Gullfaks/Norne Group Projects

Each group will be assigned either the Gullfaks Field or the Norne Field for their project. The Gullfaks Field in the North Sea, consists of several reservoirs, some of which are assumed to be quite isolated from the rest of the field. In this group project you will study the Gullfaks K1/K2 Segment area or I1 Segment area of the Statfjord Formation, located in the Eastern end of the field. You may find a short intro to the Gullfaks Field, as well as key data and the Gullfaks Reservoir Management Plan (Reservoarstyringsplan) in the Gullfaks data base on the Department´s web page;
 http://www.ipt.ntnu.no/gullfaks/courses/TPG4150.
http://www.ipt.ntnu.no/gullfaks/ UN; NTNU PW; Ness.

The Norne field is located in the blocks 6608/10 and 6508/10 on a horst block in the southern part of the Nordland II in the Norwegian Sea. It consists of two separate oil compartments, the Norne main structure (C, D and E segment) and the Northeast segment (G segment). 98 % of oil in place is situated at the Norne main structure.
In this group project you will study the complete Norne Field. There is a short intro to Norne E segment, as well as key data and the Norne Reservoir Management Plan (Reservoarstyringsplan) the department's web page
http://www.ipt.ntnu.no/gullfaks/courses/TPG4150.
http://www.ipt.ntnu.no/norne
The data in the data bases may be considered a basis for the project work. However, the data may not be sufficient to solve the problem, or may not necessarily be needed to solve the problem. It is the responsibility of the groups to determine the need for additional data and additional knowledge in order to solve the problem.

Preliminary problem statement:

Each group should select one of the following reservoirs:

   1. *The Gullfaks K1/K2 Segment*
   2. *The Gullfaks I1 Segment*
   3. *The Norne main structure consist of 3 Segments. (C, D, E).*

For each reservoir it is assumed that it contains several parts with limited communication between them

Key questions to be answered are:
   * *Is the assumption of limited communication between parts a reasonable assumption, based on the data currently available?*
   * *What are the major uncertainties of the system? Discuss their possible effects on computed volumes and flows.*
   * *Exemplify by calculations (Material Balance Analysis) that show effects*
   * *of water influx, variations in rock properties, etc.*
   * *For the Norne case there is an uncertainty related to the degree of communication between the gas cap and the oil zone. Please address this specifically in your analysis and report.*

Please send me proposed group members before the Monday lecture. If you prefer not to propose group composition, I'll assign you to groups. The groups will be posted on It's Learning.

We'll meet on Monday (14.10) at 1015 for discussions of the group work, and Thursday (17.10) at 1415 for a status report from the groups and a Q&A session. We'll be available every Monday for Q&A until final presentations on Thursday Nov. 21 at 1415.