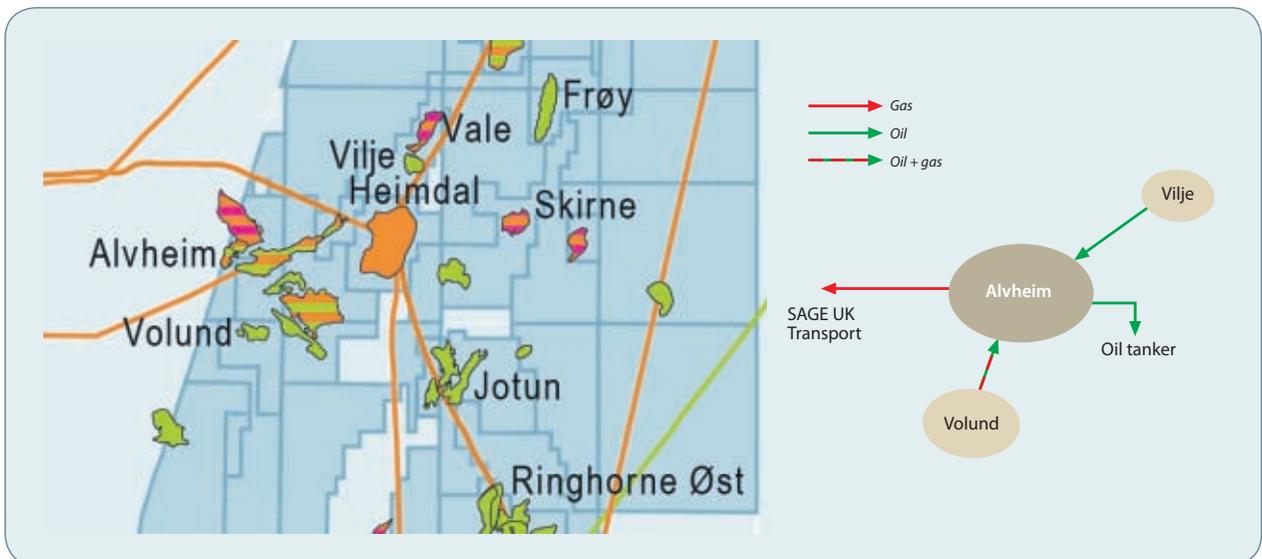


Development solution

Alvheim has been developed with an FPSO and seabed installations. Oil is stabilised and stored on the vessel before export by tanker.

Alvheim FPSO

Marathon purchased the MST Odin, ex MST Berge Odin, and converted it to an FPSO at Vetco Aibel’s



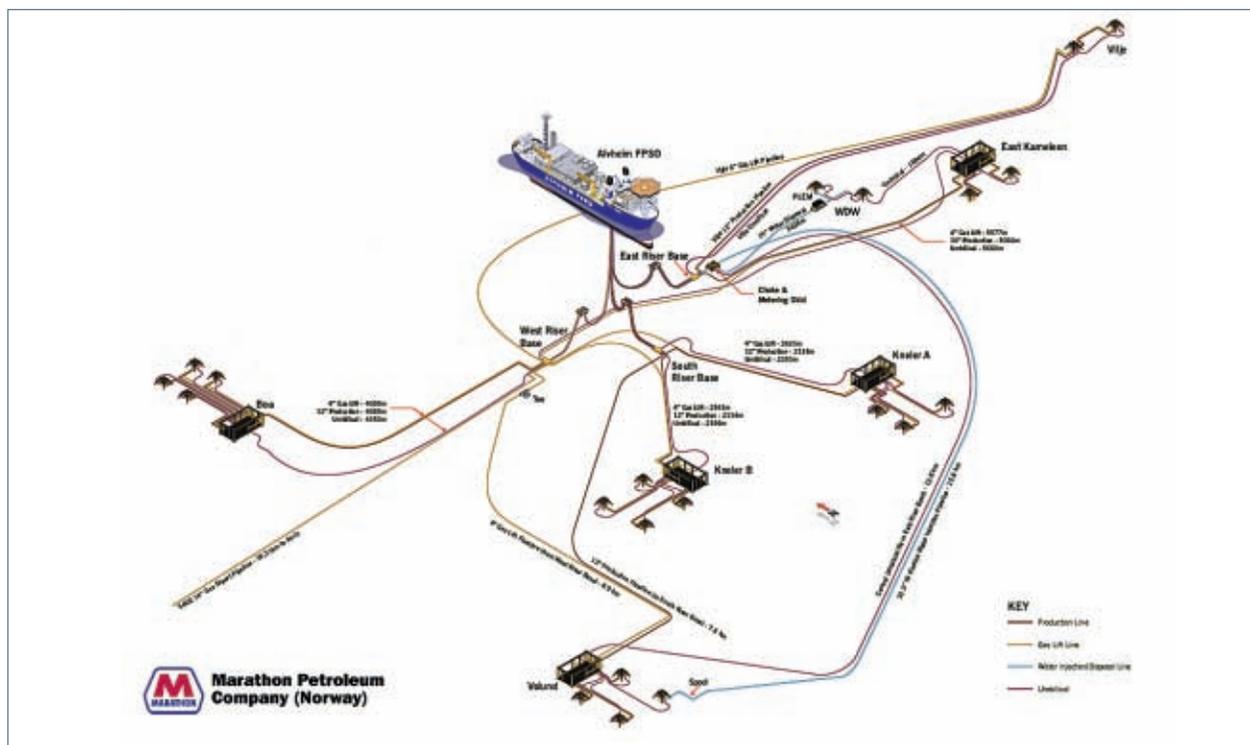


Illustration: Marathon Petroleum Norge

yard in Haugesund during 2006-07. Built for a producing life of 25 years on the field, this vessel has had its storage capacity expanded from 530 000 barrels of oil to 560 000. This means that a shuttle tanker must arrive every fourth day to load oil from

the FPSO. Measuring 252 metres long by 42 wide, the vessel was the third largest on the NCS when it began producing. Only the Norne and Åsgard FPSOs are larger.



Alvheim FPSO. Photo: Marathon Petroleum Norge

Alvheim

| | |
|----------------------------|--------------------------------------|
| Blocks | 24/6 and 25/4 |
| Production licences | 088 BS, 203, 036 C and 203 |
| Awarded | 1996 and 2003 |
| Total recoverable reserves | 173 mill bbl oil 8.1 bn scm gas |
| Remaining at 31 Dec 2008 | 158.5 mill bbl oil 7.9 bn scm gas |
| Discovery year | 1998 |
| Approved for development | 6 Oct 2004 |
| On stream | 8 Jun 2008 |
| Operator | Marathon Petroleum |
| Operations organisation | Stavanger |
| Main supply base | Tananger |
| Licensees | |
| Marathon Petroleum Norge | 65% |
| ConocoPhillips Skandinavia | 20% |
| Lundin Norway | 15% |