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## Grane Drilling

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### Abstract

Grane is one of Hydro's major producing platforms in the North Sea. The field was discovered in 1991 and first oil flowed on deck on September 23, 2003. The field is located 100 nautical miles west of Stavanger, Norway. Current production, as of January 2006, is 230,000 barrels of oil per day (BOPD).

This document describes the four major areas in the project, which contributed to keeping budgets and drilling-time plans.



Figure 1. Grane

### Introduction

The Grane drilling module was built at Aker Stord Shipyard in western Norway in 2003.

Odfjell Drilling Management (ODM) was awarded the drilling contract in April 2001 and got involved early in the project with key personnel. The drilling unit was designed under Norsok Class 1 rig specifications, with additional Hydro Drilling requirements.

The platform is a conventional type - a fixed PDP with the drilling unit positioned at the aft end.

### The following key requirements were built into the design, concept studies and project plan:

- Stand-alone drilling unit with high focus on working conditions and safety
- Highest environmental standard with no discharges into the sea
- Highest possible degree of remote-controlled operation based on proven equipment and with minimum exposure of personnel in hazardous areas
- State-of-the-art control and communication systems
- Cost effective and compact unit with normal well capacities up to 8,000 meters
- Optimal weight control and layout
- Optimal use of materials such as aluminium and stainless steel in order to control maintenance costs over time
- High operational regularity of all drilling systems.
- Main consumers to be AC-driven motors
- Simultaneous drilling and wire line/coil-tubing operations
- Snubbing/pressure-controlled operations
- Early involvement of contractor personnel in design phase
- High focus on completing the testing and commissioning activities onshore for all systems
- Complete live-drilling test onshore prior to loading out the module
- Training of operational personnel prior to and during offshore hook-up phase
- Involvement of equipment suppliers in commissioning and early start up
- Tie back of 12 pre-drilled wells during main hook-up/commissioning phase (this decision proved vital for early production build up)

### 1. Grane drilling module

The main drilling contractor got involved at an early stage of the design and building of the drilling module. During the building period, a total of 22 persons from ODM were involved. Some were integrated in the contractor team while others became part of the Hydro site team.