

Gullfaks Group Project

All data for the Gullfaks Field, geological, geophysical and production data, have been made available to us by the operator, Statoil, and may be found on our server. The Gullfaks Group Project will use the Gullfaks Field data for analysis of two separate parts of the field called the Statfjord I1 Area and the Statfjord K1K2 Area, respectively.

A key source of data is the Gullfaks Reservoir Management Plan (RMP). Use the 2007 version, which is in English. In addition, several data files containing reservoir properties and well production and injection data may be found in the database.

The data and descriptions in the database may be considered as 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. Also, some of the data handed out is outdated, and more recent data may be found in the Gullfaks database, which may be addressed at: <http://www.ipt.ntnu.no/gullfaks>. User is NTNU and password is Ness.

Preliminary problem statement for the I1 Area (groups 1, 3, 5,...):

- ***Area Statfjord I1 of the Gullfaks Field is assumed to contain a reservoir with limited communication with the rest of the Statfjord Field. Find out if this is 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.***

Preliminary problem statement for K1K2 Area (groups 2, 4, 6, ...):

- ***The K1/K2 Segment is assumed to contain a reservoir with limited communication with the rest of the Gullfaks Field. Find out if this is 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.***

A list of groups will be available in a few days, and published on ItsLearning. The groups will be responsible for arranging meetings and discussions as needed to solve the problem. You are encouraged to solve as much as possible in close collaboration.

All groups will meet in ***P1 on Wednesday September 24 at 1415*** for Q&A regarding the project. Kirill and Jan Ivar will be present in my absence. Before that, each student should visit the database and check out the RMP and data available. The week after that you will meet as a group in ***P1 on Wednesday October 1*** for a short status report from each group for the purpose of sorting out common problems and to get additional instructions.

When I get back on Wednesday October 8, we'll have a short status session before continuing with lectures for 2 or three weeks. Thereafter, you will work on the project until presentations (posters) on ***Wednesday November 19 at 14:15***.